City of Fernley



NEVADA

AGENDA
Regular Meeting
City Council
Wednesday, May 20, 2026 • 5:00 PM

Mayor
Neal E. McIntyre

City Council
Ward 1 - Ryan Hanan
Ward 2 - Felicity Zoberski
Ward 3 -
Ward 4 - Albert Torres
Ward 5 - Joe Mendoza

Acting City Manager
Lydia Altick

Fernley City Council Chambers, 595 Silver Lace Boulevard, Fernley, NV 89408

Zoom information:
Please click the following link to join the webinar: https://us02web.zoom.us/j/82966343247, or one tap mobile: 12532158782, Dial: 669 900 9128, Webinar ID: 829 6634 3247

Public Notice: This agenda has been physically posted in compliance with 241.020 at Fernley City Hall, 595 Silver Lace Blvd. In addition, this agenda has been electronically posted in compliance with NRS 241.020(3) at www.cityoffernley.org and NRS 232.2175 at https://notice.nv.gov/ To obtain further documentation regarding posting, please contact the City Clerk's Office at (775) 784-9830 or cityclerk@cityoffernley.org

Public Comment: Those wishing to address the City Council may submit public comment through the online public comment form, or by sending an email to cityclerk@cityoffernley.org. Comments received prior to 4:00 pm the day of the meeting will be provided to City Council and added to the record but will not be read during the live meeting. Public comments received after 4 pm the day of the meeting will be included in the record but may not reach council members before action is taken. Public comment, whether on action items or public comment, is limited to three (3) minutes per person. Unused time may not be reserved by the speaker, nor allocated to another speaker. The public may comment on any matter that is not specifically included on an agenda as an action item or comment on a specific agenda item. Items not included on the agenda cannot be acted upon other than to place them on a future agenda. Additionally, if you wish you can comment in person at the meeting or use the Raise your Hand feature in Zoom (*9 if you are participating via phone).

Accommodations: City Council and staff will make reasonable efforts to assist and accommodate individuals with disabilities desiring to attend the meeting. Please contact the City Clerk's Office at (775) 784-9830 in advance so that arrangements can be made.

Supporting Material: Staff reports and supporting material for the meeting are available at the City Clerk's Office, and on the City's website at www.cityoffernley.org Pursuant to NRS 241.020(6), supporting material is made available to the general public at the same time it is provided to the City Council.

Order of Business: The presiding officer shall determine the order of the agenda. The Fernley City Council may combine two or more agenda items for consideration; remove an item from the agenda; or delay discussion relating to an item on the agenda at any time. All items are action items unless otherwise noted. Items scheduled to be heard at a specific time will be heard no earlier than the stated time but may be heard later.

1. INTRODUCTORY ITEMS

1.1. Pledge of Allegiance

1.2. Roll Call

1.3. Public Forum

1.4. (For Possible Action) Approval of Agenda

2. CONSENT AGENDA

(PLEASE NOTE: ALL MATTERS LISTED UNDER THE CONSENT AGENDA ARE CONSIDERED ROUTINE, AND MAY BE ACTED UPON BY THE COUNCIL MEMBERS IN ONE MOTION, AND WITHOUT AN EXTENSIVE HEARING. ANY MEMBER OF THE COUNCIL MAY REQUEST THAT AN ITEM BE TAKEN FROM THE CONSENT AGENDA, DISCUSSED, AND ACTED UPON SEPARATELY DURING THIS MEETING.)

2.1. (Possible Action) Approval of Voucher Report

2.2. (Possible Action) Approval of Minutes

2.3. (Possible Approval) Approval of Business Licenses

2.4. Consideration and Possible Action to approve a Final Subdivision Map (FSM24001) for Friendly 5, Phase 3 on a site approximately ± 81.31-acres in size generally located at the termini of Carson Way, Lorelai Lane, and Evelynn Street in a Planned Development (PD) zoning district.

2.5. Possible Action to Approve the Will-Serve Request from Golden Years Castle Group Home - Addition for 2.34 ERC's of water and 5.35 ERC's for sewer for Lyon County Parcel 021-111-49 located at 575 Farm District Road, Fernley, NV 89408.

2.6. (Possible Action) To approve Amendment A to the contract signed between Eastern Sierra Engineering and the City of Fernley for the Engineering Design Services of the Good Earth Subdivision Road Reconstruction. Amendment A contains additions to the project scope to include Utility Improvements, including Existing Condition Survey, Waterline and Sewer Design, and Bid Support. The additional tasks total to $227,750.00.

3. REPORTS - THIS ITEM IS FOR VARIOUS PUBLIC ENTITY REPRESENTATIVES TO PROVIDE GENERAL INFORMATION TO THE COUNCIL AND PUBLIC. NO ACTION WILL BE TAKEN.

3.1. Reports by City Staff, City Council, and the Mayor, including but not limited to monthly statistical reports by city departments.

4. PROCLAMATIONS BY THE MAYOR

5. PRESENTATIONS

5.1. Presentation by Kimley Horn and Possible discussion of the recently completed Local Road Safety Plan.

6. PUBLIC HEARINGS

6.1. (For possible action) Discussion regarding the Fiscal Year 2026/2027 final budget including,but not limited to: All funds within the Water Enterprise Fund; Wastewater Enterprise Fund; General Fund; Special Revenue Funds; Capital Improvement Program; rates; all city departments; the budget process; timelines, goals, and existing budget; debt, staffing, including but not limited to reorganization, reclassification, employee positions and contracts, new positions, and other matters related thereto

7. ORDINANCES

7.1. (For Possible Action) Introduction and first reading of Bill #386, an Ordinance establishing the Fernley Power District as a municipal electric utility of the City of Fernley pursuant to NRS 266.290; setting forth the public utility proposed to be established, the estimated cost

thereof, and the proposed manner and terms of payment; defining the initial service area within the victory logistics district; establishing the Fernley Power District board as the governing body of the district and prescribing its composition, member selection, and powers and duties; delegating to the board administrative and regulatory authority over the district; and other matters properly related thereto.

7.2. (Discussion and Possible Action) First reading of Bill #387 amending Fernley Municipal Code Title 2, Administration, Chapter 8, Mayor and City Council, Section 2.08.01, Salaries and annual increases by adjusting the salary for Mayor and City Council.

7.3. Discussion and Possible Action to Introduction Bill #384, an Ordinance modifying Fernley Municipal Code, Section 10, Business License regulations, updating definitions, adding an Event Organizer definition, removing the hobby crafter exemption.

8. RESOLUTIONS

8.1. Discusison and Possible Action to adopt Resolution 26-011, updating the Business License Fee Schedule by adding a special event organizer and updating the special event licensing process.

8.2. Possible Action to adopt Resolution 26-010, adding in-coming and out-going fax service to the City Services Fee Schedule.

8.3. Discussion and possible action to adopt Resolution 26-008 authorizing the City Staff to submit an application to the U.S. Department of Transportation for a Safe Streets and Roads for All FY 2026 Implementation Grant for pedestrian safety improvements along the US 95A corridor in the vicinity of Fernley High School,

9. STAFF REPORTS

9.1. (Discussion and Possible Action) Application for assistance from Urban Design and Preservation Division Design-Preservation Rapid Assistance Teams (D-PRAT) for the site plan of the Out of Town Park.

9.2. Presentation by Brandi Jensen on the City of Fernley 25th Anniversary July 1st Celebration

9.3. (Discussion and Possible Action) to approve the commemorative 25th Anniversary statue and artwork to be temporarily installed at the Main Street Art Park for the July 1st 25th Anniversary unveiling ceremony, with future relocation to the roundabout site upon approval of the roundabout improvement plan.

10. PUBLIC FORUM

11. ADJOURNMENT

Next Meeting: June 3rd @ 5pm

Report Criteria:
Detail report.
Invoice detail records above $0 included.
Paid and unpaid invoices included.
Vendor.Vendor Number = {<>} 2201

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
ALLDATA LLC								
8930	ALLDATA LLC	INVC06963701	ALL DATA AUTOMOTIVE SERVICES	05/13/2026	361.60		100-480-342 Tech Services-Other	526
Total 8930:					361.60			
ALTITUDE SIGNAL, LLC								
8680	ALTITUDE SIGNAL, LLC	I004409	Batteries/Transfer Switch	05/08/2026	2,215.00		100-475-422 Outside Serv-Traf Light Maint	526
Total 8680:					2,215.00			
AT&T								
13	AT&T	81650 APR 26	775-835-8598 165 0	04/26/2026	2,921.91	05/19/2026	100-417-530 Communications	426
13	AT&T	98670 APR 26	775-786-2229 867 0	04/20/2026	1,421.71	05/12/2026	100-417-530 Communications	426
Total 13:					4,343.62			
AUTO & TRUCK ELECTRIC, INC								
8868	AUTO & TRUCK ELECTRIC, INC	50260	batteries for fleet (3 @ 165.00)	04/21/2026	495.00	05/07/2026	100-480-610 Automotive Supplies	426
8868	AUTO & TRUCK ELECTRIC, INC	50306	grader starter 39MT 24V 12 tooth	04/29/2026	495.00	05/07/2026	100-480-610 Automotive Supplies	426
Total 8868:					990.00			
BIG R OF FERNLEY								
20	BIG R OF FERNLEY	24152/5	Paint supplies (pan & roller set, 8pc paint set)	04/28/2026	28.98	05/01/2026	100-417-600 General Supplies	426
20	BIG R OF FERNLEY	24154/5	Paint supplies (brushes, bucket, yardstick)	04/28/2026	42.15	05/01/2026	100-417-600 General Supplies	426
20	BIG R OF FERNLEY	24156/5	Triple ball mount (black)	04/28/2026	59.99	05/01/2026	100-575-600 General Supplies	426
20	BIG R OF FERNLEY	24163/5	Ball mount reducer 2 1/2	04/29/2026	11.99		100-480-610 Automotive Supplies	426
20	BIG R OF FERNLEY	24167/5	Pass link chain and hoist hook for Waste Water	04/29/2026	21.77		520-810-614 Shop Supplies	426
20	BIG R OF FERNLEY	24170/5	PS Slip joint nut & washer 1-1/2""	04/29/2026	3.89	05/01/2026	510-840-614 Shop Supplies	426
20	BIG R OF FERNLEY	24175/5	Paint (safety red) 2 gal	04/30/2026	119.98		510-810-614 Shop Supplies	426
20	BIG R OF FERNLEY	24176/5	Credit return – paint (safety red), PO 43025WD	04/30/2026	.00		510-810-614 Shop Supplies	426
20	BIG R OF FERNLEY	24183/5	Batteries, fuel, jet washer supplies	05/01/2026	81.96		100-575-600 General Supplies	526
20	BIG R OF FERNLEY	24203/5	Herbicides (LV 400 2,4 D solvent free 2.5 gal and Roundup Pr	05/04/2026	575.94		100-475-617 Supplies-Chemical	526
20	BIG R OF FERNLEY	24205/5	PS PVC tube (7/8 x 5/8)	05/04/2026	7.74		510-840-614 Shop Supplies	526
20	BIG R OF FERNLEY	24206/5	Seat covers, shovels, and keys	05/04/2026	209.88		100-575-600 General Supplies	526
20	BIG R OF FERNLEY	24223/5	Shut-off valve, nozzle, garden hose, bottled water	05/08/2026	45.52		100-575-600 General Supplies	526
20	BIG R OF FERNLEY	24237/5	Safety red paint for fire hydrant curbs	05/11/2026	185.97		510-810-614 Shop Supplies	526
20	BIG R OF FERNLEY	24242/5	Roach and ant killer, liquid drain opener, and ant bait traps	05/12/2026	30.92		100-417-612 Building Maint Supplies	526

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
20	BIG R OF FERNLEY	24244/5	Bury hydrant, chainsaw bar/chain, files, 50:1 fuel	05/12/2026	283.93		100-575-600 General Supplies	526
20	BIG R OF FERNLEY	24244/5	Propane fuel	05/12/2026	131.93		100-575-623 Propane	526
	Total 20:				1,842.54			
BRADY INDUSTRIES OF NEVADA LLC								
8837	BRADY INDUSTRIES OF NEVADA LLC	11655902	Trash can liners	05/01/2026	240.96		100-417-612 Building Maint Supplies	526
	Total 8837:				240.96			
BUILDING CODE SOLUTIONS INC								
9099	BUILDING CODE SOLUTIONS INC	2169	Plan review services for Genica Nevada Shadow Hills Duplex,	05/05/2026	6,230.01		100-605-420 Outside Services	526
	Total 9099:				6,230.01			
CAPITOL REPORTERS								
9134	CAPITOL REPORTERS	6084	Transcripts for Appeal Langham 25CR00124 3K	03/13/2026	805.00	05/07/2026	100-425-322 Prof Serv-Other	326
	Total 9134:				805.00			
CDW GOVERNMENT INC.								
27	CDW GOVERNMENT INC.	A18W79R	2-HP LaserJet Enterprise MFP M430F - Court minor equipme	04/14/2026	1,474.20	05/01/2026	210-425-605 Minor Equipment	426
27	CDW GOVERNMENT INC.	AJ 22Q7P	HP Laptop & USB-C dock T. Livingston	05/07/2026	1,470.12		100-415-605 Minor Equipment	526
	Total 27:				2,944.32			
CHASE PAYMENTECH MERCHANT SERVICES								
8637	CHASE PAYMENTECH MERCHANT SERVICES	4/2026	WATER-CREDIT CARD PROCESSING FEES 6181757	04/30/2026	3,637.92	05/10/2026	510-810-609 Credit Card Fees	426
8637	CHASE PAYMENTECH MERCHANT SERVICES	4/2026	SEWER-CREDIT CARD PROCESSING FEES 6181757	04/30/2026	3,637.92	05/10/2026	520-810-609 Credit Card Fees	426
8637	CHASE PAYMENTECH MERCHANT SERVICES	4/2026	FINANCE-CREDIT CARD PROCESSING FEES 6291058	04/30/2026	113.55	05/10/2026	100-415-609 Credit Card Fees	426
8637	CHASE PAYMENTECH MERCHANT SERVICES	4/2026	FINANCE-CREDIT CARD PROCESSING FEES 6291057	04/30/2026	1,573.96	05/10/2026	100-415-609 Credit Card Fees	426
	Total 8637:				8,963.35			
CSG FORTE PAYMENTS, INC								
8996	CSG FORTE PAYMENTS, INC	0015563699	FORTE CC MONTHLY STMT AND PROCESS FEES	04/30/2026	11.99	05/10/2026	100-417-420 Outside Services	426
8996	CSG FORTE PAYMENTS, INC	0015563699	FORTE CC MONTHLY STMT AND PROCESS FEES	04/30/2026	12.00	05/10/2026	100-575-420 Outside Services	426
8996	CSG FORTE PAYMENTS, INC	0015563857	FORTE CC MONTHLY STMT AND PROCESS FEES	04/30/2026	21.15	05/10/2026	100-575-420 Outside Services	426
8996	CSG FORTE PAYMENTS, INC	0015563857	FORTE CC MONTHLY STMT AND PROCESS FEES	04/30/2026	21.16	05/10/2026	100-417-420 Outside Services	426
	Total 8996:				66.30			
DAHL, RACHEL								
9140	DAHL, RACHEL	FMCo.26MAY - 001	AD S Area Plan advertisement (Ad in Fernley reporter)	05/05/2026	180.00		100-610-540 Advertising	526

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
	Total 9140:				180.00			
DESIGN WORKSHOP, INC.								
8598	DESIGN WORKSHOP, INC.	84986	Fernley Roundabout US95A/US 50A design services May 202	05/11/2026	3,130.00		100-475-320 Prof Serv-Engineering	526
	Total 8598:				3,130.00			
DOWL, LLC								
8931	DOWL, LLC	7363.30292.03-14	GIS services water Apr/May 2026	05/08/2026	561.00		510-810-342 Tech Services-Other	526
8931	DOWL, LLC	7363.30583.01-21	Waterline Design Review	03/06/2026	226.00	05/01/2026	100-475-745 RTC Reimbursable	326
8931	DOWL, LLC	7363.30583.01-25	On-Call Engineering Support April–May 2026	05/08/2026	3,484.75		100-610-320 Prof Serv-Engineering	526
8931	DOWL, LLC	7382.30332.02-8	FSM26001 Friendly 5 Phase 4 map review	05/08/2026	3,740.00		100-228311 Engineering Reimb. (Maps)	526
8931	DOWL, LLC	7382.30332.02-8	Surveying Services	05/08/2026	60.00		100-610-322 Prof Serv-Other	526
	Total 8931:				8,071.75			
EMPLOYEES, CITY OF FERNLEY								
8639	EMPLOYEES, CITY OF FERNLEY	022426	REIMB FOR MILEAGE AND MEALS, ELECTION TRAINING I	02/24/2026	240.20	05/01/2026	100-416-582 Travel	226
8639	EMPLOYEES, CITY OF FERNLEY	42426	REIMB FOR LYFT RIDES & MEALS, NATIONAL PLANNING	04/24/2026	425.36	05/01/2026	100-610-582 Travel	426
8639	EMPLOYEES, CITY OF FERNLEY	42726	REIMB FOR PERSONAL BRAND COMMUNICATIONS CLAS	04/27/2026	1,026.00		100-413-580 Training	426
8639	EMPLOYEES, CITY OF FERNLEY	42826	REIMB FOR MEAL, 2026 CAL RURAL WATER EXPO LAKE	04/28/2026	9.00	05/01/2026	510-810-582 Travel	426
8639	EMPLOYEES, CITY OF FERNLEY	42826	REIMB FOR MEAL, 2026 CAL RURAL WATER EXPO LAKE	04/28/2026	18.00	05/01/2026	520-810-582 Travel	426
8639	EMPLOYEES, CITY OF FERNLEY	42826	REIMB FOR MEAL, 2026 CAL RURAL WATER EXPO LAKE	04/28/2026	9.00	05/01/2026	510-840-582 Travel	426
8639	EMPLOYEES, CITY OF FERNLEY	51126	REIMB FOR STORAGE BINS FOR EVENT SUPPLIES J. MU	05/11/2026	42.13		100-413-600 General Supplies	526
8639	EMPLOYEES, CITY OF FERNLEY	533556	REIMB FOR ALL ACCESS PASS TO MY LAW CLE 2026	05/05/2026	395.00	05/07/2026	100-414-580 Training	526
	Total 8639:				2,164.69			
EVERON, LLC								
8979	EVERON, LLC	160899965	PS security equipment service agreement	04/29/2026	76.19	05/07/2026	510-840-420 Outside Services	426
	Total 8979:				76.19			
GOPHER CONSTRUCTION INC								
202	GOPHER CONSTRUCTION INC	38325	Black Mountain 3/4""	04/30/2026	152.00		510-810-431 Outside Serv-Road Maint	426
202	GOPHER CONSTRUCTION INC	38332	Black Mountain Type II Base - WWTP	04/30/2026	434.28		520-810-600 General Supplies	426
202	GOPHER CONSTRUCTION INC	38369	Black Mountain Type II Base - Sewer Distribution	05/06/2026	363.60		520-810-600 General Supplies	526
	Total 202:				949.88			
GRAINGER								
252	GRAINGER	9913306164	DIN mounting track, aluminum, 2 ft	05/12/2026	6.09		520-810-614 Shop Supplies	526

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
	Total 252:				6.09			
GRANITE TELECOMMUNICATIONS, LLC								
8838	GRANITE TELECOMMUNICATIONS, LLC	745679513	COMMUNICATIONS MAY 2026	05/01/2026	417.24	05/08/2026	100-417-530 Communications	526
	Total 8838:				417.24			
GUNDERSON LAW FIRM								
9105	GUNDERSON LAW FIRM	100797	outside legal criminal	05/01/2026	2,299.50		100-414-310 Prof Serv-Legal	526
	Total 9105:				2,299.50			
H&H INVESTMENTS & TOOL SUPPLY								
8987	H&H INVESTMENTS & TOOL SUPPLY	79402	7 PC. TORX SCREWDRVR SET FOR SHOP	05/06/2026	227.64		100-480-600 General Supplies	526
	Total 8987:				227.64			
IBEW Local 1245								
83	IBEW Local 1245	MAY 2026-1	UNION DUES, ONE HALF OF MONTH	05/01/2026	1,691.26	05/01/2026	100-219900 OTHER PAYROLL PAYABLES	526
	Total 83:				1,691.26			
INTERNAL REVENUE SERVICE								
7879	INTERNAL REVENUE SERVICE	MAY 2026-1	W/HOLD TAX PAYABLE, PAYROLL	05/01/2026	32,019.19	05/01/2026	100-212000 FEDERAL WITHHOLDING PAYAB	526
7879	INTERNAL REVENUE SERVICE	MAY 2026-1	MED TAX PAYABLE, PAYROLL	05/01/2026	8,590.46	05/01/2026	100-211000 FICA PAYABLE	526
7879	INTERNAL REVENUE SERVICE	MAY 2026-1	FICA TAX PAYABLE, PAYROLL	05/01/2026	145.04	05/01/2026	100-211000 FICA PAYABLE	526
	Total 7879:				40,754.69			
INTERWEST CONSULTING GROUP, INC								
9035	INTERWEST CONSULTING GROUP, INC	3738717	Municipal Code Amendment to Code Enforcement Regulation	04/30/2026	2,945.00		100-615-420 Outside Services	426
	Total 9035:				2,945.00			
JAK NEVADA LLC								
9133	JAK NEVADA LLC	2- APR 26	1 truck wash – Wastewater	05/05/2026	11.00		520-810-420 Outside Services	526
	Total 9133:				11.00			
JOHNSON CONTROLS BUILDING SOLUTIONS LLC								
8667	JOHNSON CONTROLS BUILDING SOLUTIONS LLC	1-137687746380	PS WT Plant HVAC & boiler controls reprogramming/troubles	05/12/2026	2,644.00		510-840-430 Outside Serv-Repair & Maint	526
8667	JOHNSON CONTROLS BUILDING SOLUTIONS LLC	54038731	Fci Prog fire system service call – adjust outside PIV	05/06/2026	132.24		100-417-430 Outside Serv-Repair & Maint	526

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
	Total 8667:				2,776.24			
JOHNSON, MARC								
9122	JOHNSON, MARC	430261580	tool / equipment purchase	04/30/2026	165.00	05/07/2026	100-480-600 General Supplies	426
9122	JOHNSON, MARC	507261784	tool / equipment purchase	05/07/2026	148.00		100-480-600 General Supplies	526
	Total 9122:				313.00			
JUB ENGINEERS, INC								
8846	JUB ENGINEERS, INC	195478	Cedar Street Waterline Design	04/16/2026	2,227.75	05/07/2026	510-166100 Construction In Progress	426
	Total 8846:				2,227.75			
JUSTICE AV SOLUTIONS INC								
9137	JUSTICE AV SOLUTIONS INC	INV - 531546	Courtroom AV and recording system equipment and installatio	04/07/2026	60,000.00	05/07/2026	210-425-605 Minor Equipment	426
	Total 9137:				60,000.00			
KIMLEY-HORN AND ASSOCIATES, INC.								
8715	KIMLEY-HORN AND ASSOCIATES, INC.	34689493	CIP/Impact Fee Study	01/31/2026	3,750.00	05/07/2026	100-610-322 Prof Serv-Other	126
	Total 8715:				3,750.00			
LICKETY SPLIT EXPRESS WASH, LLC								
9051	LICKETY SPLIT EXPRESS WASH, LLC	#12 COURT APR 26	1 car wash	04/30/2026	11.00		100-425-322 Prof Serv-Other	426
9051	LICKETY SPLIT EXPRESS WASH, LLC	#3 STREETS APR 26	1 truck wash	04/30/2026	11.00		100-475-420 Outside Services	426
9051	LICKETY SPLIT EXPRESS WASH, LLC	#4 WD APR 26	6 Truck washes	04/30/2026	66.00		510-810-420 Outside Services	426
9051	LICKETY SPLIT EXPRESS WASH, LLC	#9 WTP APR 26	2 truck washes	04/30/2026	22.00		510-840-420 Outside Services	426
	Total 9051:				110.00			
LOWES CREDIT SERVICES								
7650	LOWES CREDIT SERVICES	72014	Paint and paint supplies for utility maintenance	04/16/2026	329.18	05/01/2026	510-810-614 Shop Supplies	426
7650	LOWES CREDIT SERVICES	72168	PS Washer/Dryer For Shop Towels/Rugs	04/29/2026	871.86	05/01/2026	510-840-614 Shop Supplies	426
7650	LOWES CREDIT SERVICES	72255	PS Faucet Repair	04/29/2026	14.06	05/01/2026	510-840-614 Shop Supplies	426
7650	LOWES CREDIT SERVICES	74037	Towels, cleaning supplies	05/11/2026	111.38		100-475-614 Shop Supplies	526
7650	LOWES CREDIT SERVICES	74037	Safety Glasses	05/11/2026	8.53		100-475-616 Safety Supplies	526
7650	LOWES CREDIT SERVICES	74302	PS Custodial Supplies	04/30/2026	167.97		510-840-614 Shop Supplies	426
7650	LOWES CREDIT SERVICES	74589	Floor green marking paint – wastewater	05/11/2026	53.88		520-810-600 General Supplies	526
7650	LOWES CREDIT SERVICES	74783	Paint rollers	04/30/2026	10.91		100-417-600 General Supplies	426
7650	LOWES CREDIT SERVICES	84729	15/32 CAT 4 plywood fir rated – art park	05/04/2026	313.68		100-575-600 General Supplies	526
7650	LOWES CREDIT SERVICES	87043	Spray cleaners, paper towels	05/05/2026	37.93		510-840-614 Shop Supplies	526
7650	LOWES CREDIT SERVICES	947784-qqovoi	5% Discount Refund	04/29/2026	5.42-		100-415-615 Cash Over/Short	426

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
7650	LOWES CREDIT SERVICES	971956-QNCOPJ	Wastewater tools and supplies – scissors, socket extension b	04/02/2026	109.15		520-810-614 Shop Supplies	426
7650	LOWES CREDIT SERVICES	97968	Wall Texture	04/27/2026	37.96		100-417-600 General Supplies	426
7650	LOWES CREDIT SERVICES	99485	Utility blades, drill bits, knives, saw blades and impact wrench	04/28/2026	493.20	05/01/2026	510-840-614 Shop Supplies	426
7650	LOWES CREDIT SERVICES	99745	Hardware: lag screws, corner brace, anchors	04/28/2026	53.43		100-417-600 General Supplies	426
	Total 7650:				2,607.70			
LP INSURANCE SERVICES, INC								
8746	LP INSURANCE SERVICES, INC	1159098	Policy EB Fee June 26	06/01/2026	2,500.00		100-413-322 Prof Serv-Other	626
	Total 8746:				2,500.00			
LUMOS & ASSOCIATES INC								
370	LUMOS & ASSOCIATES INC	130755	City of Fernley 5-Year PMP Update	01/12/2026	6,197.50	05/01/2026	100-475-730 Improve Other than Buildings	126
370	LUMOS & ASSOCIATES INC	131300	Fernley EWWTP Pond 4A and 4B Relining CM	02/20/2026	2,187.00		520-166100 Construction In Progress	226
370	LUMOS & ASSOCIATES INC	131796	City of Fernley East Lift Station Improvements	04/21/2026	22,701.25	05/07/2026	520-166100 Construction In Progress	426
	Total 370:				31,085.75			
LYON COUNTY CLERK/TREASURER								
106	LYON COUNTY CLERK/TREASURER	TLT Apr26	Transient Lodging Tax	04/30/2026	1,582.81		225-227010 TLT Payable to County	426
	Total 106:				1,582.81			
MARSHALL'S SEPTIC CARE								
8509	MARSHALL'S SEPTIC CARE	I31155	Portable Restroom Maintenance	05/01/2026	160.00	05/07/2026	100-575-430 Outside Serv-Repair & Maint	526
8509	MARSHALL'S SEPTIC CARE	I31156	Portable Restroom Maintenance	05/01/2026	160.00	05/07/2026	100-575-430 Outside Serv-Repair & Maint	526
8509	MARSHALL'S SEPTIC CARE	I31157	Portable Restroom Maintenance	05/01/2026	800.00	05/07/2026	100-575-430 Outside Serv-Repair & Maint	526
8509	MARSHALL'S SEPTIC CARE	I31158	Portable Restroom Maintenance	05/01/2026	320.00	05/07/2026	100-575-430 Outside Serv-Repair & Maint	526
8509	MARSHALL'S SEPTIC CARE	I31159	Portable Restroom Maintenance	05/01/2026	320.00	05/07/2026	100-575-430 Outside Serv-Repair & Maint	526
8509	MARSHALL'S SEPTIC CARE	I31160	Portable Restroom Maintenance	05/01/2026	160.00	05/07/2026	100-575-430 Outside Serv-Repair & Maint	526
8509	MARSHALL'S SEPTIC CARE	I31162	Portable Restroom Maintenance	05/01/2026	160.00	05/07/2026	100-417-430 Outside Serv-Repair & Maint	526
	Total 8509:				2,080.00			
MCDONALD CARANO								
322	MCDONALD CARANO	12522142	outside legal planning	04/29/2026	2,625.00		100-414-310 Prof Serv-Legal	426
	Total 322:				2,625.00			
MISCELLANEOUS ONE TIME VENDOR								
1111	MISCELLANEOUS ONE TIME VENDOR	050626	REFUND FOR TEMPORARY USE PERMIT TAKEN IN ERRO	05/06/2026	104.00	05/07/2026	100-320-210 Planning and Zoning Fees	526
1111	MISCELLANEOUS ONE TIME VENDOR	42826	REFUND FOR TEMPORARY USE PERMIT TAKEN IN ERRO	04/28/2026	104.00	05/01/2026	100-320-210 Planning and Zoning Fees	426
1111	MISCELLANEOUS ONE TIME VENDOR	AR25002	EARLY LEARNING CENTER AR25002 DEPOSIT REFUND	04/24/2026	450.00	05/01/2026	100-320-210 Planning and Zoning Fees	426

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
1111	MISCELLANEOUS ONE TIME VENDOR	BP26-153	REFUND FOR ERC FEE THAT WAS CHARGED IN ERROR	05/04/2026	300.00	05/07/2026	100-320-220 Engineering/Civil Fees	526
1111	MISCELLANEOUS ONE TIME VENDOR	PIP2025-010	REFUND FOR OVERPAYMENT OF PERMIT PIP2025-010, N	04/28/2026	1,100.00	05/01/2026	100-320-220 Engineering/Civil Fees	426
	Total 1111:				2,058.00			
NAPA AUTO & TRUCK PARTS								
58	NAPA AUTO & TRUCK PARTS	448203	Hydraulic oil and funnel for Parks	04/28/2026	91.18	05/01/2026	100-575-600 General Supplies	426
58	NAPA AUTO & TRUCK PARTS	448277	PARTS FOR FLEET- Battery disconnect switch for road grade	04/29/2026	64.79	05/07/2026	100-480-610 Automotive Supplies	426
58	NAPA AUTO & TRUCK PARTS	448569	Oil filter and 15W40 oil for Parks	05/04/2026	42.22	05/07/2026	100-575-600 General Supplies	526
58	NAPA AUTO & TRUCK PARTS	448628	Parks – filters, oil, hand cleaner and supplies	05/05/2026	162.39	05/07/2026	100-575-600 General Supplies	526
58	NAPA AUTO & TRUCK PARTS	448959	Fleet – disposable gloves and wipers	05/11/2026	26.97		100-575-616 Safety Supplies	526
	Total 58:				387.55			
NEVADA DEPARTMENT OF TAXATION								
6378	NEVADA DEPARTMENT OF TAXATION	TLTApr26	Transient Lodging Tax	04/30/2026	949.68		225-227015 TLT Payable to State	426
	Total 6378:				949.68			
NEVADA DIVISION OF WATER RESOURCES								
218	NEVADA DIVISION OF WATER RESOURCES	4-2026-NV	TROA INVOICE 10/1/25-9/30/26	04/30/2026	74,311.38	05/08/2026	510-810-698 Water Rights Protection	426
	Total 218:				74,311.38			
NSB - BANKCARD CENTER								
8649	NSB - BANKCARD CENTER	APR 26	SURESTAY BEST WESTERN; HOTEL STAY WNDD MEMBE	04/30/2026	110.38	05/10/2026	100-412-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	CAESARS REPUBLIC LAKE TAHOE; HOTEL STAY CAL RU	04/30/2026	96.61	05/10/2026	510-810-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	CAESARS REPUBLIC LAKE TAHOE; HOTEL STAY CAL RU	04/30/2026	85.05	05/10/2026	510-840-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; DOG WHISTLE CE	04/30/2026	29.99	05/10/2026	100-615-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	IIMC; ANNUAL CONFERENCE RENO, NV K. SWANSON CC	04/30/2026	775.00	05/10/2026	100-416-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	WALMART; SUPPLIES FOR MAYOR'S CORNER 4/11/26	04/30/2026	31.09	05/10/2026	100-412-650 Community Support	426
8649	NSB - BANKCARD CENTER	APR 26	DPF ALTERNATIVES; REPAIR DPF FOR FIRE DEPT	04/30/2026	1,189.26	05/10/2026	100-126000 Intergovernmental Receivable	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; FES FIELD TRIP SUPPLIES ENG	04/30/2026	163.58	05/10/2026	100-529-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	WYNDHAM HOTEL; HOTEL STAY APA ANNUAL CONFERE	04/30/2026	859.32	05/10/2026	100-610-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	CAESARS REPUBLIC LAKE TAHOE; HOTEL STAY CAL RU	04/30/2026	96.61	05/10/2026	510-840-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	CAESARS REPUBLIC LAKE TAHOE; HOTEL STAY CAL RU	04/30/2026	170.10	05/10/2026	520-810-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	IIMC; ANNUAL MEMBERSHIP S. HARRIS CCO	04/30/2026	135.00	05/10/2026	100-416-581 Dues and Memberships	426
8649	NSB - BANKCARD CENTER	APR 26	IIMC; ANNUAL CONFERENCE RENO, NV S. HARRIS CCO	04/30/2026	725.00	05/10/2026	100-416-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	BUDDY BOYS; DONUTS FOR MAYOR'S CORNER ATTEND	04/30/2026	43.98	05/10/2026	100-412-650 Community Support	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; FES FIELD TRIP SUPPLIES UT	04/30/2026	30.22	05/10/2026	520-810-601 Office Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	WALMART; SUPPLIES FOR CEMETERY PLANTING DAY 4/	04/30/2026	22.50	05/10/2026	100-576-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	CAL RURAL WATER; ANNUAL CONFERENCE ATTENDENC	04/30/2026	705.00	05/10/2026	510-810-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; FES FIELD TRIP SUPPPLIES PW	04/30/2026	59.25	05/10/2026	100-417-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	SILVERFLUME; NOTARY R. GOETZ & K. SWANSON CCO	04/30/2026	164.00	05/10/2026	100-416-580 Training	426

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
8649	NSB - BANKCARD CENTER	APR 26	INDIGO WATER GROUP; ONLINE COURSE FOR REQUIRE	04/30/2026	486.00	05/10/2026	510-840-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	BUDDY BOYS DONUTS; ALL HANDS 4/29/26	04/30/2026	64.97	05/10/2026	100-412-586 Employee Recognition	426
8649	NSB - BANKCARD CENTER	APR 26	SURESTAY BEST WESTERN; HOTEL STAY WNDD MEMBE	04/30/2026	110.38	05/10/2026	100-413-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	NLC; NASHVILLE CITY SUMMIT REGISTRATION A. TORRE	04/30/2026	775.00	05/10/2026	100-412-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	CAESARS REPUBLIC LAKE TAHOE; HOTEL STAY CAL RU	04/30/2026	85.05	05/10/2026	510-810-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	STAMPLI; MAR 2026	04/30/2026	1,059.00	05/10/2026	100-418-342 Tech Services-Other	426
8649	NSB - BANKCARD CENTER	APR 26	SPW INDUSTRIAL; EMERGENCY GENERATOR HMI WTP	04/30/2026	835.61	05/10/2026	510-840-614 Shop Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	RALEY'S; SUPPLIES FOR MAYOR'S CORNER 4/11/26	04/30/2026	31.97	05/10/2026	100-412-650 Community Support	426
8649	NSB - BANKCARD CENTER	APR 26	SURESTAY BEST WESTERN; HOTEL STAY WNDD MEMBE	04/30/2026	110.38	05/10/2026	100-610-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	CARSON VALLEY INN; HOTEL STAY POOL/PACT ANNUAL	04/30/2026	129.95	05/10/2026	100-413-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	CAESARS REPUBLIC LAKE TAHOE; HOTEL STAY CAL RU	04/30/2026	193.20	05/10/2026	520-810-582 Travel	426
8649	NSB - BANKCARD CENTER	APR 26	NLC; NASHVILLE CITY SUMMIT REGISTRATION MAYOR,	04/30/2026	725.00	05/10/2026	100-413-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	NDEP; D1 TEST J. JULIOT WD	04/30/2026	123.00	05/10/2026	510-810-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	SHRM; 2YR MEMBERSHIP HR	04/30/2026	538.00	05/10/2026	100-419-581 Dues and Memberships	426
8649	NSB - BANKCARD CENTER	APR 26	PRYOR LEARNING; APR PERFORMANCE REVIEWS WITH	04/30/2026	199.00	05/10/2026	100-417-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	APWA; 5 PW WEEK POSTERS	04/30/2026	135.00	05/10/2026	100-475-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	ASCE; EMERGENCY HEAT LOOP REPARK AT TMWRF LU	04/30/2026	35.00	05/10/2026	100-529-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	BACKFLOW SUPPLY; SUPPLIES FOR BACKFLOW TESTIN	04/30/2026	143.51	05/10/2026	510-810-614 Shop Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	TOTALLY PROMOTIONAL; FES FIELD TRIP CUPS UT	04/30/2026	50.34	05/10/2026	510-810-601 Office Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	ICC; CODE OFFICIAL SAFETY CLA PROGRAM TEST T. RI	04/30/2026	65.00	05/10/2026	100-615-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	CAL RURAL WATER; ANNUAL CONFERENCE ATTENDENC	04/30/2026	705.00	05/10/2026	510-840-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; FES FIELD TRIP SUPPPLIES PW	04/30/2026	59.26	05/10/2026	100-475-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	TRACTOR SUPPLY; TRACTOR TIRES	04/30/2026	229.98	05/10/2026	100-575-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	GROCERY OUTLET; ALL HANDS SUPPLIES 4/29/26	04/30/2026	9.99	05/10/2026	100-412-586 Employee Recognition	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; 2 DECORATIVE TRASH CANS FOR CEMETERY	04/30/2026	599.78	05/10/2026	100-576-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	MOANA NURSERY; PLANTING DAY CEMETERY UPGRAD	04/30/2026	195.46	05/10/2026	100-576-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	DMV; 5 VEHICLE REGISTRATIONS & 1 TITLE	04/30/2026	58.25	05/10/2026	100-480-642 Licenses and Permits	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; FES FIELD TRIP SUPPLIES UT	04/30/2026	30.22	05/10/2026	510-810-601 Office Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	RALEY'S; SUPPLIES FOR CEMETERY PLANTING DAY 4/1	04/30/2026	28.95	05/10/2026	100-576-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; FES FIELD TRIP SUPPLIES PLN	04/30/2026	193.41	05/10/2026	100-610-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; FES FIELD TRIP SUPPPLIES FIN	04/30/2026	156.87	05/10/2026	100-415-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	IMAGING SPECTRUM; PHOTO PAPER CCO	04/30/2026	162.79	05/10/2026	100-416-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	RADWELL; SPEED CONTROLLER FOR SALT SPREADER	04/30/2026	780.68	05/10/2026	100-480-610 Automotive Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	RALEY'S; ALL HANDS SUPPLIES 4/29/26	04/30/2026	44.60	05/10/2026	100-412-586 Employee Recognition	426
8649	NSB - BANKCARD CENTER	APR 26	EVENTBRITE; LEARN THE BASICS OF URBAN PLANNING	04/30/2026	74.92	05/10/2026	100-610-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	CEOSF; CODE OFFICIAL SAFETY SPECIALIST TRAINING	04/30/2026	598.00	05/10/2026	100-615-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	TOTALLY PROMOTIONAL; FES FIELD TRIP CUPS UT	04/30/2026	50.33	05/10/2026	520-810-601 Office Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	ICC; CODE OFFICIAL SAFETY CLA PROGRAM TEST B. EN	04/30/2026	65.00	05/10/2026	100-615-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	CAL RURAL WATER; ANNUAL CONFERENCE ATTENDENC	04/30/2026	1,410.00	05/10/2026	520-810-580 Training	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; FES FIELD TRIP SUPPPLIES PW	04/30/2026	59.26	05/10/2026	100-575-600 General Supplies	426
8649	NSB - BANKCARD CENTER	APR 26	ZOOM; CMO MONTHLY SUBSCRIPTION & ANNUAL RENE	04/30/2026	516.80	05/10/2026	100-418-342 Tech Services-Other	426
8649	NSB - BANKCARD CENTER	APR 26	RALEY'S; ALL HANDS SUPPLIES 4/29/26	04/30/2026	18.97	05/10/2026	100-412-586 Employee Recognition	426
8649	NSB - BANKCARD CENTER	APR 26	AMAZON; FES FIELD TRIP BAGS MAYOR	04/30/2026	158.99	05/10/2026	100-412-650 Community Support	426

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
Total 8649:					17,594.81			
NV ENERGY								
167	NV ENERGY	10601 MAY 26	80865908610601 ACH	04/30/2026	37.54	05/18/2026	100-475-622 Electricity	426
167	NV ENERGY	12019 APR 26	34596505012019 ACH	04/16/2026	8,036.07	05/04/2026	510-810-622 Electricity	426
167	NV ENERGY	13818 APR 26	34596405113818 ACH	04/25/2026	38.04	05/13/2026	100-475-622 Electricity	426
167	NV ENERGY	13924 APR 26	48768108113924 ACH	04/25/2026	44.66	05/13/2026	100-475-622 Electricity	426
167	NV ENERGY	26093 MAY 26	34596402626093 ACH	05/05/2026	3,483.31	05/21/2026	100-575-622 Electricity	526
167	NV ENERGY	26100 MAY 26	34596502626100 ACH	05/05/2026	41.93	05/21/2026	520-810-622 Electricity	526
167	NV ENERGY	26100 MAY 26	34596502626100 ACH	05/05/2026	22,445.09	05/21/2026	510-810-622 Electricity	526
167	NV ENERGY	26445 APR 26	34596505226445 ACH	04/24/2026	6,212.54	05/12/2026	510-840-622 Electricity	426
167	NV ENERGY	28458 APR 26	34596505228458 ACH	04/24/2026	11,973.68	05/12/2026	510-840-622 Electricity	426
167	NV ENERGY	29499 MAY 26	1000213677906929499 ACH	04/29/2026	52.60	05/15/2026	100-475-622 Electricity	426
167	NV ENERGY	30037 APR 26	34596403630037 ACH	04/16/2026	39.47	05/04/2026	100-576-622 Electricity	426
167	NV ENERGY	30672 APR 26	213677908230672 ACH	04/25/2026	44.29	05/13/2026	100-575-622 Electricity	426
167	NV ENERGY	41110 MAY 26	82190403641110 ACH	05/05/2026	86.08	05/21/2026	520-810-622 Electricity	526
167	NV ENERGY	42683 MAY 26	82190404842683 ACH	05/05/2026	3,274.16	05/21/2026	520-810-622 Electricity	526
167	NV ENERGY	42683 MAY 26	82190404842683 ACH	05/05/2026	60.98	05/21/2026	100-475-622 Electricity	526
167	NV ENERGY	42683 MAY 26	82190404842683 ACH	05/05/2026	148.91	05/21/2026	100-575-622 Electricity	526
167	NV ENERGY	42683 MAY 26	82190404842683 ACH	05/05/2026	282.36	05/21/2026	510-810-622 Electricity	526
167	NV ENERGY	71493 APR 26	271223607571493 ACH	04/25/2026	43.58	05/13/2026	100-475-622 Electricity	426
167	NV ENERGY	79481 APR 26	82190405179481 ACH	04/25/2026	65.97	05/13/2026	520-810-622 Electricity	426
167	NV ENERGY	97731 APR 26	213677908197731 ACH	04/25/2026	46.62	05/13/2026	100-575-622 Electricity	426
167	NV ENERGY	97899 MAY 26	80865904797899 ACH	05/05/2026	10,667.93	05/21/2026	100-475-622 Electricity	526
167	NV ENERGY	98954 MAY 26	82190405098954 ACH	05/05/2026	4,227.98	05/21/2026	520-810-622 Electricity	526
Total 167:					71,353.79			
OFFICE DEPOT								
133	OFFICE DEPOT	462427661001	Office supplies - folders, wall file, address labels	04/30/2026	88.59		100-414-600 General Supplies	426
133	OFFICE DEPOT	462448888001	Office supplies - folders (City Attorney)	04/29/2026	15.15		100-414-600 General Supplies	426
133	OFFICE DEPOT	465361336001	Pens – Sharpie fine, dz, blue – office supplies	05/01/2026	16.44		100-416-600 General Supplies	526
133	OFFICE DEPOT	465362525001	Office supplies – mechanical pencils and notary public record	05/01/2026	19.75		100-416-600 General Supplies	526
133	OFFICE DEPOT	465362530001	Stamp 13/16x2-3/16	05/05/2026	30.24		100-416-600 General Supplies	526
133	OFFICE DEPOT	465615852001	Office supplies for Planning – pens, labels, name badges, env	04/23/2026	80.70		100-610-601 Office Supplies	426
Total 133:					250.87			
O'REILLY AUTO PARTS								
6230	O'REILLY AUTO PARTS	3599-407127	parts for fire dept	04/14/2026	12.49	05/07/2026	100-126000 Intergovernmental Receivable	426
6230	O'REILLY AUTO PARTS	3599-409390	water sensor for fire dept	04/28/2026	28.92	05/07/2026	100-126000 Intergovernmental Receivable	426
6230	O'REILLY AUTO PARTS	3599-409630	parts for fire dept.	04/30/2026	279.39	05/07/2026	100-126000 Intergovernmental Receivable	426
6230	O'REILLY AUTO PARTS	3599-410306	brake pads and shocks for streets Silverado 2500 HD	05/04/2026	466.96	05/07/2026	100-480-610 Automotive Supplies	526

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
	Total 6230:				787.76			
PACIFIC STORAGE COMPANY								
8876	PACIFIC STORAGE COMPANY	5311192	Shred Services	04/29/2026	99.00		100-416-420 Outside Services	426
8876	PACIFIC STORAGE COMPANY	5311193	Shred Bin April 2026	04/29/2026	16.50		100-425-322 Prof Serv-Other	426
	Total 8876:				115.50			
PETROSOLUTIONS, LLC								
8504	PETROSOLUTIONS, LLC	116584	used oil recycle service	04/28/2026	100.00		100-480-610 Automotive Supplies	426
	Total 8504:				100.00			
POSEIDON EDUCATION LLC								
9141	POSEIDON EDUCATION LLC	1039	Water Works Education Program Planning and Preparation	03/31/2026	4,750.00		510-810-322 Prof Serv-Other	326
	Total 9141:				4,750.00			
PUBLIC EMPLOYEES BENEFITS PROG								
143	PUBLIC EMPLOYEES BENEFITS PROG	MAY 2026	Retiree Insurance #819	05/04/2026	450.57		520-219910 OPEB Liability	526
	Total 143:				450.57			
PURCELL TIRE AND RUBBER COMPANY								
38	PURCELL TIRE AND RUBBER COMPANY	26180720	tires for fleet 1005	05/07/2026	636.63		100-480-610 Automotive Supplies	526
38	PURCELL TIRE AND RUBBER COMPANY	26180880	loose backhoe tire	05/11/2026	85.40		100-480-610 Automotive Supplies	526
	Total 38:				722.03			
PYE-BARKER FIRE & SAFETY COMPANY								
8814	PYE-BARKER FIRE & SAFETY COMPANY	8337048	Service call – alarm batteries City Hall	04/29/2026	57.28	05/01/2026	100-417-430 Outside Serv-Repair & Maint	426
	Total 8814:				57.28			
RENO ROCK TRANSPORT								
7002	RENO ROCK TRANSPORT	257560	Type II Base	04/29/2026	1,476.00	05/01/2026	100-475-600 General Supplies	426
	Total 7002:				1,476.00			
RESOURCE CONCEPTS								
8602	RESOURCE CONCEPTS	26-0556	Water rights services - meetings and email coordination, TRO	04/24/2026	5,588.75	05/01/2026	510-810-698 Water Rights Protection	426
8602	RESOURCE CONCEPTS	26-0557	Water rights services - irrigation lease program coordination f	04/24/2026	440.00	05/01/2026	510-810-698 Water Rights Protection	426

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
	Total 8602:				6,028.75			
ROYAL CARPET ONE FLOOR & HOME								
8955	ROYAL CARPET ONE FLOOR & HOME	RF006044	5 Office carpet tile and rubber base installation	04/24/2026	6,719.76		100-417-420 Outside Services	426
	Total 8955:				6,719.76			
SILVER STATE ANALYTICAL LABORATORIES								
7856	SILVER STATE ANALYTICAL LABORATORIES	RN341641	WWTP Samples	04/28/2026	202.00	05/07/2026	520-810-423 Outside Serv-Analytical	426
7856	SILVER STATE ANALYTICAL LABORATORIES	RN341836	May monthly samples	05/05/2026	286.00	05/07/2026	510-810-423 Outside Serv-Analytical	526
7856	SILVER STATE ANALYTICAL LABORATORIES	RN341844	WWTP Samples	05/05/2026	562.00		520-810-423 Outside Serv-Analytical	526
7856	SILVER STATE ANALYTICAL LABORATORIES	RN341905	WWTP Samples	05/07/2026	202.00		520-810-423 Outside Serv-Analytical	526
7856	SILVER STATE ANALYTICAL LABORATORIES	RN342037	WWTP Samples	05/11/2026	202.00		520-810-423 Outside Serv-Analytical	526
7856	SILVER STATE ANALYTICAL LABORATORIES	RN342066	PS PFAS Samples	05/11/2026	900.00		510-840-423 Outside Serv-Analytical	526
	Total 7856:				2,354.00			
SNAP-ON INDUSTRIAL								
8735	SNAP-ON INDUSTRIAL	ARV/67977185	tools for shop	05/08/2026	320.95		100-480-600 General Supplies	526
	Total 8735:				320.95			
SOUTHWEST GAS CORP								
204	SOUTHWEST GAS CORP	40647 APR 26	910005040647 ACH	04/23/2026	497.08	05/12/2026	100-417-621 Natural Gas	426
204	SOUTHWEST GAS CORP	49385 APR 26	910004749385 ACH	04/28/2026	143.21	05/18/2026	510-810-621 Natural Gas	426
	Total 204:				640.29			
SPARKS ELECTRIC MOTOR REPAIR								
1291	SPARKS ELECTRIC MOTOR REPAIR	21698	300 HP vertical motor repair – labor and parts for well 11	04/28/2026	17,050.17	05/07/2026	510-810-430 Outside Serv-Repair & Maint	426
	Total 1291:				17,050.17			
SPECIALIZED ELEVATOR CORP								
8751	SPECIALIZED ELEVATOR CORP	476307	Monthly Elevator Maintenance	05/01/2026	269.27	05/07/2026	100-417-430 Outside Serv-Repair & Maint	526
	Total 8751:				269.27			
STATE COLLECTION & DISB. UNIT (SCaDU)								
176	STATE COLLECTION & DISB. UNIT (SCaDU)	MAY 2026-1	CHILD SUPPORT	05/01/2026	319.84	05/01/2026	100-219900 OTHER PAYROLL PAYABLES	526
	Total 176:				319.84			

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
TANEY ENGINEERING LLC								
9132	TANEY ENGINEERING LLC	25TAN.CYF002-3	Surface Water RFQ	04/23/2026	1,725.00		510-166100 Construction In Progress	426
	Total 9132:				1,725.00			
TECH-FLOW								
9067	TECH-FLOW	INVNV-26-0990	Donner Trail replacement Pump	04/09/2026	12,630.46	05/07/2026	520-810-614 Shop Supplies	426
	Total 9067:				12,630.46			
TRUCKEE CARSON IRRIGATION DIST								
227	TRUCKEE CARSON IRRIGATION DIST	126299	2025-2026 operation & maintenance of irrigation system per	04/13/2026	136,430.58	05/07/2026	510-810-698 Water Rights Protection	426
	Total 227:				136,430.58			
UNIFORMITY OF NEVADA LLC								
9138	UNIFORMITY OF NEVADA LLC	135211-1	Uniform items for Fernley Municipal Court – boots and name	04/21/2026	298.78		100-425-600 General Supplies	426
	Total 9138:				298.78			
US ARMOR CORPORATION								
9139	US ARMOR CORPORATION	52330	Body armor and carrier for Marshal	04/13/2026	1,405.44	05/07/2026	100-425-322 Prof Serv-Other	426
	Total 9139:				1,405.44			
USA BLUEBOOK								
464	USA BLUEBOOK	INV01039818	Leather gloves for wastewater operations	05/06/2026	89.56		520-810-616 Safety Supplies	526
464	USA BLUEBOOK	INV01039962	Leather work gloves for WW	05/06/2026	128.76		520-810-616 Safety Supplies	526
	Total 464:				218.32			
USA TODAY MEDIA CORP								
152	USA TODAY MEDIA CORP	7675567	Bill #379 Adopted	04/30/2026	90.24		100-416-540 Advertising	426
152	USA TODAY MEDIA CORP	7675567	Bill #377 Introduced	04/30/2026	69.72		100-416-540 Advertising	426
152	USA TODAY MEDIA CORP	7675567	WTP Expansion & Improvements for surface water	04/30/2026	745.24		510-840-540 Advertising	426
152	USA TODAY MEDIA CORP	7675567	Bill #381 Introduced	04/30/2026	85.68		100-416-540 Advertising	426
152	USA TODAY MEDIA CORP	7675567	Bill #382 Introduced	04/30/2026	76.56		100-416-540 Advertising	426
152	USA TODAY MEDIA CORP	7675567	Bill #381 Adopted	04/30/2026	103.92		100-416-540 Advertising	426
152	USA TODAY MEDIA CORP	7675614	Legal ads - April 2026	04/30/2026	307.80		100-610-540 Advertising	426
	Total 152:				1,479.16			
VERUS ASSOCIATES NEVADA, LLC								
8606	VERUS ASSOCIATES NEVADA, LLC	3059	PS WTP SCADA Support for damage caused by SCADA Spe	05/05/2026	1,806.25		510-840-429 Outside Serv-SCADA	526

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
8606	VERUS ASSOCIATES NEVADA, LLC	3067	PS FWTF Egen HMI	05/07/2026	8,395.00		510-840-429 Outside Serv-SCADA	526
	Total 8606:				10,201.25			
VESTIS								
1895	VESTIS	598002607	Credit For Loss Pants Charge	04/21/2026	258.01-		100-475-420 Outside Services	426
1895	VESTIS	5980373185	PS custodial supplies, rags, rugs	04/28/2026	182.69	05/01/2026	510-840-420 Outside Services	426
1895	VESTIS	5980373193	shirt contract	04/28/2026	113.08		100-480-420 Outside Services	426
1895	VESTIS	5980373194	SHOP MAT SERVICE	04/28/2026	119.19		100-475-420 Outside Services	426
1895	VESTIS	5980373195	Clothing/Mats	04/28/2026	64.83	05/01/2026	100-475-420 Outside Services	426
1895	VESTIS	5980373198	Floor Mats	04/28/2026	257.73	05/01/2026	100-417-420 Outside Services	426
1895	VESTIS	5980374690	shirt contract	05/05/2026	113.08		100-480-420 Outside Services	526
1895	VESTIS	5980374691	Clothing/Mats	05/05/2026	64.83		100-475-420 Outside Services	526
1895	VESTIS	5980374692	floor mat service	05/05/2026	38.20		510-810-420 Outside Services	526
1895	VESTIS	5980376185	PS custodial supplies, rags, rugs	05/12/2026	182.69		510-840-420 Outside Services	526
	Total 1895:				878.31			
VIDEO WALL SOLUTIONS								
9022	VIDEO WALL SOLUTIONS	2246	City Of Fernley Network Audit	04/22/2026	980.00	05/07/2026	100-418-342 Tech Services-Other	426
	Total 9022:				980.00			
VOYA FINANCIAL								
8591	VOYA FINANCIAL	MAY 2026-1	ROTH IRA	05/01/2026	190.00	05/06/2026	100-215000 457 PAYABLE	526
8591	VOYA FINANCIAL	MAY 2026-1	DEFERRED COMPENSATION, 457	05/01/2026	5,007.30	05/06/2026	100-215000 457 PAYABLE	526
	Total 8591:				5,197.30			
WALKER'S OFFICE SUPPLIES, INC								
9112	WALKER'S OFFICE SUPPLIES, INC	2381735-0	Marshal Chair	05/12/2026	449.00		100-425-600 General Supplies	526
	Total 9112:				449.00			
WASTE MANAGEMENT								
447	WASTE MANAGEMENT	25001 MAY 26	6-82646-25001	05/01/2026	2,770.37		100-475-412 Utility Serv-Refuse	526
447	WASTE MANAGEMENT	33001 MAY 26	11-60772-33001	05/05/2026	169.99		100-417-412 Utility Serv-Refuse	526
447	WASTE MANAGEMENT	33005 MAY 26	11-60745-33005	05/05/2026	45.13		510-840-412 Utility Serv-Refuse	526
447	WASTE MANAGEMENT	33009 MAY 26	11-60774-33009	05/05/2026	139.08		510-810-412 Utility Serv-Refuse	526
447	WASTE MANAGEMENT	43003 MAY 26	11-60760-43003	05/05/2026	69.54		520-810-412 Utility Serv-Refuse	526
447	WASTE MANAGEMENT	63002 MAY 26	11-74239-63002	05/01/2026	731.18		100-575-412 Utility Serv-Refuse	526
447	WASTE MANAGEMENT	65007 MAY 26	6-82641-65007	05/01/2026	370.56		100-575-412 Utility Serv-Refuse	526
447	WASTE MANAGEMENT	95009 MAY 2026	8-29467-95009	05/01/2026	448.45		100-575-412 Utility Serv-Refuse	526

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
	Total 447:				4,744.30			
WEDCO, A DIVISION OF BORDER STATES								
3350	WEDCO, A DIVISION OF BORDER STATES	S100236842.001	WW3-17-26 stainless bundle straps	05/01/2026	265.00		520-810-600 General Supplies	526
3350	WEDCO, A DIVISION OF BORDER STATES	S100244722.001	Wastewater ABB overload relay and contactor components (w	05/11/2026	780.62		520-810-614 Shop Supplies	526
3350	WEDCO, A DIVISION OF BORDER STATES	S100244905.001	PS WWTP ABB contactor credit WW5/11/26	05/12/2026	431.73-		520-810-614 Shop Supplies	526
	Total 3350:				613.89			
WESTERN INDUSTRIAL PARTS, INC.								
8571	WESTERN INDUSTRIAL PARTS, INC.	2605-158460	gloves, safety glasses and lens wipes	05/07/2026	279.57		510-810-616 Safety Supplies	526
8571	WESTERN INDUSTRIAL PARTS, INC.	2605-158461	MECHANIC GLOVES - Mechanix Gloves Black L	05/07/2026	56.26		100-480-600 General Supplies	526
	Total 8571:				335.83			
WESTERN INSURANCE SPECIALTIES								
881	WESTERN INSURANCE SPECIALTIES	MAY 2026	SUPPLEMENTAL INSURANCE	05/01/2026	117.65	05/01/2026	100-218100 Western Insurance Payable	526
	Total 881:				117.65			
WESTERN NEVADA SUPPLY CO.								
195	WESTERN NEVADA SUPPLY CO.	12134028	PS HSPS P1 ARV	04/30/2026	2,011.72	05/07/2026	510-840-614 Shop Supplies	426
195	WESTERN NEVADA SUPPLY CO.	12164657-1	PS chain wrench	05/07/2026	109.14		510-840-614 Shop Supplies	526
195	WESTERN NEVADA SUPPLY CO.	12236985	PS brass fittings and map gas cylinder	04/30/2026	75.28	05/07/2026	510-840-614 Shop Supplies	426
195	WESTERN NEVADA SUPPLY CO.	12236986	PS dual-sided tape – 3 pack	04/30/2026	74.36	05/07/2026	510-840-614 Shop Supplies	426
195	WESTERN NEVADA SUPPLY CO.	12238629	bin stock	05/05/2026	257.02	05/07/2026	510-810-613 Meter Service Supplies	526
195	WESTERN NEVADA SUPPLY CO.	12238629	iperl 3/4"" 1000 gal water meters	05/05/2026	1,683.44	05/07/2026	510-166100 Construction In Progress	526
195	WESTERN NEVADA SUPPLY CO.	12243440	PS test plug solid 12	04/30/2026	.00		510-840-614 Shop Supplies	426
195	WESTERN NEVADA SUPPLY CO.	12249883	1"" IPERL water meter	05/05/2026	3,826.68	05/07/2026	510-166100 Construction In Progress	526
195	WESTERN NEVADA SUPPLY CO.	12250200	PS MILW lights and batteries for WT plant	05/07/2026	334.64		510-840-614 Shop Supplies	526
195	WESTERN NEVADA SUPPLY CO.	12254002	PS Zoeller M98 1/2HP 115V sump pump	05/07/2026	687.44		510-840-614 Shop Supplies	526
	Total 195:				9,059.72			
XPRESS BILL PAY LLC								
2468	XPRESS BILL PAY LLC	4/2026	CREDIT CARD PROCESSING FEES- SEWER	04/30/2026	2,752.16	05/05/2026	520-810-609 Credit Card Fees	426
2468	XPRESS BILL PAY LLC	4/2026	CREDIT CARD PROCESSING FEES- WATER	04/30/2026	2,752.17	05/05/2026	510-810-609 Credit Card Fees	426
	Total 2468:				5,504.33			
YESCO, LLC								
6806	YESCO, LLC	INY - 0631518	Ball field light repair and materials	05/08/2026	1,521.50		100-575-428 Outside Serv-Electrical	526

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Invoice Amount	Date Paid	GL Account and Title	GL Period
Total 6806:					1,521.50			
Grand Totals:					606,444.95			

Dated: _____

Mayor: _____

City Treasurer: _____

Report Criteria:

Detail report.

Invoice detail records above $0 included.

Paid and unpaid invoices included.

Vendor.Vendor Number = {<>} 2201

MINUTES OF THE

FERNLEY CITY COUNCIL MEETING

MARCH 26, 2026

1. INTRODUCTORY ITEMS

1.1. Pledge of Allegiance

1.2. Roll Call

Present: Mayor Neal E. McIntyre, Councilwoman Zoberski, Councilman Torres, Councilman Hanan, Councilman Mendoza, City Attorney Aaron Mouritsen, HR Manager Mitzi Carter, City Clerk Kim Swanson, Admin Specialist II Rachael Goetz, City Treasurer Robert Carson, Acting City Manager Lydia Altick, Building Official Charity Birkel, Planning Director Michele Rambo, Public Works Director Berry Williams, Utilities Director Seong Kim, Deputy Public Works Director Olivia John, Justice Court Judge Lori Matheus, Court Administrator Sierra Keathley-McCassie

1.3. Public Forum

There was none

1.4. (For Possible Action) Approval of Agenda

Motion: I MOVE TO APPROVE THE AGENDA AS PRESENTED **Action:** Approved, **Moved by:** Councilman Hanan **Seconded by:** Councilwoman Zoberski. **Vote:** Yes, **Summary:** Approved **Yes:** Councilman Hanan, Councilwoman Zoberski, Councilman Torres, Councilman Mendoza

2. CONSENT AGENDA

2.1. Possible action to approve a professional services contract with Squire CPAs & Advisors to provide external financial audit services.

2.2. Discussion and Possible Action to designate Squire CPAs & Advisors as the Independent Audit Firm to perform the City's Annual Financial Audit for the Fiscal Year ending June 30, 2026.

Motion: I MOVE TO APPROVE THE AGENDA AS PRESENTED **Action:** Approved, **Moved by:** Councilman Hanan **Seconded by:** Councilwoman Zoberski. **Vote:** Yes, **Summary:** Approved. **Yes:** Councilman Hanan, Councilwoman Zoberski, Councilman Torres, Councilman Mendoza

3. PRESENTATIONS

3.1. (Discussion Item) Strategic Planning Work Session. Acting City Manager and Department Heads

Acting City Manager Lydia Altick presented starting with a 25/26 update for the strategic initiatives. She reviewed the accomplishments.

*The Asset Management Software that will be presented to the City Council in April. There was no budget assigned to this project, but the actual cost of the proposal is $108,000.

*The Associate Planner position was filled in September.

*Comprehensive Master Plan. The city distributed an RFP, and a consultant was approved by City Council. Budget $350,000. The actual cost was $300,000.

*Development Impact Fees. The City distributed an RFP, and a consultant was approved by City Council. Budget $350,000. The actual cost was $349,000.

*South Area Plan. Development of the third and final area plan is required in both the Development Code and Comprehensive Master Plan. The City distributed an RFP and a consultant, was approved by City Council. Budget $300,000. Actual cost of $173,200.

*Infrastructure plans for the north area and the southwest areas. The City distributed an RFP, and a consultant was approved by City Council. Budget for $350,000 Actual cost $349,000.

*Fernley Code Enforcement Services Program. Two code enforcement officers have been hired, and code enforcement remains under the Building Department at this time. Budget $300,000. Actual estimated cost is $180,000.

* Fernley Municipal Facilities Plan. An RFP was distributed and it will be presented to Council on April 1st. The actual cost came in at around $876,000 for this project.

*Cemetery Master Plan. An RFP was distributed and it will be presented to Council on April 1st. The cost is $120,000. No budget was assigned to that project.

*The City's 25th anniversary. Council budgeted $100,000 last year. The cost is yet to be determined.

*The Regional Storm Drain Master Plan. Updating the 2022 Storm Drain Master Plan to include the U.S. Bureau of Reclamation Facilities and aquifer Recharge technology is underway. This contract was awarded in March. Budget $200,000. Actual cost $156,000.

*Animal Services Facility. The budget was $100,000, and nothing has been spent, thus far.

*The Well to Municipal Water Transition Program. This was an initiative to assist with hookups to municipal water. Nothing to report currently for this initiative.

*Fishing Pond Park. We plan to have a high-quality design with several amenities. The city has a contract with Loomis to complete the design and other amenities to be constructed in phases. Contracting with Loomis $100,000, Actual cost is zero, but that will increase.

Michele Rambo, Planning Director, reviewed the budget initiatives for next fiscal year including The South Area Plan, the infrastructure plan, the Capital Improvement Plan, Impact Fee Study, and the Master Plan Update.

She explained The Mayor's Pond Park; Phase 1 will start construction in the summer of 2026. We are requesting $500,000. Director Rambo stated there is potentially other funding coming in. There

was $100,000 that was allocated for the design this year and the cost estimate for the design comes in at about $28,000. leaving about $72,000. We applied for a possible grant from the Nevada Department of Wildlife for another $100,000. The construction community will be volunteering time, materials and equipment. The estimate received for Phase 1 assuming we get the $100,000 grant and the $500,000 allocation, will be enough to cover Phase 1. The restrooms are estimated at $120,000. The pond itself is $300,000; the walkways are another 130,000. Council expressed mixed perspectives and concerns were raised regarding prioritization of the project over existing park maintenance, the proposed construction budget and the lack of detailed long-term maintenance cost estimates. There were suggestions to pursue grants and developer contributions to fund the project. Questions were raised regarding future phases including the sports fields and associated maintenance cost. Staff indicated the fields are planned for phase 2 and provided general maintenance cost estimates noting variability based on usage, coordination with NDOW for pond management and water quality were discussed.

Barry Williams, Public Works Director, stated the priorities for this year are going to be maintaining aging infrastructure, improving public safety, increasing efficiency and support growth.

Streets and Storm Drains. The goal for Street and Storm Drains Department is to maintain roads, street lighting, signage and drainage. The department is asking for a replacement of the changeable message board.

Fleet Department maintains our city vehicles, as well as North Lyon County Fire Protection vehicles. Fleet Department is asking for two pickup trucks with service bodies. The current vehicles are 3 quarter tons, and we are asking to replace them with 1-ton vehicles. Fleet Department is asking to purchase a large vehicle shoplift.

Parks Department is asking to upgrade and replace some of our security systems in the Out-Of-Town, In-Town, and Green Valley Park. Also $600,000 to replace the turf and soil for sports fields, and upgrade irrigation systems. He continued the department needs to improve the lighting at Out-Of-Town Park sport fields. This will be $80,000 which will offset the cost the grant didn't cover.

Facilities Department is asking for two outdoor storage buildings and to replace the carpet at City Hall. They are asking for $250,000 to replace some of the aging HVAC systems at City Hall. A backup generator for City Hall is being proposed in the amount of $300.000. Also asking for a backup generator for the CRRC in the amount of $500,000. Also asking to remodel the employees' restrooms and $250,000 to slurry seal and re-stripe the parking lot at City Hall.

Lydia Altick Acting City Manager presented the request for a New Animal Control Officer 1 Position. This will bring the total to three full-time positions. Our 2 current positions respond to calls for services throughout the regular workday, 6 days in the office, and provide 24-7, 365-day standby support for the community. There was staff discussion regarding this position and whether it would be a requirement to live within Fernley City limits. The next would be an animal control transport truck to accommodate the addition of an animal control officer. That cost is around $130,000. The city is also asking for an animal control SUV. The cost of this vehicle is around $60,000.

Salvador Pleitez, City Engineer, there are several areas that we are asking for reconstruction, and Cedar Street is one of them. The total for this project is $3 million. The next project is the industrial

park area. Lyon Drive and Salvadore Dr. this will be $5.5 million in total. Robert Carson, City Treasurer, clarified these projects were approved by the RTC board and will be largely funded from RTC Funds. The other area is a design only for the Good Earth Subdivision that was constructed in 1983. We have about 600,000 RTC funds that will be reimbursed.

Seong Kim, Utility Director, the first initiative is the Highway 50 looping main. The cost this year is $3.5 million and $2.6 million next year. The city is applying for the State Revolving fund for this project. Second is a new Ricci water Tank. The total cost is about $4 million this year. The bid for construction is out and one company was selected. This is funded by the Water Enterprise Fund.

Councilman Albert Torres stated that when he and Mayor McIntyre were in Washington DC, they presented these projects and they were well received by members of congress. Upon returning home, Councilman Torres was informed by Congressman Mark Amodei's office that the state will help with the funding of both projects.

Mitzi Carter, HR Manager, presented information for a new position. The HR Manager holds several demanding tasks and when the position was filled in 2023 there were 51 City employees, now there has been an 80% increase and the city has 92 full-time employees. The workload has increased significantly. The proposed HR Technician would start at a proposed salary range at $63,288.00.

Sierra Keathley-McCassie, Court Administrator explained the court is requesting an increase from $9,000 to $12,000 a year which is a total increase of $3,000.00 for language access. The next item is the pretrial services and alternative sentencing, which is $10,000. To support employee development and long-term retention and preserve institutional knowledge and succession capacity she requested the training budget be increased to $5,000, and that the current travel budget be increased to $2,500. She asked for approval for a permanent on-call position under the direct supervision of the court administrator. Not to exceed 1,039 hours annually, or 19 hours per week, at $25 an hour with no additional benefits. This total request should be an increase of $27,000.

4. PUBLIC FORUM

5. ADJOURNMENT

There being no further business to come before it, the Fernley City Council meeting adjourned at 10:16 AM.

Approved by the Fernley City Council on May 20, 2026, by a vote of:

AYES _____ NAYS:_____ ABSTENTIONS:_____ ABSENT:_____

_____ _____

Mayor Neal E. McIntyre ATTEST: City Clerk Kim Swanson

Report Criteria:
License.Status = "Active"
Business.Origination date = 04/29/2026-05/12/2026

Business Name	DBA	Occupation
Pellett Construction LLC		General Contractor #57121
Gerhardt & Berry Construction Inc		General Engineering Contractor #10813A
Terralink Communications, Inc.		Electrical Contractor #0081821, 0090481, 0090065
Caldwell Staffing Group LLC	First Choice Staffing	Staffing Company
Desert Blooms Soft Play Company, LL		Soft play party rental equipment
High Sierra Home Services	Outlaw Cycles	Motorcycle, UTVs, ATV, & Boat repairs
Sierra Neurosurgery Group		Specializing in neurosurgery and pain management
What In CardNation LLC		Retail toys and hobby
Briann Janeene Vierra	In The Cutz Barbershop	Barbershop
LVN Restoration LLC	Paul Davis Restoration of Las	Property restoration sustained from fire, water, storms, etc
Linda S. Macejunas	Linda Macejunas/Pretties	Handmade beaded jewerly
MacGyver Metals LLC		Retail precious metals - bullion/coin shop - gold/silver
Juan Manuel Vasquez	Manuel's Yard Clean Up's	Junk removal & landscaping
Donna VanFleet	Frayed Edges Wreath Shoppe	Design and sale of handmade decorative home accents
Black Star Construction		Concrete Contractor 0091051
Del Barrio Sabores Mexicanos LLC		Food Truck
Electric Snow		Shaved ice, Dirty sodas, infused Red Bulls
Kamani's Bell LLC	Down & Out Books	Book Publisher
CO2 Monitoring, LLC	Aerosphere	Contractor 0092910 - low voltage CO2 monitoring systems
Sierra Bravo Air and Land, LLC		
Veterans Alliance USA		Assist veterans with benefit enrollment and medical services
Speaking With Smiles, LLC		Speech Therapy Services

Grand Totals:
22

Report Criteria:
License.Status = "Active"
Business.Origination date = 04/29/2026-05/12/2026

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Lisa Warner**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No: X	Yes:	No: X	N/A

ACTION REQUESTED: Consent

AGENDA ITEM:

Consideration and Possible Action to approve a Final Subdivision Map (FSM24001) for Friendly 5, Phase 3 on a site approximately ± 81.31-acres in size generally located at the termini of Carson Way, Lorelai Lane, and Evelynn Street in a Planned Development (PD) zoning district.

AGENDA ITEM BRIEF:

A Final Subdivision Map (FSM24001) was submitted for review by Jenuane Communities Onda Verde, LLC. The developer is requesting approval of the Final Subdivision Map to continue to construct Phase 3 which will create 50 additional single-family lots.

RECOMMENDED MOTION:

If removed from Consent Agenda: "I move to approve the Final Subdivision Map (FSM24001) adopting Findings A through E and the facts supporting these Findings as set forth in the staff report."

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

N/A

BACKGROUND:

A Tentative Subdivision Map (TSM2016-003) was approved on March 16, 2016, with an expiration date of March 16, 2020. The first Final Subdivision Map (FSM 2019-001) for Friendly 5, Phase 1 was approved by City Council on February 1, 2023, and recorded on February 3, 2023. The second Final Subdivision Map (FSM22002) for Friendly 5, Phase 2 was approved by City Council on August 21, 2024, and recoded on August 26, 2024. The third Final Subdivision Map (FSM26001) for Friendly 5, Phase 3 was submitted for review on February 13, 2024.

ANALYSIS:

The presented Final Subdivision Map details Phase 3 of the project creating 50 single-family residential units. All on and off-site improvements have been addressed on the presented Final Subdivision Map for Phase 3 of construction. The proposed site improvements have been designed in accordance with the City's Development Code and Public Works Design Standards.

Based on the analysis and the Findings listed below, staff has concluded that the project as submitted will address identified impacts. Therefore, staff recommends City Council's approval.

FINDINGS:

A. **The map conforms in every respect with the approved Tentative Subdivision Map.**

   The map conforms to the approved Tentative Subdivision Map (TSM2016-003) and no substantial changes have been made to the final map.

B. **All conditions established upon approval of the Tentative Subdivision Map have been satisfied.**

   All conditions, comments, and concerns have been satisfied.

C. **The Final Subdivision Map conforms to all city ordinances applicable at the time of the decision on the Final Subdivision Map.**

   The map conforms to all standards and regulations applicable at the present time.

D. **All required improvements have been installed as certified by the City Engineer, or sufficient assurances for completion and maintenance of improvements have been made pursuant to this development code.**

   The developer has provided adequate assurance of the completion and maintenance of improvements pursuant to the City's Development Code.

E. **All necessary certificates required by state law or by this development code have been presented with the application for the Final Subdivision Map.**

   All required certificates and legal documents have been provided with the application.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

NRS 278 – Planning and Zoning

FMC 32.03.160(f)(2)a-j – Land Division Applications

FINANCIAL IMPLICATIONS:

N/A

ATTACHMENTS:

1. Approval letter with conditions
2. Friendly 5 Phase 3
3. 4.9.26 REVISION

April 19, 2016

Gary Hutchings
Granite Ridge Development LLC
4650 Bottom Road
Fallon, NV 89406

RE: TSM 2016-003 – Tentative Subdivision Map Approval Letter – Friendly 5

Dear Applicant:

The Tentative Map request from Granite Ridge Development, LLC, TSM 2016-003, for a Tentative Subdivision Map request to allow for a 514-lot single family residential subdivision (Friendly 5) on a site consisting of 5 parcels totaling approximately 260 acres in size in the E2/PD (Second Estates Residential/Planned Development – Friendly 5 Planned Development) zoning district generally located north and south of Farm District Road, west of the Country Ranch Estates Subdivision and Truckee River Ranch (Autumn Winds) Subdivision, and east of Jessica Lane, Fernley, NV (APN: 021-303-09, 47, 52 and 54) was approved at the March 16, 2016 City Council Meeting subject to the Conditions of Approval 1 through 16 (attached).

The Tentative Subdivision Map shall expire within four (4) years of the date of the City Council approval, unless the final map has been recorded in accordance with Nevada Revised Statutes, NRS 278.360.

Please make changes and submit for final map. Please include cover letter explaining how each comment has been addressed. If you have any questions concerning this application, please contact Tim Thompson, at (775) 784-9815 or via email at tthompson@cityoffernley.org.

Sincerely,

Tim Thompson, AICP
Senior Planner

cc: Andy Durling, AICP
Wood Rodgers, Inc.
5440 Reno Corporate Drive
Reno, NV 89511

Enclosures: Conditions of approval for TSM 2016-003

Conditions of Approval for TSM 2016-003
Tentative Subdivision Map

1. APPROVAL:
   THE PROJECT IS APPROVED AS SUBMITTED AND CONDITIONED. ANY SUBSTANTIVE CHANGE SHALL REQUIRE REVIEW AND APPROVAL BY THE PLANNING COMMISSION AND CITY COUNCIL AS AN AMENDMENT TO THIS TENTATIVE MAP.

2. PROJECT DESCRIPTION:
   THE PROJECT APPROVAL IS LIMITED TO SINGLE FAMILY RESIDENTIAL DEVELOPMENT WITH A MAXIMUM OF 514 SINGLE FAMILY RESIDENTIAL LOTS ON 260± ACRES.

3. EXPIRATION DATE:
   THE TENTATIVE MAP SHALL EXPIRE WITHIN FOUR (4) YEARS OF THE DATE OF THE CITY COUNCIL APPROVAL, UNLESS THE FINAL MAP HAS BEEN RECORDED IN ACCORDANCE WITH NEVADA REVISED STATUTES (N.R.S.) 278.360.

4. WATER RIGHTS:
   THE DEVELOPER SHALL COMPLY WITH ALL CITY OF FERNLEY MUNICIPAL CODES REGARDING THE DEDICATION OF WATER RIGHTS, INCLUDING ASSOCIATED FEES, FOR THE CONNECTION TO THE CITY'S MUNICIPAL WATER SYSTEM IN THE AMOUNT THAT IS REQUIRED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT FOR THE PROJECT.

5. CONSTRUCTION MAINTENANCE:
   THE DEVELOPER SHALL LOCATE AND UTILIZE A SUFFICIENT NUMBER OF TRASH CONTAINERS ON-SITE TO BE UTILIZED DURING THE CONSTRUCTION OF THE PROJECT TO MAINTAIN THE PROJECT SITE IN A CLEAN AND ORDERLY STATE TO THE APPROVAL OF THE CITY.

6. PROJECT CONTACT:
   THE DEVELOPER SHALL DESIGNATE TO THE CITY A PROJECT CONTACT PERSON RESPONSIBLE/AUTHORIZED TO CORRECT PROBLEMS REGARDING THE PROJECT ON A 24-HOUR/7-DAYS A WEEK BASIS. THE DEVELOPER SHALL DESIGNATE THE PROJECT CONTACT PERSON TO THE CITY PRIOR TO ISSUANCE OF A BUILDING PERMIT FOR THE PROJECT.

7. DESIGN STANDARDS:
   THE DEVELOPER SHALL COMPLY WITH THE DESIGN STANDARDS AND REGULATIONS AS SET FORTH IN THE FRIENDLY 5 PLANNED DEVELOPMENT HANDBOOK AND THE CITY'S DEVELOPMENT CODE, UNLESS IN CONFLICT WITH THE LOCAL, STATE OR FEDERAL REGULATIONS, IN WHICH CASE THE MORE STRINGENT REGULATION WILL TAKE PRECEDENCE.

8. ENGINEERING DIVISION:
   THE DEVELOPER SHALL COMPLY WITH ALL ENGINEERING REQUIREMENTS WITHIN THE CITY'S DEVELOPMENT CODE INCLUDING BUT NOT LIMITED TO COMPLIANCE WITH CHAPTERS 40, 43, 44, 46, AND 47 TO THE APPROVAL OF THE CITY ENGINEER PRIOR TO THE APPROVAL OF A FINAL MAP FOR THE PROJECT.

9. DRAINAGE AND GRADING:
   THE DEVELOPER SHALL COMPLY WITH ALL REQUIREMENTS OF CHAPTER 42 OF THE CITY'S DEVELOPMENT CODE AND CHAPTER 10 OF THE CITY OF FERNLEY PUBLIC WORKS DESIGN STANDARDS TO THE APPROVAL OF THE CITY ENGINEER PRIOR TO THE ISSUANCE OF A BUILDING OR GRADING PERMIT FOR THE PROJECT.

THE DEVELOPER SHALL DEDICATE FACILITIES FOR STORM DRAINAGE WHICH ARE REASONABLY NECESSARY TO INSURE ADEQUATE STORM COLLECTION AND DISPOSAL FOR THE PROPERTY OR ANY ALTERNATIVE WHICH WOULD PROVIDE FOR THE PERPETUAL MAINTENANCE OF THE FACILITIES TO THE APPROVAL OF THE PUBLIC WORKS DIRECTOR.

10. NORTH LYON COUNTY FIRE PROTECTION DISTRICT:
    THE DEVELOPER SHALL COMPLY WITH ALL REQUIREMENTS OF THE NORTH LYON COUNTY FIRE PROTECTION DISTRICT PRIOR TO THE ISSUANCE OF ANY FINAL MAP FOR THE PROJECT.

11. RESIDENTIAL CONSTRUCTION TAX:
    THE DEVELOPER IS SUBJECT TO THE PROVISIONS OF FERNLEY MUNICIPAL CODE TITLE 4 CHAPTER 1, RESIDENTIAL CONSTRUCTION TAX. THE RESIDENTIAL CONSTRUCTION TAX FEE SHALL BE PAID PRIOR TO THE ISSUANCE OF A BUILDING PERMIT FOR EACH SINGLE FAMILY RESIDENCE.

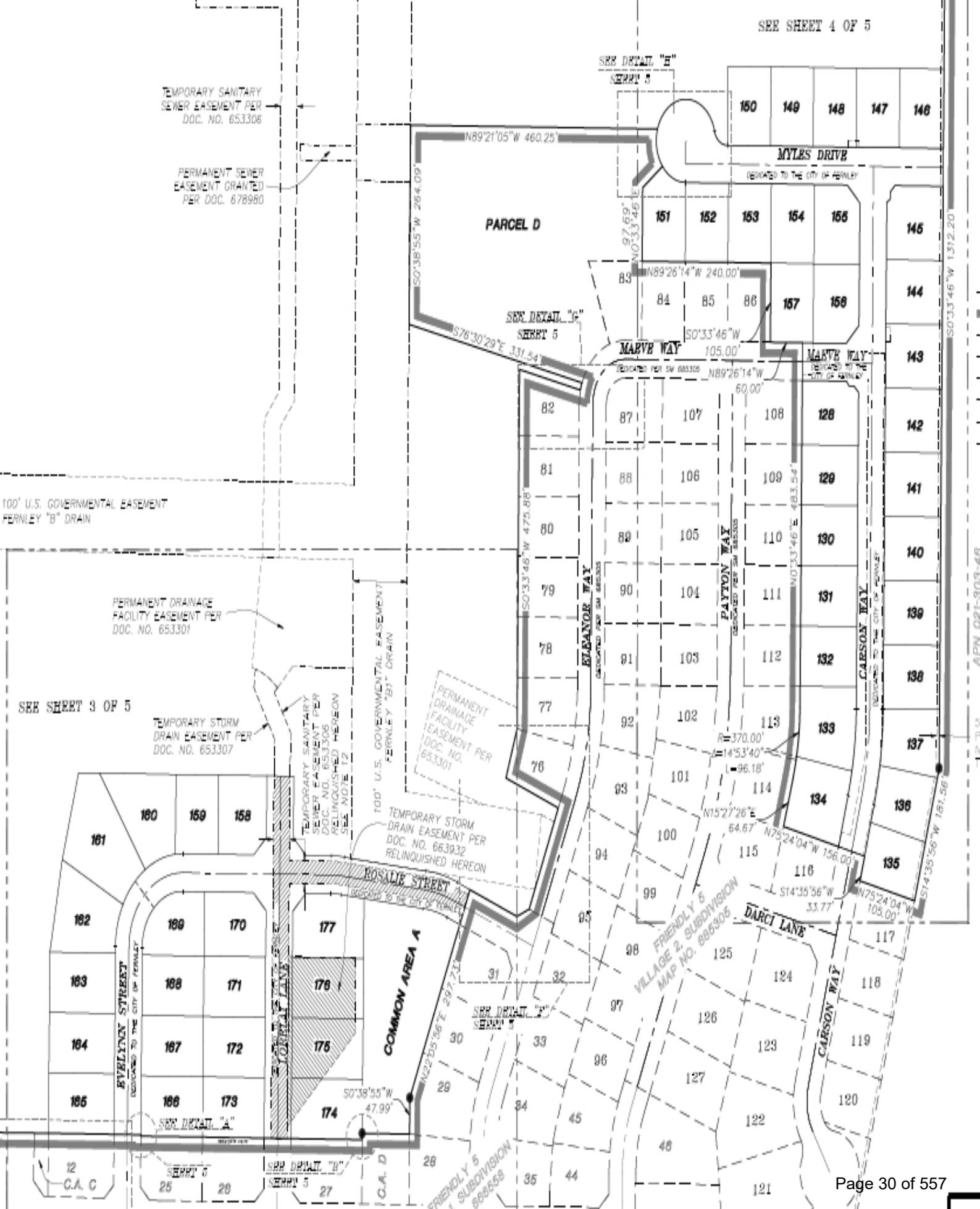
12. HANDBOOK AMENDMENT:
    THE DEVELOPER SHALL WORK WITH THE CITY TO AMEND THE PLANNED DEVELOPMENT HANDBOOK TO RELOCATE THE 10 ACRE PARK SITE WITHIN THE DEVELOPMENT AND TO REMOVE ASSESSOR'S PARCEL NUMBER 021-303-53 FROM THE PLANNED DEVELOPMENT. THE APPLICANT SHALL PROVIDE AN AMENDED PLANNED DEVELOPMENT HANDBOOK, AND ASSOCIATED MATERIALS TO CITY STAFF TO ASSIST IN AMENDING THE PLANNED DEVELOPMENT HANDBOOK PRIOR TO THE APPROVAL AND RECORDATION OF THE FIRST FINAL MAP.

13. PARK SITE:
    THE DEVELOPER SHALL CONSTRUCT AND THE CITY ACCEPTED A MINIMUM 10 ACRE PARK SITE PRIOR TO RECORDATION OF THE 300TH LOT.

14. MAINTENANCE OF OPEN SPACE / COMMON AREA
    THE DEVELOPER SHALL FORM A HOMEOWNERS ASSOCIATION / LIGHTING & LANDSCAPING MAINTENANCE DISTRICT TO PROVIDE FOR THE MAINTENANCE OF THE OPEN SPACE / COMMON AREA LANDSCAPING. EITHER METHOD OF MAINTENANCE SHALL BE IDENTIFIED AND ESTABLISHED TO THE APPROVAL OF THE PUBLIC WORKS DIRECTOR AND THE ADMINISTRATOR PRIOR TO APPROVAL OF THE FIRST FINAL MAP FOR THE PROJECT.

15. FINAL MAPS:
    NO FINAL MAP PRESENTED FOR RECORDATION SHALL INCLUDE LESS THAN 50 RESIDENTIAL LOTS.

16. ACCESS
    THE DEVELOPER SHALL PROVIDE A SECONDARY ACCESS FOR THE DEVELOPMENT PHASES LOCATED TO THE NORTH OF FARM DISTRICT ROAD. THE ACCESS SHALL CONNECT TO AN EXISTING PUBLIC RIGHT OF WAY TO THE APPROVAL OF THE CITY ENGINEER. THE LOCATION OF THE ACCESS SHALL BE DETERMINED PRIOR TO THE ISSUANCE OF THE FIRST FINAL MAP FOR THE PROJECT AND SHALL BE CONSTRUCTED ALONG WITH THE ADJACENT PHASE OF THE DEVELOPMENT.


SEE SHEET 4 OF 5
SEE DETAIL "E" SHEET 5
TEMPORARY SANITARY SEWER EASEMENT PER DOC. NO. 653306
PERMANENT SEWER EASEMENT GRANTED PER DOC. 678980
N89°21'05"W 460.25'
S0°38'55"W 264.09'
PARCEL D
MYLES DRIVE
(DEDICATED TO THE CITY OF FERNLEY)
N0°33'46"E 97.69'
N89°26'14"W 240.00'
SEE DETAIL "G" SHEET 5
S76°30'29"E 331.54'
S0°33'46"W 105.00'
MARVE WAY
(DEDICATED PER SM 685305)
N89°26'14"W 60.00'
MARVE WAY
(DEDICATED TO THE CITY OF FERNLEY)
S0°33'46"W 475.88'
N0°33'46"E 483.54'
S0°33'46"W 1312.20'
100' U.S. GOVERNMENTAL EASEMENT FERNLEY "B" DRAIN
PERMANENT DRAINAGE FACILITY EASEMENT PER DOC. NO. 653301
ELEANOR WAY
(DEDICATED PER SM 685305)
PAYTON WAY
(DEDICATED PER SM 685305)
CARSON WAY
(DEDICATED TO THE CITY OF FERNLEY)
SEE SHEET 3 OF 5
TEMPORARY STORM DRAIN EASEMENT PER DOC. NO. 653307
TEMPORARY SANITARY SEWER EASEMENT PER DOC. NO. 653306 RELINQUISHED HEREON SEE NOTE 12
100' U.S. GOVERNMENTAL EASEMENT FERNLEY "B1" DRAIN
PERMANENT DRAINAGE FACILITY EASEMENT PER DOC. NO. 653301
TEMPORARY STORM DRAIN EASEMENT PER DOC. NO. 663932 RELINQUISHED HEREON
R=370.00'
Δ=14°53'40"
L=96.18'
N15°27'26"E 64.67'
N75°24'04"W 156.00'
S14°35'56"W 33.77'
N75°24'04"W 105.00'
S14°35'56"W 181.56'
APN 021-303-46
ROSALIE STREET
(DEDICATED TO THE CITY OF FERNLEY)
EVELYN STREET
(DEDICATED TO THE CITY OF FERNLEY)
FLORITA LANE
COMMON AREA A
DARCI LANE
FRIENDLY 5 VILLAGE 2 SUBDIVISION MAP NO. 685305
FRIENDLY 5 SUBDIVISION 666559
N22°55'56"E 297.73'
S0°38'55"W 47.99'
SEE DETAIL "A" SHEET 5
SEE DETAIL "B" SHEET 5
SEE DETAIL "F" SHEET 5
C.A. C
C.A. D
150 149 148 147 146
151 152 153 154 155
156 157 158
145 144 143 142 141 140 139 138 137 136 135
82 81 80 79 78 77 76
87 88 89 90 91 92 93
107 106 105 104 103 102 101
108 109 110 111 112 113 114
128 129 130 131 132 133 134
115 116
94 95 96 97 98 99 100
117 118 119 120 121 122 123 124 125 126 127
31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
25 26 27 28 29 30
161 160 159 158
162 163 164 165
169 168 166
170 171 172 173
177 176 175 174

OWNER'S CERTIFICATE:

THIS IS TO CERTIFY THAT THE UNDERSIGNED, JENUANE COMMUNITIES ONDA VERDE, LLC, A NEVADA LIMITED LIABILITY COMPANY, IS THE OWNER OF THE TRACT OF LAND REPRESENTED ON THIS PLAT, AND HAS CONSENTED TO THE PREPARATION AND RECORDATION OF THIS PLAT AND THAT THE STREETS, AVENUES AND HIGHWAYS SHOWN ARE HEREBY DEDICATED AND SET APART TO BE USED AS PUBLIC THOROUGHFARES FOREVER AND THAT ALL EASEMENTS FOR DRAINAGE, UTILITY INSTALLATION AND ACCESS AS SHOWN ARE DEDICATED AS PERMANENT EASEMENTS FOR THE STATED PURPOSES. IN WITNESS WHEREOF THE UNDERSIGNED HAS AFFIXED HIS NAME.

JENUANE COMMUNITIES ONDA VERDE, LLC, A NEVADA LIMITED LIABILITY COMPANY

BY:_____

NAME/TITLE (PRINT)

NOTARY CERTIFICATE:

STATE OF NEVADA } SS
COUNTY OF WASHOE

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THE ____ DAY OF _____, 202_, BY _____ AS _____ OF JENUANE COMMUNITIES ONDA VERDE, LLC, A NEVADA LIMITED LIABILITY COMPANY.

_____
NOTARY PUBLIC

SECURITY INTEREST HOLDERS STATEMENT:

THIS IS TO CERTIFY THAT THE FOLLOWING HAS CONSENTED TO THE PREPARATION AND RECORDATION OF THIS PLAT BY SEPARATE DOCUMENT:

WGASA, LLC, AN ARIZONA LIMITED LIABILITY COMPANY BY DOCUMENT NO. _____, OFFICIAL RECORDS OF LYON COUNTY, NEVADA (REFERENCE DEED OF TRUST DOCUMENT NO. 634823 & 634824).

TITLE COMPANY CERTIFICATE:

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS PLAT HAS BEEN EXAMINED AND THAT THE SUBDIVIDER OFFERING THIS PLAT IS THE LAST TITLE HOLDER OF RECORD OF ALL THE LANDS DELINEATED HEREON, AND THE LANDS ARE FREE FROM ANY LIENS OR ENCUMBRANCES AS OF _____, EXCEPT FOR DEED OF TRUST DOCUMENT NO.S 634823 & 63482

FIRST CENTENNIAL TITLE COMPANY OF NEVADA

BY: _____ _____
DATE

NAME/TITLE (PRINT)

UTILITY COMPANIES' CERTIFICATE:

THE UTILITY EASEMENTS SHOWN ON THIS PLAT HAVE BEEN CHECKED, ACCEPTED AND APPROVED BY THE UNDERSIGNED UTILITY COMPANIES.

_____ _____
SIERRA PACIFIC POWER COMPANY, d/b/a NV ENERGY — DATE

_____ _____
NEVADA BELL TELEPHONE COMPANY D/B/A AT&T — DATE

_____ _____
CHARTER COMMUNICATIONS — DATE

A PUBLIC UTILITY EASEMENT IS HEREBY GRANTED TO SOUTHWEST GAS CORPORATION WITHIN EACH PARCEL AS SHOWN FOR THE EXCLUSIVE PURPOSE OF INSTALLING AND MAINTAINING UTILITY SERVICE FACILITIES TO THAT PARCEL, WITH THE RIGHT TO ENTER AND EXIT THAT PARCEL WITH SAID UTILITY FACILITIES FOR THE PURPOSE OF SERVING ADJACENT PARCELS.

_____ _____
SOUTHWEST GAS CORPORATION — DATE

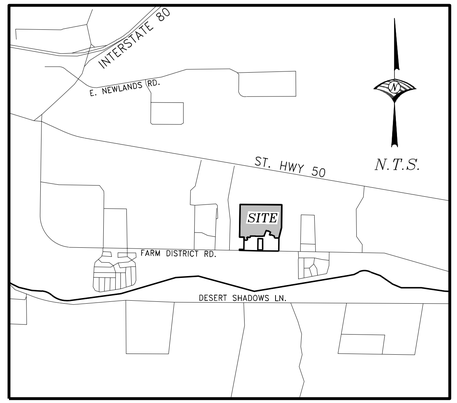
TRUCKEE–CARSON IRRIGATION DISTRICT CERTIFICATE:

I, BENJAMIN D. SHAWCROFT, ESQ., GENERAL MANAGER OF THE TRUCKEE–CARSON IRRIGATION DISTRICT (DISTRICT) DO HEREBY DECLARE AS FOLLOWS:

1. EVERY PARCEL DEPICTED UPON THIS MAP LIES WITHIN THE GEO–PHYSICAL BOUNDARIES OF THE NEWLANDS FEDERAL RECLAMATION PROJECT (PROJECT) ESTABLISHED BY ACT OF CONGRESS IN 1902 (32 STAT. 3888), AND THE BOUNDARIES OF THE DISTRICT AS AUTHORIZED BY THE NEVADA IRRIGATION DISTRICT ACT (N.R.S. 539.010 ET SEQ). DEPICTED ON THIS MAP ARE PROJECT EASEMENTS AND/OR RIGHTS OF WAY FOR CONSTRUCTION, MAINTENANCE, AN/OR OPERATION OF PROJECT CANALS, LATERALS, DRAINS, AND/OR FACILITIES. OBSTRUCTIONS AND/OR NUISANCES TO OR WITHIN PROJECT CANALS, LATERALS, DRAINS, AND/OR FACILITIES, ARE IMPERMISSIBLE.
2. THE DISTRICT MY AGREEMENT WITH THE UNITED STATES OF AMERICA, THROUGH THE BUREAU OF RECLAMATION (RECLAMATION) OF THE DEPARTMENT OF THE INTERIOR, IS THE AGENT FOR THE OPERATION AND MAINTENANCE OF THE PROJECT. THE DISTRICT IS AUTHORIZED TO ENTER PROJECT EASEMENTS AND/OR RIGHTS OF WAY FOR ALL LAWFUL PURPOSES ASSOCIATED WITH THE OPERATION AND MAINTENANCE OF THE PROJECT.
3. ALL LANDS DEPICTED HEREON, HAVING SURFACE WATER RIGHTS APPURTENANT THERETO, ARE SUBJECT TO REGULATION BY THE DISTRICT FOR THE DELIVERY AND DISTRIBUTION OF WATER AS PROVIDED FOR AND BY N.R.S. 539.233.
4. THE DISTRICT ASSUMES NO LEGAL DUTY, AS TO THE LANDS DEPICTED HEREON, FOR THE INSPECTION OR REVIEW OF PAST OR FUTURE HYDROLOGIC CONDITIONS, INCLUDING, WITHOUT LIMITATION, CHANGES TO SURFACE OR GROUNDWATER SOURCES, WATER TABLES, OR FLOODING, AND MAKES NO CLAIM OR WARRANTY AS TO THE EXISTENCES OF SUCH ADVERSE HYDROLOGIC CONDITION(S) NOW ATTENDING THE LANDS, OR EXITING STRUCTURES, OR AS TO ANY STRUCTURES(S) TO BE PLANNED OR TO BE CONSTRUCTED THEREON.
5. THE DISTRICT ASSUMES NO LEGAL DUTY FOR, NOR MAKES ANY WARRANTY ASSOCIATED WITH, THE ACCURACY OF THE WATER RIGHTS DEPICTED ON THIS MAP.

_____ _____
BENJAMIN D. SHAWCROFT, ESQ. — DATE

VILLAGE 3
A PLANNED DEVELOPMENT



VICINITY MAP

CITY SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT THIS FINAL MAP OF FRIENDLY 5 RANCH VILLAGE 3, SUBDIVISION IN THE NORTHWEST 1/4 OF SECTION 21, T. 20 N., R. 25 E. M.D.B. & M. HAS BEEN EXAMINED AND I AM SATISFIED THAT THIS MAP IS TECHNICALLY CORRECT.

_____ _____
KAITLIN S. CONSTANTINE, P.L.S. 30222 — DATE
CITY SURVEYOR

CITY COUNCIL APPROVAL:

I HEREBY ATTEST THAT THIS FINAL MAP WAS APPROVED AND ACCEPTED BY THE FERNLEY CITY COUNCIL ON THE __ DAY OF _____ , 202_.

_____ _____
DATE

NAME/TITLE PRINTED

CITY OF FERNLEY CERTIFICATE:

IT IS HEREBY CERTIFIED THAT THIS FINAL MAP IS IN SUBSTANTIAL COMPLIANCE WITH THE CITY OF FERNLEY WATER, WASTEWATER, ROADWAY AND DRAINAGE STANDARDS AND REGULATIONS AND THAT ALL REQUIRED IMPROVEMENTS HAVE BEEN COMPLETED OR PROPER FINANCIAL SECURITY HAS BEEN POSTED GUARANTEEING COMPLETION OF THIS FINAL MAP AND ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED. IN ADDITION ALL OFFERS OF DEDICATION FOR ALL PUBLIC ROADWAYS WERE REJECTED WITH THE RESERVATION TO ACCEPT SAID OFFERS AT A LATER DATE.

_____ _____
CITY OF FERNLEY ENGINEER — DATE

NAME/TITLE PRINTED

_____ _____
CITY OF FERNLEY ADMINISTRATOR — DATE

NAME/TITLE PRINTED

RIGHT TO FARM:

THE LANDS SHOWN HEREON ARE SUBJECT TO THE RIGHT TO FARM PROVISIONS AS SET FORTH BY FERNLEY CITY CODE.

G.I.S. CERTIFICATE:

A DIGITAL COPY OF THIS MAP HAS BEEN DELIVERED TO THE CITY OF FERNLEY AND LYON COUNTY GIS DEPARTMENTS.

CITY OF FERNLEY

BY:_____ _____
DATE

NAME/TITLE (PRINTED)

LYON COUNTY

BY:_____ _____
DATE

NAME/TITLE (PRINTED)

DIVISION OF WATER RESOURCES CERTIFICATE:

THIS PLAT IS APPROVED BY THE STATE OF NEVADA DIVISION OF WATER RESOURCES OF THE DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES CONCERNING WATER QUANTITY, SUBJECT TO REVIEW OF APPROVAL ON FILE IN THIS OFFICE.

_____ _____
DIVISION OF WATER RESOURCES — DATE

NAME/TITLE PRINTED

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION:

THIS FINAL MAP IS APPROVED BY THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION OF THE DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES. THIS APPROVAL CONCERNS SEWAGE DISPOSAL, WATER POLLUTION, WATER QUALITY AND WATER SUPPLY FACILITIES AND IS PREDICATED UPON PLANS FOR A PUBLIC WATER SUPPLY (INDIVIDUAL WELLS) AND A COMMUNITY SYSTEM (INDIVIDUAL SEWAGE DISPOSAL SYSTEMS) FOR DISPOSAL OF SEWAGE.

_____ _____
NEVADA DIVISION OF ENVIRONMENTAL PROTECTION, BUREAU OF WATER POLLUTION CONTROL — DATE

NAME/TITLE PRINTED

TAXATION CERTIFICATE:

THE UNDERSIGNED HEREBY CERTIFIES THAT ALL PROPERTY TAXES ON THIS LAND FOR THE FISCAL YEAR HAVE BEEN PAID AND THAT THE FULL AMOUNT OF ANY DEFERRED PROPERTY TAXES FOR THE CONVERSION OF THE PROPERTY FROM AGRICULTURAL USE HAS BEEN PAID PURSUANT TO N.R.S. 361A.265.

A.P.N.: 021–303–67

LYON COUNTY TREASURER

BY:_____ DATE _____

NAME / TITLE (PRINTED)

SURVEYOR'S CERTIFICATE:

I, ERIC C. SAGE, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEVADA, CERTIFY THAT:

1. THIS PLAT REPRESENTS THE RESULTS OF A SURVEY CONDUCTED UNDER MY DIRECT SUPERVISION AT THE INSTANCE OF JENUANE COMMUNITIES ONDA VERDE, LLC, A NEVADA LIMITED LIABILITY COMPANY.
2. THE LANDS SURVEYED LIE WITHIN A PORTION OF THE NORTHWEST 1/4 OF SECTION 21, T. 20 N., R. 25 E., M.D.B. & M., CITY OF FERNLEY, LYON COUNTY, NEVADA, AND THE SURVEY WAS COMPLETED ON JULY 3, 2022.
3. THIS PLAT COMPLIES WITH THE APPLICABLE STATE STATUTES AND ANY LOCAL ORDINANCES IN EFFECT ON THE DATE THAT THE GOVERNING BODY GAVE ITS FINAL APPROVAL.
4. THE MONUMENTS DEPICTED ON THE PLAT WILL BE OF THE CHARACTER SHOWN AND OCCUPY THE POSITIONS INDICATED BY _____, AND THE APPROPRIATE FINANCIAL GUARANTEE WILL BE POSTED WITH THE GOVERNING BODY BEFORE RECORDATION TO ENSURE THE INSTALLATION OF THE MONUMENTS.

PROFESSIONAL LAND SURVEYOR — STATE OF NEVADA
ERIC C. SAGE
Exp: 06/30/26
No. 23301

4/9/2026

ERIC C. SAGE
NEVADA CERTIFICATE NO. 23301

T.C.I.D. I.D. NO. 25–039

FILE NO. _____
FILED FOR RECORD AT THE REQUEST OF _____
ON THIS ___ DAY OF _____ 202__, AT ___ MINUTES PAST ____ O'CLOCK. _.M., OFFICIAL RECORDS OF LYON COUNTY NEVADA.

_____
COUNTY RECORDER

BY: _____
DEPUTY

FEE: _____

OFFICIAL PLAT OF
FRIENDLY 5 RANCH VILLAGE 3
A PLANNED DEVELOPMENT
A DIVISION OF PARCEL C OF FRIENDLY 5 RANCH VILLAGE 2, SUBDIVISION MAP NO. 685305
SITUATE WITHIN THE NW 1/4 OF SEC. 21, T. 20 N., R. 25 E., M.D.M.
FERNLEY LYON COUNTY NEVADA

JOB NO. 1757012

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard Reno, NV 89502
Tel 775.823.4066 Fax 775.823.4066

SHEET 1 OF 5

J:\Jobs\1757_Friendly5\Friendly5_N_V3\Geomatics\mapping\VR_GEOMATICS_F5_V3.dwg 4/9/2026 3:40 PM Eric Sage

BASIS OF BEARINGS:

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, OBTAINED BY RTK GPS FIELD TIES BETWEEN THE FOUND NGS BENCHMARK "D-340", A 4" DISC IN CONC. AND NGS BENCHMARK "B-439", A 5/8" STEEL PIN IN MONUMENT WELL. A BEARING OF N89°06'38"E ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. COMBINED GRID-TO-GROUND FACTOR = 1.0002573060

REFERENCES:

1. FRIENDLY 5 VILLAGE 2 SUBDIVISION MAP NO. 685305, AUGUST 26, 2024
2. FRIENDLY 5 VILLAGE 1 SUBDIVISION MAP NO. 666558, FEBRUARY 3, 2023
3. PARCEL MAP NO. 366028, OCTOBER 24, 2005
4. PARCEL MAP NO. 366027, OCTOBER 24, 2005

ALL IN THE OFFICIAL RECORDS OF LYON COUNTY, NEVADA

120' 60' 0 120'

SCALE: 1" = 120'

LEGEND:

◉	FND. CENTERLINE MONUMENT IN WELL PER SUBDIVISION MAP NO. 666558 OR NO. 685305
●	FND. 5/8" REBAR W/PLASTIC CAP PLS 19052
■	FND. 5/8" REBAR W/PLASTIC CAP PLS 23301
⊥○	SET 5/8" REBAR & CAP – PLS 23301 OR SCRIBED CURB ON PROPERTY LINE EXTENSION
◉	STANDARD CENTERLINE WELL MONUMENT TO BE SET
+	DIMENSION POINT, NOTHING FOUND OR SET
⋈	PLSS QUARTER SECTION CORNER, AS NOTED
✠	PLSS SECTION CORNER, AS NOTED
⧗	NNCRN GPS REFERENCE STATION
D.E.	DRAINAGE EASEMENT
P.U.E.	PUBLIC UTILITY EASEMENT
PVT.	PRIVATE
S.M.	SUBDIVISION MAP
P.M.	PARCEL MAP
(R)	RADIAL BEARING
S.F.	SQUARE FEET
C.A.	COMMON AREA
	SUBDIVISION BOUNDARY
	GRAPHIC BORDER
	LOT LINE
	RIGHT-OF-WAY
	CENTERLINE
	ADJACENT PARCEL
	EASEMENT AS NOTED
	TIE

AREA SUMMARY:

TOTAL AREA = 81.31 ACRES±
RIGHT-OF-WAY = 3.47 ACRES±
TOTAL NO. OF LOTS = 50
LOT AREA = 10.69 ACRES±
COMMON AREA A = 38,687 SQFT±
PARCEL E = 66.26 ACRES±

T.C.I.D. I.D. NO. 25-039

OFFICIAL PLAT OF

FRIENDLY 5 RANCH VILLAGE 3

A PLANNED DEVELOPMENT

A DIVISION OF PARCEL C OF FRIENDLY 5 RANCH VILLAGE 2, SUBDIVISION MAP NO. 685305

SITUATE WITHIN THE NW 1/4 OF SEC. 21, T. 20 N., R. 25 E., M.D.M.

FERNLEY LYON COUNTY NEVADA

JOB NO. 1757012

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard Reno, NV 89502
Tel 775.823.4068 Fax 775.823.4066

SHEET 2 OF 5

PROFESSIONAL LAND SURVEYOR STATE OF NEVADA
ERIC C. SAGE
Exp: 06/30/26
No. 23301

4/9/2026

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BASIS OF BEARINGS:

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, OBTAINED BY RTK GPS FIELD TIES BETWEEN THE FOUND NGS BENCHMARK "D-340", A 4" DISC IN CONC. AND NGS BENCHMARK "B-439", A 5/8" STEEL PIN IN MONUMENT WELL. A BEARING OF N89°06'38"E ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. COMBINED GRID-TO-GROUND FACTOR = 1.0002573060

REFERENCES:

1. FRIENDLY 5 VILLAGE 2 SUBDIVISION MAP NO. 685305, AUGUST 26, 2024
2. FRIENDLY 5 VILLAGE 1 SUBDIVISION MAP NO. 666558, FEBRUARY 3, 2023
3. PARCEL MAP NO. 366028, OCTOBER 24, 2005
4. PARCEL MAP NO. 366027, OCTOBER 24, 2005

ALL IN THE OFFICIAL RECORDS OF LYON COUNTY, NEVADA

PARCEL E
66.26 ACRES±

40' 20' 0 40'
SCALE: 1" = 40'

TEMPORARY STORM DRAIN EASEMENT PER DOC. NO. 653307

100' U.S. GOVERNMENTAL EASEMENT FERNLEY "B1" DRAIN

PERMANENT DRAINAGE FACILITY EASEMENT PER DOC. NO. 653301

100.0'

S89°21'05"E 401.41'

LOT 160 11,834 S.F.±
LOT 159 8,405 S.F.±
LOT 158 9,168 S.F.±
LOT 161 15,244 S.F.±
LOT 162 11,393 S.F.±
LOT 163 9,760 S.F.±
LOT 164 9,760 S.F.±
LOT 165 9,760 S.F.±
LOT 169 8,568 S.F.±
LOT 170 9,493 S.F.±
LOT 168 9,200 S.F.±
LOT 171 9,200 S.F.±
LOT 167 9,200 S.F.±
LOT 172 9,200 S.F.±
LOT 166 9,200 S.F.±
LOT 173 9,200 S.F.±
LOT 177 10,847 S.F.±
LOT 176 10,616 S.F.±
LOT 175 10,616 S.F.±
LOT 174 10,616 S.F.±
COMMON AREA A 38,687 S.F.±

ROSALIE STREET (DEDICATED TO THE CITY OF FERNLEY)
ROSALIE STREET DEDICATED PER SM 666558
EVELYNN STREET (DEDICATED TO THE CITY OF FERNLEY)
EVELYNN STREET PER SM 666558
LORELAI LANE (DEDICATED TO THE CITY OF FERNLEY)
LORELAI LANE PER SM 666558
ELEANOR WAY DEDICATED PER SM 666558
MEGS DRIVE DEDICATED PER SM 666558

C.A. C
C.A. D

FRIENDLY 5 VILLAGE 1 SUBDIVISION MAP NO. 666558

LEGEND:

◉	FND. CENTERLINE MONUMENT IN WELL PER SUBDIVISION MAP NO. 666558 OR NO. 685305
●	FND. 5/8" REBAR W/PLASTIC CAP PLS 19052
■	FND. 5/8" REBAR W/PLASTIC CAP PLS 23301
⊥○	SET 5/8" REBAR & CAP – PLS 23301 OR SCRIBED CURB ON PROPERTY LINE EXTENSION
◉	STANDARD CENTERLINE WELL MONUMENT TO BE SET
+	DIMENSION POINT, NOTHING FOUND OR SET
⋈	PLSS QUARTER SECTION CORNER, AS NOTED
✠	PLSS SECTION CORNER, AS NOTED
⊗	NNCRN GPS REFERENCE STATION
D.E.	DRAINAGE EASEMENT
P.U.E.	PUBLIC UTILITY EASEMENT
PVT.	PRIVATE
S.M.	SUBDIVISION MAP
P.M.	PARCEL MAP
(R)	RADIAL BEARING
S.F.	SQUARE FEET
S.N.C.	STREET NAME CHANGE
C.A.	COMMON AREA
	SUBDIVISION BOUNDARY
	GRAPHIC BORDER
	LOT LINE
	RIGHT-OF-WAY
	CENTERLINE
	ADJACENT PARCEL
	EASEMENT AS NOTED
	TIE

PROFESSIONAL LAND SURVEYOR STATE OF NEVADA
ERIC C. SAGE
Exp: 06/30/26
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AREA SUMMARY:

TOTAL AREA = 81.31 ACRES±
RIGHT-OF-WAY = 3.47 ACRES±
TOTAL NO. OF LOTS = 50
LOT AREA = 10.69 ACRES±
COMMON AREA A = 38,687 SQFT±
PARCEL E = 66.26 ACRES±

T.C.I.D. I.D. NO. 25-039

OFFICIAL PLAT OF
FRIENDLY 5 RANCH VILLAGE 3
A PLANNED DEVELOPMENT
A DIVISION OF PARCEL C OF FRIENDLY 5 RANCH VILLAGE 2, SUBDIVISION MAP NO. 685305
SITUATE WITHIN THE NW 1/4 OF SEC. 21, T. 20 N., R. 25 E., M.D.M.
FERNLEY LYON COUNTY NEVADA

JOB NO. 1757012

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SHEET 3 OF 5

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BASIS OF BEARINGS:

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, OBTAINED BY RTK GPS FIELD TIES BETWEEN THE FOUND NGS BENCHMARK "D-340", A 4" DISC IN CONC. AND NGS BENCHMARK "B-439", A 5/8" STEEL PIN IN MONUMENT WELL. A BEARING OF N89°06'38"E ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. COMBINED GRID-TO-GROUND FACTOR = 1.0002573060

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3. PARCEL MAP NO. 366028, OCTOBER 24, 2005
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ALL IN THE OFFICIAL RECORDS OF LYON COUNTY, NEVADA

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+	DIMENSION POINT, NOTHING FOUND OR SET
⋈	PLSS QUARTER SECTION CORNER, AS NOTED
✠	PLSS SECTION CORNER, AS NOTED
⧗	NNCRN GPS REFERENCE STATION
D.E.	DRAINAGE EASEMENT
P.U.E.	PUBLIC UTILITY EASEMENT
PVT.	PRIVATE
S.M.	SUBDIVISION MAP
P.M.	PARCEL MAP
(R)	RADIAL BEARING
S.F.	SQUARE FEET
C.A.	COMMON AREA
	SUBDIVISION BOUNDARY

LEGEND:

	SUBDIVISION BOUNDARY
	GRAPHIC BORDER
	LOT LINE
	RIGHT-OF-WAY
	CENTERLINE
	ADJACENT PARCEL
	EASEMENT AS NOTED
	TIE

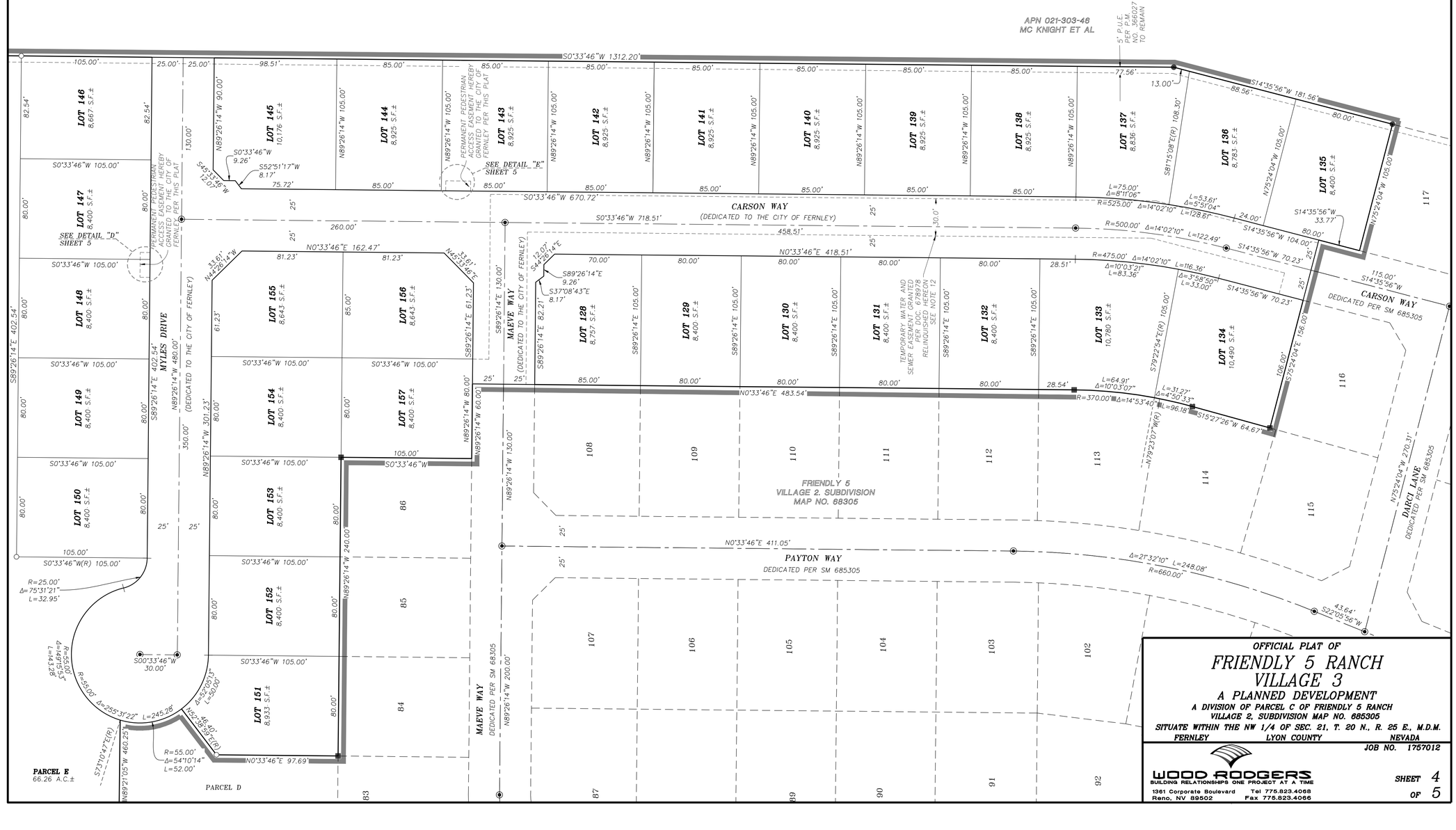
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PROFESSIONAL LAND SURVEYOR — STATE OF NEVADA
ERIC C. SAGE
Exp: 06/30/26
No. 23301
4/9/2026

T.C.I.D. I.D. NO. 25-039

40' 20' 0 40'
SCALE: 1" = 40'



OFFICIAL PLAT OF

FRIENDLY 5 RANCH VILLAGE 3

A PLANNED DEVELOPMENT

A DIVISION OF PARCEL C OF FRIENDLY 5 RANCH VILLAGE 2, SUBDIVISION MAP NO. 685305

SITUATE WITHIN THE NW 1/4 OF SEC. 21, T. 20 N., R. 25 E., M.D.M.

FERNLEY LYON COUNTY NEVADA

JOB NO. 1757012

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SHEET 4 OF 5

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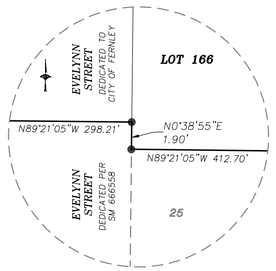
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ALL IN THE OFFICIAL RECORDS OF LYON COUNTY, NEVADA

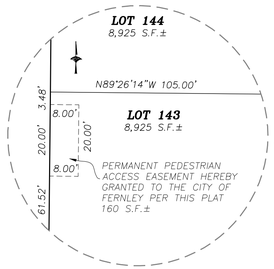
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⊥○	SET 5/8" REBAR & CAP – PLS 23301 OR SCRIBED CURB ON PROPERTY LINE EXTENSION
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(R)	RADIAL BEARING
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	ADJACENT PARCEL
	EASEMENT AS NOTED
	TIE

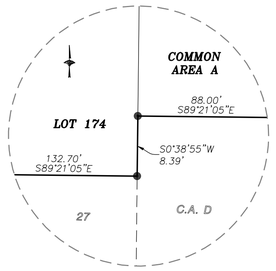
PROFESSIONAL LAND SURVEYOR – STATE OF NEVADA
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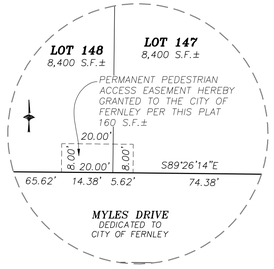
DETAIL "A"
1"= 5'



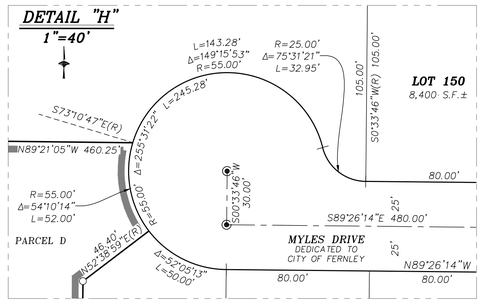
DETAIL "E"
1"=20'



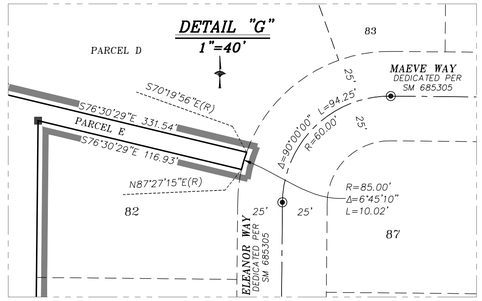
DETAIL "B"
1"=20'



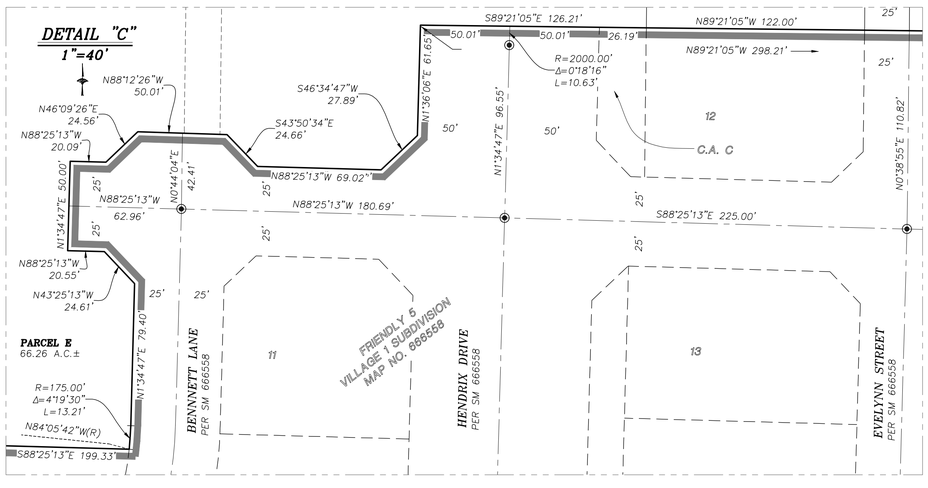
DETAIL "D"
1"=20'



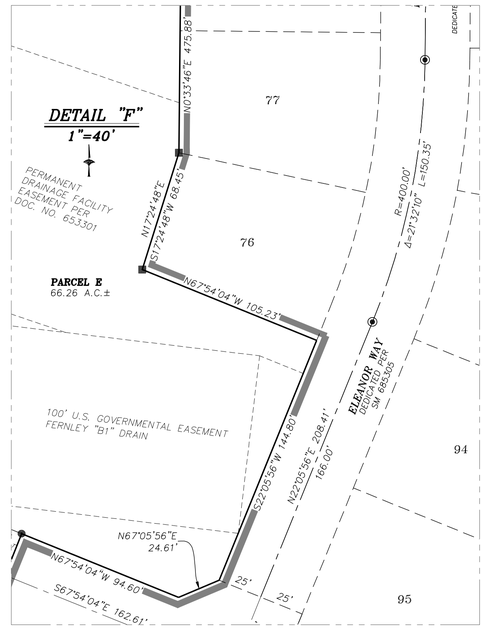
DETAIL "H"
1"=40'



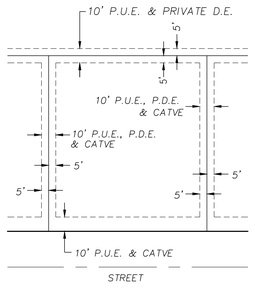
DETAIL "G"
1"=40'



DETAIL "C"
1"=40'



DETAIL "F"
1"=40'



TYPICAL LOT EASEMENT DETAIL
NOT TO SCALE

NOTES:

1. A PUBLIC UTILITY EASEMENT IS HEREBY GRANTED 10' IN WIDTH ALONG ALL DEDICATED STREET RIGHTS-OF-WAY, 5' IN WIDTH ALONG ALL REAR LOT LINES AND 10' IN WIDTH CENTERED ALONG ALL LOT LINES.
2. A PUBLIC UTILITY EASEMENT IS HEREBY GRANTED WITHIN EACH PARCEL FOR THE EXCLUSIVE PURPOSE OF INSTALLING AND MAINTAINING UTILITY FACILITIES TO THAT PARCEL/LOT AND THE RIGHT TO EXIT THAT PARCEL/LOT WITH SAID UTILITY FACILITIES FOR THE PURPOSE OF SERVING ADJACENT PARCELS/LOTS AT LOCATIONS MUTUALLY AGREED UPON BY THE OWNER OF RECORD, AT THAT TIME, AND THE UTILITY COMPANY.
3. A PUBLIC UTILITY EASEMENT IS HEREBY GRANTED TO SOUTHWEST GAS CORPORATION WITHIN EACH PARCEL AS SHOWN FOR THE EXCLUSIVE PURPOSE OF INSTALLING AND MAINTAINING UTILITY SERVICE FACILITIES TO THAT PARCEL, WITH THE RIGHT TO EXIT THAT PARCEL WITH SAID UTILITY FACILITIES FOR THE PURPOSE OF SERVING ADJACENT PARCELS.
4. PUBLIC UTILITY EASEMENTS SHALL INCLUDE SOUTHWEST GAS, CABLE TELEVISION AND CITY WATER, SEWER AND STORM DRAIN UTILITIES.
5. A PRIVATE DRAINAGE EASEMENT 10' IN WIDTH CENTERED ALONG ALL INTERIOR LOT LINES AND 5' IN WIDTH ALONG ALL REAR LOT LINES IS ALSO HEREBY GRANTED FOR THE EXCLUSIVE PURPOSE OF PROVIDING DRAINAGE FOR THE MUTUAL BENEFIT OF ADJOINING LOT OWNERS. SAID EASEMENT TO BE RELOCATED WITH THE ADJUSTMENT OF BOUNDARY LINES AS AGREED UPON BY THE ADJOINING LOT OWNERS.
6. ROADS DESIGNATED AS PUBLIC ROADS AS SHOWN HEREON WILL NOT BE ELIGIBLE FOR ACCEPTANCE BY THE CITY FOR MAINTENANCE UNTIL THEY ARE IMPROVED (AT NO COST TO THE CITY) TO CITY STANDARDS.
7. ACCEPTANCE OF THIS MAP BY THE CITY IS NOT A COMMITMENT THAT A BUILDING PERMIT WILL BE ISSUED ON ANY OR ALL LOTS.
8. A BLANKET PUBLIC UTILITY EASEMENT IS HEREBY GRANTED OVER THE COMMON AREAS AS SHOWN HEREON.
9. COMMON AREA A AS SHOWN HEREON ARE TO BE GRANTED TO AND MAINTAINED BY THE LEGACY TRAILS COMMUNITY ASSOCIATION.
10. NO DISCHARGE OF STORM WATER IS PERMITTED INTO THE UNITED STATES DRAIN FACILITIES, BEING THE FERNLEY "B", "B1" AND "B3" DRAINS AS SHOWN HEREON.
11. A USPS MAIL DELIVERY FACILITY EASEMENT IS HEREBY GRANTED, 10 FEET WIDTH COINCIDENT WITH ALL STREET RIGHTS-OF-WAY AS DEDICATED HEREON.
12. SEWER EASEMENT PER DOC. 653306 RELINQUISHED HEREON IN AREAS WHERE ROADS ARE BEING DEDICATED.
13. A 10 FOOT EASEMENT TO SOUTHWEST GAS GRANTED IN DOCUMENT NO. 659577 WITHIN THE W 1/2 OF THE NW 1/4 OF SEC. 21, T. 20 N., R. 25 E., MDM., THE EXACT LOCATION OF SAID EASEMENT IS NOT DISCLOSED OF RECORD.

AREA SUMMARY:

TOTAL AREA = 81.31 ACRES±
RIGHT-OF-WAY = 3.47 ACRES±
TOTAL NO. OF LOTS = 50
LOT AREA = 10.69 ACRES±
COMMON AREA A = 38,687 SQFT±
PARCEL E = 66.26 ACRES±

T.C.I.D. I.D. NO. 25-039

OFFICIAL PLAT OF
FRIENDLY 5 RANCH VILLAGE 3
A PLANNED DEVELOPMENT
A DIVISION OF PARCEL C OF FRIENDLY 5 RANCH VILLAGE 2, SUBDIVISION MAP NO. 685305
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SHEET 5 OF 5

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CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Brenda Gosser**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes: X	No:	Yes: X	No:	510-395-910 520-395-910

ACTION REQUESTED: Consent

AGENDA ITEM:

Possible Action to Approve the Will-Serve Request from Golden Years Castle Group Home - Addition for 2.34 ERC's of water and 5.35 ERC's for sewer for Lyon County Parcel 021-111-49 located at 575 Farm District Road, Fernley, NV 89408.

AGENDA ITEM BRIEF:

1. Golden Years Castle Group Home is seeking a will-serve for Group Home - Addition.
2. This project requires 2.34 ERC's for water AND 5.35 ERC's and 5.35 ERC's for sewer.

RECOMMENDED MOTION:

"I move to approve the Will-Serve Request from Golden Years Castle Group Home for Group Home - Addition for 2.34 ERC's of water and 5.35 ERC's for sewer for Lyon County Parcel 021-11-49 located at 575 Farm District Road, Fernley, NV 89408."

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

N/A

BACKGROUND:

Golden Years Castle Group Home is seeking a will-serve for 2.34 ERC's for water and 5.35 ERC's for sewer to accommodate the Group Home - Addition, Lyon County Parcel 021-111-49, located in Fernley, NV.

Water and sewer connection fees will be paid at the time of building permit issuance at the rate of $7,879 per ERC unit for Water Service Connection and $5,628 for Wastewater Service Connection.

The water needed for this project has been previously dedicated under a prior banking agreement.

City staff has determined that the City has adequate water and sewer resources to support the requested will-serve commitment.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

FMC 32.09.035

FINANCIAL IMPLICATIONS:

ATTACHMENTS:

1. 2026.05.06 Will Serve Letter

THE CITY OF FERNLEY

Public Works/Utilities Department

595 Silver Lace Blvd

Fernley, NV 89408

The City of Fernley hereby certifies that it has adequate water distribution capability and wastewater treatment plant capacity to serve and will serve: Golden Years Castle Group Home Care Development/ project or property located at 595 Farm District Road Fernley, Nevada with 2.09 water connections and/or 5.35 sewer connections for Service to 1 unit, upon the following terms and conditions:

1. All applicable fees and costs must be paid, including the utility connection fees in effect at the time of this will-serve certification, currently $7,879.00 per unit for water and $5,628.00 per Equivalent Residential Capacity (ERC) unit for sewer.

2. Applicant must comply with all applicable laws, statutes, ordinances and regulations.

3. Said fees and costs must be paid in full before connections to water/sewer services. **Connections to utility service shall be completed within a reasonable time from the date of original approval of this Will-Serve by the Fernley City Council. Failure to diligently pursue connection to utility service may render this Will-Serve null and void.** Public Works/Utilities Department, at its sole discretion, shall have authority to determine whether connection to utility service is being diligently pursued and, with sixty (60) days written notice to the party who requested this Will-Serve, may cancel this Will-Serve for failure to connect to utility service within a reasonable time.

4. Service shall be provided only to the project or site identified above. **This Will-Serve is limited to the project or property described above and is not transferable to any other project or property.**

5. Service shall be provided pursuant to the plans and specifications submitted to and approved by Public Works/Utilities Department Service shall not be provided pursuant to any alterations to or deviation from the same without the express written approval of Public Works/Utilities Department. **This will-serve is to be considered conditional unless public improvement plans have been approved by Public Works/Utilities Department.**

6. This Will-Serve applies to: APN# 021-111-49

Fernley City Council Approved Will-Serve on: May 6, 2026

Public Works/Utilities Director **Mayor – City of Fernley**

Applicant **Date**

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Benjamin Ferido, Project Manager**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:X	No:	Yes:X	No:	Water and Sewer Enterprise

ACTION REQUESTED: Consent

AGENDA ITEM:

(Possible Action) To approve Amendment A to the contract signed between Eastern Sierra Engineering and the City of Fernley for the Engineering Design Services of the Good Earth Subdivision Road Reconstruction. Amendment A contains additions to the project scope to include Utility Improvements, including Existing Condition Survey, Waterline and Sewer Design, and Bid Support. The additional tasks total to $227,750.00.

AGENDA ITEM BRIEF:

(Possible Action) To approve Amendment A to the contract signed between Eastern Sierra Engineering and the City of Fernley for the Engineering Design Services of the Good Earth Subdivision Road Reconstruction. Amendment A contains additions to the project scope to include Utility Improvements, including Existing Condition Survey, Waterline and Sewer Design, and Bid Support. The additional tasks total to $227,750.00.

Water System Improvements
The scope of work for the water system includes, but is not limited to, the following:

- Evaluation of existing water mains, valves, hydrants, and service laterals within the project area
- Identification of undersized, aging, or deficient water infrastructure requiring replacement or rehabilitation
- Replacement or upsizing of water mains as necessary to meet current City standards and fire flow requirements
- Replacement of existing valves and hydrants to improve isolation, reliability, and emergency response
- Replacement or reconnection of water service laterals impacted by main replacement
- Abandonment of existing water facilities is no longer required
- Coordination with adjacent utilities and existing services to minimize service disruptions

Wastewater System Improvements

The scope of work for the wastewater system shall include, but is not limited to, the following:

- Evaluation of existing gravity sewer mains, manholes, and service laterals within the project area
- Identification of structural deficiencies, capacity constraints, infiltration/inflow issues, and maintenance concerns
- Replacement, upsizing, or rehabilitation of sewer mains as required
- Replacement or rehabilitation of manholes to current City standards
- Replacement or reconnection of sewer service laterals impacted by main replacement
- Abandonment of existing wastewater facilities no longer required
- Improvements to system reliability and long-term maintenance access

RECOMMENDED MOTION:

Move to approve

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

BACKGROUND:

This amendment consists of the evaluation, design, and construction support for water and wastewater system upgrades within the project area identified on the attached plans, generally encompassing the local street network labeled B Street through G Street, including connecting north–south segments and adjacent residential blocks, 6th Street, 7th Street and Earth Circle. The improvements are intended to address aging infrastructure, improve system reliability, reduce maintenance issues, and coordinate utility upgrades with planned roadway improvements.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

FINANCIAL IMPLICATIONS:

ATTACHMENTS:

1. City of Fernley Water and Sewer Scope for 6th & 7th Streets

CITY OF FERNLEY

NEIGHBORHOOD STREET REHABILITATION

6TH STREET, 7TH STREET, B STREET, C STREET, D STREET, E STREET, F STREET, G STREET, EARTH CIRCLE

DESIGN AMENDMENT – WATER AND WASTEWATER ANALYSIS AND DESIGN

To: Benjamin Ferido, Project Manager, City of Fernley
From: Brian Fitzgerald, P.E., Chris Schmitt, P.E., Eastern Sierra Engineering

Project Assumptions:

Water System Improvements:

The scope of work for the water system includes the following tasks:

- Evaluation of existing water mains, valves, hydrants, and service laterals within the project area.
- Identification of undersized, aging, or deficient water infrastructure requiring replacement or rehabilitation.
- Replacement or upsizing of water mains as necessary to meet current City standards and fire flow requirements.
- Replacement of existing valves and hydrants to improve isolation, reliability, and emergency response.
- Replacement or reconnection of water service laterals impacted by main replacement
- Abandonment of existing water facilities is no longer required.
- Coordination with adjacent utilities and existing services to minimize service disruptions.

Wastewater System Improvements:

The scope of work for the wastewater system includes the following tasks:

- Evaluation of existing gravity sewer mains, manholes, and service laterals within the project area.
- Identification of structural deficiencies, capacity constraints, infiltration/inflow issues, and maintenance concerns.
- Replacement, upsizing, or rehabilitation of sewer mains as required.
- Replacement or rehabilitation of manholes to current City standards.
- Replacement or reconnection of sewer service laterals impacted by main replacement.
- Abandonment of existing wastewater facilities no longer required.
- Improvements to system reliability and long-term maintenance access.

Please see the following pages for preliminary scope elements.

EXHIBIT A
SCOPE OF SERVICES

1. **Project Management – Task 1A**

   Prepare monthly progress reports, invoices, and billing.

   Coordination with City of Fernley project manager and staff will be ongoing throughout the project. Project management and coordination meetings or conference calls will be held with the City of Fernley and other parties as appropriate throughout the project.

   Deliverables – Invoicing and progress reports.

2. **Investigation of Existing Water and Wastewater Conditions – Task 3A**

   CONSULTANT will investigate existing water and wastewater infrastructure serving the neighborhood, including available record information, mapped utility data, visible surface features, and field-observed conditions. The purpose of this task will be to confirm the general configuration and condition of existing mains, valves, hydrants, manholes, and service connections within the project limits, and to identify areas where existing information is incomplete, inconsistent, or likely outdated. CONSULTANT requests the City's project manager and a water operation staff member to attend at least the beginning of the site visit meeting to determine the condition levels of various appurtenances (fire hydrants, meters, meter boxes, etc.) that would warrant replacement.

   This investigation is anticipated to include a review of available City records and prior plans; one field review of observable utility appurtenances and access points; and evaluation of likely conflict points between proposed roadway improvements and existing underground facilities. Based on this work, CONSULTANT will identify utility features that appear aged, undersized, deficient, or likely to be affected by roadway reconstruction. Recommendations developed from this effort will focus on which facilities should remain, which should be replaced or rehabilitated, and where additional verification may be warranted before final design.

   Wastewater System Evaluation and Improvement Recommendations

   Water Utility Report
   CONSULTANT will receive a WaterCAD model of the project area from the City, reflecting the existing system as it currently stands in the City's GIS. CONSULTANT will cross-check the existing condition model results against fire hydrant flow and pitot data obtained from the City or Fire District, adjusting existing pipe roughness coefficients to correlate to the system flow condition estimated from the date of the hydrant test(s).

The proposed model will include the scenarios and evaluations noted below, per the NAC and City's Design Standards. Fire demands will be applied to the hydrants in the system that would produce the most critical pressure and flow results.

Scenario	Criteria			
	Minimum Pressure	**Maximum Pressure**	**Maximum Velocity**	**Required Fire Flow**
Average Day	NA	NA	6.5 ft/s	NA
Average Day with Fire	NA	NA	NA	1,000 gpm
Maximum Day	40 psi	100 psi	6.5 ft/s	NA
Maximum Day with Fire	20 psi	100 psi	10 ft/s	1,000 gpm
Peak Hour	30 psi	100 psi	6.5 ft/s	NA

Locations where service lateral connections exceed 80 psi will be noted in compliance with the International and Uniform Plumbing Codes. In accordance with City design standards, we assume no pressure reduction will be placed on the City main and that all reduction will be on the customer side of the meter.

CONSULTANT will develop a report describing the following:

- Rationale for replacement of existing main and appurtenances based on the site visit and review of existing information.
- Modeling scenario descriptions, assumptions, results, and conclusions.

CONSULTANT will submit the plans and specifications for review and approval by the NDEP Bureau of Water Quality Planning. As the project will affect fewer than 5% of the total connections on the City's system, we assume that a full Preliminary Engineering Report will not be required by NDEP. We assume no water system work will encroach on the NDOT right-of-way.

Deliverables – Water System Evaluation and Design Report

Wastewater System Evaluation and Improvement Recommendations

CONSULTANT will evaluate the wastewater collection system within the neighborhood to identify structural, operational, and maintenance-related deficiencies that should be addressed in conjunction with roadway reconstruction. This effort is expected to include the following:

- Review of available record information: as-builts, prior studies, maintenance history, overflow/back-up history, lift station records, and any known problem reaches.
- Field verification of the system layout: main sizes, slopes, manhole locations/rims/inverts, service connections, pipe materials, age, and tie-in points.
- Structural condition assessment of gravity mains and manholes, using approximately 9,900 linear feet of CCTV provided by a licensed contractor under this task, with manhole inspections to identify cracks, fractures, root intrusion, offset joints, corrosion, sags, settlement, grease buildup, debris, and infiltration points.

- Operations and maintenance review: recurring blockages, cleaning frequency, access limitations, and maintenance hot spots.
- Infiltration/inflow review: evidence of groundwater infiltration, rainfall-derived inflow/infiltration, illicit connections, leaky manholes, and defective laterals.
- Identification of capacity constraints and reliability issues: undersized mains, surcharge risk, problematic downstream bottlenecks, and weak links at pump stations or force mains.
- Recommended actions: rehab, replacement, upsizing, manhole rehab, lateral work, or no action.

Following this evaluation, we will develop recommendations for replacement, upsizing, or rehabilitation of sewer mains and appurtenances where existing conditions warrant improvement to address known issues. Recommendations may also include manhole rehabilitation or replacement to current standards and replacement or reconnection of sewer services impacted by mainline improvements. The intent of this effort is to improve long-term service reliability, reduce recurring maintenance issues, and coordinate utility investments efficiently while the roadway corridor is under construction.

Deliverables – Water Evaluation and Design Report

3. Water and Wastewater Utility Design – Taske 5A

Using the results of the investigation and evaluation tasks, we will prepare utility design documents for the recommended water and sewer improvements. Design work is anticipated to include utility layout development, preparation of plan and profile information or equivalent design representation as needed, coordination with grading and roadway features, and development of construction details, technical specifications, and opinion of probable construction cost for the utility elements.

Because this scope will be delivered as an amendment to the existing roadway design contract, utility improvements will be designed in close coordination with the roadway design rather than as a stand-alone utility package. The final utility design will therefore be incorporated into the overall roadway drawing set and bid documents, with utility notes, phasing considerations, technical requirements, and bid items coordinated so the project can be bid and constructed as a unified package. Recommendations during design will emphasize minimizing service disruptions, maintaining access, resolving conflicts early, and sequencing the utility work to support roadway reconstruction without unnecessary rework. It is anticipated to have one review cycle per submittal phase.

Preliminary / Final Utility Water and Wastewater Design (30%, 60%, 90%, 100% Design) – Task 5A

Water Utility 30% Design
Based on the results of the investigations, reviews, and recommendations from the condition report, CONSULTANT will proceed with development of the design plans. The proposed water

main and laterals will be located to achieve the minimum cover and horizontal and vertical separations required by City and state water standards.

CONSULTANT anticipates that all fire hydrants, and hydrant laterals and valves will be replaced; the type of hydrant will be determined in conjunction with the City and the fire district, based on the fire district's equipment compatibility. Additional fire hydrants and laterals will be included in the plans to meet current code requirements. Service laterals, anticipated to be up to 191 total, will be replaced to the City side of the existing meter, likely with polyethylene (PE) pipe; we request that the City provide CONSULTANT with locations where proposed lateral diameters will need to be increased or decreased from existing. CONSULTANT recommends that meters be replaced if they do not meet current remote-read and sensing standards; meter box replacements will depend on the existing condition of each box and whether the proposed meters will fit within the existing boxes

Existing and proposed utility infrastructure will be shown in plan view only for the 30% Plans. CONSULTANT will develop details for the main project components and a cost estimate based on the components shown on the plans in Excel.

Water Utility 60% Design

CONSULTANT will advance the project design in response to City and County comments and to provide further detail to the plan set. At this time, it is anticipated that the existing water main and lateral piping will be abandoned in place. As any demolition work will be related to replacement efforts, CONSULTANT will show demolition work on the plan and profile sheets to provide better context.

Existing and proposed water mains and laterals, other existing utilities, and existing and proposed utility crossings will be shown in both plan and profile views with a minimum vertical scale factor of 2. CONSULTANT will include details for each main connection to show specific fitting, coupling and valve configurations, and joint type (e.g. restrained mechanical, flanged, etc.) on each leg. CONSULTANT will develop a cost estimate based on the components shown on the plans in Excel. This design set will be used for the NDEP engineering review submittal.

Water Utility 90% Design

CONSULTANT will advance the project design in response to County and NDEP comments and to add further detail to the plan set, including updating water plan and profile and detail sheets.

CONSULTANT will refine details for the main project components and include details for the main connections. We will develop a cost estimate based on the components shown on the plans in Excel. CONSULTANT will develop construction specifications specifically to the water system improvements based on the Orange Book.

Water Utility 100% Design

CONSULTANT will advance the project design in response to County comments and to add further detail to the plan set, including updating water plan and profile and detail sheets.

CONSULTANT will refine details for the main project components and include details for the main connections. We will develop a cost estimate based on the components shown on the plans in Excel. We will develop construction specifications specifically to the water system improvements based on the Orange Book.

Sanitary Sewer 30% Design
Based on the results of the investigations, reviews, and recommendations from the condition report, CONSULTANT will proceed with development of the design plans. The proposed sewer main and laterals will be located to achieve the minimum cover and horizontal and vertical separations required by City and state standards.

CONSULTANT anticipates that all main lines other than 7th Street will not require replacement based on capacity issues, rather replacements will be based on condition, obstruction, or infiltration issues. The 7th Street main line is anticipated to be upsized to increase capacity from upstream users and future developments.

Existing and proposed utility infrastructure will be shown in plan view only for the 30% Plans. CONSULTANT will develop details for the main project components and a cost estimate based on the components shown on the plans in Excel.

Sanitary Sewer 60% Design
CONSULTANT will advance the project design in response to City and County comments and to provide further detail to the plan set. As any demolition work will be related to replacement efforts, CONSULTANT will show demolition work on the plan and profile sheets to provide better context. CONSULTANT will develop a cost estimate based on the components shown on the plans in Excel.

Sanitary Sewer 90% Design
CONSULTANT will advance the project design in response to City and County comments and to provide further detail to the plan set. As any demolition work will be related to replacement efforts, CONSULTANT will show demolition work on the plan and profile sheets to provide better context. CONSULTANT will develop a cost estimate based on the components shown on the plans in Excel. CONSULTANT will develop construction specifications specific to the sewer system improvements based on the Orange Book.

Sanitary Sewer 100% Design
CONSULTANT will advance the project design in response to City and County comments and to add further detail to the plan set, including updating sewer plan and profile and detail sheets, cost estimate and specifications.

Deliverables – Preliminary (30%, 60%, 90%) Plans and Preliminary Cost Estimate submitted to City of Fernley.

Prepare Final Construction Plans and Technical Specifications – Task 5A

Prepare Final Construction Plans, Contract Documents and Technical Specifications suitable for construction bid advertisement for the approved alignment in accordance with City of Fernley standards and requirements. City of Fernley will provide the boilerplate via email in MS Word format. The City of Fernley and Quality Control review comments will be incorporated into the final Plans and Specifications.

The final construction plans will be on 22" x 34" size sheets and will show all elements of the project construction, including plan/profile view, R/W lines, cross-sections and construction/slope limits. The final plan set is expected to include approximately 50 sheets and will include approximately the following sheets:

- Cover Sheet.
- Notes, Legend and Abbreviations Sheet.
- Horizontal Control.
- Utility table for construction.
- Utility Plan & Profile Sheets (at 1"=20' scale).
- Detail Sheets (scales as noted).

The Contract Documents and Technical Specifications will reference the latest edition of Standard Specifications for Public Works Construction (Orange Book) for standard construction items. Technical provisions will be prepared for approved deviations from the Orange Book and unique construction items not adequately covered in the Orange Book. The final plans and specifications will be signed and sealed by a Nevada Registered Professional Civil Engineer in responsible charge of preparation. Plans and specifications will be submitted to the City of Fernley, utility agencies and other affected parties for review at the 30%, 60%, 90% and 100% stages of completion per the following:

- 30% Plans – One 11”x17” electronic set (PDF) to City of Fernley, and PDF set each to utility agencies.
- 60% Plans – One 11”x17” electronic set (PDF) to City of Fernley.
- 90% Plans – One 11”x17” electronic set (PDF) to City of Fernley, and PDF set each to utility agencies.
- 90% Specifications – One electronic set (PDF) to City of Fernley.
- 100% Plans – One 11”x17” electronic set (PDF) to City of Fernley.
- 100% Specifications – One electronic set (PDF) to City of Fernley.
- Final Working Plan Set – One 22”x34” set to City of Fernley, two 11”x17” sets to City of Fernley and electronic set (PDF).
- Final Working Specification Document – One electronic set (PDF) to City of Fernley, one copy in MS Word format of the Contract Documents and Technical Specifications, MS Excel Cost Estimate and Bid Tabulation to City of Fernley.

An independent checker will check, initial and date each plan sheet. A quality control review of the plans, contract documents and technical specifications will be performed which will focus on technical aspects of the plans and specifications and will ensure that all items of work are adequately covered.

Deliverables – Final Plans and Specifications delivered to the City of Fernley and Utilities.

Final Engineer's Opinion of Probable Construction Costs and Time – Task 5A

Provide a final Engineer's opinion of probable construction costs for the project based on the final design and any alternatives or options. The cost opinion will be in the same format as the bid proposal form included in the contract documents. A quality control review of the cost opinion will be performed by the CONSULTANT. The CONSULTANT will also estimate the number of working or calendar days, as appropriate, for the construction of the project.

Deliverables – Opinion of Probably cost and time of construction.

Bidding Services – Task 6A

Plan Set and Specification Distribution: CONSULTANT will provide City of Fernley with final plans and specifications, including addenda, in Portable Document Format (PDF), for use in the Ebid system.

Pre-bid Meeting: CONSULTANT will be available during the bidding process to answer technical questions and will hold the pre-bid meeting. All questions and responses will be documented and provided to City of Fernley. CONSULTANT will prepare and provide PDF addenda, if required. All questions regarding legal aspects of the contract documents will be referred directly to City of Fernley. CONSULTANT will prepare and provide a PDF summary of the pre-bid meeting, as directed by the City of Fernley.

Bid Opening: CONSULTANT will attend the bid opening and review the bids received for irregularities and provide a recommendation for award. CONSULTANT will tabulate bid results into a MS Excel spreadsheet and check multiplication and addition of bid items.

Deliverables – Attendance at Pre-Bid meeting and Bid Opening, Bid Review.

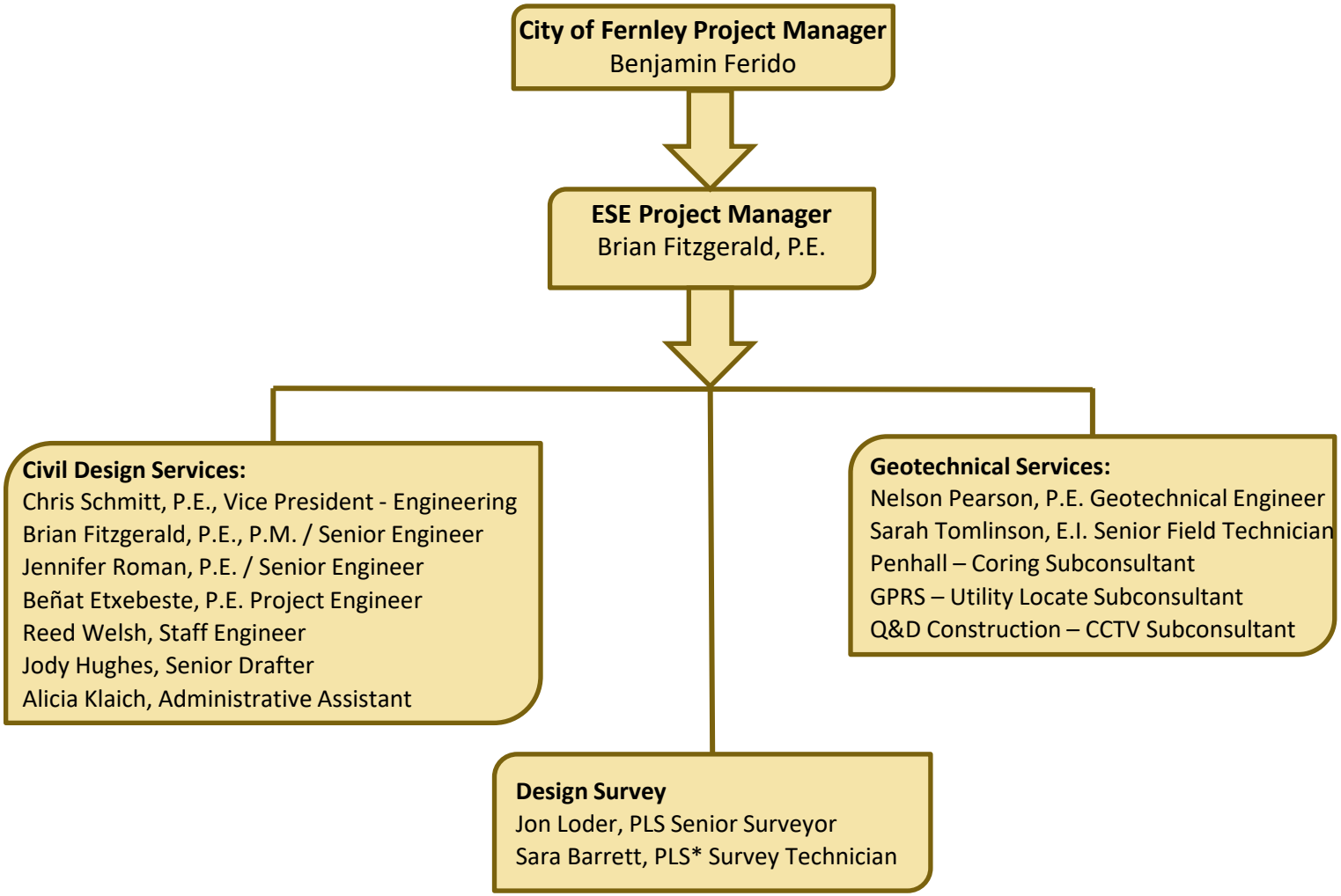
Supplemental Services
Additional services can be supplied for additional fees when necessary and requested by the City in relation to the design include:

- Additional modeling scenarios or system-wide modeling
- Extended CCTV inspection or new data collection
- Additional site visits beyond agreed quantity
- Preparation of Preliminary Engineering Report if required by NDEP
- Public outreach or stakeholder meetings
- Additional review cycles beyond one per design phase
- Design of unforeseen utility conflicts
- Lateral replacement beyond assumed quantity
- Pressure-reducing valve design or special systems
- Bid protest support or rebidding

Task Description	Task Total	Senior Engineer	Project Engineer	Staff Engineer	Senior Drafter	Administrative Assistant	Senior Field Technician	Lab Testing / Subconsultant
	Rates	$ 230.00	$ 205.00	$ 175.00	$ 170.00	$ 120.00	$ 150.00	
Task 1A - Project Management								
Monthly progress reports, invoicing		5				10		
Monthly progress meetings		5				10		
Task 1A Hours Total		10	0	0	0	20	0	
Task 1A Labor Costs		$ 2,300.00	$ -	$ -	$ -	$ 2,400.00	$ -	
Task 1A Non Labor Costs								$ -
Task 1A Total Costs	**$ 4,700.00**							
Task 3A - Investigation of Existing Conditions								
Sewer CCTV Data Collection							12	$ 28,750.00
Water & Sewer Visual Conditions Survey		8	8	8				
Water Utility Depiction		8	8	40	40			
Water Utility Report		20	80	40	20			
Sewer Utility Report			20	40	40			
Task 3A Hours Total		36	116	128	100	0	12	
Task 3A Labor Costs		$ 8,280.00	$ 23,780.00	$ 22,400.00	$ 17,000.00	$ -	$ 1,800.00	
Task 3A Non Labor Costs								$ 28,750.00
Task 3A Total Costs	**$ 102,010.00**							
Task 5A - Project Design (30%, 60%, 90%, 100%, Bid Sets)								
- Neighborhood 30% Plans								
Projected plan set of 60 sheets		12	60	90	90			
Cost Estimate		2	8	8	8			
Review Meeting		2	2	2				
- Neighborhood 60% Plans								
Projected plan set of 60 sheets		2	40	40	40			
Cost Estimate		2	4	4	4			
Review Meeting		2	2	2	2			
- Neighborhood 90% Plans								
Projected plan set of 60 sheets		1	20	40	40			
Cost Estimate			4	8	8			
Bid Documents & Specifications			8	8				
Review Meeting		2	2	2				
- Neighborhood 100% & Bid Plans								
Projected plan set of 60 sheets		1	10	20	20			
Cost Estimate		2	2	4	4			
Bid Documents & Specifications		4	8					
Review Meeting		2	2	2				
Task 5A Hours Total		34	172	230	216	0	0	
Task 5A Labor Costs		$ 7,820.00	$ 35,260.00	$ 40,250.00	$ 36,720.00	$ -	$ -	
Task 5A Non Labor Costs								$ -
Task 5A Total Costs	**$ 120,050.00**							
Task 6A - Bidding Services								
Prebid Meeting, bid opening, bid review		1	2	2				

Task Description	Task Total	Senior Engineer	Project Engineer	Staff Engineer	Senior Drafter	Administrative Assistant	Senior Field Technician	Lab Testing / Subconsultant
	Rates	$ 230.00	$ 205.00	$ 175.00	$ 170.00	$ 120.00	$ 150.00	
Task 6A Hours Total		1	2	2	0	0	0	
Task 6A Labor Costs		$ 230.00	$ 410.00	$ 350.00	$ -	$ -	$ -	
Task 6A Non Labor Costs								$ -
Task 6A Total Costs	**$ 990.00**							
Total Design Services	**$ 227,750.00**	$ 18,630.00	$ 59,450.00	$ 63,000.00	$ 53,720.00	$ 2,400.00	$ 1,800.00	$ 28,750.00

Attachment D – Project Team



EASTERN SIERRA ENGINEERING

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Lydia Altick, Acting City Manager**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes: X	No:	Yes: X	No:	GL #100-475-615

ACTION REQUESTED: Receive/File

AGENDA ITEM:

Presentation by Kimley Horn and Possible discussion of the recently completed Local Road Safety Plan.

AGENDA ITEM BRIEF:

Over the last year, the City has facilitated and met with Nevada Department of Transportation (NDOT), and stakeholders such as Lyon County Sheriff's Office, North Lyon County Senior Citizens Committee, Lyon County School District, Nevada State Police, and others, and under the direction of NDOT's traffic consultant, Kimley Horn, to analyze data, provide input, and conduct technical workshops to identify problem roads, intersections, and connections (or lack of) within the City. As a result, Kimley Horn created a Local Road Safety Plan. Once implemented, the Local Roads Safety Plan could inform future improvements to these streets and serve as the basis for potential grant funding.

Following NDOT's LRSP process, this LRSP includes the following steps:

- Establish leadership
- Analyze the safety data
- Determine emphasis areas
- Identify strategies
- Prioritize and incorporate strategies
- Evaluate and update the LRSP

The LRSP, once formally adopted by the City Council, is to be included in the City's transportation planning and comprehensive master plan.

RECOMMENDED MOTION:

There is none.

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

There are none.

BACKGROUND:

On December 18, 2024, the City Council approved a Cooperative Agreement between the City of Fernley and the Nevada Department of Transportation (NDOT). The purpose of the Cooperative Agreement is to provide terms of cooperation and responsibility for the Local Road Safety Plan project between NDOT and the City of Fernley.

NDOT funded the project with Highway Safety Improvement Program funds as established under NDOT's Request for Proposal no. 248-21-816. The service provider selected by NDOT is Kimley Horn. They analyzed all the local roads within Fernley for safety to determine emphasis areas and identify, prioritize and incorporate strategies for improvement measures.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

Federal Highways Administration
Nevada's Strategic Highway Safety Plan
Highway Safety Improvement Program

FINANCIAL IMPLICATIONS:

The implementation of safety features is prioritized based on the cost-benefit ratio analysis. Many safety measures can be implemented at a low cost. Other measures are more costly, adding to the City's general fund budget.

ATTACHMENTS:

1. 2026-05-01 Fernley LRSP_DRAFT FINAL
2. Fernley LRSP Pledge_DRAFT

City of Fernley

Local Road Safety Plan

CITY OF FERNLEY LRSP
DRAFT FINAL
MAY 2026



REPORT (DRAFT)

FOR

CITY OF FERNLEY LOCAL ROAD SAFETY PLAN

Prepared for:

City of Fernley
595 Silver Lace Boulevard
Fernley, NV 89408

Prepared by:

Kimley-Horn and Associates, Inc.
7900 Rancharrah Parkway, Suite 100
Reno, NV 89511

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

092202057.A

May 2026

Acknowledgements

The City of Fernley, Nevada Department of Transportation (NDOT), and other partners were instrumental in the development, review, and refinement of this Local Road Safety Plan (LRSP). The City of Fernley, NDOT, and Kimley-Horn would like to express their appreciation to supporting staff and partners for their participation and contribution to this project.

Advisory Committee Members
Lydia Altick (City of Fernley, Project Manager)
Benjamin Ferido (City of Fernley)
Maria Paz (Former City of Fernley) – Former
Alisa Johansson (City of Fernley) – Former
Michele Rambo (City of Fernley)
Jackie LaVoie (Fernley Senior Citizen Advisory Committee)
Mariah Hill (Lyon County School District)
Ryan Robinson (Lyon County School District)
Dep. Chief Mitch Brantingham (Lyon County Sheriff's Office)
Jared Feser (NDOT)
Kimberly Goodwin (NDOT)
Philip Kanegsberg (NDOT)
Sebastian Otano (NDOT)
Brandon Ramirez Lopez (NDOT)
Michael Rooker (NDOT)
Brent Slobe (NDOT)
Lacey Tisler (NDOT)
Sgt. Damian Buckley (Nevada State Police Highway Patrol)
Lt. Joshua Koski (Nevada State Police Highway Patrol)
Lt. Andrew Granata (Nevada State Police Highway Patrol)
Major Andrew Munoz (Nevada State Police Highway)
Capt. Stephen Kuntz (North Lyon Country Fire Protection District)
Sherry Ely-Mendes (Pyramid Lake Paiute Tribe)
Da Nelle Smith (Pyramid Lake Paiute Tribe)
Graham Dollarhide (Regional Transportation Commission of Washoe County)
Cliff Osborn (Cal-Nevada Road Solutions)

Consultant Team
Anabel Hernandez (Project Manager)
Frank Czechan
Devin Moore
Georgia Petroff
Lindsay Saner
Jonathan Pasternack
Charity Thompson

Statutory Notice

23 U.S.C. § 409: US Code - Section 409: Discovery and admission as evidence of certain reports and surveys

Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

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List of Acronyms

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway Transportation Officials
BCR	Benefit-Cost Ratio
CCR	Critical Crash Rate
CEA	Critical Emphasis Area
CIP	Capital Improvement Plan
CMF	Crash Modification Factor
CRF	Crash Reduction Factor

EPDO	Equivalent Property Damage Only
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
GIS	Geographic Information Systems
HFST	High Friction Surface Treatment
HSIP	Highway Safety Improvement Program
HSM	Highway Safety Manual
LPA	Local Public Agency
LRSP	Local Road Safety Plan
NDOT	Nevada Department of Transportation
NHTSA	National Highway Traffic Safety Administration
NVACTS	Nevada Advisory Committee on Traffic Safety
PDO	Property Damage Only
PHB	Pedestrian Hybrid Beacon
PSP	Project Safety Process
RRFB	Rectangular Rapid Flashing Beacon
RTC	Regional Transportation Commission
SHSO	State Highway Safety Office
SHSP	Strategic Highway Safety Plan
SMAP	Speed Management Action Plan
SRTS	Safe Routes to School
SS4A	Safe Streets and Roads for All
STIP	Statewide Transportation Improvement Program
TDM	Travel Demand Model
TMP	Transportation Master Plan
TRINA	Traffic Records Information Access
VPD	Vehicles Per Day
VRU	Vulnerable Road User

1. INTRODUCTION

The City of Fernley (City) is experiencing a large volume of growth, converting the City from a mostly residential area to a mixed residential-commercial community. The City's projected growth has prompted land use plans and developments, requiring the expansion of the City's roadway network. Recognizing the growth of the City and keeping safety in mind, a Local Road Safety Plan (LRSP) was developed for the City to identify, analyze, and prioritize safety improvements on local roadways within the study area shown in **Figure 1** and **Figure 2**. Building on existing planning documents, analysis of historical crash data, and field reviews of priority locations, the LRSP recommends safety-related transportation actions and improvements, with the goal of eliminating fatalities and serious injuries on the City's roadways.

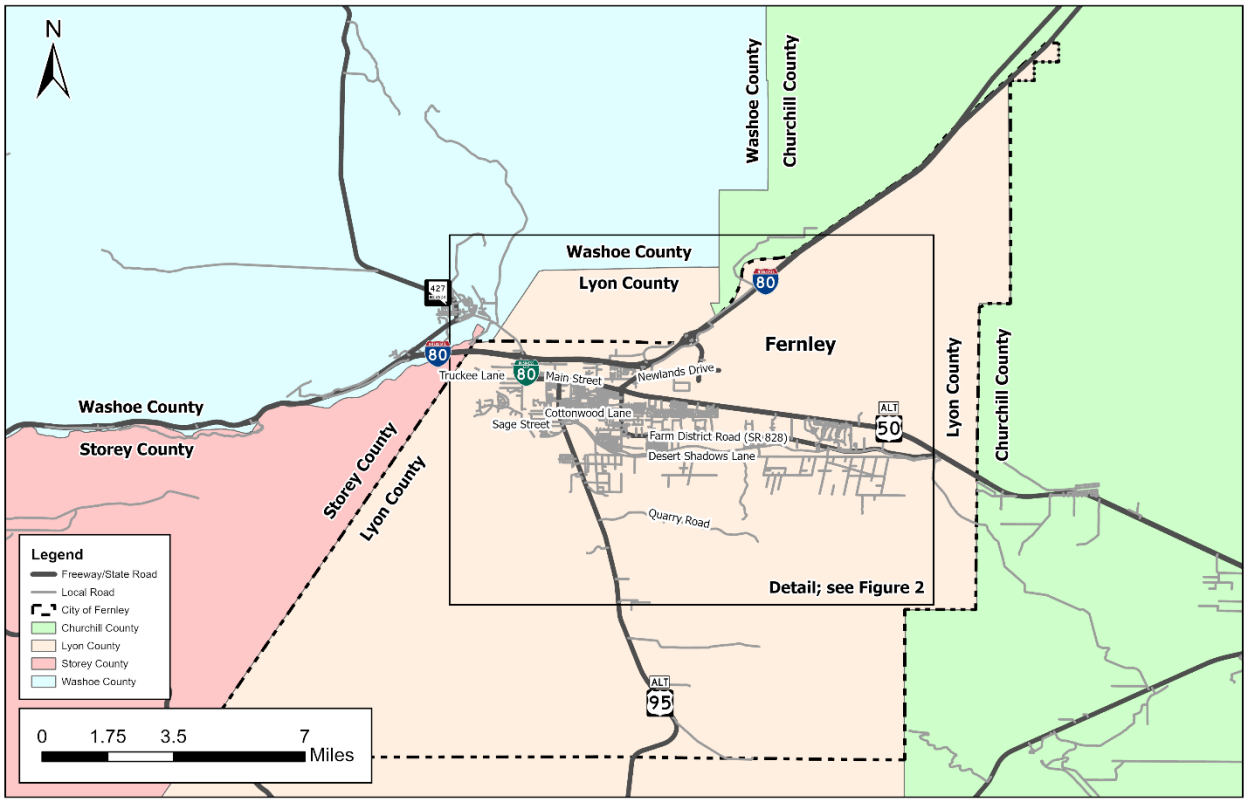


Figure 1 – City of Fernley Area Map

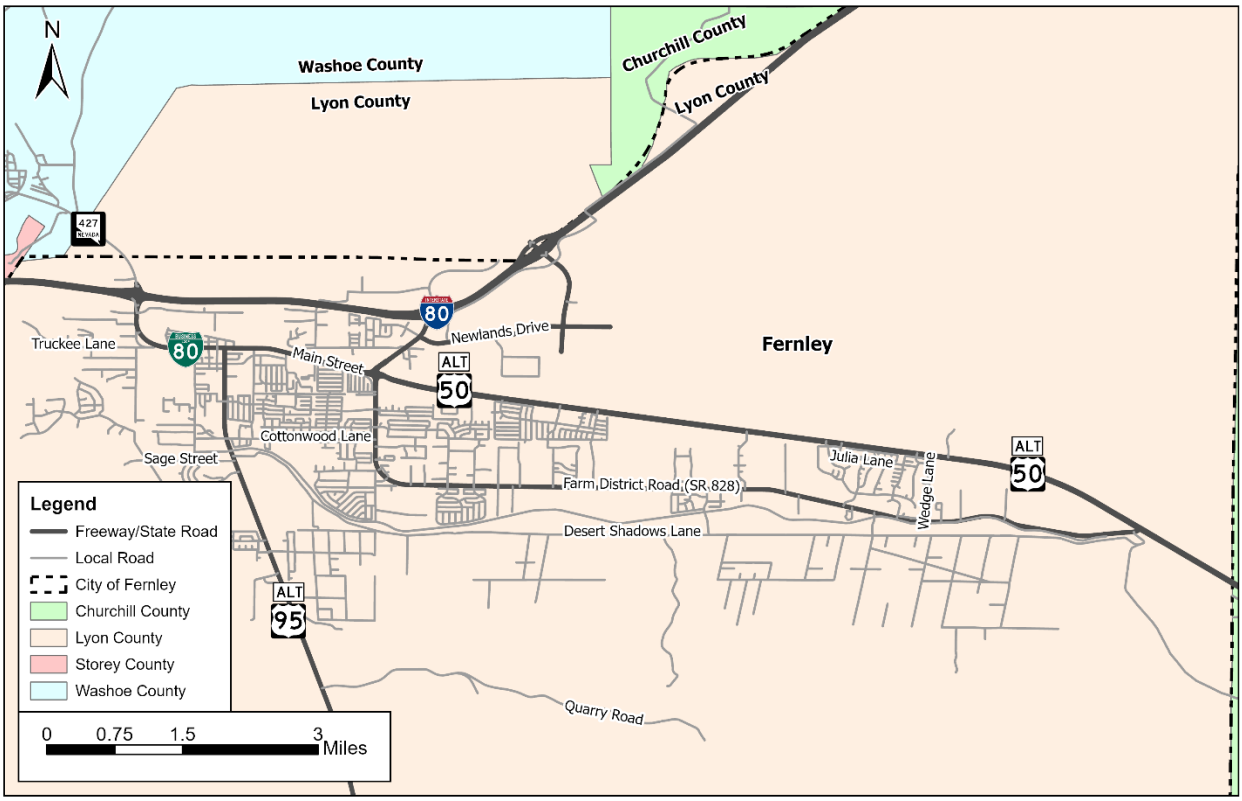


Figure 2 – City of Fernley Urbanized Area Map

1.1. Project Description

An LRSP is a method for developing a locally tailored framework to identify, analyze, and prioritize roadway safety improvements for state routes (owned by the Nevada Department of Transportation [NDOT]) and local roadways (functionally classified as arterials, collectors, and local roads owned by the City), but excluding freeways and interstates (Interstate 80). Historical crash data was analyzed to categorize crashes by emphasis areas to guide further safety evaluations for roadways within the City boundary. Emphasis areas, identified through the data analysis, categorize crashes or behaviors as having the greatest potential for reducing fatalities and serious injuries. Analyzing crash history within the City provides a basis for:

- Identifying safety factors for roadway users.
- Safety improvements at identified high-crash locations.
- Developing safety measures that align with the five Safe System Approach elements (Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care), which are followed in Nevada's Strategic Highway Safety Plan (SHSP) and discussed in more detail in **Section 3.2.3**.

This LRSP summarizes the process of crash history analysis, identification of emphasis areas, and development of engineering and non-engineering countermeasures. The information provided will establish a foundation for decision-making and prioritize safety countermeasures and projects that enhance safety across all modes of travel within the City.

This LRSP aims to:

- Create a greater awareness of road safety and risks.
- Reduce the number of fatal and serious injury crashes, with the ultimate goal of zero fatalities and serious injuries.
- Fulfill the requirements for grant funding opportunities.
- Establish baselines for programmatic evaluation of safety investments.

1.2. Mission, Vision, and Objectives

The City of Fernley LRSP evaluated the existing transportation network as well as the City's non-infrastructure programs and policies. Mitigation measures were evaluated using criteria to analyze the safety of all road users (drivers, passengers, bicyclists, and pedestrians), the interaction of travel modes, and the potential benefits of safety countermeasures. Historical crash data was used to identify trends and develop a toolbox of countermeasures applicable to conditions within the City that can be used for proactive identification and implementation of opportunities, without relying solely on a reactive response to crashes. This LRSP aligns with the City's mission and vision, as follows:

- **Mission:** "It is the mission of the City of Fernley to facilitate the responsible and orderly growth of the community and to see that quality municipal services are provided in the most professional, efficient, and cost-effective manner."[1]
- **Vision:** "By 2040, Fernley is a community that:
  - Is vibrant, safe, friendly, and family-oriented with a high quality of life and engaged residents
  - Has a strong local economy and abundant amenities for residents
  - Has a financially stable government"[1]

Recommendations from this LRSP will consider the City's needs and overall goals to improve roadway safety.

[1] *City of Fernley 2021-2026 Strategic Plan*, 2020.

2. Stakeholder and Partner Engagement

A multidisciplinary group of stakeholders and partners, consisting of engineering, law enforcement, education, emergency response, and public community groups, was invited to participate in the LRSP process to provide a local perspective. This multidisciplinary group consisted of staff from the following organizations:

- City of Fernley
- City of Fernley Senior Citizen Advisory Committee
- Lyon County School District
- Lyon County Sheriff's Office
- NDOT
- Nevada State Police Highway Patrol (NSPHP)
- North Lyon County Fire Protection District
- Pyramid Lake Paiute Tribe
- Regional Transportation Commission (RTC) of Washoe County

Stakeholder and partner engagement occurred during two technical workshops, described below.

- **Technical Workshop #1:** Workshop #1 was held on September 22, 2025. During this workshop, the stakeholders were introduced to the LRSP, crash analysis trends were reviewed, and the network screening results were presented. Attendees split into breakout groups to review the network screening results and provide a local perspective on the identified corridors. At the conclusion of the workshop, the stakeholder group agreed on the list of priority corridors that would move forward into a field review as part of Workshop #2.
- **Technical Workshop #2:** Workshop #2 was conducted on October 7, 2025. The workshop started with a briefing meeting to discuss the locations that would be reviewed during the field visit. Stakeholders split into two groups to conduct the field reviews. The field reviews offered an opportunity for the multidisciplinary stakeholder group to identify and provide input on issues at the priority locations. Recommendations for potential safety countermeasures for each location were reviewed and discussed during a virtual debrief meeting on October 15, 2025.
- **City Council Meeting:** The plan will be presented during the May 20, 2026, City Council meeting, which is open to the general public.

3. LRSP Process

Guidance on the LRSP Process is provided at both the national (Federal Highway Administration [FHWA]) and state level (NDOT). Both agencies have developed a general framework of data and recommendations to be included in an LRSP. The FHWA encourages the agency to:

- Establish a working group (stakeholders and Tribal partners) to participate in developing an LRSP.
- Review crash, traffic, and roadway data to identify areas of concern.
- Establish goals, priorities, and countermeasures to recommend improvements at individual locations, as well as systemically and comprehensively.

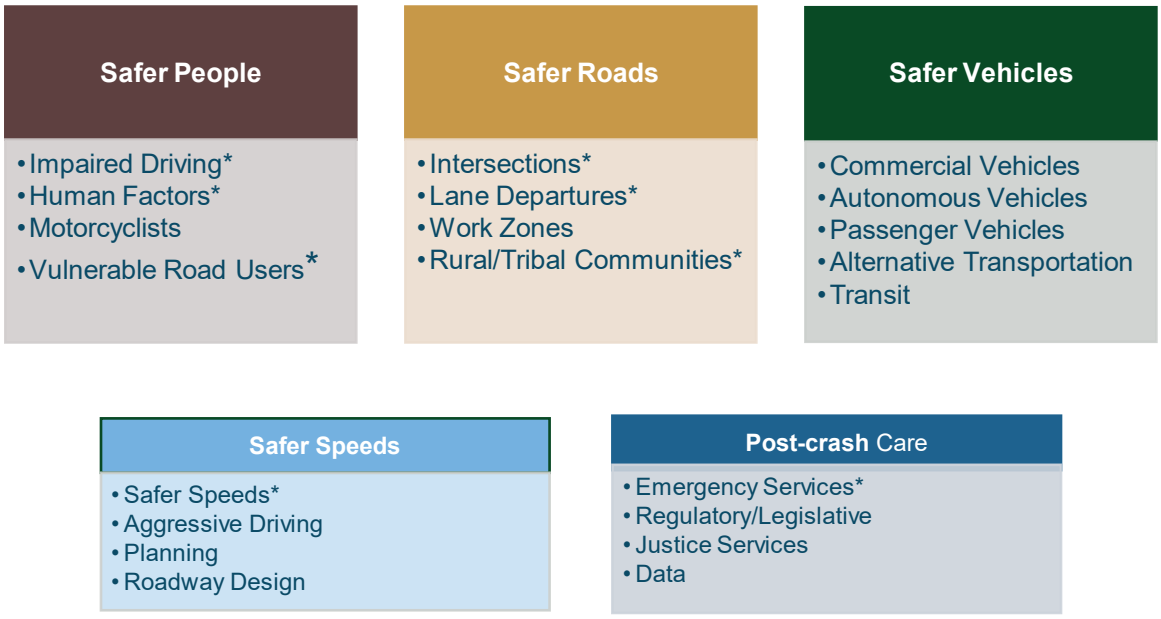
A systemic approach allows agencies to manage risk, especially on rural and local low-volume roadways, as this approach broadens improvement implementation by combining crash history and identifying high-risk roadway characteristics for low-cost safety improvements.

Following NDOT's LRSP Process (Local Road Safety Plan | Nevada Department of Transportation (nv.gov)), this LRSP includes the following steps:

- Establish leadership
- Analyze the safety data
- Determine emphasis areas
- Identify strategies
- Prioritize and incorporate strategies
- Evaluate and update the LRSP

3.1. 2026-2030 Nevada SHSP

NDOT has updated the SHSP for 2026-2030. This latest SHSP, following the Safe Systems Approach (see **Section 3.2.3**), comprises five focus-area strategy teams: Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care (**Figure 3**). With its mission to improve safety for all road users across Nevada, the SHSP, in coordination with other state plans, outlines the state's goals and strategies to reduce fatalities and serious injuries in the State of Nevada by 35% by 2035. The end goal is to eliminate fatalities and serious injuries by 2050.



Note: Items with an asterisk (*) represent the task forces that will implement strategies that address Nevada's most critical safety areas.

Figure 3 – Focus Area Strategy Teams

3.2. Guiding Manuals and Strategies

The following section outlines the methodology for the systemic analysis process used to evaluate roadway safety within the City. A network screening approach was used to identify locations in the City that have a higher risk for fatal and serious injury crashes and are most likely to benefit from safety enhancements. Historical crash data was used to identify crash risk factors within the roadway network. The results of the analyses guided the identification and prioritization of engineering and non-infrastructure safety countermeasures to address specific roadway characteristics and related behaviors that contribute to crashes involving all roadway users. This process employed the latest national and state best practices for statistical roadway crash risk analysis, outlined in the following sections.

LRSPs are tailored to local issues and needs; therefore, this LRSP identifies emphasis areas that inform and guide further safety evaluation of the City of Fernley's transportation network. The emphasis areas include crash type and location, and an analysis of notable relationships between current efforts and crash history. The LRSP analyzes the aggregated crash data and, where appropriate, analyzes specific locations to identify trends, high-crash locations, high-risk locations, and locations with unusual crash history, patterns, or severity. Analyzing crash history within the City of Fernley provides a basis for:

- Identifying challenging safety factors for roadway users to maneuver
- Applying proven safety countermeasures at identified high-crash locations
- Developing safety measures that align with the Nevada SHSP and the Safe System Approach

3.2.1. FHWA Proven Safety Countermeasures

FHWA's *Proven Safety Countermeasures* includes a collection of 28 countermeasures and strategies that have proven to be effective in reducing fatal and serious injury crashes; one of those countermeasures identified is the development of an LRSP. FHWA states that an LRSP provides a framework for identifying, analyzing, and prioritizing roadway safety improvements on state routes (excluding I-80) and local roads. Agencies that have implemented LRSPs have experienced a reduction in fatal and serious injury crashes of 17%.

More information from FHWA can be found here: Proven Safety Countermeasures | FHWA (dot.gov).

3.2.2. Highway Safety Manual

The first edition of the Highway Safety Manual (HSM) was published by the American Association of State Highway and Transportation Officials (AASHTO) in 2010. The HSM presents numerous methods for quantitatively estimating the frequency and severity of crashes at a variety of road and intersection types.[2] The HSM is divided into four "Parts": Part A) Introduction, Human Factors, and Fundamentals; Part B) Roadway Safety Management Process; Part C) Predictive Method; and Part D) Crash Modification Factors.

Chapter 4 of Part B of the HSM discusses the **Network Screening Process**. The Network Screening Process is a tool for agencies to analyze their network and identify and rank locations that, based on the implementation of a countermeasure, are "most likely" to "least likely" to see a reduction in the frequency of crashes.

The five-step Network Screening Process includes[3]:

1. **Establish Focus:** Identify the purpose or intended outcome of the network screening analysis. This decision will influence data needs, the selection of performance measures, and the screening method that can be applied.
2. **Identify Network and Establish Reference Populations:** Specify the types of sites or facilities being screened (e.g., segments, intersections, geometrics) and identify groupings of similar sites or facilities.
3. **Select Performance Measures:** There are a variety of performance measures available to evaluate the potential to reduce crash frequency at a site. In this step, the performance measure is selected as a function of the screening focus and the data and analytical tools available.
4. **Select Screening Method:** There are three principal screening methods described in this chapter (e.g., ranking, sliding window, peak searching). Each method has advantages and disadvantages; the most appropriate method for a given situation should be selected.
5. **Screen and Evaluate Results:** The final step in the process is to conduct the screening analysis and evaluate the results.

The HSM provides several performance measures derived from statistical methods used to screen roadway networks to identify high-risk locations based on overall crash histories. These performance measures include Average Crash Frequency, Crash Rate, Equivalent Property Damage Only (EPDO) Average Crash Frequency, Relative Severity Index, Critical Crash Rate (CCR), and several others. For this LRSP, the performance measures chosen to determine areas

2. AASHTO, *HSM*, 2010. Washington, D.C., http://www.highwaysafetymanual.org/Pages/About.aspx
3. AASHTO, *HSM.* 2010. Washington, D.C., Page 4-2.

of high crash risk are CCR and EPDO. The selected performance measures are described in **Section 4**.

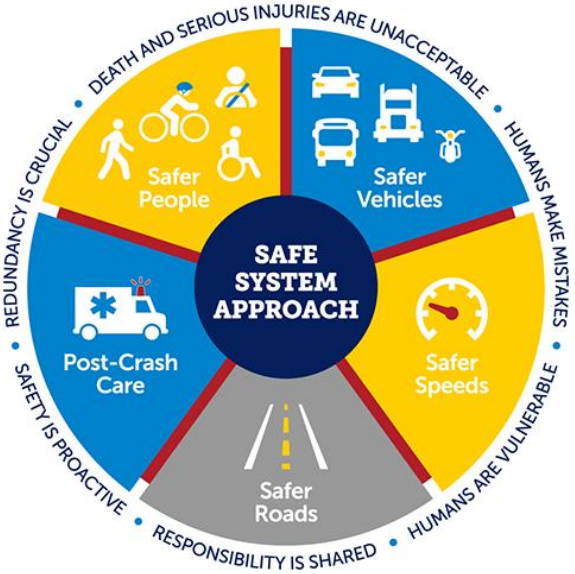
3.2.3. Safe System Approach

The Safe System Approach, endorsed and adopted by the U.S. Department of Transportation (USDOT), is a proactive framework for roadway safety that emphasizes designing a transportation system resilient to human error and injury severity. The Safe System Approach framework, illustrated in **Figure 4**, is a comprehensive strategy for eliminating fatalities and serious injuries on roadways by designing a transportation system that anticipates human mistakes and accommodates human vulnerability by creating redundancy in the system. Key principles of the Safe System Approach include:

- Death and serious injuries are unacceptable
- Human mistakes are inevitable
- Human bodies are vulnerable
- Responsibility is shared
- Safety is proactive
- Redundancy is crucial

Core elements of the framework include:

- **Safer People:** Encourage safe behavior through education, enforcement, and design
- **Safer Roads:** Design roadways that reduce crash likelihood and severity
- **Safer Vehicles:** Promote technologies that protect occupants and other road users
- **Safer Speeds:** Manage speeds to align with road design and human tolerance
- **Post-Crash Care:** Ensure rapid emergency response and trauma care



Source: US Department of Transportation (USDOT)

Figure 4 – Safe System Approach

Unlike traditional methods that focus solely on crash history, the Safe System Approach encourages a broader view of risk, incorporating systemic analysis to identify locations with potential for severe crashes, even in the absence of a high crash frequency. In the context of network screening, this approach involves identifying roadway characteristics and user behaviors that contribute to fatal and serious injury crashes. Key elements include assessing speed management, roadway design, conflict points, and exposure to vulnerable road users (VRUs). Screening methods under this approach may use surrogate safety measures, systemic risk factors, and socioeconomic considerations to prioritize locations for safety improvements. For this LRSP, the Safe System Approach complements traditional crash-based screening by identifying corridors and intersections where proactive safety interventions can prevent severe outcomes, even if crash data is limited or absent.

3.3. NHTSA Countermeasures That Work

The NHTSA *Countermeasures That Work, 11th Edition* is a guide that State Highway Safety Offices (SHSO) can use to implement effective, science-based, behavior-related traffic safety countermeasures. These countermeasures are grouped into the following problem areas:

- Alcohol-Impaired Driving
- Drug-Impaired Driving
- Seatbelts and Child Restraints
- Speeding and Speed Management
- Distracted Driving
- Motorcycle Safety
- Young Drivers
- Older Drivers
- Pedestrian Safety
- Bicycle Safety
- Drowsy Driving

Some countermeasures have been researched more extensively than others. The countermeasures identified for each focus area have a one- to five-star effectiveness rating. It is recommended that countermeasures with three stars or higher are used, as these countermeasures have been researched more extensively and demonstrated to have higher effectiveness. Each countermeasure also has information about the cost for implementation, frequency of use, and time required to implement. The effectiveness-to-cost ratio is an important consideration for recommendations that are to come out of the LRSP. The countermeasures outlined in this guide are aimed at shifting driver behaviors through different types of implementations. Physical changes like those in the FHWA *Proven Safety Countermeasures* must be considered in conjunction with behavioral countermeasures. While the City can benefit from applying countermeasures for each focus area, it should pay special attention to those that align with the most highly represented Critical Emphasis Areas (CEAs) summarized in **Section 6.3.6**: Intersections, Impaired Driving, Lane Departures, and Speeding.

3.4. Network Screening Analysis Methodology

The following section describes the analysis process that was used to evaluate safety within the City of Fernley using a network screening process to identify locations that will most likely benefit from safety enhancements based on historic crash data and crash risk factors for the entire network. The outcomes will inform the identification and prioritization of engineering and non-infrastructure safety countermeasures that address certain roadway characteristics and related behaviors that contribute to motor vehicle crashes, as well as active transportation users.

While NDOT currently uses the High Injury Network (HIN) method, which combines intersection and segment-related crashes to identify focus corridors, the Network Screening Method employed in the City of Fernley LRSP process uses the latest national and state best practices for statistical

roadway analysis as described in the following sections. Intersections and roadways were analyzed using four crash metrics:

- Number of Crashes
- CCR (HSM Ch. 4)
- Probability of Specific Crash Types Exceeding Threshold Proportion (HSM Ch. 4)
- EPDO (HSM Ch. 4)

The first step of the crash analysis is to establish sub-populations of roadway segments and intersections that have similar characteristics. For this LRSP, intersections were grouped by their control type (signalized and unsignalized) and segments by their functional classification (Principal Arterial, Minor Arterial, Major Collector, Minor Collector, and Local Road). Individual crash rates were calculated for each sub-population. The population-level crash rates were used to assess whether a specific location had more or fewer crashes than expected. These sub-populations were also used to determine typical crash patterns to help identify locations where unusual numbers of specific crash types are occurring.

The network screening process ranked intersections and roadway segments by the number of crashes that occurred at each location over the analysis period and then identified areas that had more of a given type of crash than would be expected for that type of location. For the City of Fernley LRSP, the crash factors included:

- **Crash Severity:** Fatal, serious injury, non-incapacitating injury, possible injury, and property damage only (PDO)
- **Crash Type:** Angle, rear-end, sideswipe, head-on, hit object, and overturned
- **Driver Behavior:** Speeding, aggressive, impaired, and distracted driving
- **VRUs:** Pedestrian- and bicyclist-involved crashes
- **Environmental Factors:** Lighting and roadway conditions

From the results of the network screening analysis, preliminary priority locations were selected based on crash activity, CCR, crash severity, crash patterns, location type, and area/location within the City of Fernley to provide a variety of locations covering a range of safety opportunities.

3.5. Network Screening Analysis

The network screening process ranked intersections and roadway segments by the number of crashes that occurred at each location over the analysis period, then identified areas that were overrepresented by various crash factors for the facility type and location. From the results of the network screening analyses, a list of priority locations was selected based on crash activity, crash severity, crash patterns, and location type to provide a variety of locations covering a wide cross-section of safety challenges and improvement opportunities. Priority locations were selected for mitigation analysis (see **Section 5.4**), and project sheets with site-specific improvements will be developed for each priority location.

3.6. Critical Crash Rate

The HSM developed by AASHTO describes the CCR method, which provides a statistical review of locations to determine where risk is higher than risk experienced by other similar locations. It is also the first step in analyzing patterns that may suggest systemic issues that can be addressed at that location, and proactively at others to prevent new safety challenges from emerging.

The CCR analysis compares the observed crash rate to the expected crash rate at a particular location based on facility type and traffic volume, using a locally calculated average crash rate for the specific type of intersection or roadway segment being analyzed. Based on traffic volumes and a weighted crash rate for each facility type, a CCR threshold was established at the 95-percent confidence level to determine locations with higher crash rates that are unlikely to be random. The threshold was calculated for each location individually based on its traffic volume and the crash profile of similar facilities. The local CCR differential is the difference in CCR of a particular facility and the average crash rate for a similar facility within the subject area. A CCR differential value greater than zero reflects a location that has a higher crash rate than facilities with similar volumes, while a negative CCR differential signifies a below-average crash rate. It should be noted that the CCR does not reflect the severity of the crashes occurring at the location, but rather the number of crashes for the given volume and facility type.

Equation 1 – CCR Formula

$$R_{c,i} = R_a + \left[P \times \sqrt{\frac{R_a}{MEV_i}}\right] + \left[\frac{1}{(2 \times (MEV_i))}\right]$$

Where,

- $R_{c,i}$ = CCR for intersection i
- R_a = Weighted average crash rate for reference population
- P = P-value for corresponding confidence level
- MEV_i = Million entering vehicles for intersection i

Data Needs

CCR is calculated using:

- Daily Entering Volume (DEV) for intersections, or Vehicle Miles Traveled (VMT) for roadway segments
- Intersection control types to separate them into like populations
- Roadway functional classification to separate them into like populations
- Crash records in Geographic Information Systems (GIS) or tabular form, including coordinates or linear measures

Strengths

- Reduces low-volume exaggeration
- Considers variance
- Establishes comparison threshold

Weaknesses

- Does not account for regression to the mean bias

Source: HSM, 2010

3.7. Equivalent Property Damage Only

As described in the HSM, the EPDO Method assigns weighting factors to crashes based on injury level (fatal, serious injury, non-incapacitating injury, possible injury) to develop an EPDO score. An EPDO score allows for a fair comparison of crash severity across years or study periods, as

this normalized unit considers inflation and cost escalation. Using the EPDO methodology normalizes the data and accounts for the increase in cost from inflation. In this analysis, the injury crash costs were calculated for each location; this value was then divided by the injury cost for a PDO crash. The resulting number was an equivalent number of PDO crashes at each site. This value allows all locations to be compared based on injury crash costs (HSM, Chapter 4).

Equation 2 – EPDO Formula

$$EPDO = \frac{(N_K * 7{,}587{,}157) + (N_A * 399{,}795) + (N_B * 145{,}991) + (N_C * 82{,}009)}{13{,}197} + N_O$$

Where,

- EPDO = Equivalent Property Damage Only (in units of crashes)
- N_K = Number of fatal crashes
- N_A = Number of serious injury crashes
- N_B = Number of non-incapacitating injury crashes
- N_C = Number of possible injury crashes
- N_O = Number of property damage only crashes

The crash cost per event, from the NDOT 2024 Performance Management Report, in 2023 dollars, for each crash type along roadway segments is as follows:

- **Fatal:** $7,587,157
- **Serious Injury:** $399,795
- **Non-incapacitating Injury:** $145,991
- **Possible Injury:** $82,009
- **PDO:** $13,197

Data Needs

EPDO is calculated using:

- Crash records in GIS or tabular form, including coordinates or linear measures
- Intersection control types to separate them into like populations
- Roadway functional classification to separate them into like populations
- EPDO cost to society weighting factors

Strengths

- Simple
- Considers crash severity

Weaknesses

- Does not account for regression to the mean bias
- Does not identify a threshold to indicate sites experiencing more crashes than predicted for sites with similar characteristics
- Does not account for traffic volume
- May emphasize locations with a low frequency of severe crashes

Source: HSM 2010 and NDOT 2024 Performance Management Report

4. Review of Relevant Planning Documents

This section provides a brief summary of some of the planning documents reviewed for alignment with the LRSP recommendations (see Error! Reference source not found.). This section lists the City of Fernley and NDOT documents reviewed. Other national best practice documents used in the development of the LRSP are included in **Section 3**. A full summary of each document reviewed is included in the City of Fernley LRSP Policies, Plans, and Studies Memorandum located in **Appendix A**.

Table 1 – Relevant Planning Documents

Name of Study (Agency)	Key Takeaways
Corridor Action Plan (City of Fernley, In Progress)	The City of Fernley Corridor Action Plan (Corridor Action Plan), started in the Spring of 2025, will include the analysis of Main Street (State Route 427) and Farm District Road (State Route 828). The City should consider the Corridor Action Plan and LRSP recommendations for the two corridors in combination as improvements are planned.
Capital Improvement Plan (CIP) – General Program Budgets (City of Fernley, In Progress)	While there currently is no formal prioritization process, the Engineering Department is working on combining pavement conditions (Pavement Condition Index [PCI]) with safety data (crash data) into a single platform for CIP prioritization.
2021-2026 Strategic Plan (City of Fernley, 2020)	The mission and vision of the City, as previously stated in **Section 1.2**, was considered in developing recommendations for the LRSP.
Safe Routes to School (SRTS) Plan (City of Fernley, 2011)	The 2011 SRTS Plan promotes an environment to encourage students to walk and bike to school. The City is partnering with the Western Nevada SRTS and Carson City on an updated SRTS plan that should start in 2026. The SRTS coordinator should meet with all new and existing schools regularly to develop/update their SRTS map and review traffic control around school sites, taking into consideration applicable countermeasures listed in **Section 7** of this document.
Transportation Master Plan (TMP) (City of Fernley, 2020)	The *City of Fernley Transportation Master Plan (TMP)* includes a recommendation list including short- and long-term projects that are anticipated to provide the most benefits to the City. To establish the potential needs of the City, different population growth and development scenarios were simulated to result in the creation of 5-, 10-, and 20-year plans. Common themes the City may face in the future include a lack of connectivity, a high crash rate at specific intersections, and mobility challenges, which can be addressed in the LRSP.
Comprehensive Master Plan (City of Fernley)	The LRSP will support the Comprehensive Master Plan's goals by recommending and prioritizing safety improvements that align with the City's objectives for enhanced connectivity, increased roadway capacity, safe and efficient roadway designs, and multimodal transportation options. These recommendations will focus on reducing fatal and serious injury crashes, directly contributing to public safety, and supporting the City's long-term growth and development strategies.
North Fernley Area Plan (City of Fernley)	The *North Fernley Area Plan* provides guidance for land use and major development that corresponds with community-driven visions and goals. Given the undeveloped land in the North Fernley Area, future area development should prioritize safety and mobility in alignment with the LRSP as new roadways are built within the area.

Table 1 – Relevant Planning Documents (continued)

Name of Study (Agency)	Key Takeaways
Southwest Fernley Area Plan (City of Fernley, 2025)	The *Southwest Fernley Area Plan* is another major development area planned for the City. The main transportation topics noted in this plan address inconsistencies in pedestrian sidewalks and safety, integration of bike lanes and infrastructure, increasing roadway accessibility, and promoting effective truck routes. The recommendations in the LRSP can shape the transportation infrastructure in the area with safety as a priority.
Title 32 – Development Code (City of Fernley, 2025)	The City of Fernley's *Development Code*, *Title 32*, serves to regulate and restrict land use and improvement to promote sustainable and efficient ways to provide for the community's health, safety, and general welfare. LRSP recommendations will follow the requirements and restrictions included in *Title 32*, ultimately following the concepts discussed in the *Comprehensive Master Plan*.
Design Standards (City of Fernley, 2024)	The City of Fernley's *Design Standards* outline criteria and guidance for the development of public works design and improvement plans. Chapter 3.0 – Streets provides details regarding design criteria for roadway geometry, intersections, driveways, pavement design, sidewalks, traffic control, and other elements within the streetscape. The LRSP will consider applicable design criteria in its recommendations.
2021-2025 Nevada Strategic Highway Safety Plan (SHSP) (NDOT, 2021)	NDOT's SHSP identifies statewide CEAs and associated strategies to address them. The four CEAs for fatal crashes in the City of Fernley are: Impaired Driving, Unrestrained, Speeding Related, and Older Drivers. NDOT is currently updating their SHSP to cover 2026-2030; details about the new update are included in **Section 3.1**.
Highway Safety Improvement Program (HSIP) – Local Public Agencies (LPA) Process (NDOT, 2021)	The Highway Safety Improvement Program (HSIP) and corresponding Local Public Agencies (LPA) Process support efforts to assist agencies with applying for HSIP funding. The *HSIP* is a federal program that uses a data-driven approach to assess safety-related problems and solutions. Preparation of the LRSP will allow the City of Fernley to be eligible for *HSIP* funding after meeting the specified guidelines and requirements. Each project submitted for funding is required to support at least one CEA from the Nevada SHSP.
Access Management System and Standards (NDOT, 2017)	The *Access Management System and Standards* outline design criteria and standards that: ▪ Regulate access point locations, spacings, and frequencies to reduce the number of crashes ▪ Outline roadway classifications, standards, and characteristics ▪ Provide design criteria for driveways, intersections, auxiliary lanes, and medians The LRSP will consider access management in its recommendations.
Speed Management Action Plan (SMAP) (NDOT, 2022)	The SMAP identifies statewide speed management countermeasures and strategies to reduce the number of fatal and serious injury crashes, target areas of concern, and improve speed limit compliance. Speed management strategies will be incorporated in the LRSP.

5. DATA SOURCES

Data was obtained from the Nevada Department of Transportation (NDOT), National Highway Traffic Safety Administration (NHTSA), the City of Fernley, and the Regional Transportation Commission of Washoe County (RTC Washoe) for use as part of the crash analysis. This included the collection of crash data, roadway network data, intersection locations, and traffic count data.

5.1. Crash Data

The most recent five years of crash data (2019 to 2023) were obtained from two sources: the NDOT Nevada Crash Database and NHTSA Fatality Analysis Reporting System (FARS) Database. The NDOT Nevada Crash Database, maintained by the NDOT Traffic Safety Engineering Division, contains statewide crashes in a Geographic Information System (GIS) format.

FARS data was used for fatal crashes since fatal crashes in this database are considered "final" as these records contain additional information post-crash, including speed studies, crash forensics, officer narratives, and citations issued after the crash. While the NDOT Nevada Crash Database also contains fatal crash information, the information comes from the responding law enforcement officers and may not be complete since additional post-crash information is not always updated in the database, resulting in potential discrepancies between the two datasets. Both datasets were compared to avoid duplicate records.

A review of fatal crash data revealed some discrepancies. The NDOT Nevada Crash Database reported 10 fatal crashes between 2019 and 2023 on all roadways within the City limits (two in 2019, three in 2020, four in 2021, and one in 2023). In contrast, FARS reported four fatal crashes during the same period (two in 2019, one in 2020, and one in 2021), three of which matched records in the NDOT Nevada Crash Database. FARS identified one fatal crash in 2019 that was not included in the NDOT Nevada Crash Database. This crash was added to the dataset to supplement the analysis, resulting in a total of nine fatal crashes, three of which took place in 2019. Of these, five are based on preliminary data and may be subject to revision. Crashes occurring on I-80 were included in the initial crash review but were excluded from the final analysis, as the LRSP focuses on state routes and local roads within the City of Fernley.

5.2. Roadway Network

NDOT's Functional Classification System GIS layer was used to identify the functional classification for roadways in the City of Fernley. NDOT's Statewide Routes GIS layer was used to identify the segments for which CCRs are developed. The Functional Classification System and Statewide Routes GIS layers were joined, resulting in one GIS layer that includes both the roadway name and its functional classification. The functional classification definitions for each classification type are provided below.

- **Principal Arterial:** Intended for the movement of high volumes of traffic at high speeds over long intercity and intracity distances. Roadways in this classification may be two-lane or multilane facilities. These roadways serve major centers of metropolitan areas, provide a high degree of mobility, and can also provide mobility through rural areas.

- **Minor Arterial:** Provide service for trips of moderate length, serving geographic areas that are smaller than those served by the principal arterials and offering connectivity to the principal arterial system. These roadways may be two-lane or multilane roadways and have the capacity to carry medium to high volumes of traffic at medium speeds over short to medium distances.
- **Major Collector:** Serve a critical role in the roadway network by gathering traffic from local roads and funneling it to the arterial network. Collectors serve intercounty (rather than statewide) travel and constitute those routes on which, independent of traffic volume, predominant travel distances are shorter than on arterial routes. Major collector routes are longer in length, have lower connecting driveway densities, have higher speed limits, are spaced at longer intervals, have higher annual average traffic volumes, and may have more travel lanes than their minor collector counterparts.
- **Minor Collector:** Shorter in length, minor collectors have higher connecting driveway densities, lower speed limits, are spaced at smaller intervals, have lower annual average traffic volumes, and may have fewer travel lanes than their major collector counterparts.
- **Local Road:** Not intended for use on long-distance travel; they are primarily used at the origin or destination of the trip due to their provision of direct access to abutting land. The primary purpose of these roads is to provide safe and reasonable land access. They are often designed to discourage through traffic.

The functional classifications described were used to identify roads owned by the City of Fernley and state highways owned by NDOT, excluding I-80. The roadway segments were separated by functional classification to develop crash rates specific to their functional design and capacity. Comparative statistics were stratified by functional classification (i.e., only comparing major arterials to other major arterials). A map of the City of Fernley illustrating the roadway functional classifications is shown in **Figure 5**.

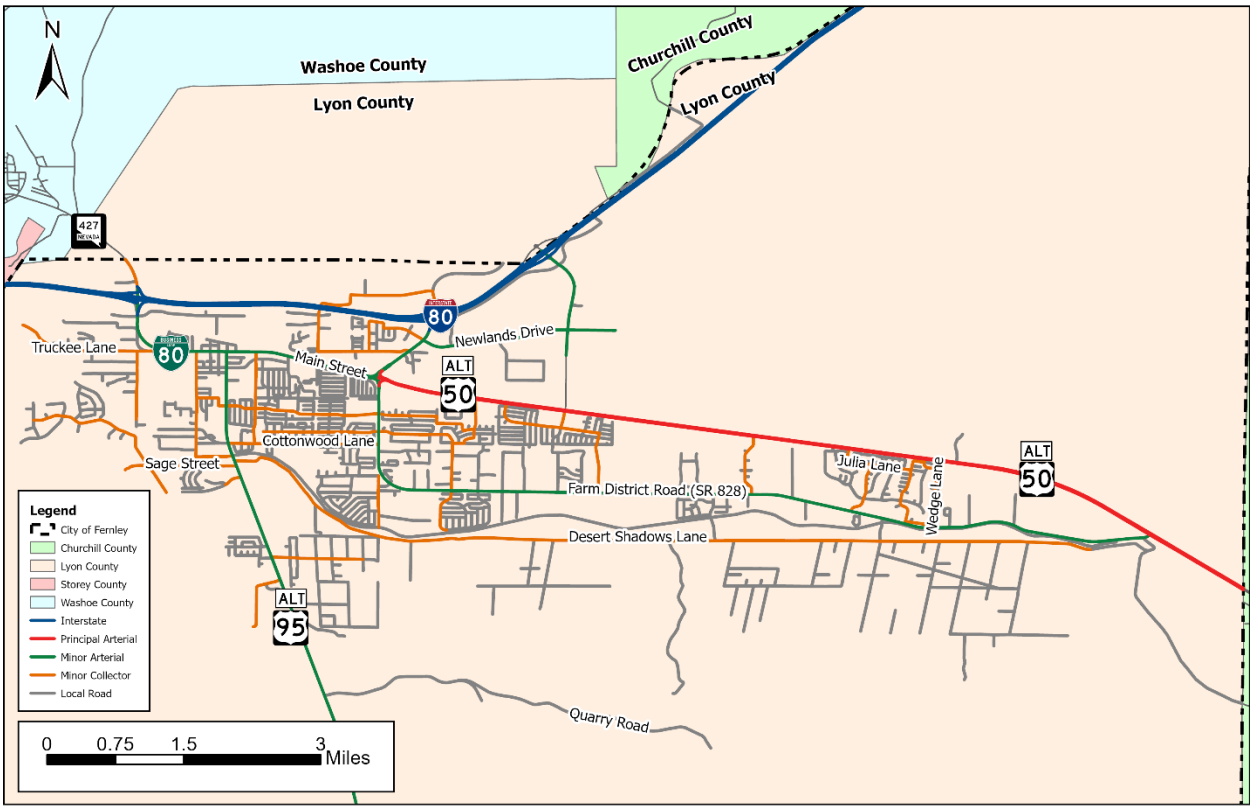


Figure 5 – Roadway Functional Classifications

5.3. Intersections

Intersections in the City of Fernley were categorized by control type as either signalized, unsignalized, or roundabout. Signalized intersections are those controlled by traffic signals and are owned by either the City of Fernley or NDOT. Details regarding the six signalized intersections within the City are included in **Table 2**.

Table 2 – City of Fernley Signalized Intersections

Intersection	Year Constructed	Owner
Main Street/US 50A/US 95A	1988	NDOT
US 95A/Newlands Drive	2000	NDOT
Newlands Drive/Stanley Drive	2008	City of Fernley
US 95A/Fremont Street/Chisholm Trail	2010	NDOT
US 50A/River Ranch Road	2022	NDOT
US 50A/Nevada Pacific Parkway	2022	NDOT

Source: 2023-2025 City of Fernley Biennial Traffic Signal Maintenance Service Contract (accessed June 10, 2025)

All other intersections within the City of Fernley are unsignalized, including roundabouts, as well as those that are stop-controlled, yield-controlled, or operate without traffic control. Intersection crashes are defined as crashes occurring within a 250-foot radius of an intersection; all other crashes are categorized as segment crashes in the safety data analysis. Each crash was

assigned exclusively to one category, either intersection or segment, not both. This is to align with the network screening methodology that uses the latest national and state best practices for statistical roadway analysis described in the HSM (refer to **Section 4**).

5.4. Annual Average Daily Traffic

Traffic volume data, including Annual Average Daily Traffic (AADT) for roadway segments throughout the City of Fernley, was collected from multiple sources to support crash rate analysis. Primary data was obtained from NDOT's Traffic Records Information Access (TRINA) application, supplemented by the latest outputs from the RTC Washoe Travel Demand Model (TDM) and AADT estimates from Replica HQ. Replica HQ is a data analytics platform that uses human movement and the built environment to inform decisions in urban planning, transportation, and infrastructure development. For segments where TRINA, RTC TDM, or Replica data were unavailable, a default volume of 500 vehicles per day (vpd) was applied to local roads to calculate local CCR differentials.

6. Crash Data Analysis – Safety Trends

Safety trends from the five-year historical data from 2019 to 2023 are presented in this section. A high-level overview of all crashes (including freeway crashes) within the City boundaries is included, followed by a more detailed analysis of the subset of state route and local road crashes, which is the focus of this LRSP. The state route and local road analysis results include crashes by severity, type, driver behavior, VRU, motorcyclists, and environmental factors. VRUs refer to non-motorized road users, such as pedestrians and bicyclists. Detailed crash data tables and figures for local roads and state routes are included in **Appendix B**.

6.1. Severity Level

Knowing the impacts of a crash (the injuries or type of damage that occurred) is a key part of assessing the environment and safety factors around the site of a crash. The National Safety Council developed the "KABCO" injury scale, which is frequently used by law enforcement for classifying injuries. The KABCO scale, used to classify crash severity for crashes in Nevada, is referenced below.

- K – Fatal
- A – Serious injury
- B – Non-incapacitating injury
- C – Possible injury
- O – Property Damage Only (PDO) (no injury)

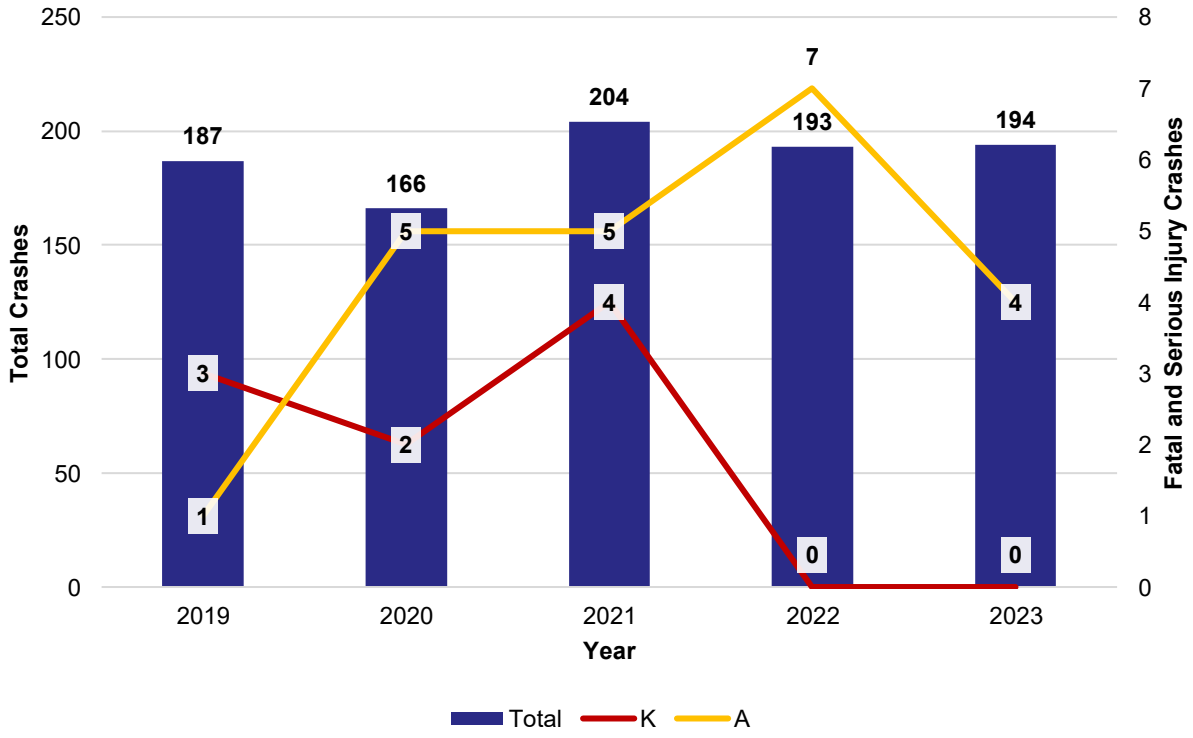
6.2. City of Fernley Crashes on State Routes and Local Roads Only

For this LRSP, the remaining detailed crash analysis will exclude interstate crashes and only focus on state route and local road crashes. As previously stated, 944 crashes (83.7% of all crashes) occurred on state routes and local roads. A breakdown of these crashes by facility type and injury severity is provided in **Table 3**. Of the 944 crashes, nine were fatal, and 22 resulted in serious injuries. A breakdown of all crashes, fatal crashes, and serious injury crashes is provided in **Figure 6**. Crashes at unsignalized intersections tend to be more severe, with four fatal and 17 serious injury crashes. The total number of crashes rose from 187 in 2019 to a peak of 204 in 2021, before declining to 194 in 2023.

Table 3 – Crashes by Severity and Facility Type (State Routes and Local Roads)

Facility Type	K	A	B	C	PDO	Total Crashes
Segments	3	4	24	54	187	272 (28.8%)
Signalized Intersections*	1	1	7	25	71	105 (11.1%)
Unsignalized Intersections*	4	17	61	82	362	526 (55.7%)
Roundabouts*	1	0	3	6	31	41 (4.3%)
Total	**9 (1.0%)**	**22 (2.3%)**	**95 (10.1%)**	**167 (17.7%)**	**651 (69.0%)**	**944 (100.0%)**

Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023
**Intersection crashes are defined as crashes occurring within a 250-foot radius of an intersection.*

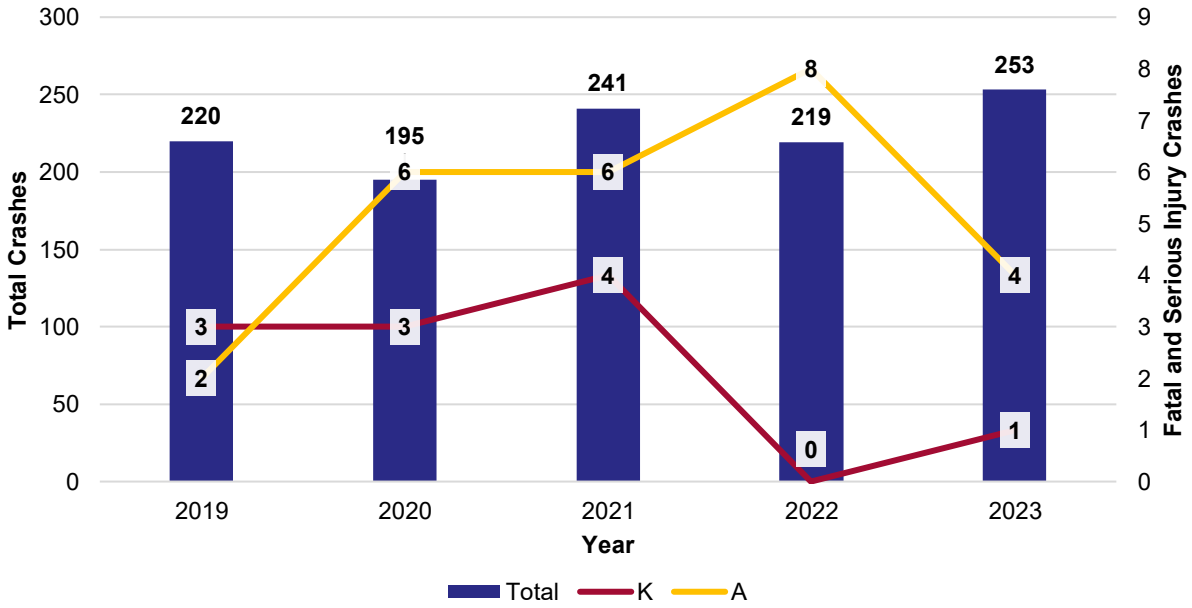


Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

Figure 6 – Crashes by Year (State Routes and Local Roads)

6.3. City of Fernley Crashes on All Roads

From 2019 to 2023, there were 1,128 crashes that occurred on all roads (including freeway crashes along I-80) within the City of Fernley boundary. Of the 1,128 crashes, 11 (1.0%) were fatal, and 26 (2.3%) were serious injury crashes. A breakdown of crashes by year is shown in **Figure 7**. The total number of crashes generally increased over the five-year period, starting at 220 in 2019 and reaching a peak of 253 in 2023. Both the total number of crashes and the combined number of fatal and serious injury crashes generally increased between 2019 and 2023.



Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

Figure 7 – City of Fernley Crashes by Year (All Roads)

The breakdown of crashes at the interstate, state route, and local road level is provided in **Table 4**. The subset of state routes and local roads further breaks down crashes by facility type, including segments and intersections. Intersections are divided into three categories: signalized, unsignalized, and roundabouts, a subset of unsignalized intersections. Of the 1,128 crashes, 184 crashes (16.3%) occurred on I-80, and 944 crashes (83.7%) occurred on state routes and local roads. Segment crashes over the five-year study period from 2019 to 2023 accounted for 272 crashes (24.1%), and intersection crashes accounted for 672 crashes (59.6%), with a large majority of crashes occurring at unsignalized intersections.

Table 4 – Crashes by Facility Type (All Roads)

Facility Type	K	A	B	C	PDO	Total Crashes
Interstate	2	4	20	25	133	184 (16.3%)
Segments (Local and State Routes)	3	4	24	54	187	272 (24.1%)
Signalized Intersections*	1	1	7	25	71	105 (9.3%)
Unsignalized Intersections*	4	17	61	82	362	526 (46.6%)
Roundabouts*	1	0	3	6	31	41 (3.6%)
Total	**11 (1.0%)**	**26 (2.3%)**	**115 (10.2%)**	**192 (17.0%)**	**784 (69.5%)**	**1,128 (100%)**

Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023
**Intersection crashes are defined as crashes occurring within a 250-foot radius of an intersection.*

6.3.1. Crashes by Emphasis Area for All Roads

Fatal and serious injury crash data from 2019 to 2023 were used to compare the City of Fernley's crashes with statewide crashes. The statewide fatal crashes are reported in the Nevada Fatal Crash Data Dashboard. The Nevada Fatal Crash Data Dashboard documents FARS fatal crashes by the ten CEAs of the Nevada SHSP, along with other performance measures the Nevada Office of Traffic Safety (OTS) reports. Fatal and serious injury crashes for all facility types (including I-80) that fall under each of the 10 SHSP CEAs were reviewed for the City. As shown in Error! Reference source not found. and **Figure 8**, the CEAs most highly represented by the City of Fernley's fatal crashes are Intersections, Impaired Driving, Lane Departure, Speed-Related, and Occupant Protection. The Occupant Protection CEA refers to crashes in which a person in a motor vehicle in transit dies while not using a restraining device such as a seatbelt.

Three of the top CEAs identified for the City of Fernley (Impaired Driving, Intersections, and Lane Departures) are also top CEAs at the statewide level. There were no fatal crashes reported that would fall under the motorcycle, young driver, or work zones CEAs; these CEAs are not included in **Figure 8.**

Table 5 – City of Fernley and Nevada SHSP CEA Comparison (All Roads)

Nevada SHSP CEAs	City of Fernley Fatal Crashes	City of Fernley Serious Injury Crashes	City of Fernley Fatal and Serious Injury Crashes	Nevada SHSP Fatal Crashes	Nevada SHSP Serious Injury Crashes
Intersections[1]	6 (54.5%)	18 (65.4%)	24 (64.9%)	573 (31.3%)	1,499 (29.2%)
Impaired Driving	8 (72.7%)	4 (15.4%)	12 (32.4%)	735 (40.2%)	884 (17.2%)
Lane Departures	4 (36.4%)	5 (19.2%)	9 (24.3%)	758 (41.5%)	1,110 (21.6%)
Speed-Related	4 (36.4%)	5 (19.2%)	9 (24.3%)	511 (28.0%)	795 (15.5%)
Occupant Protection[2]	4 (36.4%)	4 (15.4%)	8 (21.6%)	348 (19.0%)	1,318 (25.6%)
Older Drivers	1 (9.1%)	6 (23.1%)	7 (18.9%)	352 (19.3%)	640 (12.5%)
Motorcyclists	0 (0.0%)	7 (26.9%)	7 (18.9%)	364 (19.9%)	1,030 (20.0%)
Pedestrians	2 (18.2%)	1 (3.8%)	3 (8.1%)	412 (22.5%)	796 (15.5%)
Young Drivers	0 (0.0%)	1 (3.8%)	1 (2.7%)	182 (10.0%)	401 (7.8%)
Work Zones	0 (0.0%)	1 (3.8%)	1 (2.7%)	39 (2.1%)	95 (1.8%)
Total Crashes[3]	**11 (100.0%)**	**26 (100.0%)**	**37 (100.0%)**	**1,828 (100.0%)**	**5,140 (100.0%)**

Source: NHTSA FARS Data (January 1, 2019, to December 31, 2023)

Note:
1. *Intersection crashes are based on a 250-foot influence buffer around each intersection.*
2. *An occupant protection crash (alternatively known as an unrestrained-occupant crash) involves a person traveling in a passenger vehicle that did not use a restraining device, such as a seatbelt. Passenger vehicles are constituted as passenger cars, light trucks, pickups, and vans.*
3. *Percentages may add up to more than 100%, as a crash may involve multiple CEAs (e.g., a young driver who was impaired and speeding).*

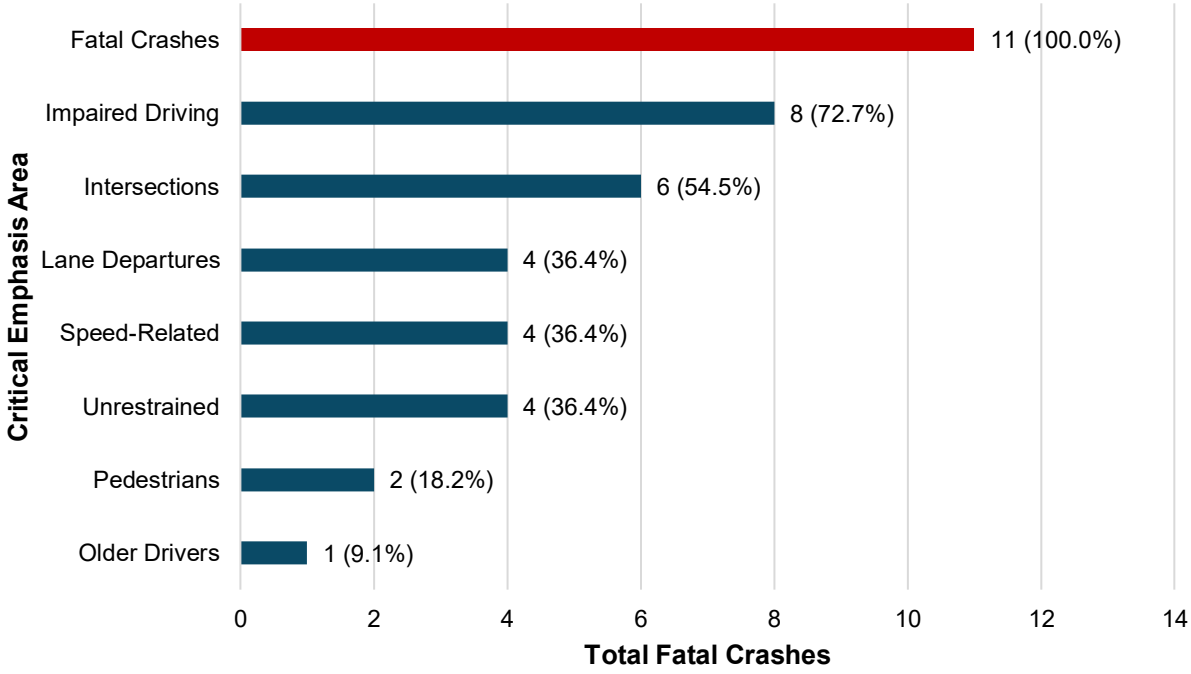
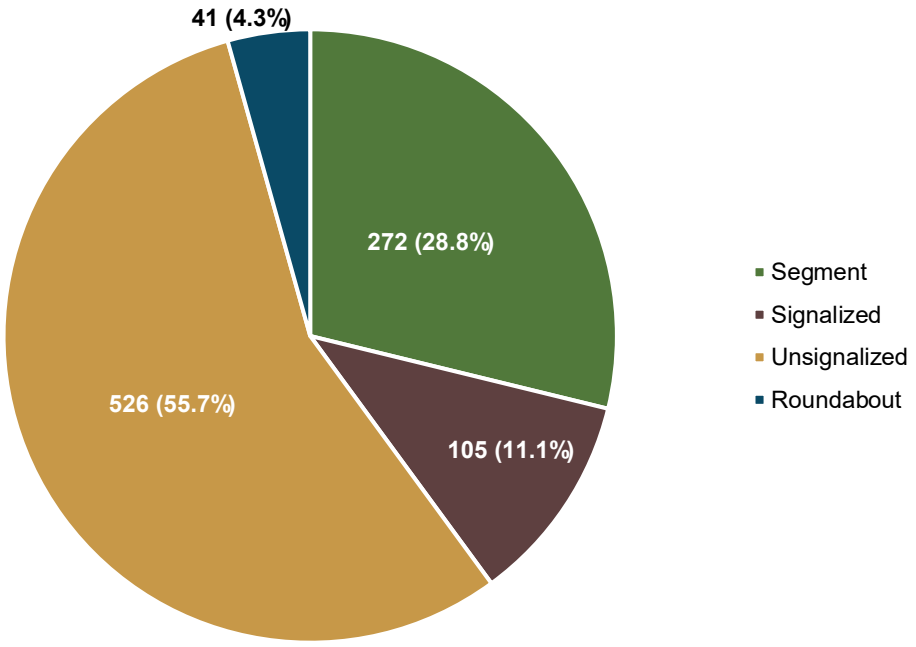


Figure 8 – Fatal Crashes by CEA (All Roads)

6.3.2. Crashes by Facility Type and Functional Classification on State Routes and Local Roads

Over the five-year study period, segment crashes accounted for 28.8% of all crashes (272 crashes), while intersection crashes made up 71.2% (672 crashes). Of the 672 intersection crashes, 105 (11.1%) crashes occurred at signalized intersections, 526 (55.7%) crashes occurred at unsignalized intersections, and 41 (4.3%) crashes occurred at roundabouts (see **Table 3**). An intersection crash is defined as a crash that occurred within 250 feet of an intersection on all legs of the intersection. A summary of total crashes by facility type is provided in **Figure 9**.



Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

Figure 9 – Crashes by Facility Type (State Routes and Local Roads)

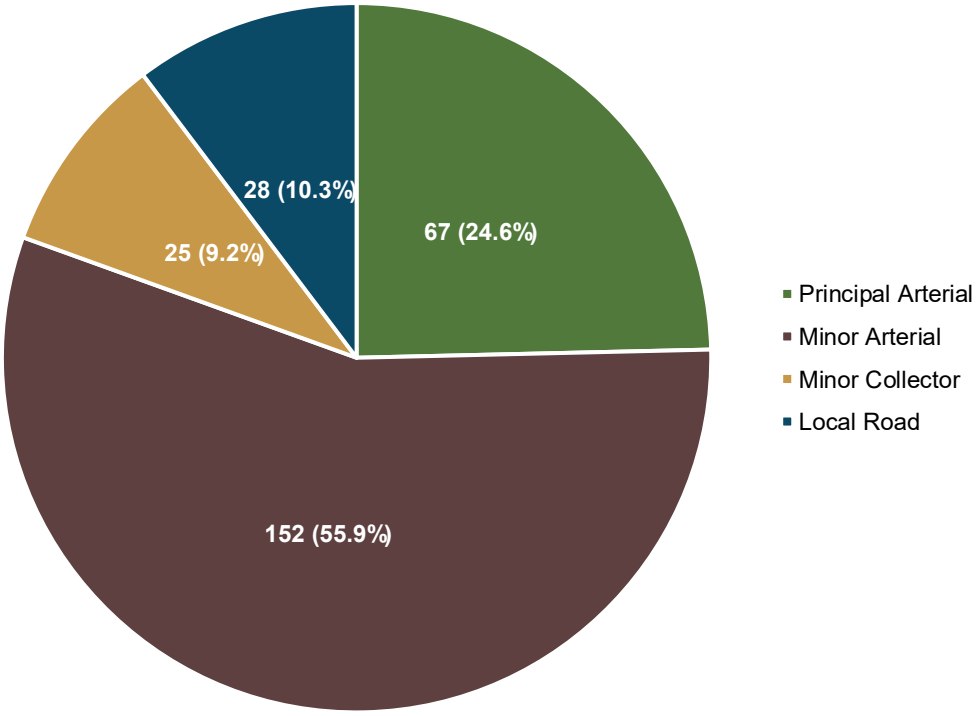
As seen in **Table 3**, most fatal crashes took place at unsignalized intersections (four fatal crashes, 44.4% of fatal crashes) and on segments (three fatal crashes, 33.3%). The two remaining fatal crashes took place at a roundabout (US95A/Farm District Rd [SR 828]/Main St/US50) and a signalized intersection (US50/Nevada Pacific Pkwy). The majority of serious injury crashes also took place at unsignalized intersections (17 serious injury crashes, 77.3% of serious injury crashes).

The segment crashes listed in **Table 3** were further divided by roadway functional classification. The City of Fernley classifies roadways as Principal Arterial, Minor Arterial, Major Collector, Minor Collector, and Local Road. From 2019 to 2023, crashes occurred most frequently on minor arterials (55.9% of crashes), followed by principal arterials (24.6% of crashes), as shown in **Table 6**. The summary of segment crashes by injury severity for each functional classification is shown in **Figure 10**. All fatal crashes occurred on principal arterials and minor collectors. Serious injury crashes occurred primarily on minor arterials and also occurred on a principal arterial and a local road.

Table 6 – Segment Crashes by Severity and Functional Classification (State Routes and Local Roads)

Facility Type	K	A	B	C	PDO	Total Crashes
Principal Arterial	2	1	8	18	38	67 (24.6%)
Minor Arterial	0	2	10	34	106	152 (55.9%)
Minor Collector	1	0	2	2	20	25 (9.2%)
Local Road	0	1	4	0	23	28 (10.3%)
Total	**3 (1.1%)**	**4 (1.5%)**	**24 (8.8%)**	**54 (19.9%)**	**187 (68.8%)**	**272 (100.0%)**

Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023
**Intersection crashes are defined as crashes occurring within a 250-foot radius of an intersection.*



Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

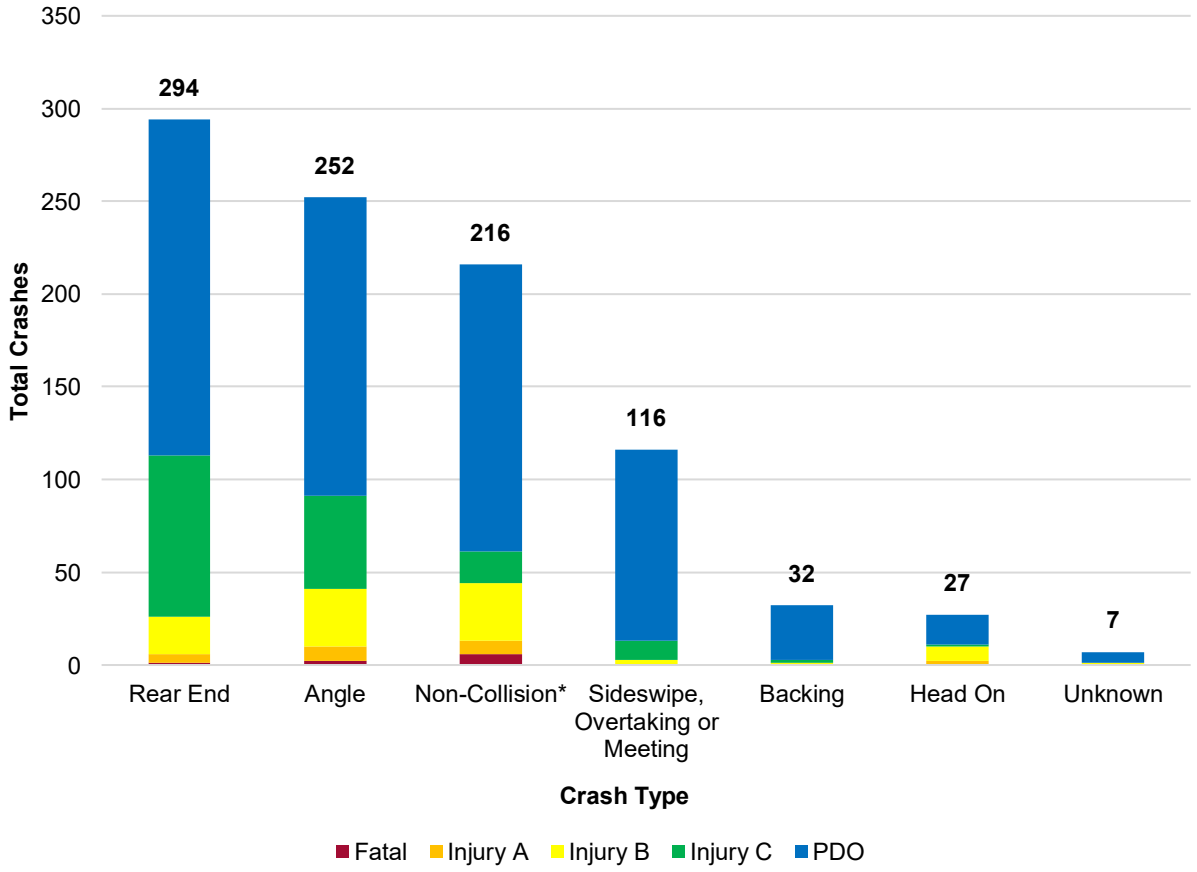
Figure 10 – Segment Crashes by Functional Classification (State Routes and Local Roads)

6.3.3. Crash Types on State Routes and Local Roads

Crash types were reviewed to gain a better understanding of existing crash factors in the City of Fernley. The top three crash types on state routes and local roads were rear-end (294, 31.1%), angle crashes (252, 26.7%), and non-collision crashes (216, 22.9%), as shown in **Figure 11**. A non-collision crash is defined as any collision that involves only one vehicle or a vehicle and a non-motorist (VRU). The non-collision crashes in this dataset include 21 vehicle-to-non-motorist crashes and 195 single-vehicle crashes (note that three of the non-collision crashes had originally been coded as head on and angle, but based on additional details related to the number of

vehicles involved, it was determined that non-collision was the most appropriate crash type for these crashes). Further details regarding VRU crashes are provided in **Section 6.3.5**.

Fatal and serious injury crashes within the City of Fernley consisted of 13 (41.9%) non-collision (including three VRU crashes), 10 (32.3%) angle, and 6 (19.4%) rear-end crashes. There were also two head-on serious injury crashes. Crash types were a factor included in the network screening analysis, further discussed in **Section 6.5**. Crashes of all types most commonly occurred at unsignalized intersections, followed by road segments. The locations of fatal and serious injury crashes by crash type are displayed in **Figure 12**.



Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023
**Note: A non-collision crash is defined as any collision that involves only one vehicle or vehicle vs. non-motorist.*

Figure 11 – Crashes by Crash Type and Injury Severity (State Routes and Local Roads)

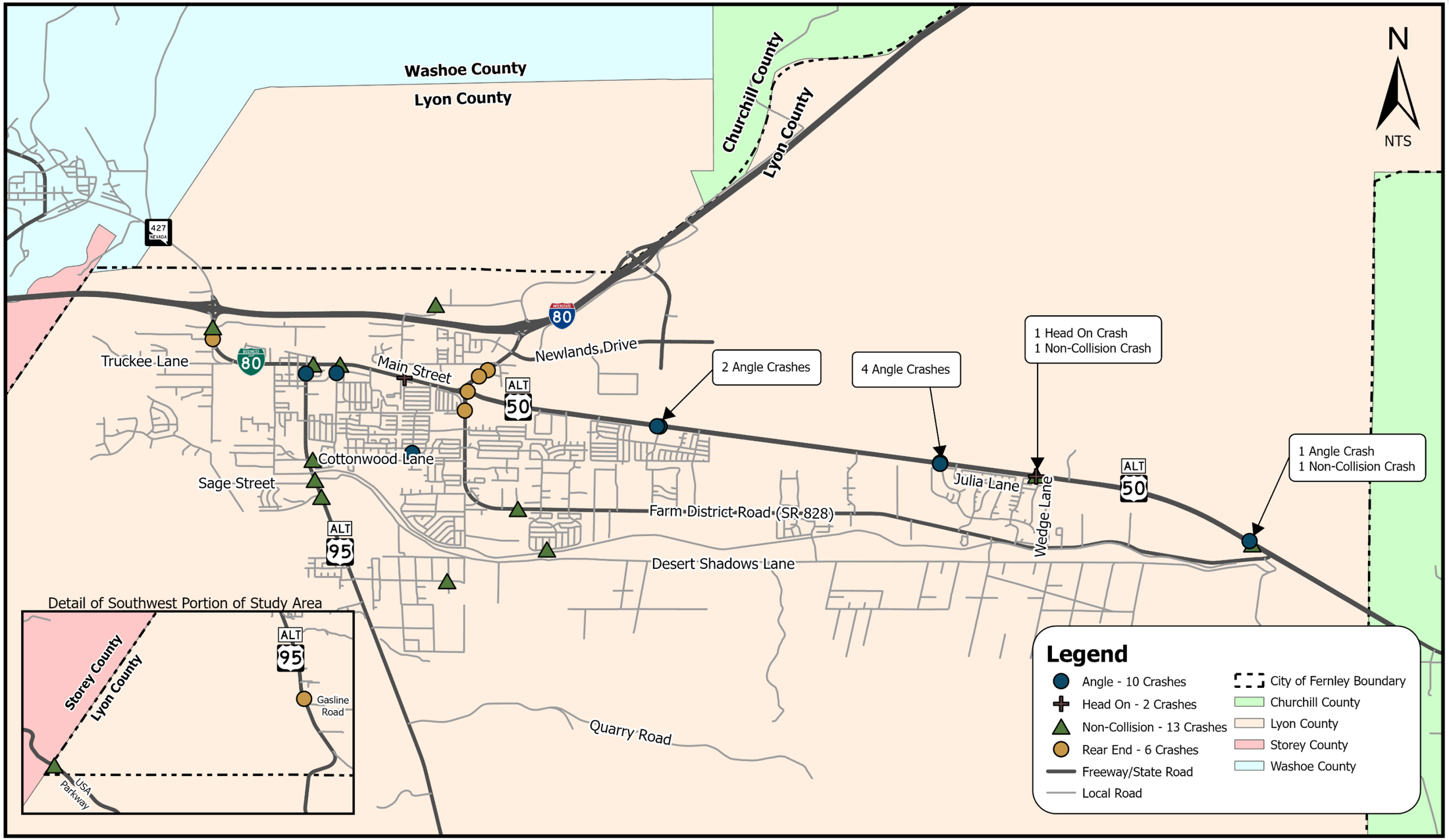


Figure 12 – Fatal and Serious Injury Crashes by Crash Type (State Routes and Local Roads)

6.3.4. Crashes by Emphasis Area on State Routes and Local Roads

Fatal and serious injury crashes falling under each of the 10 SHSP CEAs were reviewed for the City of Fernley, as shown in **Table 7** and **Figure 13**. Note that **Figure 13** does not include CEAs with no associated fatal crashes within the City of Fernley. Fatal and serious injury crashes were most highly represented by the Impaired Driving, Intersection, and Lane Departure CEAs, which align with the top CEAs at the statewide level. The locations of fatal and serious injury crashes are shown in **Figure 14**.

Table 7 – City of Fernley and Nevada CEA Comparison (State Routes and Local Roads)

Nevada SHSP CEAs	City of Fernley Fatal Crashes	City of Fernley Serious Injury Crashes	City of Fernley Fatal and Serious Injury Crashes	Nevada SHSP Fatal Crashes	Nevada SHSP Serious Injury Crashes
Intersections[1]	6 (66.6%)	18 (81.8%)	24 (77.4%)	573 (31.3%)	1,499 (29.2%)
Impaired Driving	6 (66.6%)	4 (18.2%)	10 (31.3%)	735 (40.2%)	884 (17.2%)
Lane Departures	4 (44.4%)	5 (22.7%)	9 (29.0%)	758 (41.5%)	1,110 (21.6%)
Speed-Related	3 (33.3%)	5 (22.7%)	8 (25.8%)	511 (28.0%)	795 (15.5%)
Older Drivers	1 (9.1%)	5 (22.7%)	6 (19.4%)	352 (19.3%)	1,318 (25.6%)
Motorcyclists	0 (0.0%)	6 (27.3%)	6 (19.4%)	364 (19.9%)	640 (12.5%)
Pedestrians	2 (22.2%)	1 (4.5%)	3 (9.8%)	412 (22.5%)	1,030 (20.0%)
Occupant Protection	2 (22.2%)	2 (9.1%)	4 (12.9%)	348 (19.0%)	796 (15.5%)
Young Drivers	0 (0.0%)	1 (4.5%)	1 (3.2%)	182 (10.0%)	401 (7.8%)
Work Zones	0 (0.0%)	1 (4.5%)	1 (3.2%)	39 (2.1%)	95 (1.8%)
Total Crashes[2]	**9 (100.0%)**	**22 (100.0%)**	**31 (100.0%)**	**1,828 (100.0%)**	**5,140 (100.0%)**

Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

Note: 1. Intersection crashes are based on a 250-foot influence buffer around each intersection.

2. Percentages add up to more than 100%, as a crash may involve multiple CEAs (i.e., a young driver who was impaired and speeding).

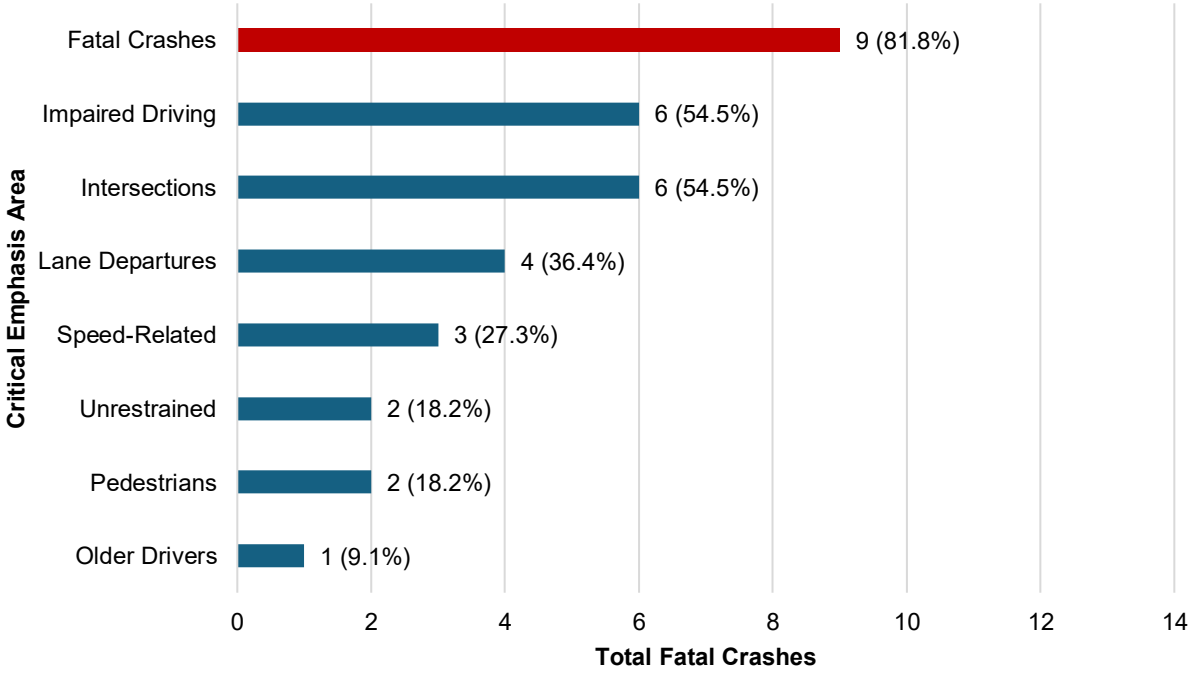


Figure 13 – Fatal Crashes by CEA (State Routes and Local Roads)

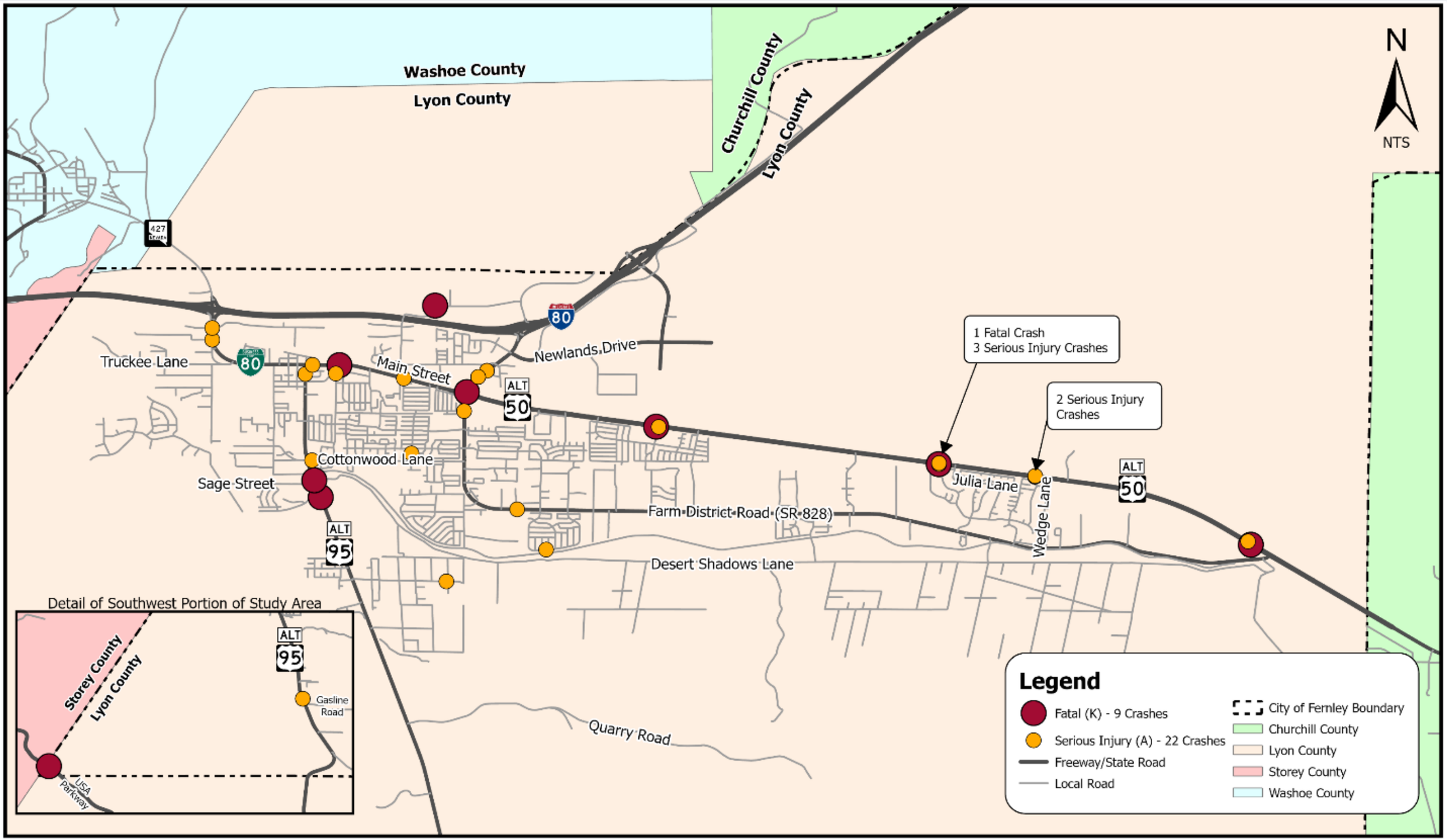


Figure 14 – City of Fernley Fatal and Serious Injury Crashes (State Routes and Local Roads)

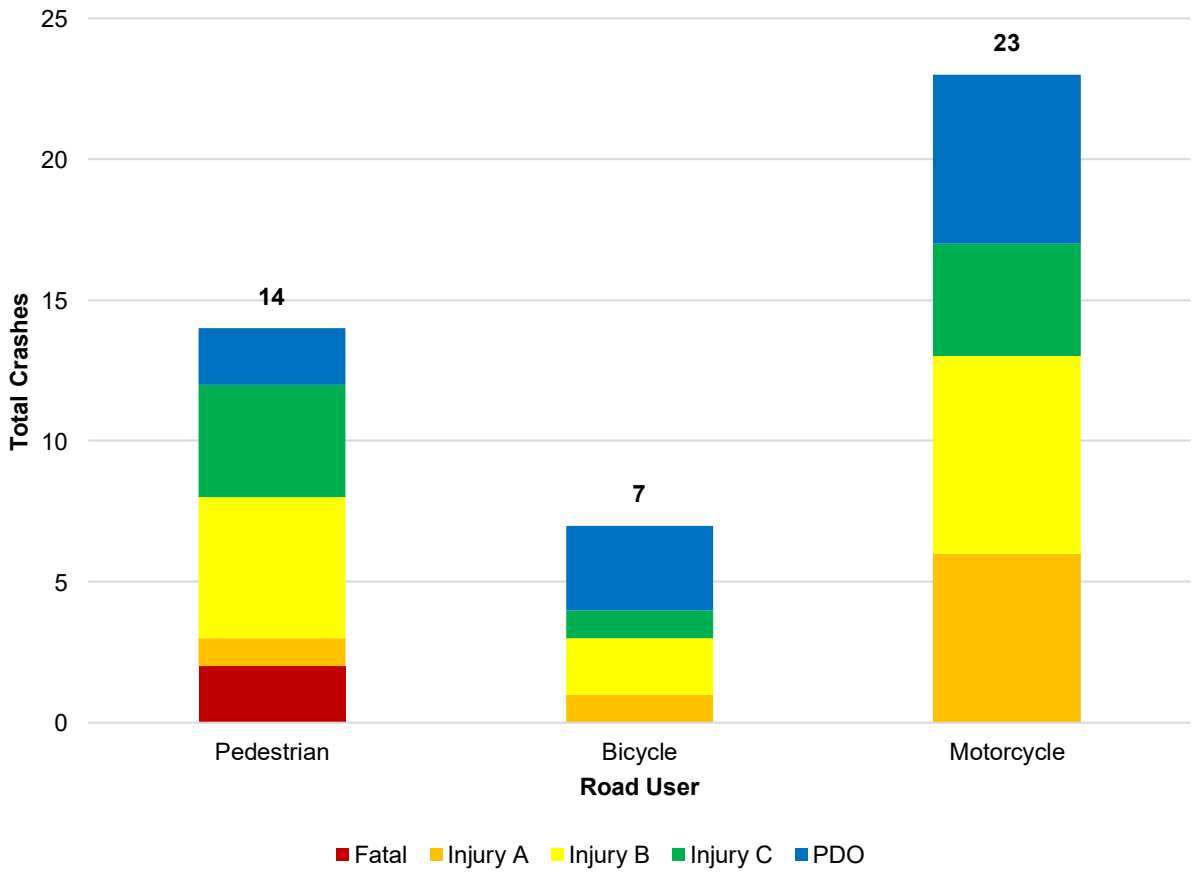
6.3.5. Vulnerable Road Users and Motorcycles on State Routes and Local Roads

As previously stated in **Section 6.3.2**, 21 of the non-collision crashes (2.2% of all crashes on state routes and local roads) involved VRUs. These 21 VRU crashes consisted of 14 pedestrian crashes and seven bicycle crashes. While not considered VRU crashes, motorcycle crashes have also been summarized in this section.

Of the pedestrian-involved crashes, two were fatal, and one was a serious injury crash. Bicycle-involved crashes included one serious injury crash and no fatal crashes. All fatal and serious injury VRU crashes took place at unsignalized intersections. VRU crashes occurred more than twice as frequently at unsignalized intersections compared to segments or signalized intersections (12 of 14 pedestrian and four of seven bicycle crashes).

Over the five years from 2019 to 2023, a total of 23 crashes (2.4%) involved motorcycles. These motorcycle crashes accounted for six serious injury crashes and no fatal crashes. Most motorcyclist-involved crashes occurred at unsignalized intersections (18 crashes, 78.3%), with three taking place at signalized intersections and two at roundabouts.

The breakdown of VRU and motorcycle crashes is included in **Figure 15**. The locations of fatal and serious injury VRU and motorcycle crashes are displayed in **Figure 16**.



Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

Figure 15 – VRU and Motorcyclist-Involved Crashes (State Routes and Local Roads)

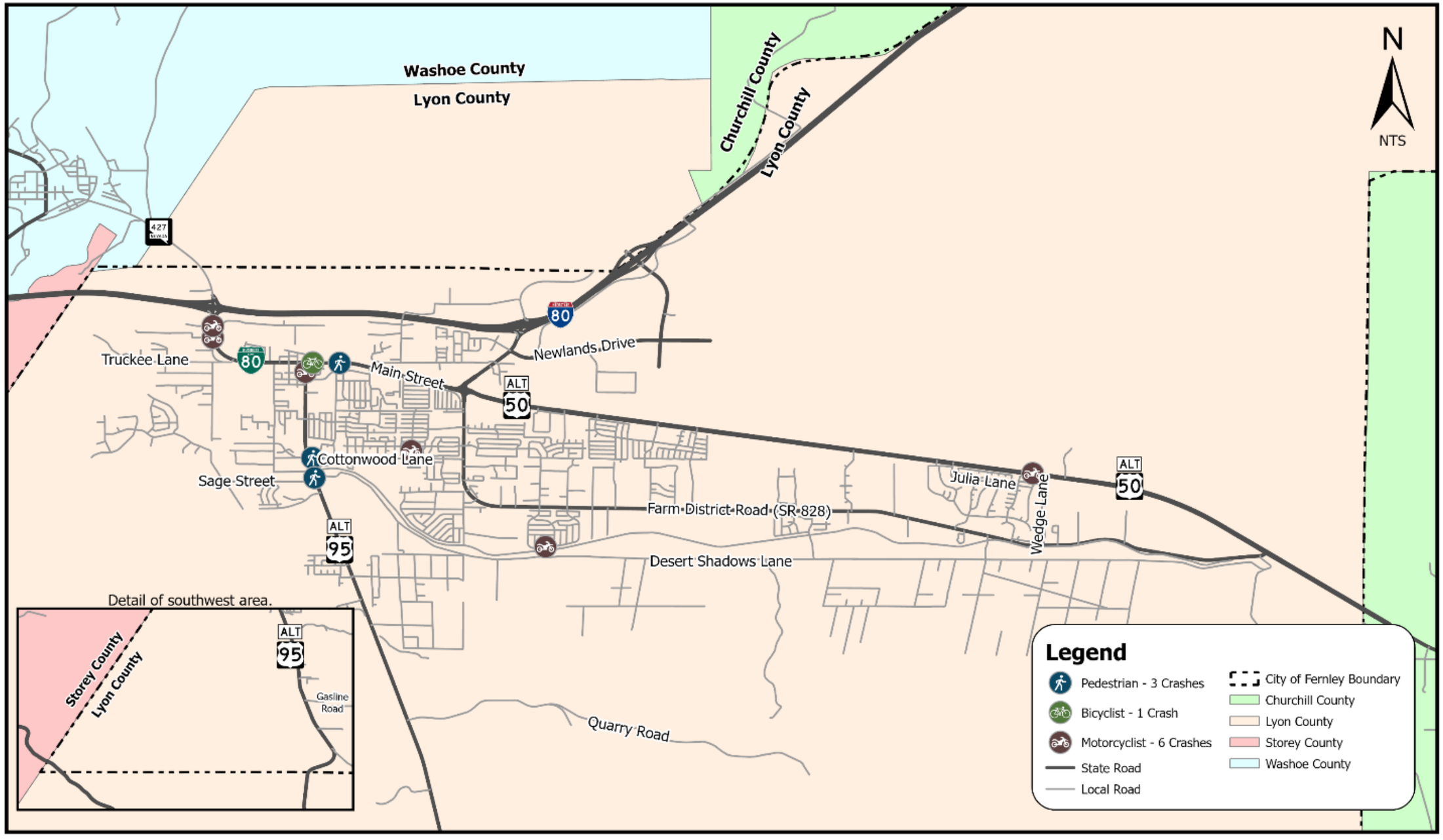


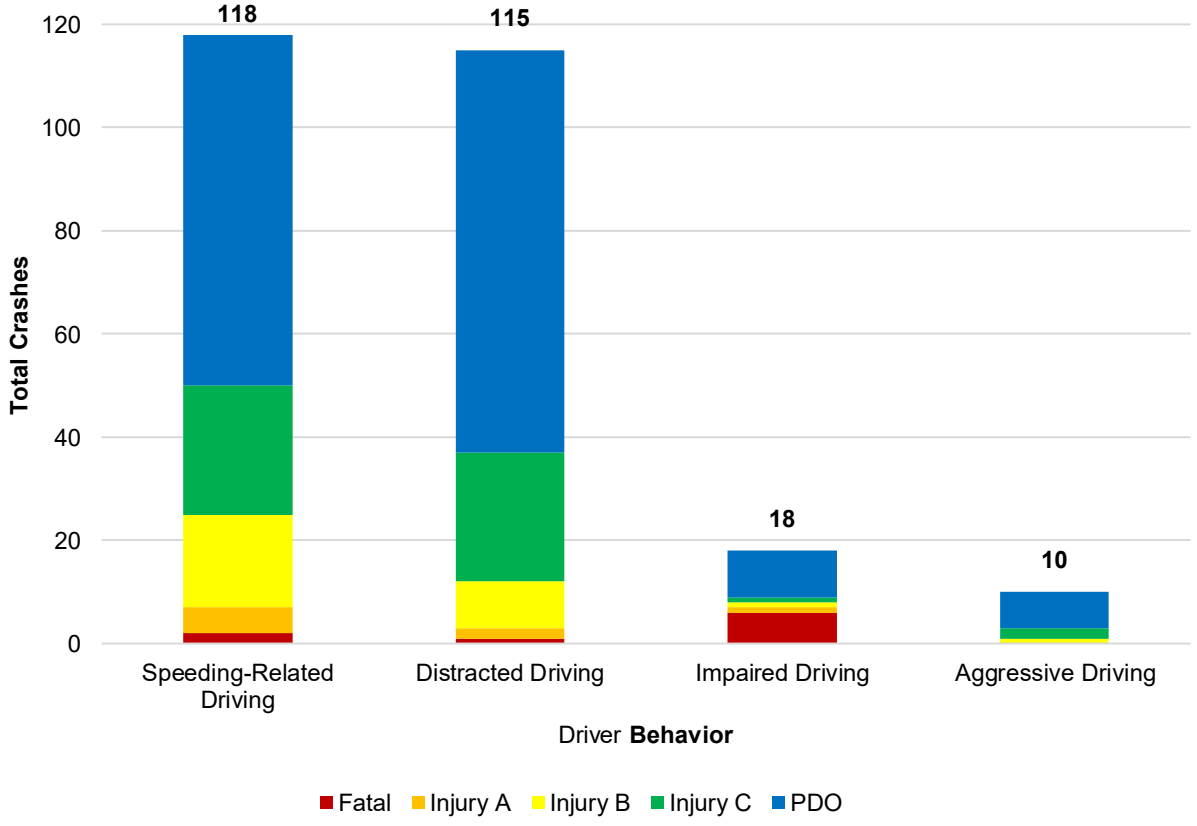
Figure 16 – Fatal and Serious Injury Crashes Involving Vulnerable Road Users and Motorcyclists (State Routes and Local Roads)

6.3.6. Driver Behavior on State Routes and Local Roads

The crash data was analyzed based on four driver behaviors: aggressive driving, distracted driving, impaired driving, and speeding. A quarter of crashes (25.4%) reported at least one of these behaviors. The top two driver behaviors were Speeding-Related (118 crashes) and Distracted Driving (115 crashes), as shown in **Figure 17**.

Speeding-related and impaired driving crashes resulted in the highest number of combined fatal and serious injury crashes. Two fatalities and five serious injuries were related to speeding, and six fatalities and one serious injury were related to impaired driving. Distracted driving accounted for one fatal crash and two serious injury crashes. One fatal crash involved speeding, impairment, and distracted driving. One fatal and one serious injury crash involved two driver behaviors. No fatal or serious injury crashes involved aggressive driving.

Most crashes involving the four driving behaviors were observed at unsignalized intersections and on segments. Four of the five speeding-related serious injury crashes took place at unsignalized intersections. Of the six impaired driving fatal crashes, two took place at unsignalized intersections, one at a signalized intersection, and the remaining three on road segments. The locations of fatal and serious injury crashes involving driver behaviors are displayed in **Figure 18**.



Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

Figure 17 – Speeding, Distracted Driving, and Impaired Driving Crashes (State Routes and Local Roads)

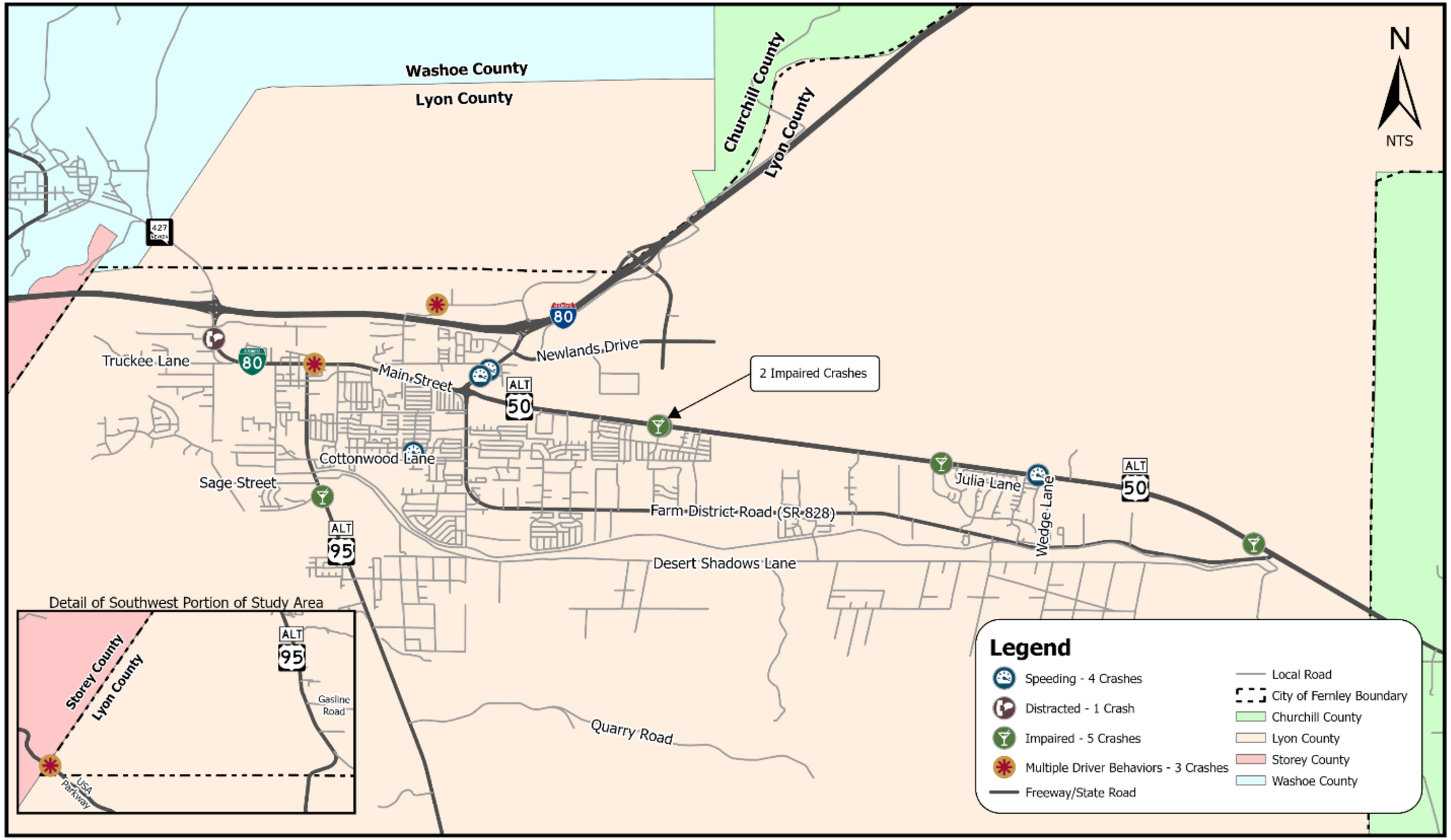


Figure 18 – Fatal and Serious Injury Driver Behaviors Crash Map (State Routes and Local Roads)

6.3.7. Most Harmful Events on State Routes and Local Roads

As shown in the breakdown of crashes by most harmful event (**Figure 19**), collisions with other motor vehicles in transport were the most common harmful event, followed by collisions with a slowed or stopped vehicle and running off the road. Most fatal and serious injury crashes occurred during collisions with motor vehicles in transport (four fatal and 11 serious injury crashes). Two fatal crashes involved a vehicle striking a pedestrian, and two serious injury crashes occurred where a vehicle crossed the median or centerline. Most collisions with motor vehicles in transport took place at unsignalized intersections and on road segments. Of the collisions that took place on road segments, most took place on minor arterials.

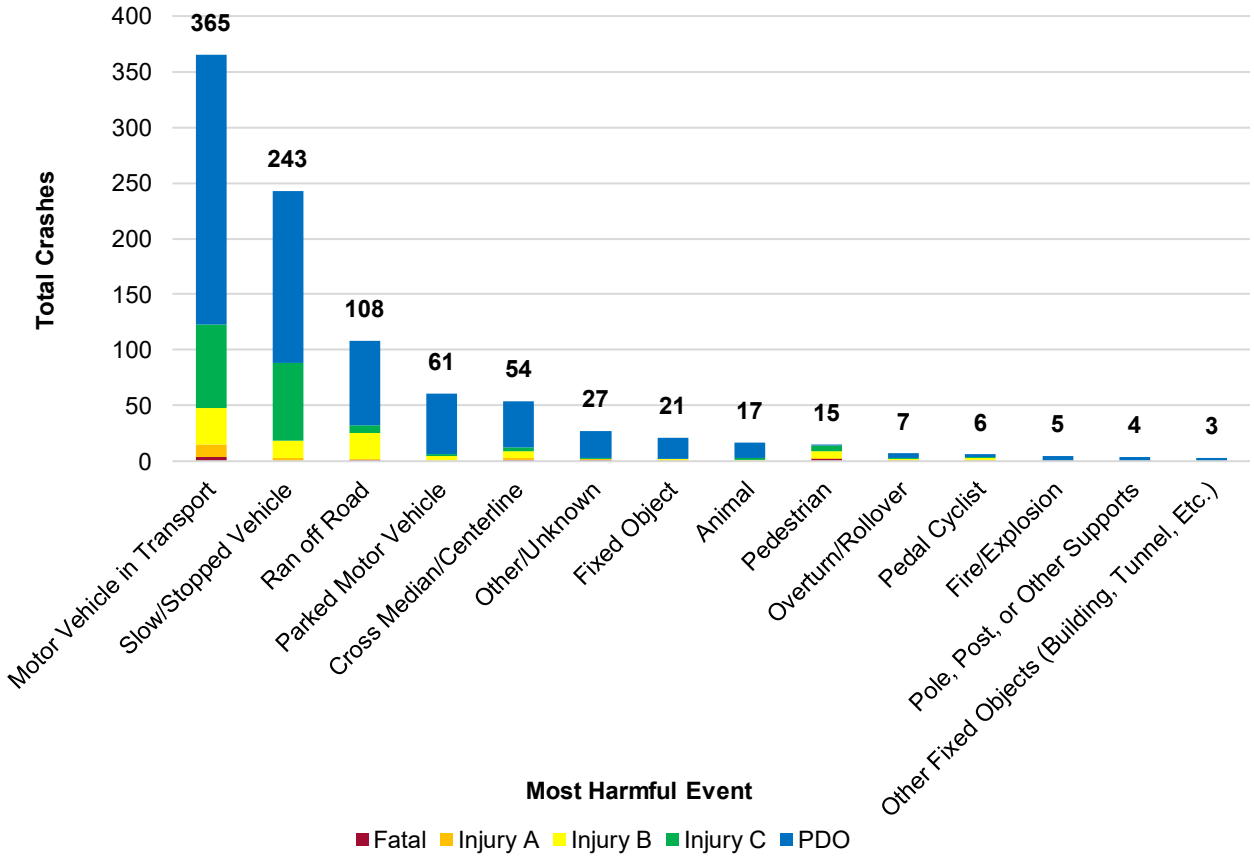
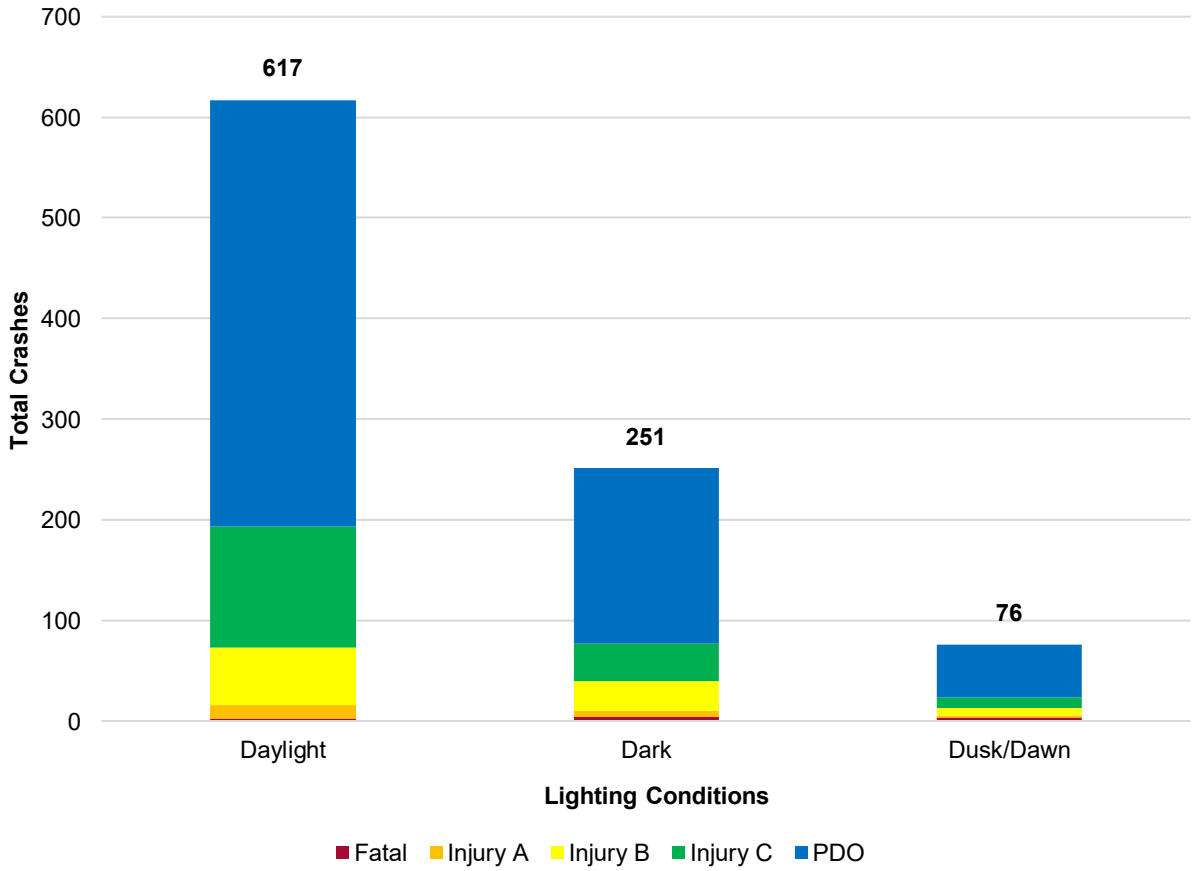


Figure 19 – Crashes by Most Harmful Event and Functional Classification (State Routes and Local Roads)

6.3.8. Environmental and Roadway Factors on State Routes and Local Roads

An analysis of the lighting conditions, as summarized in **Figure 20**, showed that most crashes (617, 65.4%) occurred in daylight conditions, with 327 crashes (34.6%) occurring during dark and dawn/dusk conditions. Fatal and serious injury crashes most frequently took place in daylight conditions (16 crashes or 51.6% of fatal and serious injury crashes). Fatal and serious injury crashes in dark conditions accounted for 10 crashes (32.3%), while five crashes (16.1%) took place during dawn or dusk. Regardless of lighting conditions, most crashes took place at unsignalized intersections, followed by road segments.

Of the crashes that occurred on state routes, 67.7% occurred during daylight conditions, while 32.3% occurred during dark and dawn/dusk conditions (see **Figure 21**). Comparatively, 59.2% of the crashes that occurred on local roads happened during daytime conditions, and 40.8% took place during dark and dawn/dusk conditions (see **Figure 22**).



Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

Figure 20 – Crashes by Lighting Condition and Injury Severity (State Routes and Local Roads)

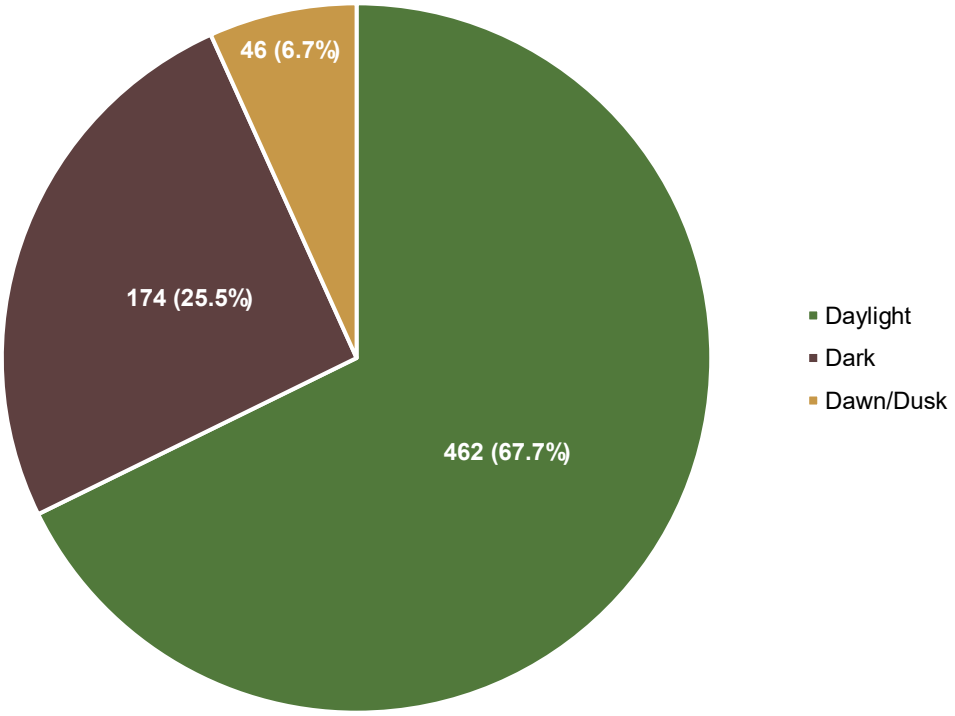


Figure 21 – Crashes by Lighting Condition on State Routes

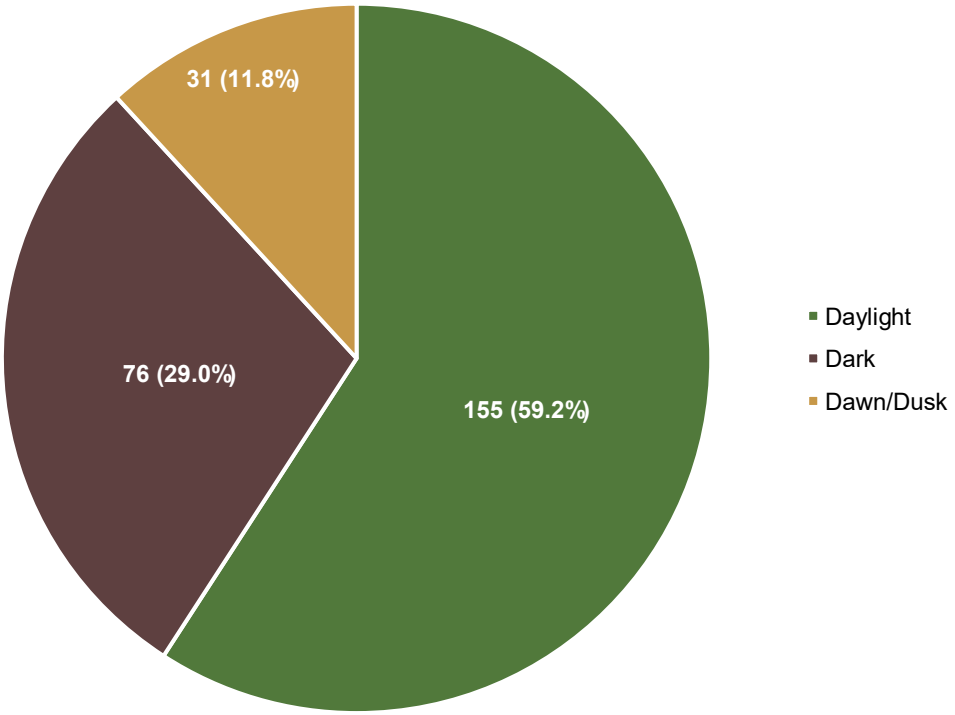
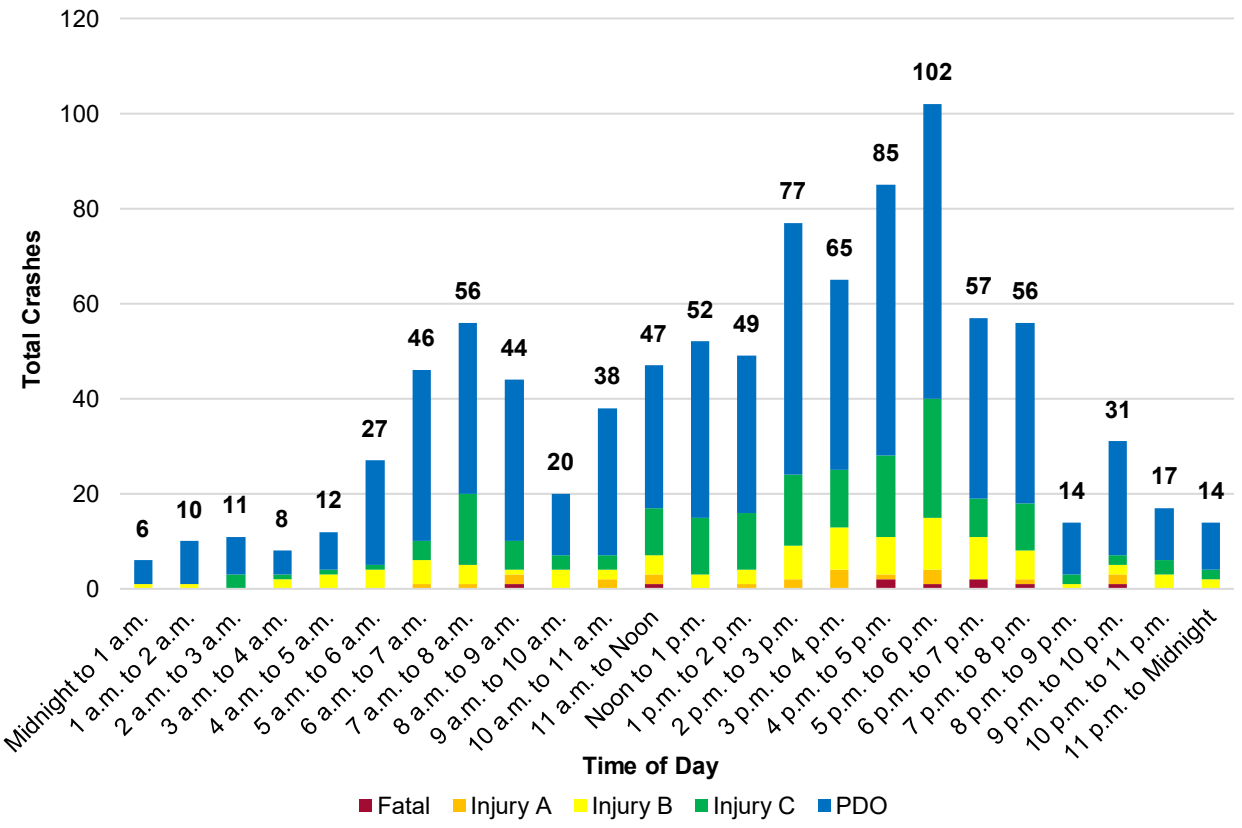


Figure 22 – Crashes by Lighting Condition on Local Roads

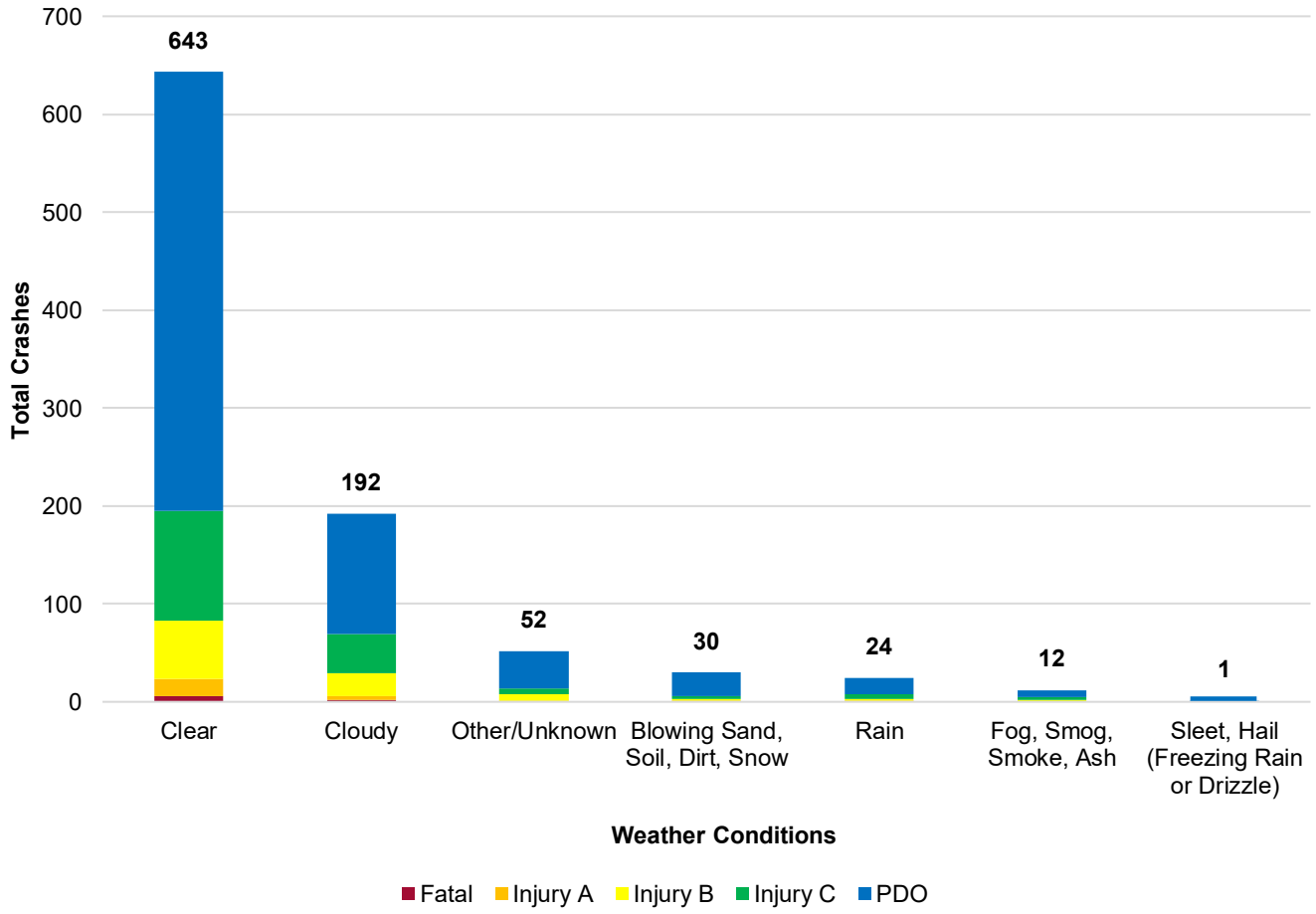
The breakdown of crashes by time of day, presented in **Figure 23**, shows that crashes increased in the afternoon after 2 PM, with a peak of 102 crashes between 5 PM to 6 PM. Most fatal and serious injury crashes occurred between 3 PM and 7 PM.



Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

Figure 23 – Crashes by Time of Day and Injury Severity (State Routes and Local Roads)

Regarding weather conditions, most crashes (643, 68.1%) occurred during clear weather conditions, as shown in **Figure 24**. Most fatal and serious injury crashes occurred under clear or cloudy weather conditions (23 crashes, 74.2% of fatal and serious injury crashes). As most crashes occur in clear and cloudy weather conditions, weather does not appear to be a contributing factor.



Source: FARS Data 2019-2023 and NDOT Nevada Crash Database 2019-2023

Figure 24 – Crashes by Environmental Factors and Injury Severity (State Routes and Local Roads)

6.4. Crash Data Analysis Summary

Crashes on All Roads

- From 2019 to 2023, a total of 1,128 crashes occurred on all roadways (including I-80) in the City of Fernley. The number of crashes generally increased over the five-year period, starting at 220 in 2019 and reaching a peak of 253 in 2023.
- Of the 1,128 crashes, 184 (16.4%) occurred on I-80 and 944 (83.6%) took place on state routes and local roads.

Crashes on State Routes and Local Roads

- Of the 944 crashes that took place on state routes and local roads, there were nine fatal crashes and 22 serious injury crashes.
- The top four CEAs for fatal crashes at the statewide level (Lane Departures, Impaired Driving, Intersections, and Speed-Related) also align with the top CEAs identified in fatal crashes within the City of Fernley.
- Segment crashes accounted for 28.8% of all crashes (272 crashes), while intersection crashes made up 71.2% (672 crashes). Of the 672 intersection crashes, 105 (11.1%) occurred at signalized intersections, 526 (55.7%) at unsignalized intersections, and 41 (4.3%) at roundabouts.
- The City of Fernley's local roadways were classified as principal arterial, minor arterial, minor collector, and local road using the NDOT Functional Classification GIS layer. Based on the analysis, it was determined that between 2019 and 2023, crashes occurred most frequently on minor arterials, accounting for 55.9% of crashes, followed by principal arterials, which accounted for 24.6% of crashes.
- The most common crash types in the City of Fernley for all crash severities over the five years were rear-end (294, 31.1%), angle (252, 26.7%), and non-collision crashes (216, 22.9%).
- Non-collision crashes accounted for the highest number of combined fatal and serious injury crashes (13 crashes, 41.9% of fatal and serious injury crashes). These crashes involved either a single vehicle or a vehicle striking a non-motorist. In the City of Fernley, there were 195 single-vehicle crashes and 21 vehicle-to-non-motorist crashes.
- Pedestrians were involved in 14 crashes (1.5%) between 2019 and 2023. Two (22.2% of fatal crashes) of these crashes resulted in fatality, and one crash (4.5% of serious injury crashes) caused a serious injury.
- Bicycles were involved in seven crashes (0.7%) during the same period. These included no fatalities and one crash (4.5% of serious injury crashes) that resulted in a serious injury.
- Motorcyclists were involved in 23 crashes (2.4%) between 2019 and 2023. While none of these crashes were fatal, six (27.3% of serious injury crashes) resulted in serious injuries.
- Of the four driver behaviors analyzed (speeding, impairment, distracted, and aggressive), Speeding-Related and Impaired Driving crashes resulted in the highest number of combined fatal and serious injury crashes (two fatalities and five serious injuries related to speeding, and six fatalities and one serious injury related to impaired driving).
- Collisions with other motor vehicles in transport were the most common harmful event, followed by collisions with a slowed or stopped vehicle and running off the road. Most

fatal and serious injury crashes occurred during collisions with motor vehicles in transport (four fatal and 11 serious injury crashes). Two fatal crashes involved a vehicle striking a pedestrian, and two serious injury crashes occurred where a vehicle crossed the median or centerline.

- Most crashes occurred during daylight conditions (617 crashes, 65.4%), with 36.4% occurring during dark and dawn/dusk conditions.
- Between 2019 and 2023, the highest number of crashes occurred between 5 PM and 6 PM. The most fatal and serious injury crashes were recorded between 3 PM and 7 PM.
- Between 2019 and 2023, most crashes occurred during clear conditions (643 crashes, 68.1%). Most fatal and serious injury crashes also occurred during clear weather conditions (23 crashes, 74.2%). This indicates that the weather was not a contributing factor to crashes.

Crashes by Facility Type

- Of the 944 crashes on state routes and local roads, 272 were segment crashes, accounting for 28.8% of all crashes during that period.
- Segment crashes occurred most frequently on minor arterials, with 55.9% of crashes, followed by principal arterials, with 24.6% of crashes.
- Between 2019 and 2023, 672 crashes (71.2%) occurred at intersections. Of these, 105 took place at signalized locations, while 526 happened at unsignalized intersections and 41 at roundabouts.
- Crashes at unsignalized intersections tend to be more severe, with four fatal and 17 serious injury crashes.
- Pedestrian and bicycle crashes were most frequently reported at unsignalized intersections, with 12 pedestrian crashes and six bicycle crashes occurring at these locations.

6.5. Network Screening Results

An inventory of all roadway segments and intersections with **three or more crashes** was conducted. Locations with three or more crashes were reported since these are statistically significant per the HSM *Probability of Specific Crash Types Exceeding Threshold Proportion* (under *Section 4.2.3*). Based on the results, preliminary locations were identified for further discussion and potential prioritization for low-cost safety countermeasures. The identification of these preliminary locations utilized the network screening results (local CCR differential, EPDO score, and crash patterns or clusters of crashes) to determine each location. The local CCR is the maximum crash rate expected to occur at that location within the study area. EPDO weighs factors related to the societal costs of fatal, injury, and property damage-only crashes and is assigned to crashes by severity to develop an EPDO score that considers the frequency and severity of crashes.

Segments or intersections that did not rank as high based solely on crash history can still benefit from systemic countermeasures if they share similar roadway characteristics with locations that have high local CCR differentials and EPDO scores. By applying this approach, the City of Fernley can proactively manage risk, especially on rural and low-volume local roads where crashes can be spread out with minimal repeat crashes at a given location, and historical crash data may not exist. For instance, if some parts of a corridor show a high local CCR differential while others do

not, the LRSP can treat the entire corridor as a segment if the roadway characteristics are consistent, potentially improving safety even in areas without recorded crashes.

6.5.1. Preliminary Locations

From the inventory of all roadway segments and intersections with three or more crashes, 30 preliminary locations (10 segments, three signalized intersections, and 17 unsignalized intersections) were identified for further discussion and potential prioritization for low-cost safety countermeasures. These include all locations where fatal and serious injury crashes occurred, as well as locations that experienced a disproportionate number of crashes in one or more categories (crash type, driver behavior, etc.). The preliminary locations are listed in **Table 8** through

Table 10 and shown in **Figure 25** and **Figure 26**. The results of the network screening analysis (all intersections and roadway segments with three or more crashes) are presented in **Appendix C** and **Appendix D**. The appendices are color-coded to highlight crash trends and emphasis areas for further study and development.

Table 8 – Preliminary List of Priority Locations (Segments)

Segment	Start	End	Crashes	Local CCR Differential	EPDO	Notes
US50	US50AW TO US95AN	Inglewood Drive	14	0.43	45	LCCR, Rear-End, Non-Collision
US50	Wedge Lane	Farm District Road (SR828)	9	-0.14	623	LCCR, EPDO, Fatal, Serious Injury, Non-Collision
Main Street	I80W Exit Ramp	Pilot Road/Logan Lane	11	0.75	16	LCCR, Angle, Non-Collision
Main Street	6th Street	7th Street	7	0.31	27	LCCR, Rear-End
Main Street	Speedway Road	Lyon Unnamed 15	3	-0.52	3	LCCR, Non-Collision, Speeding, Dark, Wet
US95A	Chisholm Trail	Newlands Drive	24	1.01	76	LCCR, Angle, Rear-End
US95A	US50/Main Street	US95A	7	0.29	12	LCCR, Rear-End, Speeding, Dark
US95A	US95A	Main Street	6	19.34	32	LCCR, Rear-End, Dark, Wet

Table 8 – Preliminary List of Priority Locations (Segments) – (continued)

Segment	Start	End	Crashes	Local CCR Differential	EPDO	Notes
Nevada Pacific Parkway	Emigrant Way	US50	7	2.27	12	LCCR, Angle, Sideswipe, Wet
Vine Street	Gazzigli Lane	Veterans Way	3	14.63	577	LCCR, EPDO, Fatal, Non-Collision,

						Distracted, Impaired, Speeding, Dark, Wet

Table 9 – Preliminary List of Priority Locations (Signalized Intersections)

Intersection	Crashes	Local CCR Differential	EPDO	Notes
Fremont Street/Chisholm Trail & US95A	56	0.56	194	LCCR, EPDO, Rear-End, Angle, Distracted, Speeding
US95A & Newlands Drive	55	0.06	157	LCCR, EPDO, Angle, Rear-End, Distracted
Nevada Pacific Parkway & E Main Street	36	-0.24	717	LCCR, EPDO, Fatal, Serious Injury, Angle, Distracted, Wet

Table 10 – Preliminary List of Priority Locations (Unsignalized Intersections and Roundabouts)

Intersection	Crashes	Local CCR Differential	EPDO	Notes
Farm District Road (SR828) & US50	41	-0.21	676	EPDO, Fatal, Rear-End, Non-Collision, Distracted, Speeding, Wet
Penny Lane & US95A/I80 Business	26	0.04	117	EDPO, Rear-End, Distracted, Speeding
Farm District Road (SR828) & Cottonwood Lane	25	0.97	76	LCCR, Angle
Main Street & Pilot Road/Logan Lane	18	0.46	83	Serious Injury, Angle, Rear-End
US95A & Cottonwood Lane	18	0.53	69	LCCR, Angle, Distracted
US95A & Shadow Lane	15	0.59	61	LCCR, Angle
Farm District Road (SR828) & Shadow Lane	14	0.16	29	LCCR, Angle, Dark
Jenny's Lane & Farm District Road (SR828)	11	1.13	32	LCCR, Angle
Wedge Lane & US50	11	-0.08	90	Serious Injury, Non-Collision
Silver Lace Boulevard & Main Street	10	0.33	41	LCCR, Angle
Hardie Lane & Main Street	7	0.10	581	EPDO, Fatal, Angle, Rear-End, Non-Collision
Farm District Road (SR828) & Villa Way	7	-0.07	71	Serious Injury, Non-Collision, Angle, Rear-End
Desert Rose Lane & US50	7	-0.18	669	EPDO, Fatal, Serious Injury, Angle
Main Street & Commerce Center Drive	5	0.68	10	LCCR, Angle
US95A & Fernley Hills Drive	5	-0.06	579	EDPO, Fatal, Rear-End, Dark
US95A & Comstock Drive	4	-0.15	39	Serious Injury, Angle, Rear-End, Distracted, Speeding
US95A & Mull Lane	3	-0.22	577	EPDO, Fatal

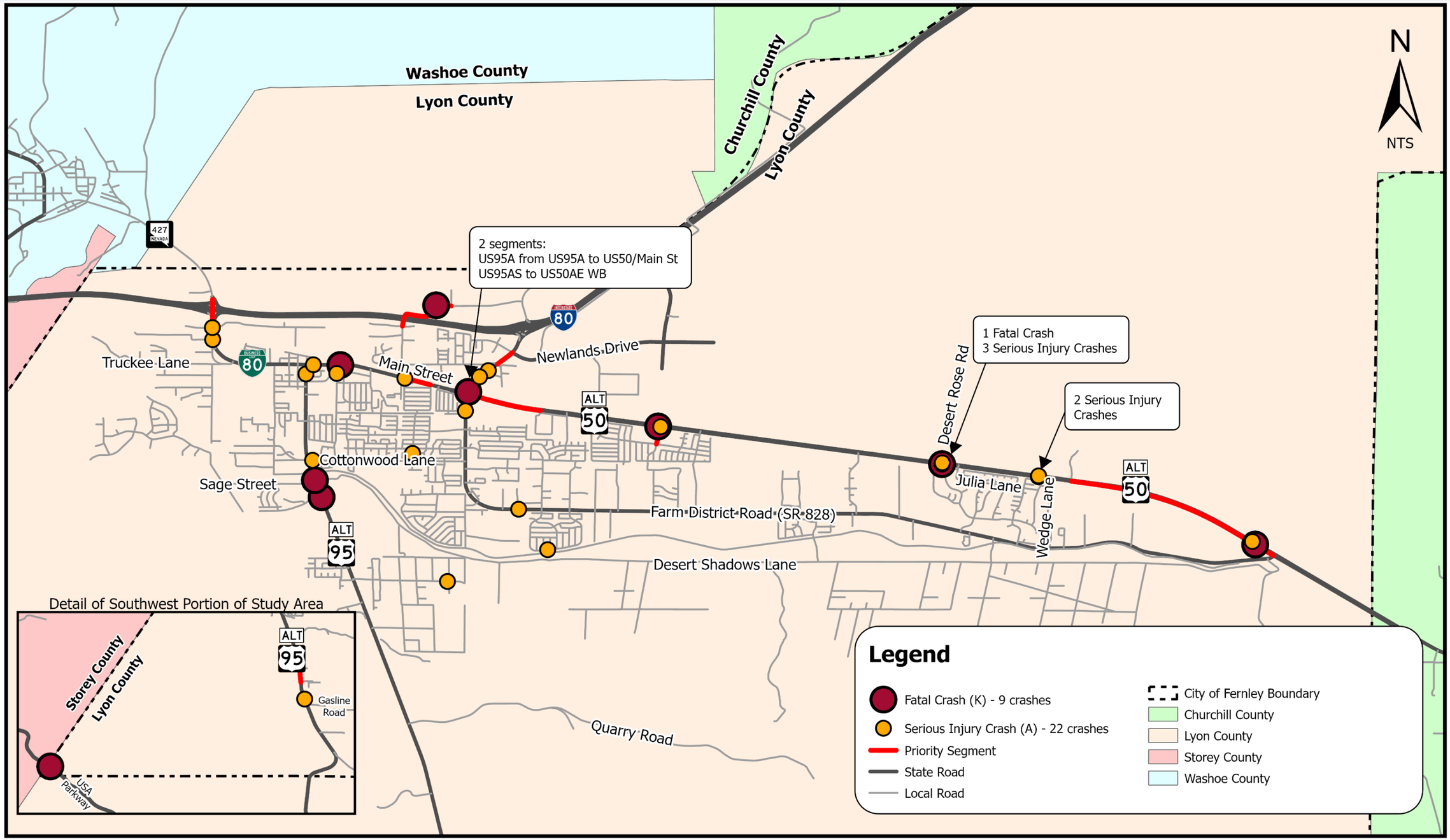


Figure 25 – City of Fernley Preliminary Priority Segments with Crashes

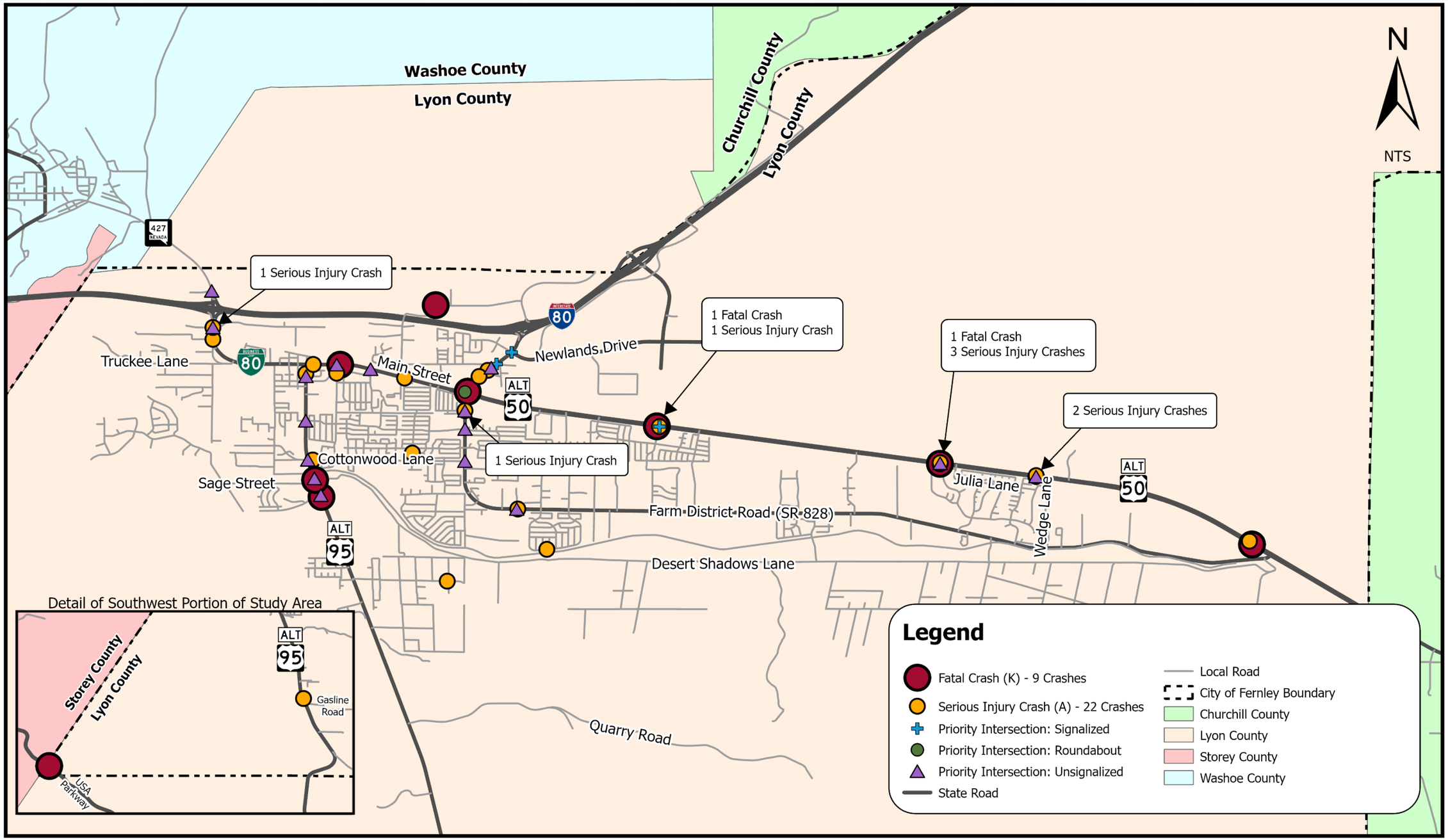


Figure 26 – City of Fernley Preliminary Priority Intersections with Crashes

6.5.2. Initial Recommendations

As seen in **Figure 25** and **Figure 26**, several of the preliminary priority locations are adjacent to or near each other. Considering both preliminary priority segments and intersections together, the team identified six "merged" segments as initial recommendation packages. These initial recommendation packages for priority segments are summarized in **Table 11** and all recommended priority locations are shown in **Figure 27** and **Figure 28**. All intersections identified in the preliminary list of priority intersections were confirmed as recommended priority locations (see **Table 8** – Preliminary List of Priority Locations (Segments) – (continued)

Segment	Start	End	Crashes	Local CCR Differential	EPDO	Notes
Nevada Pacific Parkway	Emigrant Way	US50	7	2.27	12	LCCR, Angle, Sideswipe, Wet
Vine Street	Gazzigli Lane	Veterans Way	3	14.63	577	LCCR, EPDO, Fatal, Non-Collision, Distracted, Impaired, Speeding, Dark, Wet

Table 9 and

Table 10).

Table 11 – Recommended Lists of Priority Locations (Segments)

Segment	Start	End	Crashes	Notes
Main Street	Commerce Center Drive	US95A/Farm District Road (SR828)	148	LCCR, Fatal, Serious Injury, Angle, Non-Collision
US50	US95A/Farm District Road (SR828)	City Limits	161	LCCR, EPDO, Fatal, Serious Injury, Rear-End, Non-Collision
US95A	Main Street/US50	I80 Exit Ramp	207	LCCR, Fatal, Serious Injury, Non-Collision, Speeding, Dark, Wet
US95A	Cottonwood Lane	US95A Mile Marker 5	114	Serious Injury, Rear-End, Speeding, Dark
Farm District Road (SR828)	Main Street/US50	Whipple Tree Lane	67	Starts and ends with high-crash intersections
Nevada Pacific Parkway	Emigrant Way	US50	33	LCCR, Angle, Sideswipe, Wet
Vine Street	Gazzigli Lane	Veterans Way	3	LCCR, EPDO, Fatal, Non-Collision, Distracted, Impaired, Speeding, Dark, Wet

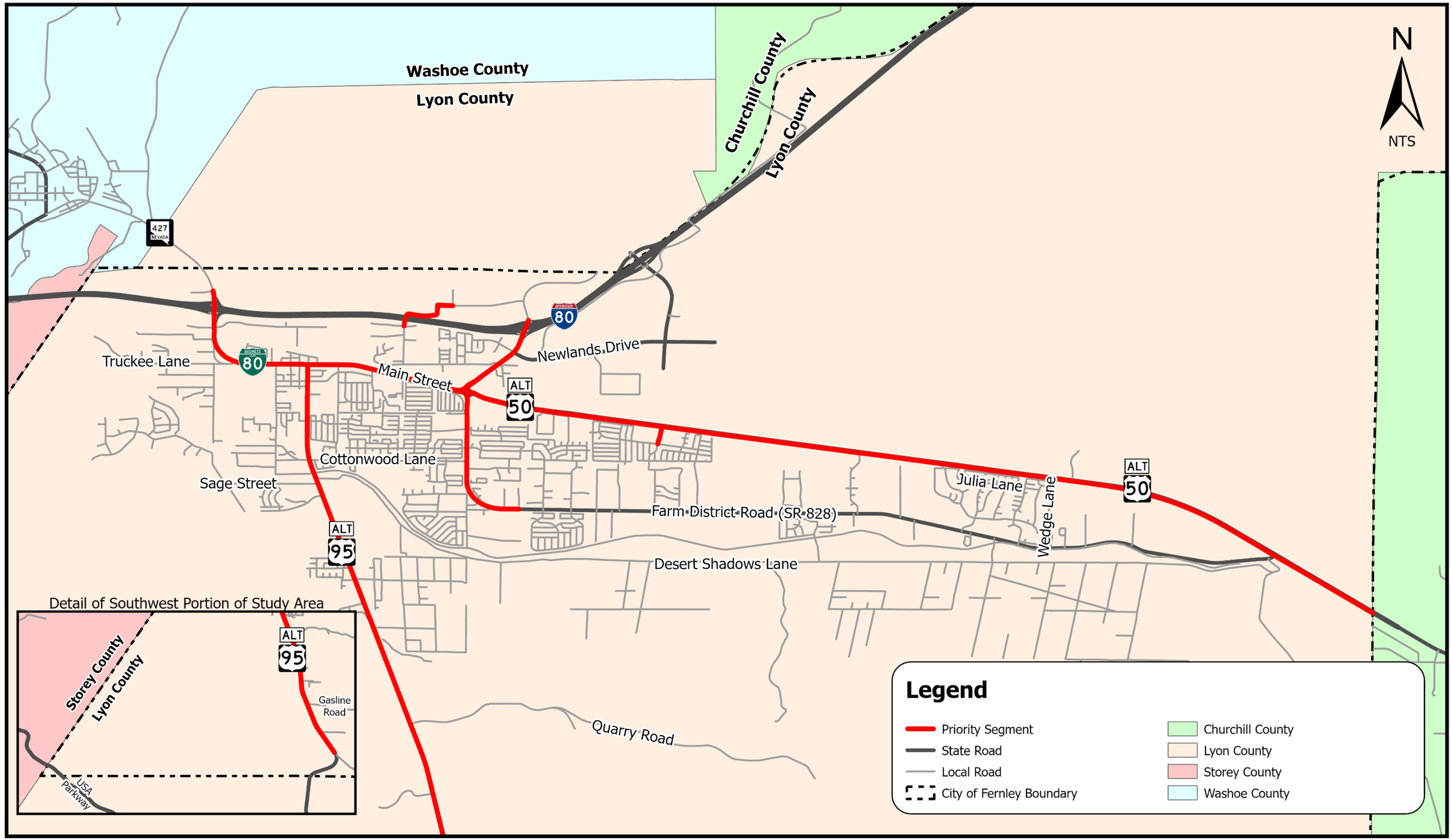


Figure 27 – City of Fernley Recommended Priority Segments

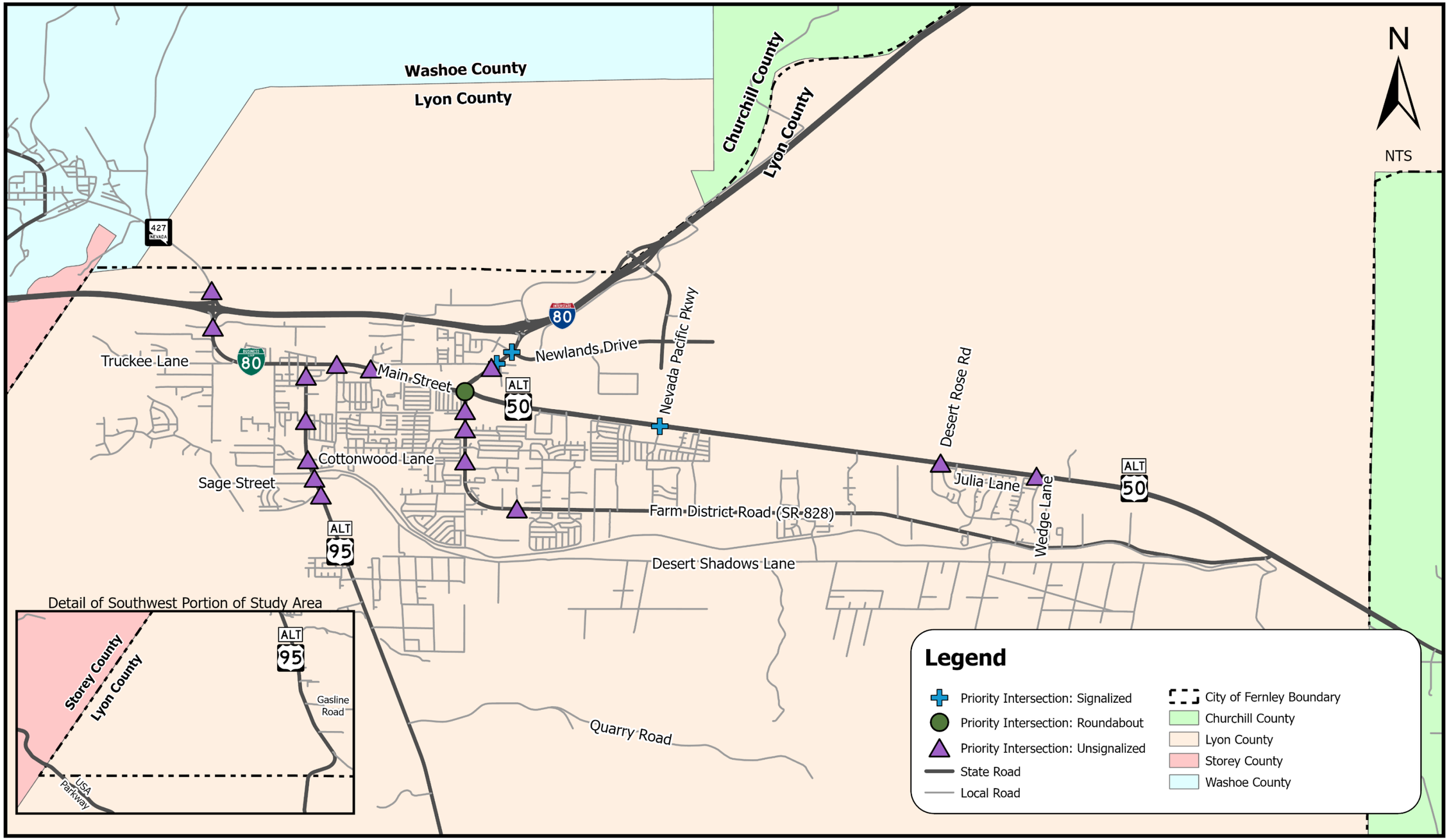


Figure 28 – City of Fernley Recommended Priority Intersections

6.6. Final Priority Locations

The list of priority locations was finalized using input from stakeholders and Tribal partners as part of Workshop #1. At the request of the group, three segments were added to the list of priority locations: Miller Lane, Cottonwood Lane, and Cedar Street/Hardie Lane, as illustrated in **Table 12** and **Figure 29**. No intersections were added or removed from the list of preliminary intersections (see **Table 8** – Preliminary List of Priority Locations (Segments) – (continued)

Segment	Start	End	Crashes	Local CCR Differential	EPDO	Notes
Nevada Pacific Parkway	Emigrant Way	US50	7	2.27	12	LCCR, Angle, Sideswipe, Wet
Vine Street	Gazzigli Lane	Veterans Way	3	14.63	577	LCCR, EPDO, Fatal, Non-Collision, Distracted, Impaired, Speeding, Dark, Wet

Table 9 and

Table 10). A field review of the priority locations was conducted as part of Workshop #2 to identify opportunities for safety improvements and develop recommendations that are both location-specific and systemic. A summary of the field observations for the priority locations is provided in **Appendix F**.

Table 12 – Final List of Priority Locations

Segment	Start	End	Segment Length (mi)	Crashes	Notes
Main Street	Commerce Center Drive	US95A/Farm District Road (SR828)	2.72	148	LCCR, Fatal, Serious Injury, Angle, Non-Collision
US50	US95A/Farm District Road (SR828)	City Limits	7.82	161	LCCR, EPDO, Fatal, Serious Injury, Rear-End, Non-Collision
US95A	Main Street/US50	I80 Exit Ramp	0.99	207	LCCR, Fatal, Serious Injury, Non-Collision, Speeding, Dark, Wet
US95A	Main Street	US95A Mile Marker 5	9.39	114	Serious Injury, Rear-End, Speeding, Dark
Farm District Road (SR828)	Main Street/US50	US50	7.72	67	Starts and ends with high-crash intersections
Cottonwood Lane	US95A	Farm District Road (SR828)	1.27	58	Angle, Sideswipe, Distracted
Nevada Pacific Parkway	Emigrant Way	US50	0.18	33	LCCR, Angle, Sideswipe, Wet
Cedar Street/Hardie Lane	US95A	Main Street	0.37	6	Angle
Vine Street/Mission Way/Truck Inn Way	Gazzigli Lane	I-80 Exit Ramp	1.37	3	LCCR, EPDO, Fatal, Non-Collision, Distracted, Impaired, Speeding, Dark, Wet
Miller Lane	Main Street	Canal Drive	1.15	0	-

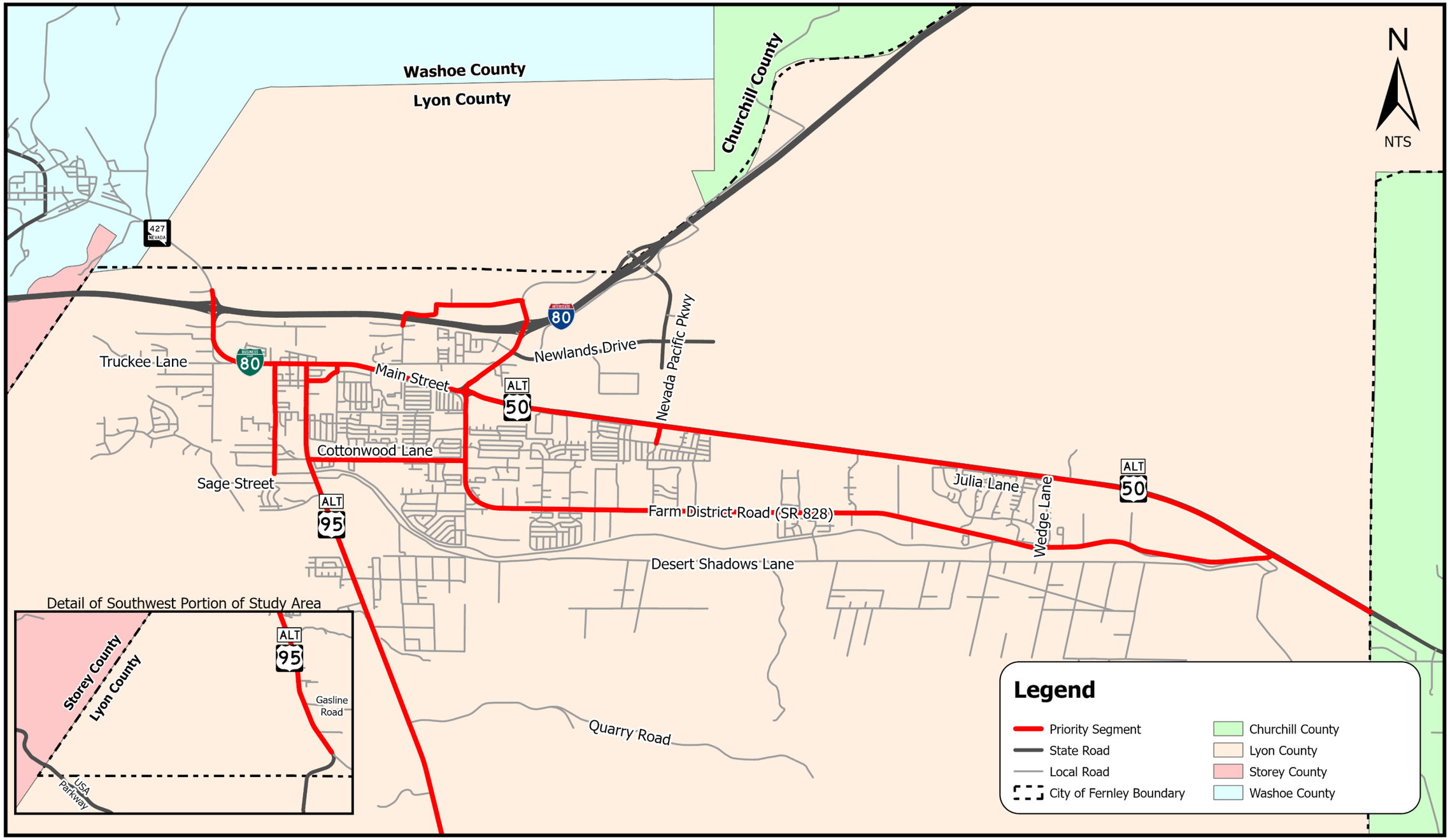


Figure 29 – City of Fernley Final Priority Locations (Segments)

7. ENGINEERING COUNTERMEASURES

While many safety countermeasures could be used to improve roadway safety, the following sections provide countermeasures for City of Fernley consideration based on the needs for traffic safety improvements identified for the priority locations. The effectiveness of safety countermeasures is designated by a Crash Modification Factor (CMF) and related Crash Reduction Factor (CRF), which are used to determine a Benefit-Cost Ratio (BCR) (**Section 7.4**) associated with the engineering countermeasures. CMFs and CRFs are defined below, with detailed CMF data included in **Appendix E.**

7.1. Crash Modification Factors (CMFs)

When identifying potential systemic safety improvements, it is important to look at CMFs for the proposed improvements. The CMF Method is found in Part D of the HSM. CMFs are defined as the ratio of the effectiveness of one condition in comparison to another condition and represent the relative change in crash frequency due to a change in one specific condition. In other words, a CMF is a multiplicative factor used to compute the expected number of crashes after implementing a given countermeasure at a specific site. Countermeasures with CMFs less than one are expected to reduce crashes if applied, while those countermeasures with CMFs greater than one are expected to increase crashes, as illustrated in **Figure 30**.

$$CMF = \frac{\text{EXPECTED CRASHES WITH TREATMENT}}{\text{EXPECTED CRASHES WITHOUT TREATMENT}}$$

CMF = 1.0	Expected to have no impact on safety
CMF < 1.0	Expected to reduce crashes
CMF > 1.0	Expected to increase crashes

Figure 30 – CMF Calculation Process

The CMF Method is used to calculate the expected number of crashes by taking the observed number of crashes and multiplying those crashes by the applicable CMF for the proposed countermeasure. It is recommended that CMFs be applied to a minimum of three years of crash data for urban and suburban sites and five years of crash data for rural sites. This LRSP used five years of data for both rural and urban settings for consistency across the City of Fernley network. A sample calculation of the CMF Method with one CMF applied to a particular site for a single year is shown in **Figure 31**.

10.1 crashes / year x 0.91 (CMF) =	9.2 crashes / year: a reduction of 0.9 total crashes per year and a CRF of 9%

Figure 31 – Example CMF Calculation

A CRF is similar to a CMF but stated in different terms. A CRF is defined as a percentage of crash reduction that might be expected after the implementation of a given countermeasure at a specific site, and is the inverse of the CMF, as shown in **Figure 32**.

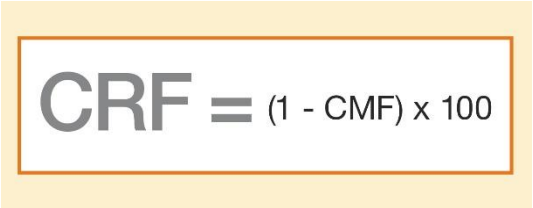


Figure 32 – CRF Calculation Process

Caution should be used in the selection of appropriate CMFs. The following guidance should be considered when selecting CMFs for predictive crash analysis:

- CMFs should be selected from the HSM Part D, the NDOT Planning Level CMF List, or from FHWA's CMF Clearinghouse website (http://www.cmfclearinghouse.org).
- Read the countermeasure abstract to determine if the CMF is applicable to the proposed improvement.
- CMFs with a four-star rating or higher should be considered for use in analysis. Three-star-rated CMFs may be used in instances where that is the only CMF available. CMFs highlighted in FHWA's Proven Safety Countermeasures are used regardless of their star rating since they are recommended for use by FHWA.
- Be sure the selected CMF is applicable to the set of crash data being used for analysis. Some CMFs may only be applicable to a subset of the crash data.
- The application of multiple CMFs can overestimate the expected crash reduction. Unless each CMF addresses independent crash types, multiple CMFs should not be used. It is suggested that no more than three independent CMFs be applied to a particular site.

The countermeasures proposed in this document were identified and selected for City of Fernley traffic safety improvements based on their effectiveness in reducing crashes.

7.2. Engineering Countermeasures Toolbox

CMFs and CRFs have been provided for reference to help the City of Fernley understand potential reductions in traffic crashes when different countermeasures are applied. CMF values for the engineering countermeasures identified for this project are referenced from the HSM Part D, the NDOT Planning Level CMF List, and the FHWA's CMF Clearinghouse website. The CMFs were applied according to guidance provided in the NDOT Project Safety Process (PSP) BCR spreadsheet. The Engineering Countermeasures and their respective CMF/CRFs are listed in **Table 13**. Detailed summary pages for the CMFs, including the NDOT Planning Level CMF List, CMF information from the FHWA Clearinghouse website, and excerpts from FHWA's *Proven Safety Countermeasures* are included in **Appendix E**.

Table 13 – Engineering Countermeasures Toolbox

Category	Countermeasure (reference)	Also Addresses		CMF/CRF	Site Specific/ Systemic	CMF Applies to	
		Pedestrian	Bicycle			All Crash Types	Nighttime
Signalized Intersections	Add flashing yellow arrow turn phase (NDOT Planning Level CMF SI-08)			0.85/15%	Site Specific	X	
Signalized Intersections	Change from permitted-protected to protected on major approach (NDOT Planning Level CMF SI-07)			0.58/42%	Site Specific	X	
Signalized Intersections	Convert signal from pedestal-mounted to mast arm (NDOT Planning Level CMF SI-09)			0.66/34%	Site Specific	X	
Signalized Intersections	Implement leading pedestrian interval (LPI) (NDOT Planning Level CMF BP-05)	X		0.64/36%	Site Specific	X	
Signalized Intersections	Increase length of signal phases to allow pedestrians more crossing time (CMF ID: 5252)			0.49/51%	Site Specific	X	
Signalized Intersections	Resurface pavement (CMF ID: 10280)	X		0.79/21%	Site Specific	X	
Signalized Intersections	Add 3-Inch yellow retroreflective sheeting to signal backplates (NDOT Planning Level CMF SI-10)			0.85/15%	Systemic	X	
Signalized Intersections	Improve signal timing (coordination) (CMF ID 3072)			Varies/Varies	Systemic	X	
Signalized Intersections	Install advanced street name signs (NDOT Planning Level CMF SI-13)			0.98/2%	Systemic	X	
Signalized Intersections	Install left-turn lane when warranted (NDOT Planning Level CMF SI-03)			0.76/24%	Systemic	X	
Signalized Intersections	Install pedestrian countdown timer (NDOT Planning Level CMF BP-04)	X		0.30/70%	Systemic		
Unsignalized Intersection	Convert non-signalized urban intersection to roundabout (NDOT Planning Level CMF US-14)			0.29/71%	Site Specific	X	
Unsignalized Intersection	Install advanced yield or stop markings and signs (CMF ID 9018)	X	X	0.89/11%	Site Specific		
Unsignalized Intersection	Install all-way STOP control (NDOT Planning Level CMF US-22)			0.41/59%	Site Specific	X	
Unsignalized Intersection	Install flashing beacons at stop-controlled intersections (NDOT Planning Level CMF US-24)			0.95/5%	Site Specific	X	

Table 13 – Engineering Countermeasures Toolbox (continued)

Category	Countermeasure (reference)	Also Addresses		CMF/CRF	Site Specific/ Systemic	CMF Applies to	
		Pedestrian	Bicycle			All Crash Types	Nighttime
Unsignalized Intersection	Install raised median with or without marked crosswalk (Uncontrolled) (CMF ID 8799)	X		0.68/32%	Site Specific		
Unsignalized Intersection	Install reduced conflict intersection (S-Island, J-Turn, or RCUT) (NDOT Planning Level CMF US-02)			Varies/Varies	Site Specific	X	
Unsignalized Intersection	Install right-turn lane when warranted (NDOT Planning Level CMF US-07)			0.78/22%	Site Specific	X	
Unsignalized Intersection	Replace standard stop sign with flashing LED stop sign (CMF ID 6602)			0.58/42%	Site Specific	X	
Unsignalized Intersection	Clear sight triangles (NDOT Planning Level CMF US-16)			0.53/47%	Systemic	X	
Unsignalized Intersection	Implement systemic signing and marking improvements at stop-controlled intersections (NDOT Planning Level CMF US-17)			0.81/19%	Systemic	X	
Unsignalized Intersection	Install intersection lighting (NDOT Planning Level CMF US-10)	X		0.90/10%	Systemic	X	X
Unsignalized Intersection	Retroreflective strips on signposts (Part of Implement Systemic Signing and Marking Improvements at Stop-Controlled Intersections (NDOT Planning Level CMF US-17)			0.75/25%	Systemic	X	
Segments	Improve street lighting illuminance and uniformity (CMF ID: 11026)			0.70/30%	Site Specific	X	
Segments	Install a pedestrian hybrid beacon (PHB) (NDOT Planning Level CMF BP-02)			0.40/60%	Site Specific	X	
Segments	Install chevron signs, curve warning signs, and subsequent flashing beacons (CMF: 1914)			0.52/48%	Site Specific	X	
Segments	Install dynamic speed feedback sign (CMF ID: 6885)			0.95/5%	Site Specific	X	
Segments	Install on-street bike facility (NDOT Planning Level CMF BP-05)		X	0.40/60%	Site Specific	X	
Segments	Install pedestrian median fencing (CMF ID: 5258)	X		0.88/12%	Site Specific		
Segments	Install raised median (CMF ID 10984)			0.72/28%	Site Specific	X	

Table 13 – Engineering Countermeasures Toolbox (continued)

Category	Countermeasure	Also Addresses		CMF/CRF	Site Specific/ Systemic	CMF Applies to	
		Pedestrian	Bicycle			All Crash Types	Nighttime
Segments	Prohibit on-street parking (CMF ID: 153)			0.80/20%	Site Specific	X	
Segments	Provide highway lighting (FHWA Proven Safety Countermeasures; CMF ID: 192)			0.67/33%	Site Specific	X	
Segments	Replace TWLTL with raised median (CMF ID: 2514)			0.77/23%	Site Specific	X	
Segments	Lower posted speed limit (CMF ID: 11288)			0.86/14%	Systemic	X	
Segments	Upgrade existing markings to wet-reflective pavement markings (CMF ID 8102)			0.89/11%	Systemic	X	
Signalized Intersections/Unsignalized Intersections	Change right-turn lane geometry to increase line of sight (Intersection Level) (CMF ID: 8496)			0.56/44%	Site Specific	X	
Signalized Intersections/Unsignalized Intersections	Crosswalk visibility enhancements (FHWA Proven Safety Countermeasures)	X		0.58/42%	Systemic	X	
Unsignalized Intersections/Segments	Install raised median with marked crosswalk (Uncontrolled) (CMF:175)			0.54/46%	Site Specific	X	
Signalized Intersections/Unsignalized Intersections/Segment	Rectangular rapid flashing beacon (RRFB) (NDOT Planning level CMF BP-03)	X		0.53/47%	Site Specific	X	
Signalized Intersections/Unsignalized Intersections/Segment	Improve pavement friction - High friction surface treatment (HFST) (NDOT Planning Level CMF CS-02)	X		0.65/35%	Systemic	X	

7.3. Behavioral Countermeasures

There are a number of strategies and actions underway on the statewide level to address non-infrastructure or behavioral causes of roadway crashes. As described in **Section 3.1**, the Nevada 2026-2030 SHSP includes five focus area strategy teams: Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care. City staff should consider attending the focus area quarterly meetings to be part of the discussion on implementation of strategies and actions included in the SHSP, many of which could be applied in the City of Fernley area.

In addition to the SHSP, there are actions underway for motorcycle safety, work zone safety, and impaired driving that the City of Fernley may participate in.

The City may also consider partnerships with businesses to extend outreach and education to road users, such as motorcycle dealerships to encourage attending motorcycle ridership courses or insurance companies or the American Association of Retired Persons (AARP) to provide information on training/refresher courses for older drivers.

Non-infrastructure/behavioral traffic safety countermeasures are described in NHTSA's *Countermeasures that Work,* 11th Edition, which are proven non-infrastructure countermeasures that have demonstrated effectiveness and could be applied locally through the City of Fernley's coordination and collaboration with local, regional, and statewide safety partners. The countermeasures summarized in **Table 14** are those identified by NHTSA that may be effective countermeasures within the City of Fernley area. The City may consider continued support of statewide efforts related to these and future countermeasures.

Table 14 – NHTSA Non-Infrastructure/Behavioral Countermeasures Toolbox

CEA	Countermeasure	Effectiveness	Cost to Implement	Use	Time to Implement
Older Drivers	License Screening and Testing	**** †	$$	High	Medium
Older Drivers	Formal Courses for Older Drivers (Classroom + On-road feedback) ††	****	$$	Low	Medium
Speeding	Lower Speed Limits	*****	$	High	Varies
Speeding	High-Visibility Enforcement	****	$$$	Medium	Medium
Pedestrians	Pedestrian Safety Zones	****	$$$	Low	Long
Pedestrians	Elementary-Age Child Pedestrian Training	***	$	Unknown	Medium
Unrestrained-Occupant	Primary Enforcement Seat Belt Use Laws	*****	$	Medium	Short
Unrestrained-Occupant	Nighttime, High-Visibility Seat Belt Law Enforcement	****	$$$	Unknown	Medium
Young Drivers	Graduated Driver Licensing (GDL)	*****	$	High	Medium
Young Drivers	GDL Intermediate License Passenger Restrictions	*****	$	High	Medium

Source: NHTSA Countermeasures that Work, 11th edition
Note: Non-infrastructure countermeasures for intersection crashes are not available.
Effectiveness:
*****Demonstrated to be effective by several high-quality evaluations with consistent results*
******Demonstrated to be effective in certain situations*
Cost to Implement:
$$$ Requires extensive new facilities, staff, equipment, or publicity, or makes heavy demands on current resources
$$ Requires some additional staff time, equipment, facilities, and/or publicity
$ Can be implemented with current staff, perhaps with training, limited costs for equipment, facilities, and publicity
†Proven for identifying drivers whose driving should be limited
††Proven for improving on-road driving when classroom-based training is paired with individualized feedback.
Use:
High: More than two-thirds of states, or a substantial majority of communities
Medium: Between one-third and two-thirds of states or communities
Low: Less than one-third of states or communities
Unknown: Data not available
Time to Implement:
Long: More than 1 year
Medium: More than 3 months but less than 1 year
Short: 3 months or less

7.4. Safety Benefit-Cost Analysis Methodology

Safety benefits based on the CMFs and associated crash reductions were applied to the NDOT Benefit-Cost Analysis (BCA) spreadsheet. The BCA spreadsheet evaluates safety benefits following the comprehensive societal cost analysis documented in the HSM, which uses the Consumer Price Index (CPI) and Employment Price Index (ECI) to obtain comprehensive societal costs based on the KABCO crash severity scale. Societal costs encompass the comprehensive economic, social, and health-related burdens borne by society due to roadway crashes. **Table 15** provides the comprehensive societal cost values used for the LRSP analysis. The HSM cost estimate methodology used by NDOT is described in the NDOT *2023 Performance Management Report* (page 159). An analysis using the 2024 Comprehensive Societal Costs from FHWA was also completed.

Table 15 – Crash Severity Societal Cost

Crash Severity	2023 Comprehensive Societal Costs (NDOT)	2024 Comprehensive Societal Costs (FHWA)
K – Fatal Injury Crash	$7,587,157	$15,988,000
A – Incapacitating Injury Crash	$399,795	$1,705,100
B – Non-Incapacitating Injury Crash	$145,991	$384,000
C – Possible Injury Crash	$82,009	$204,600
O – Property Damage Only Crash	$13,197	$18,100

The societal costs shown above were then used to determine the societal benefit with the implementation of applicable countermeasures. The calculated societal benefits were then applied to the countermeasure implementation and maintenance costs to calculate the BCR. A BCR greater than 1.0 indicates that the societal benefits of a countermeasure outweigh the planning level costs incurred by implementing the recommendation, while a BCR less than 1.0 indicates the costs associated with the countermeasure outweigh its benefits. By analyzing the BCR for each recommendation, decision-makers can prioritize interventions with the highest potential for reducing crashes while optimizing resource allocation.

8. RECOMMENDATIONS

The following sections provide more information on potential engineering and non-infrastructure safety countermeasures that are likely to address conditions observed during the priority location field reviews.

8.1. Safety Recommendations for Priority Locations

Safety recommendations for each priority location were identified to address the factors contributing to crash risks. All priority intersection recommendations were grouped into their corresponding corridors except for the roundabout at US95A/Farm District Rd (SR 828)/Main St/US50, which is summarized separately. A summary of each priority location is included in **Table 16** to **Table 26**. The corresponding project sheets, benefit-cost analysis, and cost estimates are included in **Appendix F**. Note that recommendations where evaluations or considerations for evaluations were recommended did not include a cost estimate or benefit-cost analysis.

The list of observations and suggestions from the team were assigned one of three priorities defined below:

- ***Priority 1 (Short-Term):*** suggested improvements that can be completed in the near future by agency maintenance staff during their periodic maintenance as appropriate funding is available, or as a study or evaluation as part of a current project.
- ***Priority 2 (Mid-Term):*** suggestions that will require some engineering design.
- ***Priority 3 (Long-Term):*** recommendations that will require significant engineering design and/or right-of-way acquisition and are to be considered for a future roadway improvement project if funding is available.

The suggestions stated in this report could be considered in future planning and may be implemented based on funding availability. A Priority 1 suggestion that cannot be implemented due to funding or other considerations should be considered for implementation with Priority 2 suggestions.

Table 16 – Potential Safety Countermeasures for Main Street

#	Location	Recommendation	Countermeasure	Priority
1	Corridorwide	Review development timelines and the potential to install sidewalk if development is delayed.	Install sidewalk	3: Long-Term
2	Corridorwide	Conduct an ADA/PROWAG field survey of the corridor and install ADA/PROWAG-compliant curb ramps and sidewalks where needed.	N/A	2: Mid-Term
3	Corridorwide	Recommend maintaining 25 mph speed limit to the roundabout.	Lower Posted Speed Limit	2: Mid-Term
4	Corridorwide	Trim and maintain vegetation.	N/A	1: Short-Term
5	Corridorwide	Replace faded and damaged signs.	N/A	2: Mid-Term
6	Corridorwide	Restripe the corridor.	N/A	2: Mid-Term
7	Corridorwide	Conduct sign inventory and install/remove signage as needed.	N/A	2: Mid-Term
8	Corridorwide	Evaluate the potential for shoulders and the addition of bike lanes where space allows.	N/A	1: Short-Term
9	Miller Lane to Hardie Lane	Evaluate existing parking and the potential to add a buffer to the existing bike lanes. Explore adding a designated bike lane in the westbound direction.	N/A	2: Mid-Term
10	Corridorwide (Center Street, US 95A, Locust Street, and Hardie Lane)	Realign intersections to allow perpendicular crosswalks where possible. *City to conduct further analysis to determine the effort to complete intersection realignment.	N/A	3: Long-Term
11	Corridorwide (West Street, Center Street, US 95A, Locust Street, and Hardie Lane)	Install lighting at all crosswalk locations.	Install Intersection Lighting	2: Mid-Term
12	I-80 WB Off-Ramp	Install an acceleration lane.	N/A	3: Long-Term
13	Pilot Road Intersection	Evaluate sight visibility at the intersection.	N/A	2: Mid-Term
14	Pilot Road Intersection	Repave intersection.	Change street surface condition from poor to good	2: Mid-Term
15	Pilot Road Intersection	Replace HPS lighting with LED lighting.	Improve street lighting illuminance and uniformity	1: Short-Term
16	I-80-EB Off-Ramp/Pilot Road Intersection	Evaluate the I-80 off-ramp merge lane and its impacts on the Pilot Road intersection.	N/A	2: Mid-Term
17	Railroad Underpass	Install lighting.	N/A	1: Short-Term
18	West Street Intersection	Install yield signs at crosswalks.	Install advanced yield or stop markings and signs.	1: Short-Term
19	Center Street	Realign and repave the north approach with the south approach and provide diagonal parking on the north approach to service adjacent businesses.	N/A	3: Long-Term
20	US95A Intersection	Upgrade traffic signal heads so there is one signal head centered on each lane.	N/A	2: Mid-Term
21	US95A Intersection	Install retroreflective sheeting to backplates.	Add 3-Inch Yellow Retroreflective Sheeting to Signal Backplates	2: Mid-Term

Table 17 – Potential Safety Countermeasures for Main Street (continued)

#	Location	Recommendation	Countermeasure	Priority
22	US95A Intersection	Repair signal head.	N/A	1: Short-Term
23	US95A Intersection	Install "No Parking" signs and red curb in advance of the intersection.	Prohibit on-street parking	1: Short-Term
24	Big R Hardware Store	Review drainage of the corridor at this location.	N/A	2: Mid-Term
25	Big R Hardware Store	Consider removing the innermost sidewalk.	N/A	2: Mid-Term
26	7th Street	Install an enhanced pedestrian crossing in front of the 7-Eleven and the Nugget Casino.	Install RRFB	2: Mid-Term

Table 18 – Potential Safety Countermeasures for US50

#	Location	Recommendation	Countermeasure	Priority
1	Corridorwide	Evaluate the corridor based on NDOT's Speed Management Action Plan (SMAP) recommendations.	N/A	1: Short-Term
2	Roundabout to Jessica Lane	Install a shared use path.	Install Off-Street Shared Use Path	2: Mid-Term
3	Nevada Pacific Pkwy Intersection	Evaluate the need for pedestrian facilities at the intersection.	N/A	1: Short-Term
4	Nevada Pacific Pkwy Intersection	Extend the yellow phase for eastbound traffic.	N/A	1: Short-Term
5	Nevada Pacific Pkwy Intersection	Paint intersection median.	N/A	1: Short-Term
6	Nevada Pacific Pkwy Intersection	Evaluate lighting levels at the intersection. Install additional lighting if needed.	N/A	1: Short-Term
7	Farm District Rd Intersection	Repave intersection.	Change street surface condition from poor to good	2: Mid-Term
8	Farm District Rd Intersection	Install additional lighting at the intersection.	N/A	2: Mid-Term

Table 19 – Potential Safety Countermeasures for US95A (I-80 to Roundabout)

#	Location	Recommendation	Countermeasure Description	Priority
1	N. of Chisholm/Fremont Intersection	Consider consolidating access at the commercial development by closing the driveway serving the Shell gas station and add access off-site to share the existing Jack-in-the-Box driveway.	N/A	2: Mid-Term
2	Roundabout and Penny Lane	Restripe median with solid double yellow lines and diagonal hatching.	N/A	1: Short-Term
3	Newlands Drive Intersection	Observe both traffic signals along the corridor and see how they interact with the roundabout.	N/A	1: Short-Term
4	Newlands Drive Intersection	Trim and maintain vegetation.	N/A	1: Short-Term
5	Newlands Drive Intersection	Replace pedestrian pushbuttons with APS at Newlands Drive intersection.	N/A	1: Short-Term
6	Newlands Drive Intersection	Upgrade intersection with ADA/PROWAG compliant facilities.	N/A	2: Mid-Term
7	Newlands Drive & Fremont/Chisholm Intersections	Evaluate the pedestrian crossing phase to optimize intersection signal timing and apply a Leading Pedestrian Interval (LPI).	Implement Leading Pedestrian Interval	1: Short-Term
8	Newlands Drive Intersection	Modify the northeast corner curb return and realign the skewed crosswalk on north leg.	N/A	2: Mid-Term
9	Fremont/Chisholm Intersection	Install MUTCD R9-3a "No Pedestrian Crossing" and R3-9bP "Use Crosswalk" signs	N/A	1: Short-Term
10	Fremont/Chisholm Intersection	Replace pedestrian countdown.	N/A	1: Short-Term
11	Fremont/Chisholm Intersection	Observe both traffic signals along the corridor and see how they interact with the roundabout.	N/A	1: Short-Term
12	Fremont/Chisholm Intersection	Evaluate lighting levels at the intersection.	N/A	1: Short-Term
13	Fremont/Chisholm Intersection	Evaluate realignment of the crosswalk.	N/A	2: Mid-Term

Table 20 – Potential Safety Countermeasures for Farm District Road

#	Location	Recommendation	Countermeasure Description	Priority
1	Corridorwide	Install shoulders where space allows while considering the shared use path on the south side of the corridor.	Add new paved shoulder	3: Long-Term
2	Corridorwide	Evaluate the need to update the cross section along the corridor, taking into account the considerations from the Corridor Action Plan that is currently being developed by the City.	N/A	2: Mid-Term
3	Corridorwide	Extend the shared use path approximately 1.1 miles to Clearwater Parkway.	Install Off-Street Shared Use Path	3: Long-Term
4	Corridorwide	Install sensor-based lighting that remains dim when the path is unoccupied and automatically brightens when bicyclists or pedestrians are present along existing and proposed shared use paths.	N/A	2: Mid-Term
5	Corridorwide	Evaluate sight visibility at intersections.	N/A	2: Mid-Term
6	Corridorwide	Install speed feedback signs.	N/A	2: Mid-Term
7	Jenny's Lane Intersection	Repair RRFB.	N/A	1: Short-Term
8	Jenny's Lane Intersection	Refresh crosswalk markings.	N/A	1: Short-Term
9	Jenny's Lane Intersection	Install intersection lighting.	Install Intersection Lighting	2: Mid-Term
10	Cottonwood Lane Intersection	Remove E-W crosswalk at Cottonwood/Farm. Students should be directed to use the crosswalk on the west approach that connects to the existing shared use path. Students who need to cross Farm District Road can use the crosswalk at Farm Lane, which has crossing guards.	N/A	2: Mid-Term
11	Cottonwood Lane Intersection	Install intersection lighting.	Install Intersection Lighting	2: Mid-Term
12	Cottonwood Lane Intersection	Provide crossing guards at the intersection.	N/A	1: Short-Term
13	Cottonwood Lane Intersection	Trim and maintain vegetation.	N/A	1: Short-Term
14	Cottonwood Elementary School	Evaluate the current school zone flasher settings and adjust timing.	N/A	1: Short-Term
15	Cottonwood Elementary School	City to coordinate with the school regarding the pick-up/drop off to avoid blocking the shared use path. *Note: The City is exploring a pilot project to install delineators separating general travel lanes from the shared use path and adding striping in the middle of the path.*	N/A	1: Short-Term
16	Cottonwood Elementary School	Provide enforcement and signage to discourage U-turns in front of the school.	N/A	1: Short-Term
17	3,000 ft west of US50 Intersection	Restripe to prohibit passing on the curve.	N/A	1: Short-Term

Table 21 – Potential Safety Countermeasures for Roundabout: US95A/Farm District Rd (SR 828)/Main St/US50)

#	Location	Recommendation	Countermeasure Description	Priority
1	Roundabout	Signage is faded on some portions of the roundabout. An impaired driving crash occurred at the roundabout a couple of months ago which caused damage to signs.	Replace faded and damaged signs.	1: Short-Term
2	Roundabout	Striping is faded at the intersection. Most yield bars are not visible.	Restripe intersection.	1: Short-Term
3	Roundabout	Vehicles traveling on the far right to use the free right-turns frequently hit pedestrians.	Enhance existing pedestrian crossings by installing RRFBs at all crosswalk locations.	2: Mid-Term
4	Roundabout	The roundabout has fair lighting during nighttime conditions.	Evaluate lighting levels at the intersection.	1: Short-Term

Table 22 – Potential Safety Countermeasures for US95A/US50A (Main Street to City Limits)

#	Location	Recommendation	Countermeasure Description	Priority
1	Corridorwide	Install 6-in wide edge lines along the corridor.	Install Wider Edgeline (6 in)	2: Mid-Term
2	Corridorwide	Refresh centerline striping.	N/A	1: Short-Term
3	Corridorwide	Install reflective tape to the back of signs.	N/A	1: Short-Term
4	Main Street to Cottonwood & Fernley High School driveway to Desert Shadows Lane	Extend the shared use paved path to provide connection between Main Street and Desert Shadows Lane.	Install Off-Street Shared Use Path	3: Long-Term
5	Main Street to Cottonwood & Fernley High School driveway to Desert Shadows Lane	Install sensor-based lighting that remains dim when the path is unoccupied and automatically brightens when bicyclists or pedestrians are present along existing and proposed shared use paths.	N/A	2: Mid-Term
6	Cottonwood & Royal Oaks Drive Intersection	Install intersection lighting.	Install Intersection Lighting	2: Mid-Term
7	Fernley High School	Establish a school zone and reduce the speed limit within this area during school hours. Coordination with NDOT Traffic Operations will be required.	N/A	2: Mid-Term
8	Fernley High School	Install an enhanced pedestrian crossing at Royal Oaks. Coordination with NDOT Traffic Operations will be required.	Install RRFB	2: Mid-Term
9	Fernley High School	Repair lighting on the high school driveway	Improve street lighting illuminance and uniformity	1: Short-Term
10	Segment Near Reno Fernley Raceway (1 mi North of Driveway south to City Limit)	Consider widening the shoulder to 8 feet with shouldering material then slope flattening to 4:1 for 22 feet (30 feet from edge line).	Flatten sideslope from 1V:3H to 1V:4H	2: Mid-Term

Table 23 – Potential Safety Countermeasures for Cottonwood Lane

#	Location	Recommendation	Countermeasure Description	Priority
1	Corridorwide	Evaluate the opportunity to narrow lanes and add a 2-ft buffer to bike lanes.	N/A	1: Short-Term
2	Corridorwide	Install speed feedback signs.	N/A	2: Mid-Term
3	Corridorwide (Street Lighting)	Install corridor lighting along residential areas.	Install lighting	2: Mid-Term
4	Corridorwide (Cook Way, Rosewood Drive, Red Hawk Road, Bardot Way, Brigit Cir., Hardie, Marshall Street)	Install additional lighting at intersections, especially at locations with marked crosswalks.	Install Intersection Lighting	2: Mid-Term
5	Intersections (Cook Way, Rosewood Drive, Red Hawk Road, Bardot Way, US95)	Trim and maintain vegetation.	N/A	1: Short-Term
6	Cottonwood Elementary School	Install a school sign with a flasher.	N/A	2: Mid-Term
7	Cook Way Intersection	Adjust the curb return and align the crosswalk to be perpendicular.	N/A	2: Mid-Term
8	Cook Way Intersection	Install an RRFB at the crosswalk.	Install RRFB	2: Mid-Term
9	Cook Way Intersection	Install fluorescent school signage.	N/A	1: Short-Term
10	Red Hawk Road, and Hardie Lane	Install an enhanced pedestrian crossing at Red Hawk Road, and one at the existing Hardie Lane crossing.	Install RRFB	2: Mid-Term
11	Rosewood Drive Intersection	Evaluate the potential for a small roundabout at this location.	N/A	2: Mid-Term
12	Hardie Lane	Restripe yield bar in the westbound direction to meet MUTCD requirements.	N/A	1: Short-Term
13	US95 Intersection	Note: NDOT is planning to construct a roundabout at this location in 2028 which should help with the sight visibility at the intersection.	N/A	N/A

Table 24 – Potential Safety Countermeasures for Miller Lane

#	Location	Recommendation	Countermeasure Description	Priority
1	Corridorwide	While signs generally have good reflectivity it is recommended that reflective tape is added to the back of signs.	N/A	1: Short-Term
2	Corridorwide	Trim and maintain vegetation.	N/A	1: Short-Term
3	Corridorwide	Coordinate with planned development to install sidewalk.	Install sidewalk	3: Long-Term
4	Corridorwide	Coordinate with planned development to install street lighting. Consider install sensor-based lighting that remains dim when the sidewalk is unoccupied and automatically brightens when in use to preserve the rural nature of the road.	Install lighting	3: Long-Term
5	Corridorwide	Repave roadway.	Change street surface condition from poor to good	2: Mid-Term
6	Canal Drive	Install new stop sign and barrier/hazard signage and reflectors at barrier and relocate "Stop Sigh Ahead" sign.	Implement systemic signing and marking improvements at stop-controlled intersections	1: Short-Term

Table 25 – Potential Safety Countermeasures for Cedar Street/Hardie Lane

#	Location	Recommendation	Countermeasure Description	Priority
1	Hardie Lane	Install flashing beacon on school speed limit sign.	N/A	1: Short-Term
2	Hardie Lane	Install “No Parking” signs where bike lanes exist and provide enforcement.	Prohibit on-street parking	1: Short-Term

Table 26 – Potential Safety Countermeasures for Vine Street/Mission Way/Truck Inn Way

#	Location	Recommendation	Countermeasure Description	Priority
1	Vine Street (Gazzigli Ln to Vine Street)	Repave and restripe roadway.	Change street surface condition from poor to good	2: Mid-Term
2	Corridorwide (Vine Street)	Install speed limit signs.	Install dynamic speed feedback sign	2: Mid-Term
3	Corridorwide (Vine Street and Mission Way)	Install corridor lighting.	Install lighting	2: Mid-Term
4	Vine Street/Mission Way and Mission Way/Truck Inn Way Intersection	Install intersection lighting.	Install Intersection Lighting	2: Mid-Term
5	Vine Street/Mission Way Intersection	Install roadway barrier/hazard signage and reflectors to notify drivers of dead tree stump.	Install roadside barrier	1: Short-Term
6	Vine Street/Mission Way Intersection	Install MUTCD W14-1 “Dead End” sign.	N/A	1: Short-Term
7	Vine Street/Mission Way Intersection	Relocate stop signs.	Implement systemic signing and marking improvements at stop-controlled intersections	1: Short-Term
8	Vine Street/Mission Way Intersection	Consider realignment of the intersection to become a curve following the dirt path vehicles are using.	N/A	3: Long-Term
9	Corridorwide (Mission Way)	Install speed limit signs and speed feedback signs.	Install dynamic speed feedback sign	2: Mid-Term
10	Corridorwide (Truck Inn Way)	Replace faded/damaged signs.	N/A	1: Short-Term
11	Vine Street/Mission Way	Install advance street signage for Veteran's Way.	N/A	1: Short-Term
12	Truck Inn Way/I-80 WB Ramp Intersection	Evaluate and reconfigure interchange off-ramp to avoid traffic back ups onto the I-80 mainline.	N/A	3: Long-Term
13	Truck Inn Way/I-80 WB Ramp Intersection	Evaluate and reconfigure interchange off-ramp for improved sight visibility.	N/A	3: Long-Term
14	Truck Inn Way/I-80 WB Ramp Intersection	Reconfigure the right turn into a right-turn slip lane.	N/A	3: Long-Term
15	Truck Inn Way/I-80 WB Ramp Intersection	Evaluate if a traffic signal is warranted at the interchange off-ramps. Install a "Cross Traffic Does Not Stop" sign in the interim.	N/A	2: Mid-Term
16	Truck Inn Way/I-80 WB Ramp Intersection	Evaluate interchange and install appropriate sized signs.	N/A	2: Mid-Term

8.1.1. Considerations for Speed Management

The Nevada Speed Management Action Plan (SMAP) identifies prevalent speed and speed-management-related issues across the State and outlines potential countermeasures (including engineering, enforcement, and education) that can be implemented. In particular, the SMAP includes a set of roadway environment classifications to help identify target speeds using more context-sensitive considerations. Using these classifications, the recommended adjustments to speed limits on priority corridors are included in **Table 27**.

Table 27 – Speed Limit Recommendations

Corridor	Limits	Existing Speed Limit (MPH)	Roadway Environment Classification	Recommended Speed Limit (MPH)
Main Street	Commerce Center Drive to Hardie Lane	25	RE5: Urban/ Small Town Center	N/A
Main Street	Hardie Lane to Roundabout	35	RE5: Urban/ Small Town Center	25
US 95A	Roundabout to I-80	35	RE3C: Suburban Commercial/Industrial	N/A
Vine St / Mission Way / Truck Inn Way	Gazzigli Lane to I-80	25	RE2T: Rural Town	N/A
US 95A/US50A	Main Street to ~700 ft North of Cottonwood Lane	35	RE5: Urban/ Small Town Center	N/A
US 95A/US50A	~700 ft North of Cottonwood Lane to ~1,000 ft South of Big Oaks Drive/Desert Shadows Lane	45	RE2T: Rural Town	N/A
US 95A/US50A	~1,000 ft South of Big Oaks Drive/Desert Shadows Lane to City Limits	65	RE2: Rural	N/A
US 50	Roundabout to ~700 ft West of Inglewood Drive	50	RE3C: Suburban Commercial/Industrial	45
US 50	~700 ft West of Inglewood Drive to City Limits	65	RE3C: Suburban Commercial/Industrial	45 to Jessica Ln 65 to City Limits
Farm District Road	Roundabout to Whipple Tree Lane	35	RE5: Urban/ Small Town Center	35
Farm District Road	Whipple Tree Lane to US 50	45	RE3R: Suburban Residential	45
Miller Lane	Main Street to Canal Drive	20	RE3R: Suburban Residential	N/A
Cedar Street	US95A to Hardie Lane	20	RE3R: Suburban Residential	N/A
Hardie Lane	Cedar Street to Main Street	25	RE3C: Suburban Commercial/Industrial	N/A
Cottonwood Lane	US95A to Farm District Road	35	RE3R: Suburban Residential	N/A

8.2. Systemic Countermeasure Recommendations

In order to enhance road safety and mitigate the risk of crashes, several systemic safety countermeasures have been identified for potential implementation within the City. These countermeasures have been selected based on their proven effectiveness in addressing common safety concerns. It is essential to conduct further evaluation/assessment of existing infrastructure before implementing these measures systemically. Evaluations should include inventories of intersection lighting, pedestrian crossing locations, and stop-controlled intersections to provide appropriate application. Potential systemic countermeasures for use in the City are included in **Table 28**.

These systemic safety countermeasures offer promising opportunities to enhance road safety within the City. However, thorough evaluation of the region's infrastructure, traffic patterns, and crash data is important to identify suitable locations for implementation and to provide optimal effectiveness. Further assessment will enable informed decision-making and targeted deployment of these countermeasures to maximize their impact on reducing crashes and improving overall safety for road users.

Table 28 – Systemic Countermeasure Recommendations

Systemic Countermeasure Recommendation	CMF	Associated Crash Type/Severity	Pros/Cons	Location	Typical Characteristics for Application
Green pavement at bicycle conflict zones (MUTCD 3H.06)	N/A	N/A	+ Identifies conflict zones between bikes and vehicles - High maintenance to keep clean/repaint	Segments and Intersections	Bicycle lanes, extensions of bicycle lanes through intersections, extensions across entrance to exclusive turn lanes, bicycle boxes. Can be used at entrances to separated bike lanes or any conflict, weaving, or crossing location. Can be used to enhance bike lane pavement markings
High Friction Surface Treatment (HFST) (NDOT Planning Level CMF: CS-02) Intersection CMP (NCHRP)	0.65 0.80 (Intersections)	All/All	+ Low-cost compared to infrastructure improvements, higher quality pavement - Higher cost than regular pavement	Segments (Curves) and Intersections	Urban or Rural Segments/curves: Horizontal curves, steep downward grades, interchange ramps Intersections: higher-speed signalized and stop-controlled intersections, intersection approaches, crosswalk approaches, locations with a history of rear-end, failure to yield, wet-weather, or red-light-running crashes.
Crosswalk Visibility Enhancements (FHWA Proven Safety Countermeasures) (CMF ID: 4123)	0.60		+ Increases visibility of pedestrians, bicyclists, wheelchair users. Assist users with where to cross. - Consider enhanced pedestrian crossings for multilane midblock locations		
Install Intersection Lighting (NDOT Planning Level CMF: US-10)	0.67	Nighttime/All	+ Increases visibility at intersections for pedestrians and other users at nighttime. - Requires space for foundation for poles. Requires additional power. Additional items in the right-of-way. Could cause light pollution.	Intersections	Intersections with presence of crosswalks, vulnerable road users (non-motorized users) Signalized and unsignalized intersections
Lower Posted Speed Limit (CMF ID: 11288) (NDOT Speed Management Action Plan)	0.86	All/K,A,B,C	+ Increases survivability in a crash (reduces risk), reduces crashes. - May require an engineering study, increased enforcement, and geometric changes to achieve desired speeds.	Segments	Urban or Rural Urban areas with vulnerable road users Areas with high number of speed-related crashes or speed issues Consideration for driveway density, intersection spacing, land use context, roadway geometry, roadside conditions

Table 28 – Systemic Countermeasure Recommendations (continued)

Systemic Countermeasure Recommendation	CMF	Associated Crash Type/Severity	Pros/Cons	Location	Typical Characteristics for Application
Install Advanced Street Name Signs(CMF ID: 2449)	0.98	All/All	+ Alerts drivers in advance of an intersection to reduce crashes due to way-finding.- May result in sign clutter in urban areas.	Intersections	Urban or Rural(Urban) Signalized intersections(Rural) Install street name signs with advance intersection warning signs
Implement Systemic Signing and Marking Improvements at Stop-Controlled Intersections (NDOT Planning Level CMF: US-17) Includes doubled-up, oversized advance intersection warning signs (Rural) Retroreflective sheeting on signposts Enhanced pavement markings	0.81	All/All	+ Alerts drivers in advance of a stop-controlled intersection. - May be a high number of improvements based on number of stop-controlled intersections included.	Stop-controlled intersections	Urban and Rural Stop-Controlled intersections
Implement Systemic Signing and Marking Improvements at Signalized Intersections (NDOT Planning Level CMF: SI-14) Includes replace signal heads, push buttons and signs, restripe stop bars, restripe crosswalks	0.96	All/All	+ Improves visibility at signalized intersections. - May be a high number of improvements based on number of signalized intersections included.	Signalized intersections	Signalized intersections without systemic signing and marking improvements
Add 3-Inch Yellow Retroreflective Sheeting to Signal Backplates (NDOT Planning Level CMF: SI-10)	0.85	All/All	+ Increases visibility of signal heads. - Minimizing installation time, accessing existing signal heads, structural limitations.	Signalized intersections	Signalized intersections that do not currently have backplates with retroreflective borders.
Install Chevron Signs, Curve Warning Signs, Subsequent Flashing Beacons, and Edge Lines (CMF ID: 1914)	0.52	All/All	+ Increases driver awareness of upcoming curve. - Assessment of each curve required to address specific geometric features.	Segments (Curves)	Curves with no curve delineation treatment or those with improperly placed or missing devices.

9. EVALUATION AND IMPLEMENTATION

This section discusses evaluation and implementation elements for the success of the LRSP.

9.1. Evaluation

The success of the LRSP will be evaluated using the preliminary process outlined below. This process will be useful in supporting the proper implementation of goals and in determining when updates are needed.

- Establish a committee that is charged with setting comprehensive goals for the City of Fernley and overseeing the execution of the LRSP initiatives. This committee may include the City Manager, Engineering Manager, and Public Works Director.
- Annual progress meetings led by the Engineering Department are recommended to track and evaluate the success of the LRSP's implementation.
- An update to the plan should be considered after no more than five years.
- Continued monitoring and recording of traffic incidents on local roadways by law enforcement.
- Maintain a list of focus areas where there are transportation safety concerns, based on historical crash data and public input.

9.2. Implementation

One of the goals of the LRSP is to provide a document that is usable and can be frequently consulted by the City of Fernley to aid in requesting funding and completing traffic safety improvement projects. Implementation of the LRSP should be coordinated with current or upcoming projects (e.g., Cedar Street Project, [SR828] Farm District Road Flashing Solar Light Evaluation and Upgrade, and [SR 828] Farm District Road Bike Path Phase 3), development of new projects, establishing new policies and programs, and developing and strengthening relationships with stakeholders.

With regard to projects, the following identifies potential focus areas for the City of Fernley in the near-to-mid-term.

9.2.1. Near- and Mid-Term Focus Areas

The opportunities identified in this LRSP provide countermeasures that can be applied within the City. Over the next three to five years, it is recommended that the City concentrate its efforts on the following emphasis areas:

- Intersections
- Impaired Driving
- Lane Departures
- Speed-Related
- Occupant Protection (Unrestrained Occupants)

Analysis conducted at the City level indicated that these factors were some of the most frequent influences contributing to fatal crashes within the City. The countermeasure opportunities previously discussed in this LRSP for both project-specific and systemic improvements can be used as a basis for developing projects at locations where addressing these focus areas would be of the most benefit. Projects that address these focus areas can be developed with a high BCR

(by applying citywide crash rates), allowing competitive projects to be developed even at sites with little to no direct crash history, but with conditions that might contribute to future crashes.

9.2.2. Policies, Plans, and Processes

The City of Fernley is taking meaningful steps to prioritize road safety by initiating the Safe Routes to School (SRTS) study in collaboration with Western Nevada Safe Routes to School. This LRSP included an assessment of the City's existing policies, plans, and processes and identified opportunities to enhance programs, policies, and practices to address road safety more comprehensively (**Section 4**).

Other policies, plans, and processes that could be amended or developed to prioritize safety include:

- Incorporate safety as a priority in the CIP. While there currently is no formal prioritization process, the Engineering Department is working on combining pavement condition (Pavement Condition Index [PCI]) with crash data into a single platform for CIP prioritization.
- Recommend context-sensitive safety improvements for new developments through the design review process. Consistent with FHWA guidance, context-sensitive safety solutions use a collaborative, interdisciplinary approach that engages stakeholders to deliver transportation facilities that fit their physical setting, preserve scenic, aesthetic, historic, and environmental resources, and maintain safety and mobility.
- Develop/adopt other safety policies such as:
    - Unsignalized Crosswalk Guidance (for RRFBs and PHBs) – the City can refer to the NDOT Pedestrian Crosswalk Guidelines[4] for reference.
    - Roundabout Policy – understanding the public is uncomfortable with roundabouts, the City can work with NDOT to educate the public on the safety benefits of roundabouts and how to use them.
    - Speed Limit Setting, which may include considerations for functional classification and truck routes.
    - Low-Cost (Systematic) Safety Improvements at Signalized and Unsignalized Intersections.

City and LRSP stakeholders should collaborate to discuss how to incorporate and prioritize safety through existing and new policies, plans, and processes.

9.2.3. Partnerships

The City of Fernley should continue to partner with NDOT to collaborate on projects, plans, and studies for improving safety on Fernley area roadways. In addition to the partnership with NDOT, the City can partner with other safety professionals through the Nevada SHSP Task Forces, OTS, law enforcement, City Senior Advisory Committee, local businesses, major employers, and the Lyon County School District to strengthen opportunities to implement recommendations in the LRSP, both infrastructure and non-infrastructure/behavioral.

4. *NDOT, Pedestrian Crosswalk Guidelines, https://www.dot.nv.gov/home/showpublisheddocument/24030/638985371938270000, accessed December 28, 2025, for this report.*

9.3. Routine Monitoring of Safety on Local Roads

Routine monitoring of safety on local roads is important to understand if there are changes in crashes and if modifications are needed to address roadway safety. The following process is recommended to monitor the safety of local roads. The City Engineering Department will facilitate monitoring of the plan.

- The City should meet twice a year with the Police Department, Signal Maintenance, Street Maintenance (City and NDOT), Lyon County School District, NDOT Traffic Safety Engineering Division, and Lyon County to review high crash locations and safety concerns.
    1) Meeting No. 1 – Identify the top 10 crash locations in the last year and discuss safety concerns at each location.
    2) Meeting No. 2 – Review recommended safety countermeasures from the engineering and non-engineering countermeasures toolbox (**Table 13** and **Table 14**) and identify applicable countermeasures for implementation.
- Read all the crash reports (forwarded by the Police Department). If there is a potential crash pattern or a potential engineering solution is identified, a traffic study is opened for further review and implementation.
- Establish a multidisciplinary crash investigation team that focuses on fatal and serious injury crashes, similar to the Denver Zero Fatalities Rapid Response Program5. In this program, the City of Denver performs engineering reviews at locations where traffic fatalities or a high number of crashes have occurred to identify risk factors that can be incorporated citywide. The Clark County Office of Traffic Safety in Southern Nevada has a similar program where County and local agency staff respond to fatal crashes citywide. It is recommended that staff review crash history and all existing signage and striping at the crash locations.
- The City, the Lyon County Sheriff's Office, and SRTS Coordinators should meet with all new and existing schools regularly to develop/update their SRTS map and review traffic control around school sites. The plan will recommend coordination as part of the current SRTS effort in collaboration with Carson City through Western Nevada Safe Routes to School.
- Evaluate the effectiveness of countermeasures implemented. Countermeasure evaluation can vary in complexity from simple before-and-after analysis to more complex before-and-after analysis methods. It is recommended that effectiveness evaluations be conducted two to three years after an improvement has been installed, giving road users enough time to get used to the "post-treatment" condition, since it takes time for road users to become familiar with the roadway. Obtaining at least three years of before-and-after data (crash, severity, and traffic volumes) is recommended. The USDOT provides details on evaluation options, including the following[6]:
    - Collect public feedback data
    - Conduct a comparative assessment of before-and-after crash frequency, severity, and traffic volumes
    - Conduct simple or more rigorous before/after analysis

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[5] USDOT, City of Denver Vision Zero Rapid Response Program, https://highways.dot.gov/media/31491, accessed December 28, 2025, for this report.
[6] UDOT, Step 7. Evaluate Effectiveness, https://highways.dot.gov/safety/local-rural/improving-safety-rural-local-and-tribal-roads-safety-toolkit/step-7-evaluate, accessed December 28, 2025, for this report.

9.4. Updates to the LRSP

The following steps outline the process for updating the City of Fernley LRSP every five years.

1. Access necessary data
   - Roadway and intersection classification/configurations
   - Average Daily Traffic Volumes (collected from counts where available)
   - Collision history
2. Network screening
   - Calculate the CCR for each roadway functional classification and intersection control type
   - Rank for each facility type
     i. Roadway Segment
        1. Primary
        2. Secondary
        3. Local
     ii. Intersection
        1. Signalized
        2. Unsignalized
3. Select locations
   - Identify the location with a higher CCR than what is typical of comparable facility types within the City
   - Analyze the collision history and work with local officials to understand any significant exterior influences on the location
4. Countermeasures
   - Using the Countermeasures Toolboxes (**Table 13** and **Table 14**), identify potential countermeasures that can be applied locally to enhance safety features
5. Develop a project sheet that can serve as a template for analyzing future locations
6. Calculate the benefit and cost of each applicable countermeasure using the NDOT Planning Level CMF List and the NDOT PSP CMF Method BCR spreadsheet. If those are not available, refer to other resources such as the CMF Clearinghouse and follow a similar calculation (using 20-year cost and benefit numbers).

The LRSP has completed steps 1 through 6. In subsequent years, the City can begin at Step 1 to continue the LRSP process. Additional actions the City can do to keep the LRSP current are:

1. When new or reconstruction projects arise, use the data processed to identify locations with similar characteristics and apply countermeasures with proven effectiveness
2. Proactively update its roadway and traffic standards to address systemic safety issues identified in the LRSP

9.5. Funding

The development and implementation of safety projects are typically funded through a combination of federal and state sources. Federal funding plays a significant role, with programs such as the HSIP providing resources specifically designed for improving roadway safety. These federal funds are often supplemented by state transportation funds, allocated through instruments such as the State Transportation Improvement Program (STIP). The following is a high-level introduction into some of the main funding programs and grants for which the City can apply.

9.5.1. Highway Safety Improvement Program (HSIP) and Eligibility

The HSIP is a federal program housed under the Infrastructure Investment and Jobs Act, also known as the Bipartisan Infrastructure Law. This program apportions funding as a lump sum for each state, which is then divided among apportioned programs. HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. HSIP funds can be used for highway safety improvement projects on any public road or publicly owned bicycle or pedestrian pathway or trail, as well as other types of projects, activities, and strategies that support progress toward reducing the number of traffic-related fatalities and serious injuries. In addition, projects utilizing HSIP funds must support the emphasis areas and strategies identified in the state's SHSP.

The HSIP project selection cycle occurs every 1-2 years. The applicant must be a city, a county, an MPO, or a tribal government federally recognized within the State of Nevada. To qualify for HSIP funding, projects must address documented safety concerns on public roadways, aiming to reduce the frequency and severity of crashes. Eligible projects typically focus on high-crash locations, hazardous roadway features, and crash-prone intersections identified through comprehensive safety analyses. Additionally, projects must align with the goals and priorities outlined in the Nevada SHSP, emphasizing data-driven approaches to improving roadway safety. NDOT prioritizes projects with demonstrated potential for significant safety benefits, ensuring that HSIP funds are strategically allocated to maximize their impact on reducing traffic fatalities and injuries across Nevada's transportation network.

9.5.2. Safe Streets and Roads for All (SS4A)

The SS4A program supports efforts to address roadway safety issues identified as having the most significant roadway as part of safety action plans. The SS4A program provides two levels of grant funding: Planning and Demonstration grants and Implementation Grants. The City should complete the SS4A Certification Eligibility Worksheet for the given fiscal year to determine SS4A eligibility. This LRSP has been prepared to satisfy the requirements of the fiscal year (FY) 2025 SS4A Certification Eligibility Worksheet (**Appendix G**). A Notification of Funding Opportunity (NOFO) is expected in the spring of 2026; requirements for the FY 2026 NOFO may differ from the FY 2025 requirements.

9.5.3. Other Funding Sources

The HSIP is the funding mechanism most commonly used to fund LRSP projects; however, there are other funding sources available, including the following:

- NHTSA Highway Safety Grants (Behavioral), through the Nevada Office of Traffic Safety
- Active Transportation Program (bicycle and pedestrian improvements)
- Transportation Alternatives Program (TAP)
- Safe Routes to School
- Congestion Management and Air Quality (CMAQ) funds
- Sign replacement programs
- Funding through RTC Washoe and Lyon County
- Inclusion in the City budget
- Tribal transportation safety funding (if applicable)
- Specialty bond programs
- Private sector partnerships

10. NEXT STEPS

The City of Fernley has completed this LRSP to guide the process of future transportation safety improvements for years to come. The data-driven analysis process identified crash types, related primary crash factors, and locations of recent crashes. Based on this process, emphasis areas were identified. These emphasis areas will guide traffic safety improvements, education programs, and capital improvements for the region.

Using the analyzed data and outputs from this LRSP, the City will:

1. Apply for HSIP and SS4A grant funding for safety improvement implementation throughout the region that addresses the various emphasis areas identified.
2. Actively seek other funding opportunities to improve safety for all road users.
3. Collaborate with identified stakeholders and partnering agencies as improvements are made to create a cohesive transportation network.
4. Iteratively evaluate existing and proposed transportation safety programs and capital improvements to design and operate a safer transportation network in the City.
5. Complete an annual review of safety data to evaluate the progress of countermeasure implementation.

The City plans to have the City Council formally approve and adopt this LRSP to include in the City's transportation planning and master planning documents. The City should update the LRSP every five years to ensure the plan continues to meet the region's safety needs.

APPENDIX A

FERNLEY LRSP DOCUMENT REVIEW AND RESEARCH

City of Fernley

Local Road Safety Plan

DOCUMENT REVIEW AND RESEARCH
DRAFT



AUGUST 2025

DOCUMENT TECHNICAL MEMORANDUM

FOR

CITY OF FERNLEY LOCAL ROAD SAFETY PLAN

Prepared for:

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August 2025

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List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
CCR	Critical Crash Rate
CEA	Critical Emphasis Area
CIP	Capital Improvement Plan
CSAP	Comprehensive Safety Action Plan
EPDO	Equivalent Property Damage Only
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
HSIP	Highway Safety Improvement Plan
HSM	Highway Safety Manual
LPA	Local Public Agency
LRSP	Local Road Safety Plan
NDOT	Nevada Department of Transportation
NHTSA	National Highway Traffic Safety Administration
NOFO	Notice of Funding Opportunity
SHSO	State Highway Safety Office
SHSP	Strategic Highway Safety Plan
SMAP	Speed Management Action Plan
SRTS	Safe Routes to School
SS4A	Safe Streets and Roads for All
TMP	Transportation Master Plan
US DOT	United States Department of Transportation
VRU	Vulnerable Road User

1. INTRODUCTION

The City of Fernley is experiencing a large volume of growth, converting the City from a mostly residential area to a mixed residential-commercial community. The City's projected growth has prompted land use plans and developments, requiring the expansion of Fernley's roadway network. A Local Road Safety Plan (LRSP) is being developed for the City of Fernley to identify, analyze, and prioritize safety improvements on local roadways, shown in **Figure 1** and **Figure 2**. The LRSP will utilize existing documents and safety data to develop recommended transportation actions and improvements, with the goal of reducing fatalities and serious injuries on the City's roads.

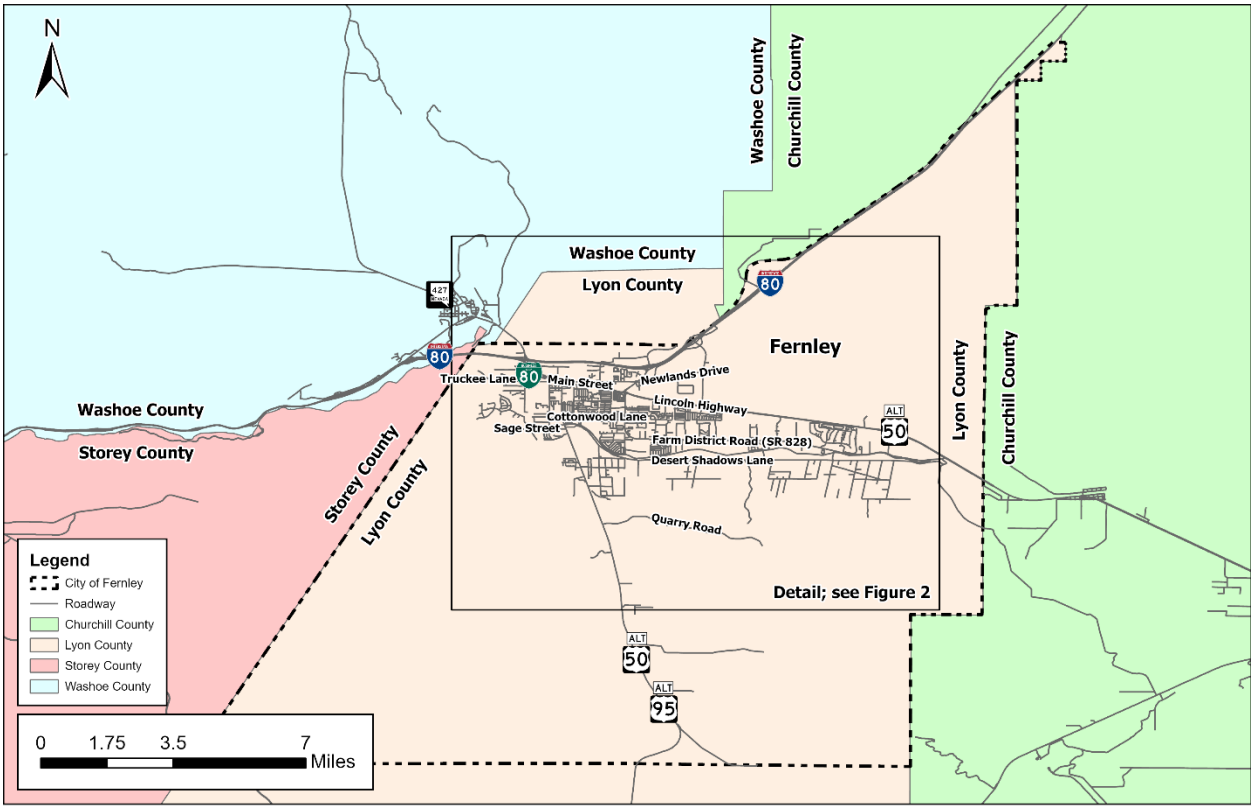


Figure 1 – City of Fernley Area Map

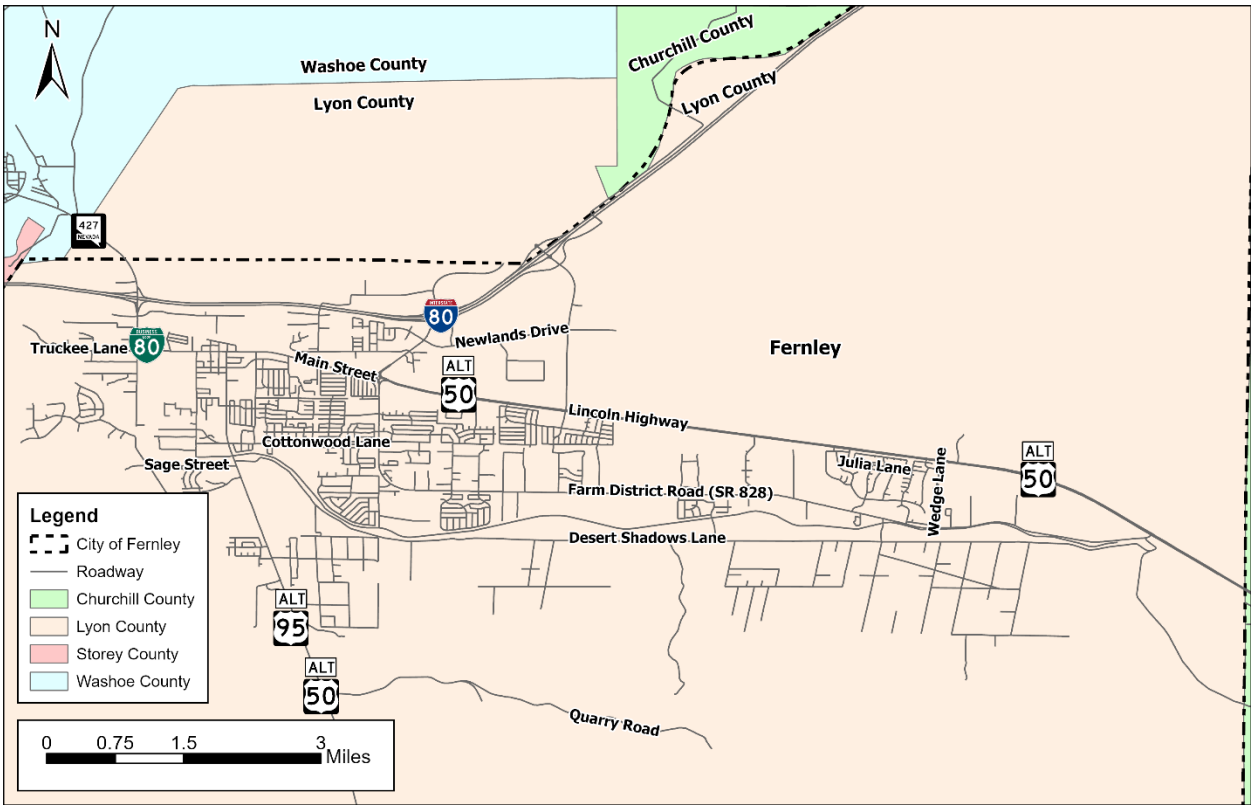


Figure 2 – City of Fernley Urbanized Area Map

A review of existing policies, plans, and studies was conducted as an initial step for the LRSP. This memorandum provides a summary of known studies and documents related to the LRSP. Currently, city-specific Complete Streets and roadway safety policies are not available. The various agency documents reviewed are listed in **Table 1**. These include relevant documents from the City of Fernley, Nevada Department of Transportation (NDOT), American Association of State Highway and Transportation Officials (AASHTO), Federal Highway Administration (FHWA), and National Highway Traffic Safety Administration (NHTSA).

Table 1 – Reviewed Documents

Agency	Document Name (Year Published)
City of Fernley	City of Fernley Corridor Action Plan (In Progress)
	City of Fernley Capital Improvement Plan and General Program Budgets (In Progress)
	City of Fernley 2021-2026 Strategic Plan (2020)
	City of Fernley Safe Routes to School Plan (2011)
	City of Fernley Transportation Master Plan (2020)
	City of Fernley Comprehensive Master Plan (2001, rev. 2018)
	North Fernley Area Plan (2025)
	Southwest Fernley Area Plan (2025)
	Title 32 – Development Code (2025)
	Design Standards (2024)
Nevada Department of Transportation (NDOT)	2021-2025 Nevada Strategic Highway Safety Plan (2021)
	Highway Safety Improvement Program, Local Public Agencies Process (2021)
	Access Management System and Standards (2017)
	Speed Management Action Plan (2022)
American Association of State Highway and Transportation Officials (AASHTO)	Highway Safety Manual (2010)
Federal Highway Administration (FHWA)	Proven Safety Countermeasures (2021)
	Safe System Approach (2024)
	Safe Streets and Roads for All Funding (2025)
National Highway Traffic Safety Administration (NHTSA)	Countermeasures That Work, 11th Edition (2023)

The following sections summarize the studies reviewed and are organized by responsible agency.

2. CITY OF FERNLEY

This section summarizes the City of Fernley studies and documents identified in **Table 1** that will be utilized for the LRSP.

2.1. City of Fernley Corridor Action Plan (In Progress, Wood Rodgers, Inc.)

The *City of Fernley Corridor Action Plan (Corridor Action Plan)*, started in the Spring of 2025, will include the analysis of Main Street (State Route 427) and Farm District Road (State Route 828). This plan focuses on strategies for residential access, new area development in the south and southwest, and Main Street. No additional information is available at the moment, but relevant data from the *Corridor Action Plan* will be considered in the LRSP as it becomes available.

2.2. City of Fernley Capital Improvement Plan and General Program Budgets (In Progress, City of Fernley)

The *City of Fernley's Capital Improvement Plan (CIP)* gives a multi-year outline of infrastructure projects to be completed and will be considered in the LRSP as information is made available. The City's *CIP* has been voted on for approval. As of the City of Fernley City Council meeting hosted on June 18, 2025, $4.11 million has been approved as General Funds for Fiscal Year 2026, with $3.13 million being committed to cover proposed capital expenditures.

2.3. City of Fernley 2021-2026 Strategic Plan (2020, City of Fernley)

The City of Fernley is projected to transition from a predominantly residential town to a mixed residential-commercial community as its population grows alongside an increasing demand for industrial space. A *Strategic Plan* was created with a horizon year of 2040 to guide the City through its transitional growth while preserving the community's identity. The mission and vision established by the City of Fernley include:

- **Mission**: "It is the mission of the City of Fernley to facilitate the responsible and orderly growth of the community and to see that quality municipal services are provided in the most professional, efficient, and cost-effective manner."
- **Vision**: "By 2040 Fernley is a community that:
  - Is vibrant, safe, friendly, and family-oriented with a high quality of life and engaged residents
  - Has a strong local economy and abundant amenities for residents
  - Has a financially stable government"

Seven goals and 40 strategies accompany the mission and vision for the City. These goals are centered across four focus areas, including:

- Livable Community
  - Manage sustainable growth and maintain public infrastructure
  - Develop a defined city center with a mix of businesses, restaurants, and entertainment
  - Encourage a variety of housing types, density, and price that accommodate the needs, desires, and financial abilities of the current and future households

- Connected and Engaged
  - Increase opportunities for civic engagement and community building
- Progress Through Partnership
  - Maintain strong partnerships with public agencies and community organizations
- Robust Municipal Services
  - Ensure municipal services meet the needs and expectations of the community
  - Develop and maintain revenue sources to support community improvements and services

These goals serve not only to maintain and promote the City's growing infrastructure, but also to ensure current resident satisfaction. Recommendations from the LRSP will consider the City's needs and overall goals to improve roadway safety.

2.4. City of Fernley Safe Routes to School Plan (2011, Hansford Economic Consulting)

The *City of Fernley Safe Routes to School (SRTS) Plan* strives to create an environment that encourages students to walk and bike to school rather than rely on motor vehicle travel. The *SRTS* was developed from observations and concerns regarding minimal active transportation and safety. Some of the concerns include: the lack of pedestrian and bicycle facilities, blocked and hazardous pathways, and inadequate accommodations on existing facilities. To address the identified concerns, the *SRTS Plan* used the five Es of comprehensive solutions: Engineering, Enforcement, Encouragement, Education, and Evaluation, to make Complete Streets recommendations such as reducing traffic speed, increasing sidewalk connectivity, creating a traffic control plan for each school, and improving pedestrian and bicyclist facilities. The short- and long-term recommendations would benefit students and the general public. Any crossover between the *SRTS* and the LRSP will focus on fatal or serious injury crashes involving vulnerable road users (VRUs), which include pedestrians and bicyclists.

2.5. City of Fernley Transportation Master Plan (2020, Kimley-Horn)

The *City of Fernley Transportation Master Plan (TMP)* supplies a recommendation list of short- and long-term projects that are anticipated to provide the most benefits to the City. To establish the potential needs of the City, different population growth and development scenarios were simulated to result in the creation of 5-, 10-, and 20-year plans. Common themes the City may face in the future include a lack of connectivity, a high crash rate at specific intersections, and mobility challenges, which can be addressed in the LRSP. The high crash rate intersections identified in the *TMP* are as follows:

- US 95A between I-80 and the Main Street Roundabout (US 50A/US 95A/SR 828)
- Intersection of US 50 and Nevada Pacific Parkway
- Intersection of Main Street and US 50A/US 95A

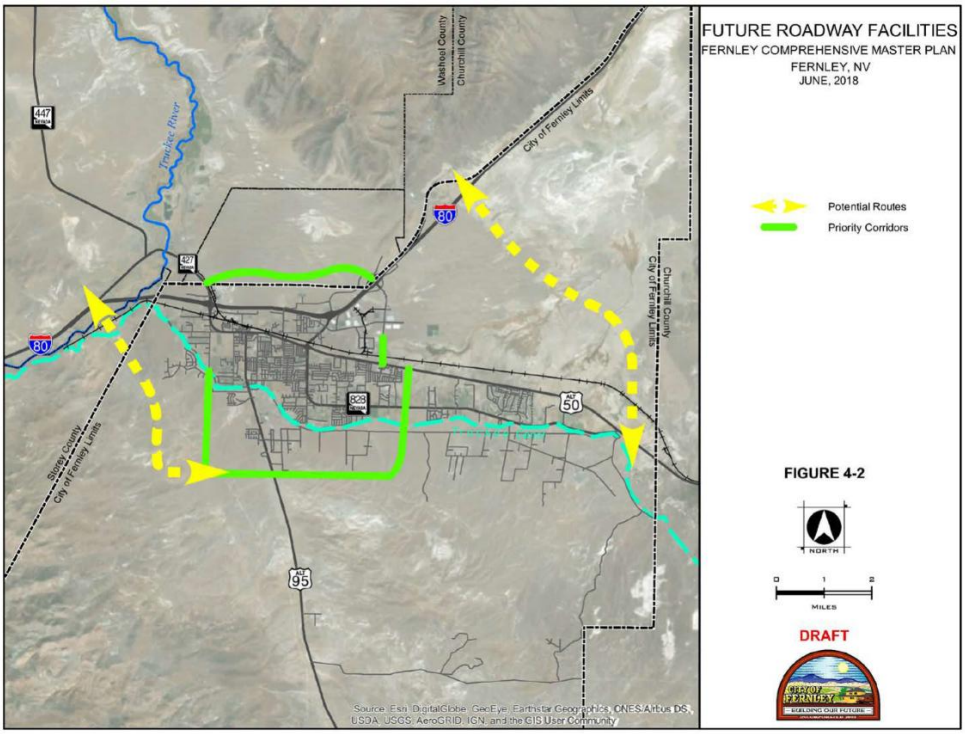
Typical categories for improvements include roadway corridor, intersection, bicycle, pedestrian, connectivity, and transit, with an emphasis on creating a multi-modal network. The *TMP* also provides other considerations for strategies, improvements, and maintenance that serve to develop an efficient multi-modal system that can improve roadway safety with guidance from the LRSP. Cost estimates were performed for a selection of 10 improvements in the 5- and 10-year

horizons, with a total cost ranging from $50.2 million to $52.8 million, depending on the level of implementation. A table of these projects can be found in **Attachment B**.

2.6. City of Fernley Comprehensive Master Plan (2001, rev. 2018, Wood Rodgers, Inc.)

The *City of Fernley Comprehensive Master Plan* was revised with the incorporation of the City and establishes guidelines for decision-making regarding planning, land use, resources, and infrastructure to sustain and promote City growth. Due to the small size of the City, the content is not regulated by *Nevada Revised Statutes* and is instead dictated by City Staff, the City Planning Commission, and the City Council.

The transportation improvements outlined by the plan are based on projected trends of significant future growth, prompting the need for more robust roadways. The plan illustrates the proposed future roadway facilities, identifying key corridors and expansions intended to support long-term connectivity and development (**Figure 3**). The main goals identified for the City include connectivity improvements, capacity increases, safe and efficient roadway designs, and multi-modal incorporation. Under the action strategies for each goal, specific items are listed that involve the implementation and protection of public safety. The LRSP will support these goals by recommending safety improvements to reduce fatal and serious injury crashes within the City.

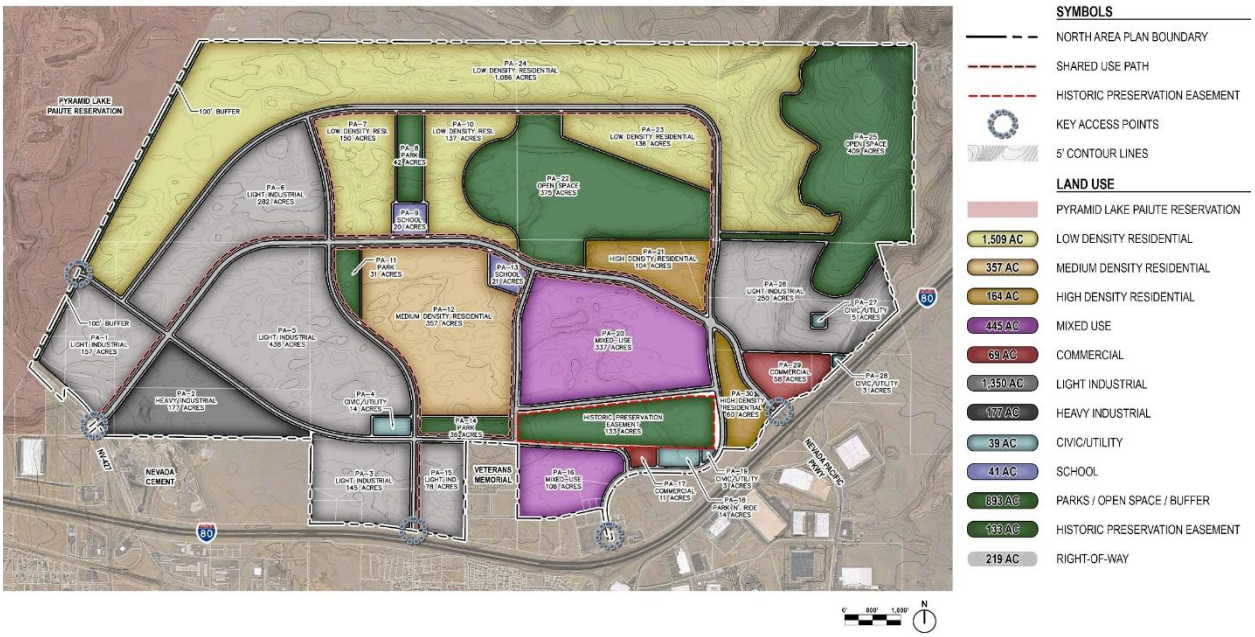


Source: City of Fernley

Figure 3 – City of Fernley Future Roadway Facilities

2.7. North Fernley Area Plan (2025, Kimley-Horn)

The North Fernley area is identified by the *Comprehensive Master Plan* as a future area of major development. The *North Fernley Area Plan* was created to provide guidance for land use and development that corresponds with community-driven visions and goals. The proposed land use map is shown in **Figure 4**. Connectivity will play a major role in land development, seeing as there are currently minimal ways to access the area, and there are no existing roads within it.



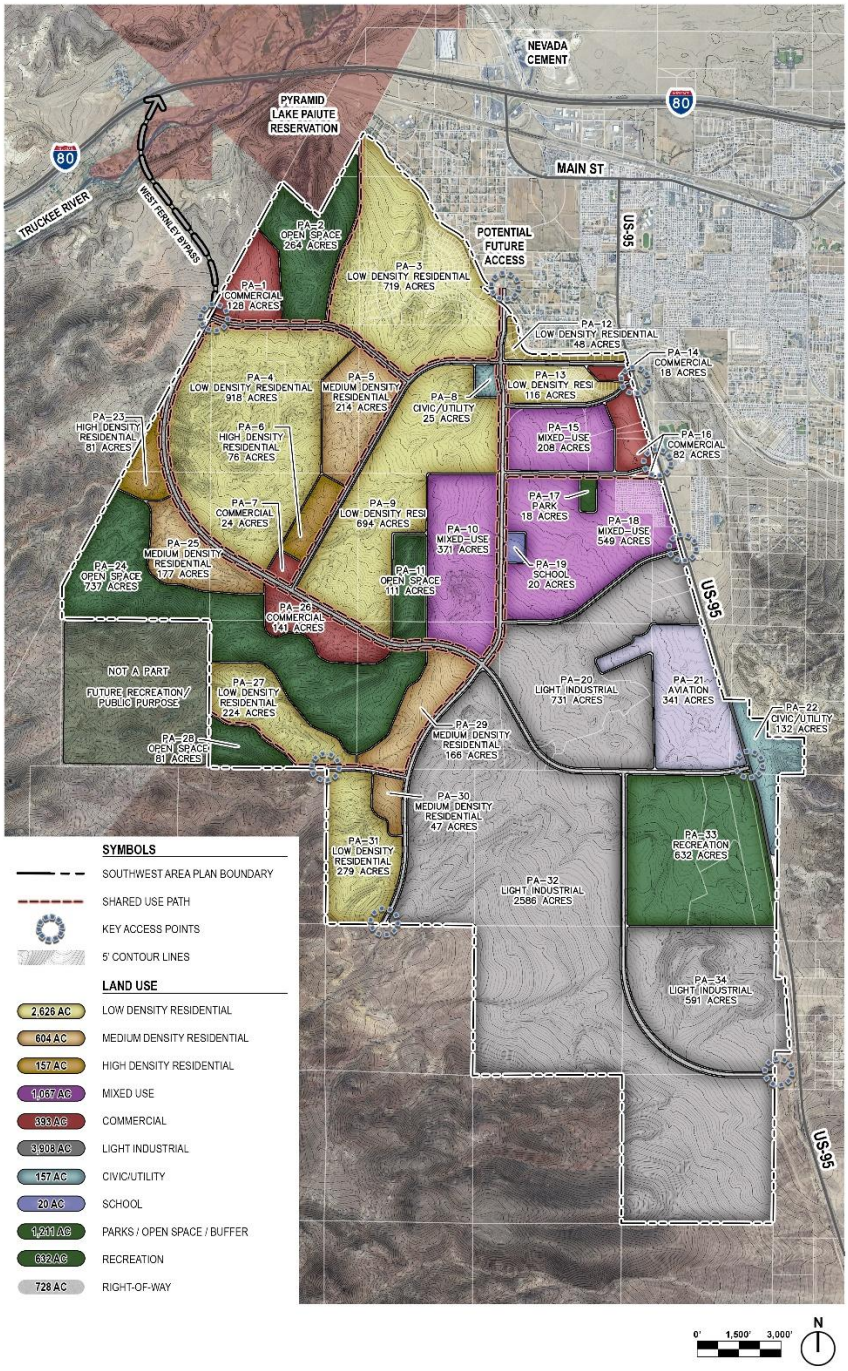
Source: City of Fernley

Figure 4 – North Fernley Land Use Map

Transportation goals featured in the area plan include establishing consistency in sidewalks and pedestrian infrastructure, providing bicycle lanes and facilities, increasing connectivity, and identifying future truck routes. With so much open land to develop, the LRSP will play a critical role in ensuring new roadways are built to desired safety and mobility standards.

2.8. Southwest Fernley Area Plan (2025, Kimley-Horn)

The Southwest Fernley area, shown in **Figure 5**, is one of three areas identified for major development in the *Comprehensive Master Plan*. The *Southwest Fernley Area Plan* was developed to guide land use and development in alignment with area-specific visions and goals. The main transportation topics noted in this plan address inconsistencies in pedestrian sidewalks and safety, integration of bike lanes and infrastructure, increasing roadway accessibility, and promoting effective truck routes.



Source: City of Fernley

Figure 5 – Southwest Fernley Land Use Map

Similarly to the other areas featured in the *Comprehensive Master Plan*, there is currently minimally developed land in the southwest area. With proximity to an airfield, noise and safety concerns exist along with future transportation infrastructure additions that allow for the LRSP to help shape developments.

2.9. Title 32 – Development Code (2025, City of Fernley)

The City of Fernley's *Development Code*, *Title 32*, serves to regulate and restrict land use and improvement to promote sustainable and efficient ways to provide for the community's health, safety, and general welfare. Chapter 32.09 outlines development standards, with Section 32.09.140 describing the general requirements for streets and roadways. Chapter 32.12 provides requirements for the development of adequate public facilities. *Title 32* makes explicit notes regarding compliance with the City of Fernley's *Comprehensive Master Plan*, stating that improvements and new construction must follow the ideas expressed within the master plan with regard for:

- Public convenience and safety
- Topography and other land features
- Proposed uses of the land to be served by such streets and expected future traffic needs
- Expected traffic type and volume to be carried by such streets
- Proper relation to, connection with, continuation and projection of streets in the adjacent area, whether these streets are existing or proposed in another development, in an area plan, or in the master plan

LRSP recommendations will follow the requirements and restrictions included in *Title 32*, ultimately following the concepts discussed in the *Comprehensive Master Plan*.

2.10. Design Standards (2024, City of Fernley)

The City of Fernley's *Design Standards* outline criteria and guidance for the development of public works design and improvement plans. Chapter 3.0 – Streets provides details regarding design criteria for roadway geometry, intersections, driveways, pavement design, sidewalks, traffic control, and other elements within the streetscape. This criterion is specific to the City and is provided in addition to guidance from the Institute of Transportation Engineers and AASHTO. No safety-specific guidelines are provided in the *Design Standards*; however, the established standards are based on criteria declared safe by national agencies. The LRSP will consider applicable design criteria in its recommendations.

3. Nevada Department of Transportation (NDOT)

This section summarizes the NDOT studies and documents identified in **Table 1** that will be utilized for the LRSP.

3.1. 2021-2025 Nevada Strategic Highway Safety Plan (2021, Kimley-Horn)

The *Nevada Strategic Highway Safety Plan (SHSP)* identifies 10 Critical Emphasis Areas (CEA) to guide efforts to increase road user safety on Nevada's streets and highways. The plan is updated every five years and provides strategies for planning organizations and agencies. The *SHSP* seeks to incorporate equity, prioritize safe speeds, double down on strategies that work, and accelerate implementation of advanced technology to help reduce fatalities on Nevada's roadways. The *SHSP* identifies strategies and actions for the emphasis areas shown in **Figure 6**. The Nevada CEAs include the items labeled with an asterisk, including the newly added Work Zones area.



Source: NDOT

Figure 6 – Nevada SHSP Goals

In using the Fatality Analysis Reporting System (FARS) data from 2018 to 2022, Fernley experienced six fatal crashes resulting in seven fatalities under various CEAs, shown in **Table 2**. To note, crashes may fall into more than one CEA. The top four CEAs for these fatal crashes were Impaired Driving (83%), Unrestrained (33%), Speeding Related (33%), and Older Drivers (33%). Impaired Driving and Speeding Related fatal crashes are also among the top four CEAs for the State.

Table 2 – City of Fernley 2018-2022 Fatal Crash Data

	City of Fernley	# (%)	Statewide	# (%)
Top Emphasis Areas	Impaired Driving	5 (83%)	Impaired Driving	708 (43%)
	Unrestrained	2 (33%)	Lane Departures	649 (40%)
	Speeding Related	2 (33%)	Intersections	519 (32%)
	Older Drivers	2 (33%)	Speeding Related	452 (28%)
Total Fatal Crashes	**6**		**1,636**	

3.2. Highway Safety Improvement Program, Local Public Agencies Process (2021, NDOT)

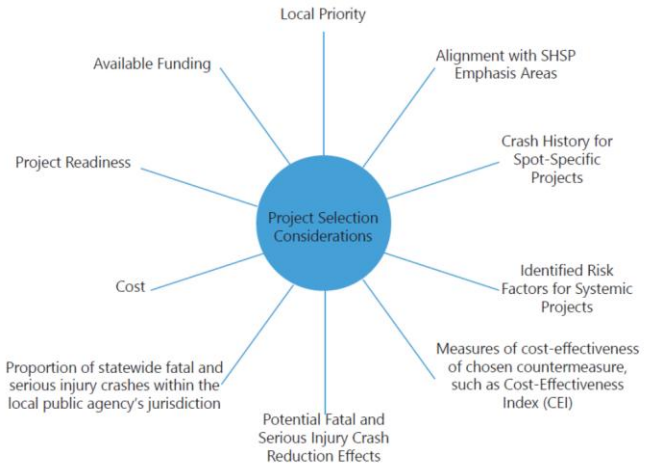
The *Highway Safety Improvement Program (HSIP)* and corresponding *Local Public Agencies (LPA) Process* support efforts to assist agencies with applying for *HSIP* funding. The *HSIP* is a federal program that uses a data-driven approach to assess safety-related problems and solutions. The preparation of the LRSP will allow the City of Fernley to be eligible for *HSIP* funding after meeting the specified guidelines and requirements. Each project submitted for funding is required to support at least one CEA from the Nevada *SHSP*. The document guides important components of an LRSP, including metrics to use other than crash data, such as roadway characteristics, traffic volumes, maintenance logs, and traffic citations for determining the safety of roadways. The safety data systemic process that will be used for the LRSP is shown in **Figure 7**.



Source: NDOT

Figure 7 – Safety Data Systemic Process

Once the LRSP has been prepared based on the criteria laid out in the *HSIP*, the City may apply for funding with a list of projects to be considered. NDOT will then review the application for several project selection considerations shown below in **Figure 8**. It is recommended that the LRSP include criteria required by the *HSIP* so the City can request *HSIP* funding from NDOT in the future to implement safety improvements.



Source: NDOT

Figure 8 – LPA Process Project Selection

The *LPA Process* requires project sponsors receiving funds to execute a legal agreement with NDOT. The project sponsors are required to have the capacity to administer funding and contracts as specified by the NDOT *LPA Manual*.

3.3. NDOT Access Management System and Standards (2017, Jacobs)

The *Access Management System and Standards* outline design criteria and standards for the location, spacing, and frequency of access points, such as driveways, intersections, auxiliary lanes, and medians, within the state highway system. The access management regulation serves to reduce the number of crashes while also providing further incentives and benefits to drivers, vulnerable road users, and traffic operations. An overview of design standards and characteristics is provided for each roadway classification, including expectations for access control. The objective of regulating access focuses on crash reduction, regardless of severity, and identifies design criteria necessary to reduce risk factors. The LRSP will consider access management in its recommendations.

3.4. NDOT Speed Management Action Plan (2022, Kimley-Horn)

The *Speed Management Action Plan (SMAP)* identifies statewide speed management countermeasures and strategies to reduce the number of fatal and serious injury crashes, target areas of concern, and improve speed limit compliance. The focus of the *SMAP* relies on the analysis that as speed increases, the severity of crashes increases regardless of roadway type or posted speed limit. NDOT provides high-level strategies aimed at addressing speed management coupled with countermeasures to utilize along roadways and at intersections. Some recommendations include providing configuration changes, pavement markings, and geometric design elements along roadways in combination with roundabouts, curb extensions, and raised surfaces at intersections. Speed management strategies will be incorporated in the LRSP.

4. American Association of State Highway and Transportation Officials (AASHTO)

This section summarizes the AASHTO study identified in **Table 1** that will be utilized for the LRSP.

4.1. Highway Safety Manual (2010, AASHTO)

The AASHTO *Highway Safety Manual (HSM)* presents a variety of methods for quantitatively estimating crash frequency or severity at a variety of locations. This four-part manual is divided into Parts:

- A) Introduction, Human Factors, and Fundamentals
- B) Roadway Safety Management Process
- C) Predictive Method
- D) Crash Modification Factors.

Chapter 4 of Part B of the *HSM* discusses the Network Screening process. The Network Screening Process is a tool for an agency to analyze their entire network and identify/rank locations that, based on the implementation of a countermeasure, are most likely to least likely to realize a reduction in the frequency of crashes.

The *HSM* identifies five steps in this process:

1. **Establish Focus**: Identify the purpose or intended outcome of the network screening analysis. This decision will influence data needs, the selection of performance measures, and the screening method that can be applied.
2. **Identify Network and Establish Reference Populations**: Specify the types of sites or facilities being screened (i.e., segments, intersections, geometrics) and identify groupings of similar sites or facilities.
3. **Select Performance Measures**: There are a variety of performance measures available to evaluate the potential to reduce crash frequency at a site. In this step, the performance measure is selected as a function of the screening focus and the data and analytical tools available.
4. **Select Screening Method**: There are three principal screening methods described in this chapter (i.e., ranking, sliding window, peak searching). Each method has advantages and disadvantages; the most appropriate method for a given situation should be selected.
5. **Screen and Evaluate Results**: The final step in the process is to conduct the screening and analysis, then evaluate the results.

The *HSM* provides several statistical methods for screening roadway networks to identify high-risk locations based on overall crash histories. In addition to identifying the total number of crashes, the LRSP will use the Critical Crash Rate (CCR) and Equivalent Property Damage Only (EPDO) methods for network screening to analyze the data.

5. Federal Highway Administration (FHWA)

This section summarizes FHWA studies identified in **Table 1** that will be utilized for the LRSP.

5.1. Proven Safety Countermeasures (2021, FHWA)

FHWA has identified and is promoting the use of 28 Proven Safety Countermeasures, which offer significant and measurable impacts to improve safety. More information from FHWA can be found here: Proven Safety Countermeasures | FHWA (dot.gov). The 28 Proven Safety Countermeasures are shown in **Figure 9**.

Proven Safety Countermeasures are a basis for agency consideration for highway safety projects, and agencies are encouraged to implement them to accelerate the achievement of safety goals at all levels. While the LRSP itself is a Proven Safety Countermeasure, other countermeasures can be included as solutions within the LRSP. FHWA acknowledges that while most rural roads are owned by local agencies, they see a higher number of fatal and serious injury crashes than state highways. FHWA also supports and acknowledges that collaboration between various agencies is important for a successful LRSP.

Proven Safety Countermeasures

SPEED MANAGEMENT

- Speed Safety Cameras
- Variable Speed Limits
- Appropriate Speed Limits for All Road Users

ROADWAY DEPARTURE

- Wider Edge Lines
- Enhanced Delineation for Horizontal Curves
- Longitudinal Rumble Strips and Stripes on Two-Lane Roads
- SafetyEdge℠
- Roadside Design Improvements at Curves
- Median Barriers

INTERSECTIONS

- Backplates with Retroreflective Borders
- Corridor Access Management
- Dedicated Left- and Right-Turn Lanes at Intersections
- Reduced Left-Turn Conflict Intersections
- Roundabouts
- Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections
- Yellow Change Intervals

PEDESTRIANS/BICYCLES

- Crosswalk Visibility Enhancements
- Bicycle Lanes
- Rectangular Rapid Flashing Beacons (RRFB)
- Leading Pedestrian Interval
- Medians and Pedestrian Refuge Islands in Urban and Suburban Areas
- Pedestrian Hybrid Beacons
- Road Diets (Roadway Reconfiguration)
- Walkways

CROSSCUTTING

- Pavement Friction Management
- Lighting
- Local Road Safety Plans
- Road Safety Audit

Source: FHWA

Figure 9 – Proven Safety Countermeasures

5.2. Safe System Approach (2024, FHWA)

The Safe System Approach, endorsed and adopted by the U.S. Department of Transportation (US DOT), is a proactive framework for roadway safety that emphasizes designing a transportation system resilient to human error and injury severity. The Safe System Approach framework, illustrated in **Figure 10**, is a comprehensive strategy for eliminating fatalities and serious injuries on roadways by designing a transportation system that anticipates human mistakes and accommodates human vulnerability. Key principles of the Safe System Approach include:

- Human mistakes are inevitable
- Human bodies are vulnerable
- Responsibility is shared
- Safety is proactive
- Redundancy is crucial

Core elements of the framework include:

- **Safer People**: Encourage safe behavior through education, enforcement, and design.
- **Safer Roads**: Design roadways that reduce crash likelihood and severity.
- **Safer Vehicles**: Promote technologies that protect occupants and other road users.
- **Safer Speeds**: Manage speeds to align with road design and human tolerance.
- **Post-Crash Care**: Ensure rapid emergency response and trauma care.



Source: FHWA

Figure 10 – Safe System Approach

5.3. Safe Streets and Roads for All Funding (2025, FHWA)

FHWA offers grant funding through the *Safe Streets and Roads for All (SS4A)* program in support of planning, infrastructure, and behavioral and operational initiatives to prevent fatalities and serious injuries on roadways for all users. Funding is allocated every fiscal year and is split into Implementation Grants and Planning and Demonstration Grants for projects of the following types:

- Develop a Comprehensive Safety Action Plan (CSAP)
- Conduct supplemental safety planning to enhance the CSAP
- Carry out demonstration activities to inform the development of, or an update to, a CSAP
- Perform planning, design, and development activities for projects and strategies identified in a CSAP
- Implement projects and strategies identified in a CSAP that address roadway safety problems

SS4A grants will be a beneficial, yet competitive, method of acquiring funding for projects meeting the requirements listed. The LRSP is being developed in compliance with the 2025 *Notice of Funding Opportunity (NOFO)* to meet the requirements of the CSAP and allow the City of Fernley to obtain funding for the implementation of recommendations.

6. National Highway Traffic Safety Administration (NHTSA)

This section summarizes the NHTSA study identified in **Table 1** that will be utilized for the LRSP.

6.1. Countermeasures That Work, 11th Edition (2023, NHTSA)

NHTSA's *Countermeasures That Work* are behavior-related countermeasures intended to be applicable for State Highway Safety Offices (SHSO) as a guideline for safety effectiveness. These countermeasures are grouped into ten different problem areas, each of which is discussed in detail. It is important to note that some items have been researched for longer than others. The areas of focus for the guide include:

- Alcohol-Impaired Driving
- Drug-Impaired Driving
- Seatbelts and Child Restraints
- Speeding and Speed Management
- Distracted Driving
- Motorcycle Safety
- Young Drivers
- Older Drivers
- Pedestrian Safety
- Bicycle Safety
- Drowsy Driving

Any of these areas could be crash factors for the LRSP, but impaired driving, seatbelts and child restraints, speed management, and older drivers are primary factors that could impact crash rates

analyzed within the LRSP based on the 2018-2022 FARS data. Each countermeasure area features tabulated specific actions with a ranked effectiveness out of five stars, as well as the cost on a scale from low to high, frequency of use, and time required to implement. Time to implement is ranked by “long” being more than one year, “medium” for more than three months but less than one year, and “short” being three months or less. The effectiveness-to-cost ratio is an important consideration for recommendations that are to come out of the LRSP. The countermeasures outlined in this guide are aimed at shifting the behaviors of drivers through different types of implementations. Physical changes like those included in FHWA’s Proven Safety Countermeasures should be considered in conjunction with behavioral implementations to make roads safer.

7. SUMMARY

The documents summarized above provide background information that will be beneficial during the development of the City of Fernley LRSP. Information from this review, including the TMP improvements, the HSIP process, and the safety elements identified by FHWA, will be of importance as projects are identified through the LRSP, ensuring the City of Fernley’s goal of increasing safety in its growing transportation system is realized.

ATTACHMENT A
PLANNING STUDIES MATRIX

ATTACHMENT B
TRANSPORTATION MASTER PLAN PROJECT LIST

APPENDIX B

CRASH DATA ANALYSIS TABLES

City of Fernley Local Road Safety Plan
January 01, 2019 to December 31, 2023
Crash Analysis - Local Roads and State Routes Only

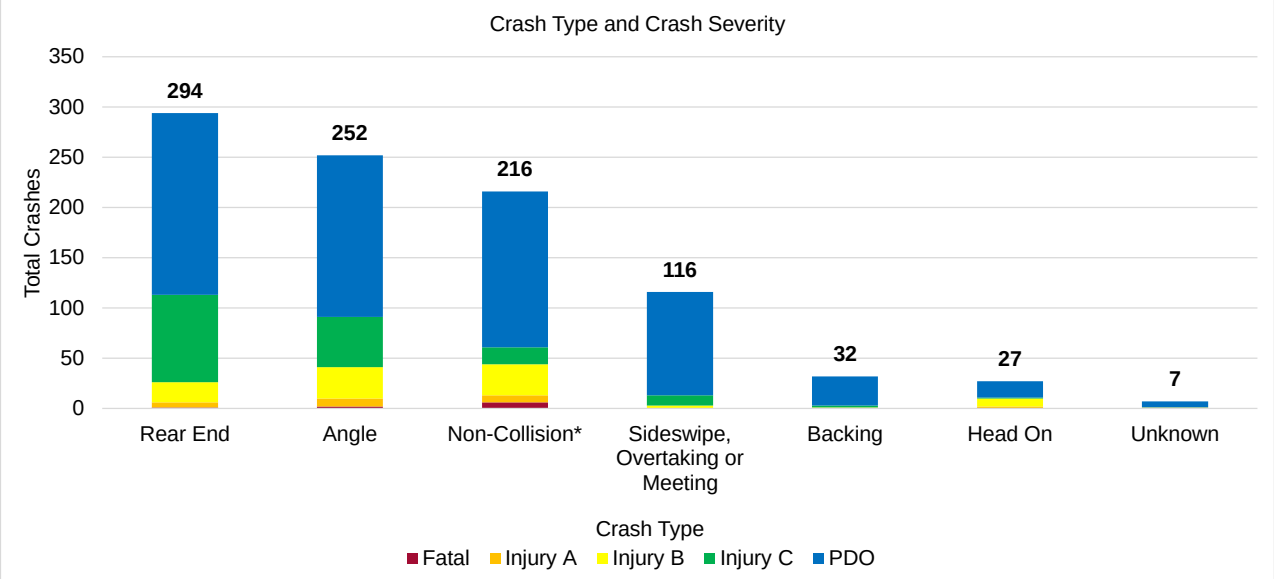
Source: Nevada Crash Database (2019-2023) and National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) (2019-2023)

Overall Crash Data			Vehicle*		Pedestrian		Bicycle		Motorcycle		Bus	
*Fatal (K)***	9	0.95%	5	0.58%	2	14.29%	0	0.00%	0	0.00%	0	0.00%
Serious Injury (A)	22	2.33%	4	0.47%	1	7.14%	1	14.29%	6	26.09%	0	0.00%
Non-Incapacitating Injury (B)	95	10.06%	110	12.79%	5	35.71%	2	28.57%	7	30.43%	0	0.00%
Possible Injury (C)	167	17.69%	366	42.56%	4	28.57%	1	14.29%	4	17.39%	0	0.00%
Property Damage Only (PDO)	651	68.96%	375	43.60%	2	14.29%	3	42.86%	6	26.09%	3	100.00%
Total	**944**	**100%**	**860**	**100% (91.1%)**	**14**	**100% (1.5%)**	**7**	**100% (0.7%)**	**23**	**100% (2.4%)**	**3**	**100% (0.3%)**

**Note: Vehicle crashes include all vehicle-to-vehicle crashes, including motorcycle-involved crashes.*
***Note: A review of fatal crash data identified discrepancies between the Nevada Crash Database and FARS. The Nevada Crash Database reported eight fatal crashes (two in 2019, two in 2020, and four in 2021). FARS reported four fatal crashes (two in 2019, one in 2020, and one in 2021); all but one of which were also represented in the Nevada Crash Data. The one additional 2019 FARS crash was joined to the Nevada Crash Data to supplement the analysis, resulting in a total of nine fatal crashes. Of the nine total fatal crashes, five (55.6%) are based on preliminary crash data and are subject to revision.*

Crash Type	Fatal and Injury					PDO (O)	Total
	Fatal (K)	*Injury A*	*Injury B*	*Injury C*	***Sum***		
Rear End	1	5	20	87	**113**	181	**294**
	0.34%	1.70%	6.80%	29.59%	**38.44%**	61.56%	**31.14%**
Angle	2	8	31	50	**91**	161	**252**
	0.79%	3.17%	12.30%	19.84%	**36.11%**	63.89%	**26.69%**
Non-Collision*	6	7	31	17	**61**	155	**216**
	2.78%	3.24%	14.35%	7.87%	**28.24%**	71.76%	**22.88%**
Sideswipe, Overtaking or Meeting	0	0	3	10	**13**	103	**116**
	0.00%	0.00%	2.59%	8.62%	**11.21%**	88.79%	**12.29%**
Backing	0	0	1	2	**3**	29	**32**
	0.00%	0.00%	3.13%	6.25%	**9.38%**	90.63%	**3.39%**
Head On	0	2	8	1	**11**	16	**27**
	0.00%	7.41%	29.63%	3.70%	**40.74%**	59.26%	**2.86%**
Unknown	0	0	1	0	**1**	6	**7**
	0.00%	0.00%	14.29%	0.00%	**14.29%**	85.71%	**0.74%**
Total Crashes	**9**	**22**	**95**	**167**	**293**	**651**	**944**

**Note: A non-collision crash is defined as any collision that involves only one vehicle or vehicle vs. non-motorist. The non-collision crashes in this dataset include 18 vehicle to non-motorist crashes and 195 single vehicle crashes.*



City of Fernley Local Road Safety Plan
January 01, 2019 to December 31, 2023
Crash Analysis - Local Roads and State Routes Only

Source: Nevada Crash Database (2019-2023) and National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) (2019-2023)

Vehicle Factors*	Fatal and Injury					PDO (O)	Total
	Fatal (K)	Injury A	Injury B	Injury C	**Sum**		
Other Improper Driving	1	6	15	53	**75**	120	**195**
	0.51%	3.08%	7.69%	27.18%	**38.46%**	61.54%	**20.66%**
Failed to Yield Right of Way	2	6	19	40	**67**	105	**172**
	1.16%	3.49%	11.05%	23.26%	**38.95%**	61.05%	**18.22%**
Other/Unknown*	3	2	12	20	**37**	98	**135**
	2.22%	1.48%	8.89%	14.81%	**27.41%**	72.59%	**14.30%**
Driving Too Fast for Conditions	2	5	18	24	**49**	61	**110**
	1.82%	4.55%	16.36%	21.82%	**44.55%**	55.45%	**11.65%**
Failure to Keep in Proper Lane	1	3	17	5	**26**	77	**103**
	0.97%	2.91%	16.50%	4.85%	**25.24%**	74.76%	**10.91%**
Hit and Run	0	1	5	8	**14**	77	**91**
	0.00%	1.10%	5.49%	8.79%	**15.38%**	84.62%	**9.64%**
Followed Too Closely	0	0	5	18	**23**	52	**75**
	0.00%	0.00%	6.67%	24.00%	**30.67%**	69.33%	**7.94%**
Made an Improper Turn	1	0	11	8	**20**	48	**68**
	1.47%	0.00%	16.18%	11.76%	**29.41%**	70.59%	**7.20%**
Ran Off Road	1	1	16	5	**23**	42	**65**
	1.54%	1.54%	24.62%	7.69%	**35.38%**	64.62%	**6.89%**
Unsafe Lane Change	0	1	1	4	**6**	43	**49**
	0.00%	2.04%	2.04%	8.16%	**12.24%**	87.76%	**5.19%**
Drove Left of Center	1	2	9	2	**14**	23	**37**
	2.70%	5.41%	24.32%	5.41%	**37.84%**	62.16%	**3.92%**
Over-Correcting/Over-Steering	0	1	6	0	**7**	18	**25**
	0.00%	4.00%	24.00%	0.00%	**28.00%**	72.00%	**2.65%**
Unsafe Backing	0	0	1	0	**1**	23	**24**
	0.00%	0.00%	4.17%	0.00%	**4.17%**	95.83%	**2.54%**
Reckless	0	2	6	2	**10**	7	**17**
	0.00%	11.76%	35.29%	11.76%	**58.82%**	41.18%	**1.80%**
Mechanical Defects	1	0	0	2	**3**	13	**16**
	6.25%	0.00%	0.00%	12.50%	**18.75%**	81.25%	**1.69%**
Object Avoidance	0	1	2	1	**4**	12	**16**
	0.00%	6.25%	12.50%	6.25%	**25.00%**	75.00%	**1.69%**
Exceeded Authorized Speed Limit	0	2	3	2	**7**	9	**16**
	0.00%	12.50%	18.75%	12.50%	**43.75%**	56.25%	**1.69%**
Wrong Way	0	0	1	1	**2**	13	**15**
	0.00%	0.00%	6.67%	6.67%	**13.33%**	86.67%	**1.59%**
Driverless Vehicle	0	1	0	0	**1**	0	**1**
	0.00%	100.00%	0.00%	0.00%	**100.00%**	0.00%	**0.11%**
Road Defect	0	0	0	0	**0**	1	**1**
	0.00%	0.00%	0.00%	0.00%	**0.00%**	100.00%	**0.11%**
Total Factors* **	**13**	**34**	**147**	**195**	**389**	**842**	**1,231**
Total Crashes	**9**	**22**	**95**	**167**	**293**	**651**	**944**

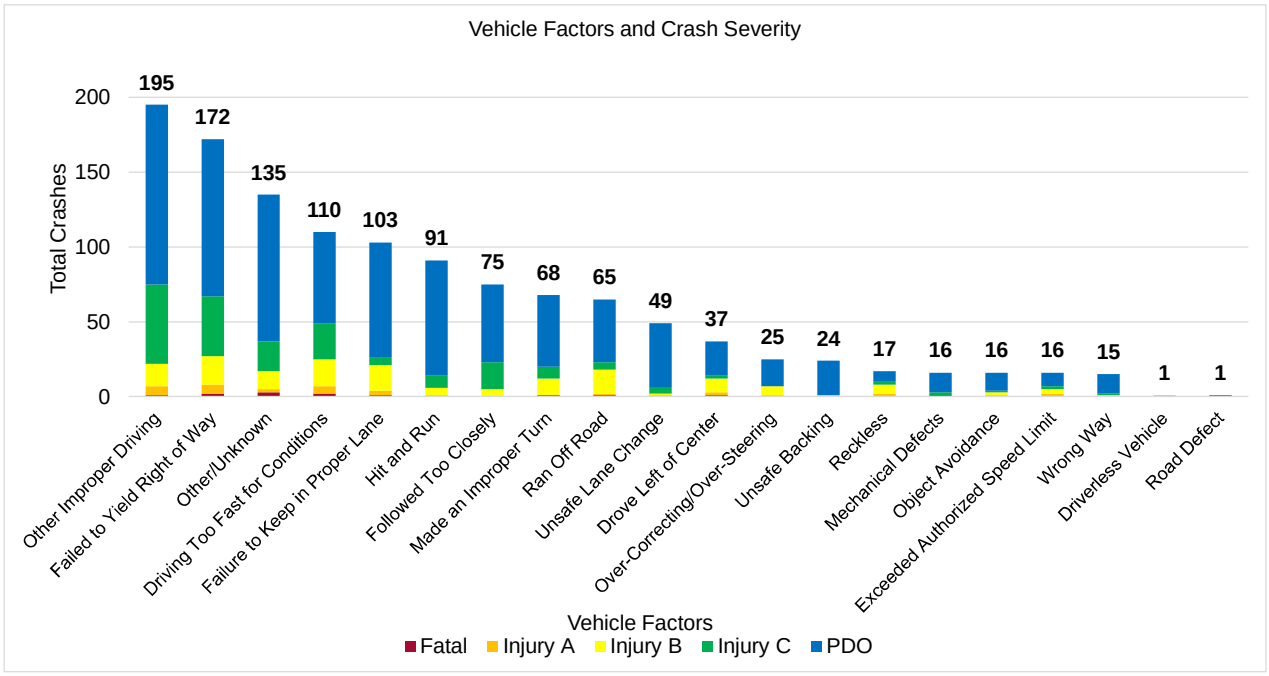
**Note: Vehicle factors are based on Vehicle 1 (V1) inputs. Blank entries are included in the Other/Unknown factor.*

***Records listed as "Other/Unknown" were reviewed to determine if additional information could be obtained from the available details. In most cases, these entries were either left blank or explicitly marked as unknown. All remaining crashes categorized as "Other/Unknown" involved non-motorists determined to be at fault, and therefore no vehicle factor was applicable.*

****It is possible to have multiple vehicle factors listed per crash. Thus the total values in the table may be more than the total number of crashes.*

City of Fernley Local Road Safety Plan
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Crash Analysis - Local Roads and State Routes Only

Source: Nevada Crash Database (2019-2023) and National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) (2019-2023)



City of Fernley Local Road Safety Plan
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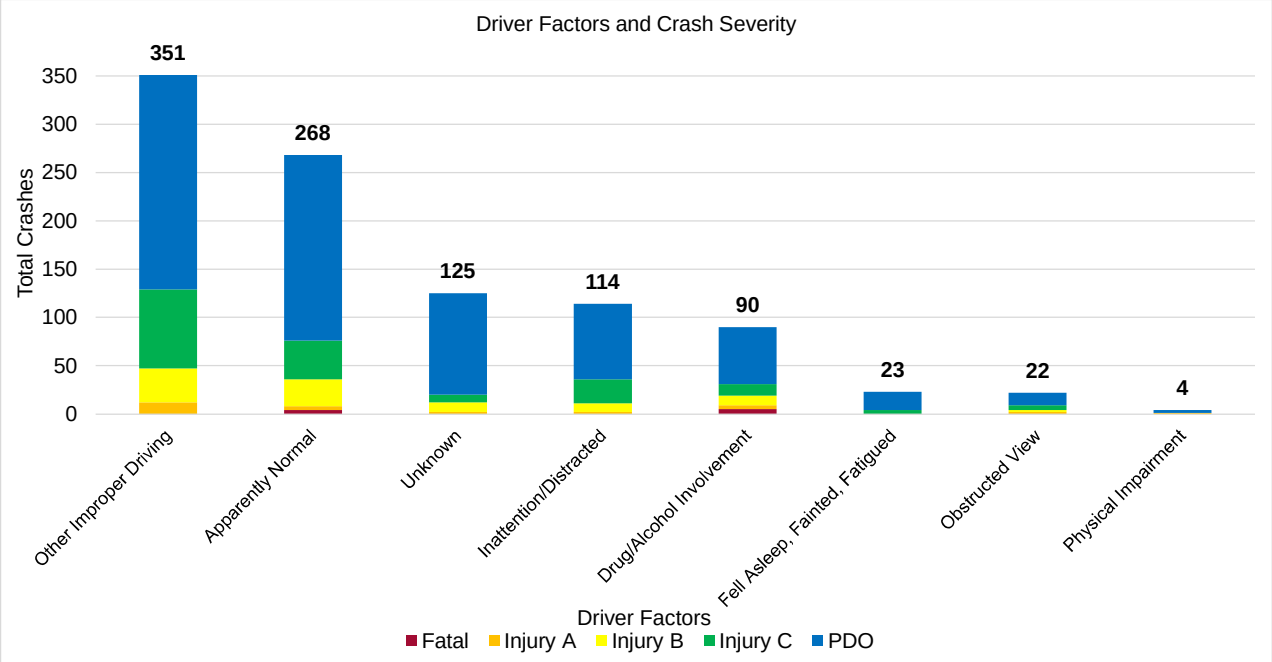
Source: Nevada Crash Database (2019-2023) and National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) (2019-2023)

Driver Factors*	Fatal and Injury					PDO (O)	Total
	Fatal (K)	Injury A	Injury B	Injury C	Sum		
Other Improper Driving	0	12	35	82	**129**	222	**351**
	0.00%	3.42%	9.97%	23.36%	**36.75%**	63.25%	**37.18%**
Apparently Normal	4	4	28	40	**76**	192	**268**
	1.49%	1.49%	10.45%	14.93%	**28.36%**	71.64%	**28.39%**
Unknown*	0	2	10	8	**20**	105	**125**
	0.00%	1.60%	8.00%	6.40%	**16.00%**	84.00%	**13.24%**
Inattention/Distracted	0	2	9	25	**36**	78	**114**
	0.00%	1.75%	7.89%	21.93%	**31.58%**	68.42%	**12.08%**
Drug/Alcohol Involvement	5	4	10	12	**31**	59	**90**
	5.56%	4.44%	11.11%	13.33%	**34.44%**	65.56%	**9.53%**
Fell Asleep, Fainted, Fatigued	0	0	0	4	**4**	19	**23**
	0.00%	0.00%	0.00%	17.39%	**17.39%**	82.61%	**2.44%**
Obstructed View	0	2	2	5	**9**	13	**22**
	0.00%	9.09%	9.09%	22.73%	**40.91%**	59.09%	**2.33%**
Physical Impairment	0	1	0	0	**1**	3	**4**
	0.00%	25.00%	0.00%	0.00%	**25.00%**	75.00%	**0.42%**
Total Factors* **	**9**	**27**	**94**	**176**	**306**	**691**	**997**
Total Crashes	**9**	**22**	**95**	**167**	**293**	**651**	**944**

**Note: Driver factors are based on Vehicle 1 (V1) inputs. Blank entries are included in the Other/Unknown factor.*

***Records listed as "Unknown" were reviewed to determine if additional information could be obtained from the available details. In most cases, these entries were either left blank or explicitly marked as unknown.*

****It is possible to have multiple driver factors listed per crash. Thus the total values in the table may be more than the total number of crashes.*



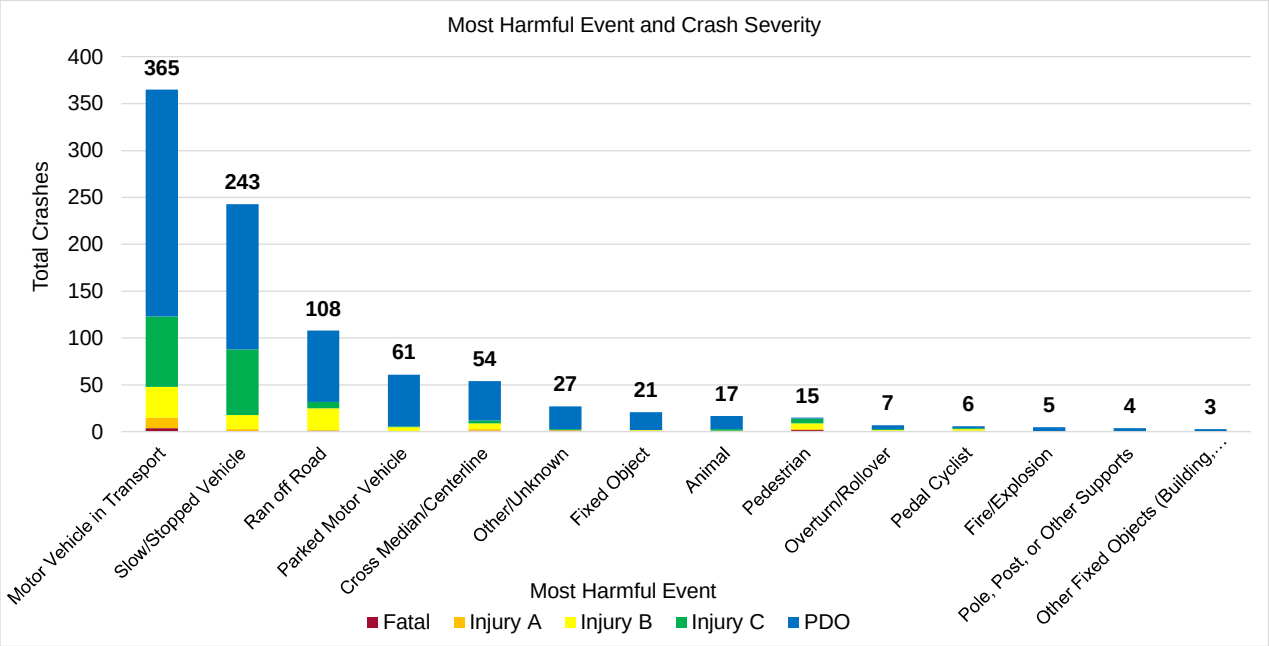
City of Fernley Local Road Safety Plan
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Most Harmful Event*	Fatal and Injury					PDO (O)	Total
	Fatal (K)	Injury A	Injury B	Injury C	**Sum**		
Motor Vehicle in Transport	4	11	33	75	**123**	242	**365**
	1.10%	3.01%	9.04%	20.55%	**33.70%**	66.30%	**38.67%**
Slow/Stopped Vehicle	0	3	15	70	**88**	155	**243**
	0.00%	1.23%	6.17%	28.81%	**36.21%**	63.79%	**25.74%**
Ran off Road	1	1	23	7	**32**	76	**108**
	0.93%	0.93%	21.30%	6.48%	**29.63%**	70.37%	**11.44%**
Parked Motor Vehicle	0	0	5	1	**6**	55	**61**
	0.00%	0.00%	8.20%	1.64%	**9.84%**	90.16%	**6.46%**
Cross Median/Centerline	1	2	6	3	**12**	42	**54**
	1.85%	3.70%	11.11%	5.56%	**22.22%**	77.78%	**5.72%**
Other/Unknown*	1	1	0	1	**3**	24	**27**
	3.70%	3.70%	0.00%	3.70%	**11.11%**	88.89%	**2.86%**
Fixed Object	0	1	1	0	**2**	19	**21**
	0.00%	4.76%	4.76%	0.00%	**9.52%**	90.48%	**2.22%**
Animal	0	0	1	2	**3**	14	**17**
	0.00%	0.00%	5.88%	11.76%	**17.65%**	82.35%	**1.80%**
Pedestrian	2	1	6	5	**14**	1	**15**
	13.33%	6.67%	40.00%	33.33%	**93.33%**	6.67%	**1.59%**
Overturn/Rollover	0	1	1	1	**3**	4	**7**
	0.00%	14.29%	14.29%	14.29%	**42.86%**	57.14%	**0.74%**
Pedal Cyclist	0	1	2	1	**4**	2	**6**
	0.00%	16.67%	33.33%	16.67%	**66.67%**	33.33%	**0.64%**
Fire/Explosion	0	0	0	0	**0**	5	**5**
	0.00%	0.00%	0.00%	0.00%	**0.00%**	100.00%	**0.53%**
Pole, Post, or Other Supports	0	0	0	0	**0**	4	**4**
	0.00%	0.00%	0.00%	0.00%	**0.00%**	100.00%	**0.42%**
Other Fixed Objects (Building, Tunnel, Etc.)	0	0	0	0	**0**	3	**3**
	0.00%	0.00%	0.00%	0.00%	**0.00%**	100.00%	**0.32%**
Total Crashes	**9**	**22**	**95**	**167**	**293**	**651**	**944**

**Note: Most Harmful Event is based on Vehicle 1 (V1) input. Blank entries in Most Harmful Event defer to the first listing in Vehicle 1 (V1) All Events. Blank entries in both Most Harmful Event and All Events are included in the Other/Unknown category.*

***Records listed as "Other/Unknown" were reviewed to determine if additional information could be obtained from the available details. In most cases, these entries were either left blank or explicitly marked as unknown.*

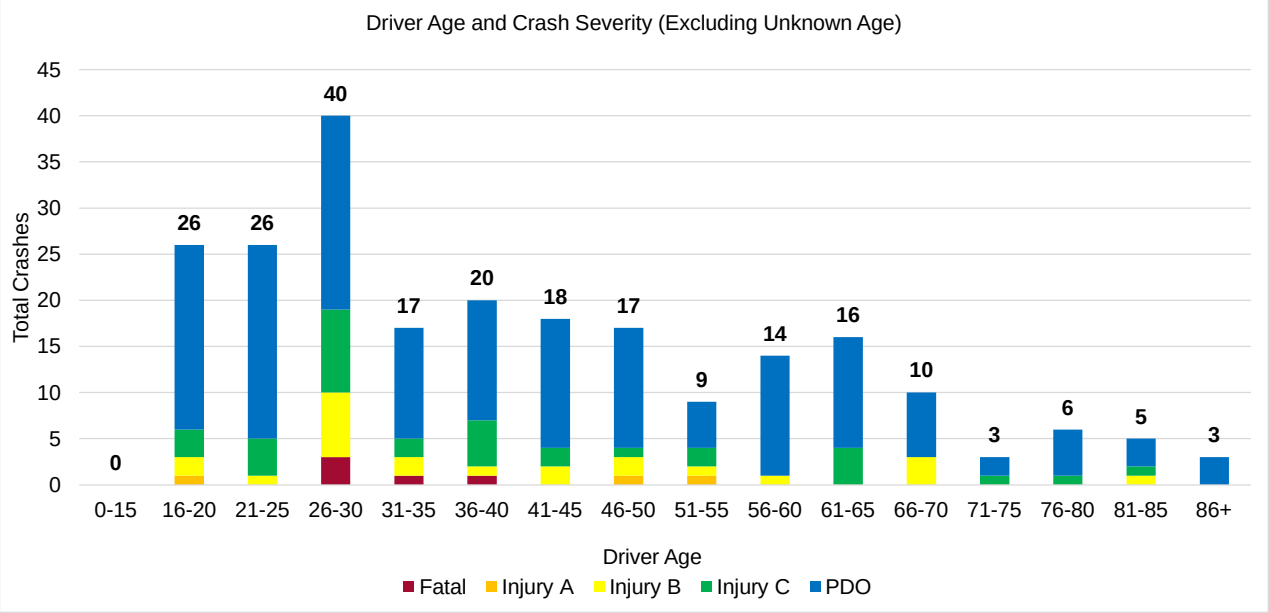


City of Fernley Local Road Safety Plan
January 01, 2019 to December 31, 2023
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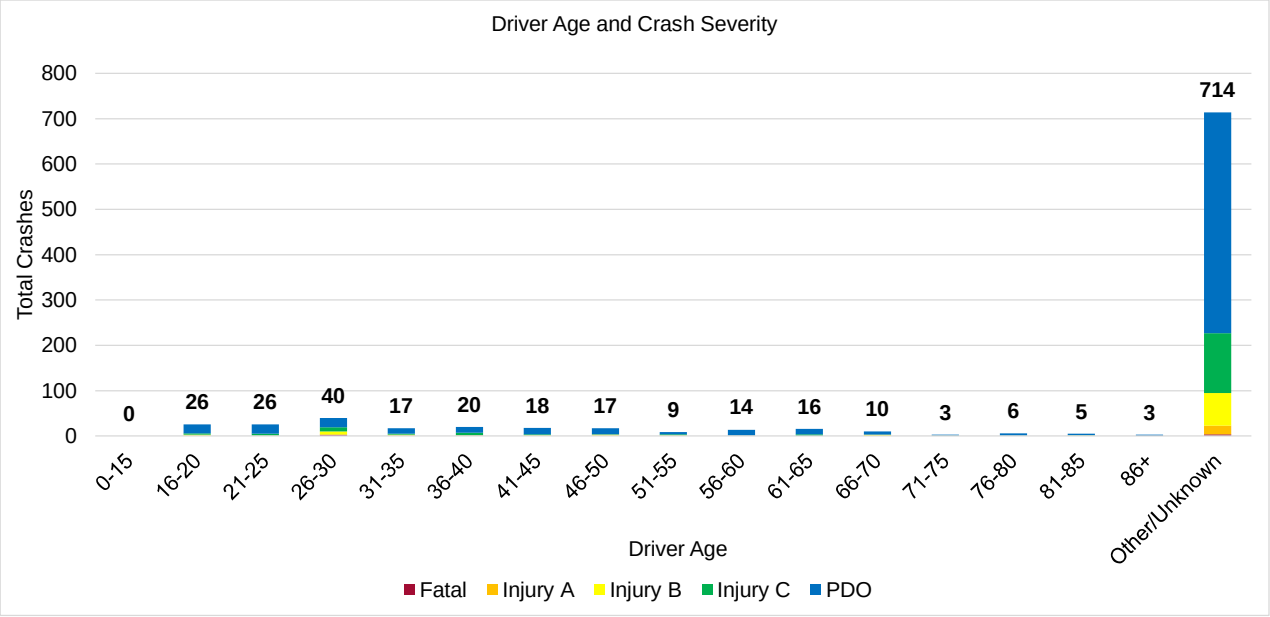
Driver Age*	Fatal and Injury					PDO (O)	Total
	Fatal (K)	Injury A	Injury B	Injury C	Sum		
0-15	0	0	0	0	0	0	0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
16-20	0	1	2	3	6	20	26
	0.00%	3.85%	7.69%	11.54%	23.08%	76.92%	2.75%
21-25	0	0	1	4	5	21	26
	0.00%	0.00%	3.85%	15.38%	19.23%	80.77%	2.75%
26-30	3	0	7	9	19	21	40
	7.50%	0.00%	17.50%	22.50%	47.50%	52.50%	4.24%
31-35	1	0	2	2	5	12	17
	5.88%	0.00%	11.76%	11.76%	29.41%	70.59%	1.80%
36-40	1	0	1	5	7	13	20
	5.00%	0.00%	5.00%	25.00%	35.00%	65.00%	2.12%
41-45	0	0	2	2	4	14	18
	0.00%	0.00%	11.11%	11.11%	22.22%	77.78%	1.91%
46-50	0	1	2	1	4	13	17
	0.00%	5.88%	11.76%	5.88%	23.53%	76.47%	1.80%
51-55	0	1	1	2	4	5	9
	0.00%	11.11%	11.11%	22.22%	44.44%	55.56%	0.95%
56-60	0	0	1	0	1	13	14
	0.00%	0.00%	7.14%	0.00%	7.14%	92.86%	1.48%
61-65	0	0	0	4	4	12	16
	0.00%	0.00%	0.00%	25.00%	25.00%	75.00%	1.69%
66-70	0	0	3	0	3	7	10
	0.00%	0.00%	30.00%	0.00%	30.00%	70.00%	1.06%
71-75	0	0	0	1	1	2	3
	0.00%	0.00%	0.00%	33.33%	33.33%	66.67%	0.32%
76-80	0	0	0	1	1	5	6
	0.00%	0.00%	0.00%	16.67%	16.67%	83.33%	0.64%
81-85	0	0	1	1	2	3	5
	0.00%	0.00%	20.00%	20.00%	40.00%	60.00%	0.53%
86+	0	0	0	0	0	3	3
	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.32%
Other/Unknown	4	19	72	132	227	487	714
	0.56%	2.66%	10.08%	18.49%	31.79%	68.21%	75.64%
Total Crashes	9	22	95	167	293	651	944

**Note: Driver age is based on Vehicle 1 (V1) input. Blank entries are included in the Other/Unknown category.*



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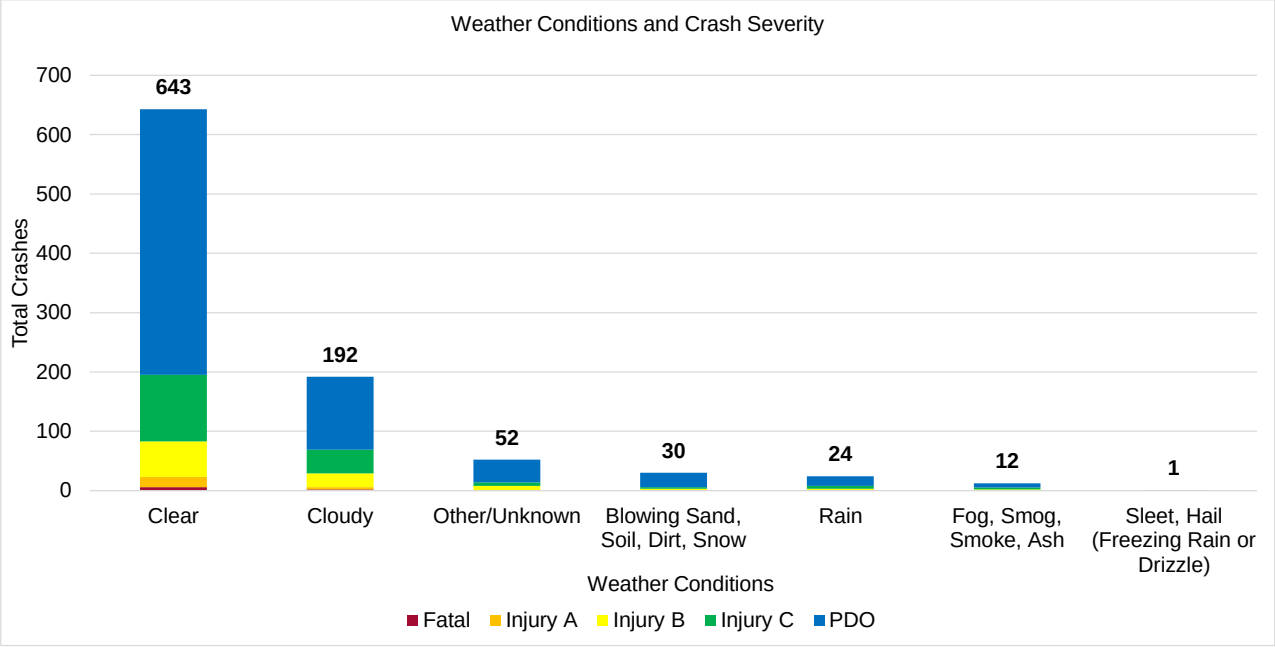


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Source: Nevada Crash Database (2019-2023) and National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) (2019-2023)

Weather Conditions	Fatal and Injury					PDO (O)	Total
	Fatal (K)	*Injury A*	*Injury B*	*Injury C*	***Sum***		
Clear	6	17	60	112	**195**	448	**643**
	0.93%	2.64%	9.33%	17.42%	**30.33%**	69.67%	**68.11%**
Cloudy	2	4	23	40	**69**	123	**192**
	1.04%	2.08%	11.98%	20.83%	**35.94%**	64.06%	**20.34%**
Other/Unknown	0	1	7	6	**14**	38	**52**
	0.00%	1.92%	13.46%	11.54%	**26.92%**	73.08%	**5.51%**
Blowing Sand, Soil, Dirt, Snow	1	0	2	3	**6**	24	**30**
	3.33%	0.00%	6.67%	10.00%	**20.00%**	80.00%	**3.18%**
Rain	1	0	2	5	**8**	16	**24**
	4.17%	0.00%	8.33%	20.83%	**33.33%**	66.67%	**2.54%**
Fog, Smog, Smoke, Ash	0	0	2	3	**5**	7	**12**
	0.00%	0.00%	16.67%	25.00%	**41.67%**	58.33%	**1.27%**
Sleet, Hail (Freezing Rain or Drizzle)	0	0	0	0	0	1	**1**
	0.00%	0.00%	0.00%	0.00%	0.00%	8.33%	**8.33%**
Total Weather Conditions*	**10**	**22**	**96**	**169**	**297**	**657**	**954**
Total Crashes	**9**	**22**	**95**	**167**	**293**	**651**	**944**

**Note: The percentage in each column is based on the number of crashes for the specific weather condition. The "Total" row percentage is the percent of overall crashes. It is possible to have multiple weather factors listed per crash. Thus the sum of the percentages in the columns may be more than 100%.*

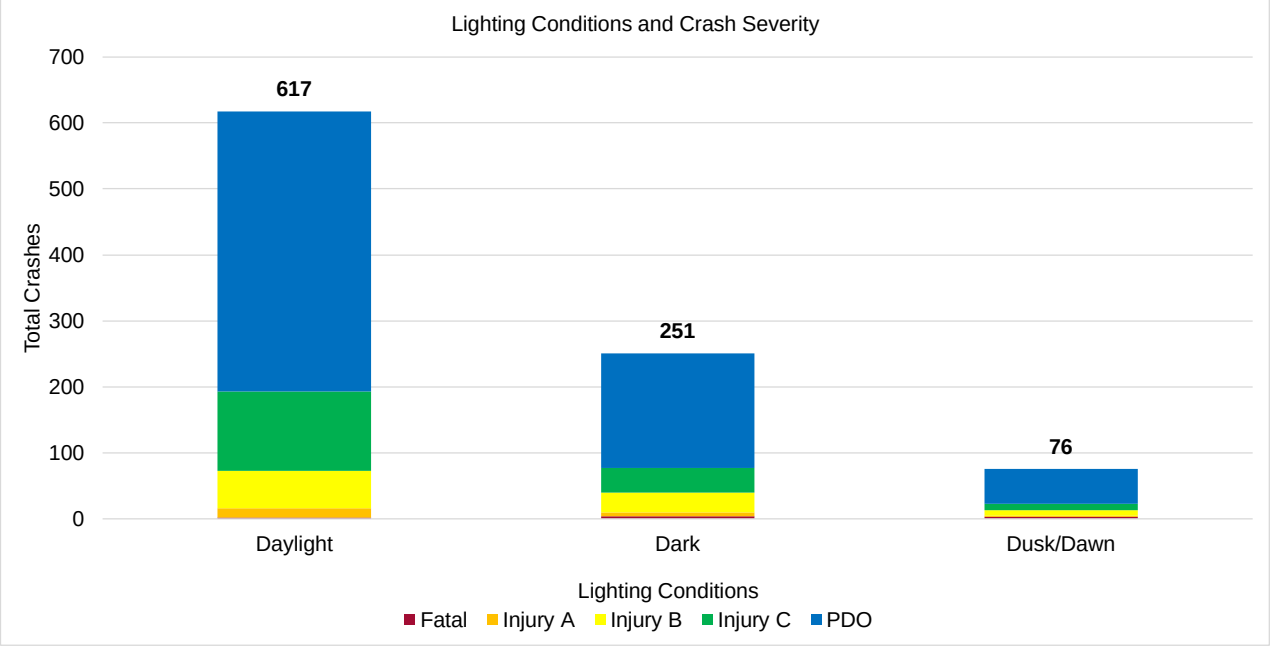


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Lighting Conditions							
	Fatal and Injury					PDO (O)	Total
	Fatal (K)	*Injury A*	*Injury B*	*Injury C*	***Sum***		
Daylight	2	14	57	120	**193**	424	**617**
	0.32%	2.27%	9.24%	19.45%	**31.28%**	68.72%	**65.36%**
Dark	4	6	30	37	**77**	174	**251**
	1.59%	2.39%	11.95%	14.74%	**30.68%**	69.32%	**26.59%**
Dusk/Dawn	3	2	8	10	**23**	53	**76**
	3.95%	2.63%	10.53%	13.16%	**30.26%**	69.74%	**8.05%**
Total Crashes	**9**	**22**	**95**	**167**	**293**	**651**	**944**

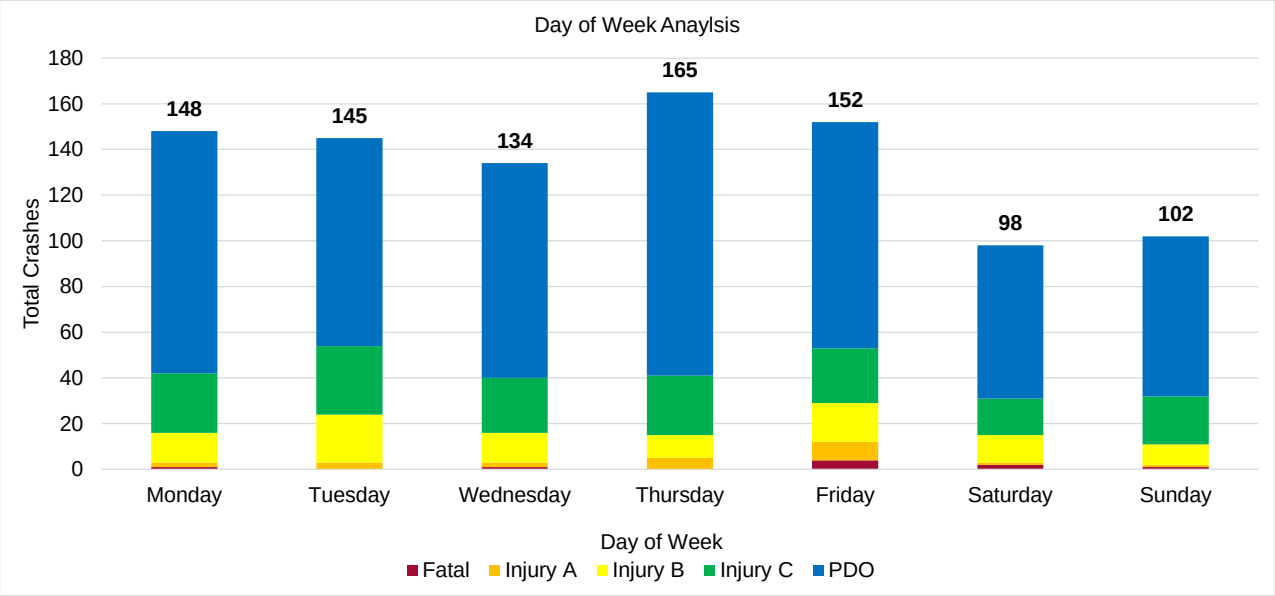
**Note: For crash records that did not have a Lighting Condition recorded, Time of Day was used to categorize crashes.*



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Day of Week	Fatal and Injury					PDO (O)	Total
	Fatal (K)	*Injury A*	*Injury B*	*Injury C*	***Sum***		
Monday	1	2	13	26	**42**	106	**148**
	0.68%	1.35%	8.78%	17.57%	**28.38%**	71.62%	**15.68%**
Tuesday	0	3	21	30	**54**	91	**145**
	0.00%	2.07%	14.48%	20.69%	**37.24%**	62.76%	**15.36%**
Wednesday	1	2	13	24	**40**	94	**134**
	0.75%	1.49%	9.70%	17.91%	**29.85%**	70.15%	**14.19%**
Thursday	0	5	10	26	**41**	124	**165**
	0.00%	3.03%	6.06%	15.76%	**24.85%**	75.15%	**17.48%**
Friday	4	8	17	24	**53**	99	**152**
	2.63%	5.26%	11.18%	15.79%	**34.87%**	65.13%	**16.10%**
Saturday	2	1	12	16	**31**	67	**98**
	2.04%	1.02%	12.24%	16.33%	**31.63%**	68.37%	**10.38%**
Sunday	1	1	9	21	**32**	70	**102**
	0.98%	0.98%	8.82%	20.59%	**31.37%**	68.63%	**10.81%**
Total Crashes	**9**	**22**	**95**	**167**	**293**	**651**	**944**



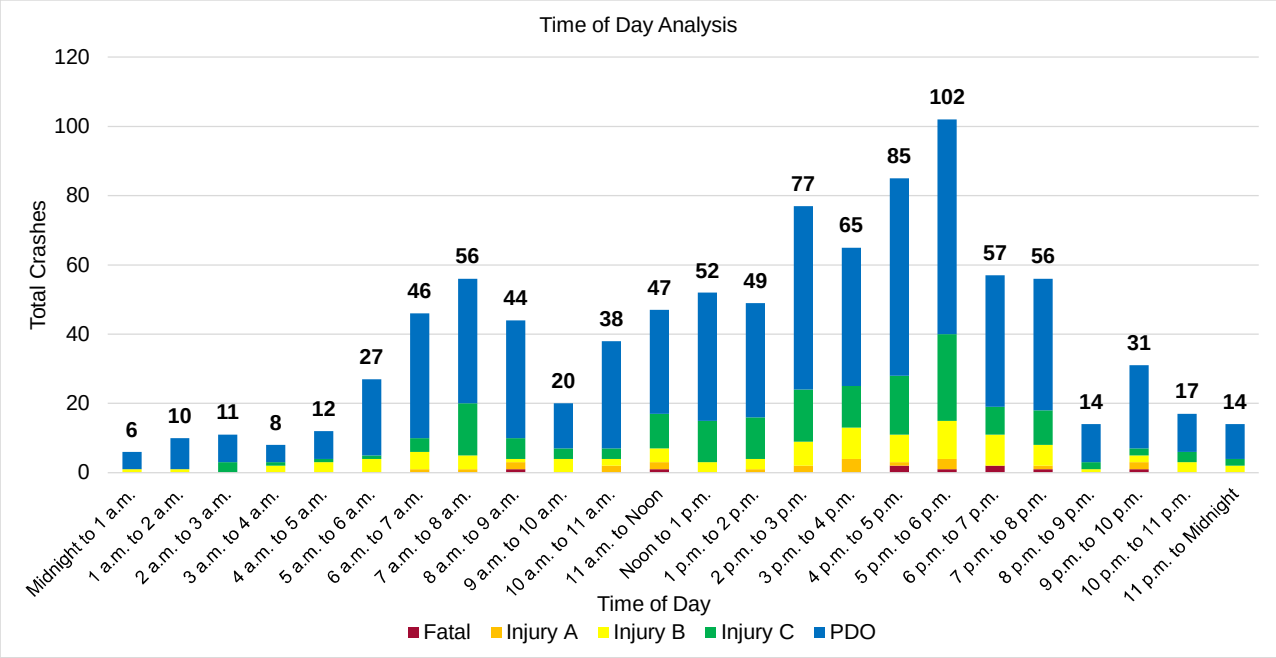
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Source: Nevada Crash Database (2019-2023) and National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) (2019-2023)

Time of Day	Fatal and Injury					PDO (O)	Total
	Fatal (K)	Injury A	Injury B	Injury C	**Sum**		
Midnight to 1 a.m.	0	0	1	0	**1**	5	**6**
	0.00%	0.00%	16.67%	0.00%	**16.67%**	83.33%	**0.64%**
1 a.m. to 2 a.m.	0	0	1	0	**1**	9	**10**
	0.00%	0.00%	10.00%	0.00%	**10.00%**	90.00%	**1.06%**
2 a.m. to 3 a.m.	0	0	0	3	**3**	8	**11**
	0.00%	0.00%	0.00%	27.27%	**27.27%**	72.73%	**1.17%**
3 a.m. to 4 a.m.	0	0	2	1	**3**	5	**8**
	0.00%	0.00%	25.00%	12.50%	**37.50%**	62.50%	**0.85%**
4 a.m. to 5 a.m.	0	0	3	1	**4**	8	**12**
	0.00%	0.00%	25.00%	8.33%	**33.33%**	66.67%	**1.27%**
5 a.m. to 6 a.m.	0	0	4	1	**5**	22	**27**
	0.00%	0.00%	14.81%	3.70%	**18.52%**	81.48%	**2.86%**
6 a.m. to 7 a.m.	0	1	5	4	**10**	36	**46**
	0.00%	2.17%	10.87%	8.70%	**21.74%**	78.26%	**4.87%**
7 a.m. to 8 a.m.	0	1	4	15	**20**	36	**56**
	0.00%	1.79%	7.14%	26.79%	**35.71%**	64.29%	**5.93%**
8 a.m. to 9 a.m.	1	2	1	6	**10**	34	**44**
	2.27%	4.55%	2.27%	13.64%	**22.73%**	77.27%	**4.66%**
9 a.m. to 10 a.m.	0	0	4	3	**7**	13	**20**
	0.00%	0.00%	20.00%	15.00%	**35.00%**	65.00%	**2.12%**
10 a.m. to 11 a.m.	0	2	2	3	**7**	31	**38**
	0.00%	5.26%	5.26%	7.89%	**18.42%**	81.58%	**4.03%**
11 a.m. to Noon	1	2	4	10	**17**	30	**47**
	2.13%	4.26%	8.51%	21.28%	**36.17%**	63.83%	**4.98%**
Noon to 1 p.m.	0	0	3	12	**15**	37	**52**
	0.00%	0.00%	5.77%	23.08%	**28.85%**	71.15%	**5.51%**
1 p.m. to 2 p.m.	0	1	3	12	**16**	33	**49**
	0.00%	2.04%	6.12%	24.49%	**32.65%**	67.35%	**5.19%**
2 p.m. to 3 p.m.	0	2	7	15	**24**	53	**77**
	0.00%	2.60%	9.09%	19.48%	**31.17%**	68.83%	**8.16%**
3 p.m. to 4 p.m.	0	4	9	12	**25**	40	**65**
	0.00%	6.15%	13.85%	18.46%	**38.46%**	61.54%	**6.89%**
4 p.m. to 5 p.m.	2	1	8	17	**28**	57	**85**
	2.35%	1.18%	9.41%	20.00%	**32.94%**	67.06%	**9.00%**
5 p.m. to 6 p.m.	1	3	11	25	**40**	62	**102**
	0.98%	2.94%	10.78%	24.51%	**39.22%**	60.78%	**10.81%**
6 p.m. to 7 p.m.	2	0	9	8	**19**	38	**57**
	3.51%	0.00%	15.79%	14.04%	**33.33%**	66.67%	**6.04%**
7 p.m. to 8 p.m.	1	1	6	10	**18**	38	**56**
	1.79%	1.79%	10.71%	17.86%	**32.14%**	67.86%	**5.93%**
8 p.m. to 9 p.m.	0	0	1	2	**3**	11	**14**
	0.00%	0.00%	7.14%	14.29%	**21.43%**	78.57%	**1.48%**
9 p.m. to 10 p.m.	1	2	2	2	**7**	24	**31**
	3.23%	6.45%	6.45%	6.45%	**22.58%**	77.42%	**3.28%**
10 p.m. to 11 p.m.	0	0	3	3	**6**	11	**17**
	0.00%	0.00%	17.65%	17.65%	**35.29%**	64.71%	**1.80%**
11 p.m. to Midnight	0	0	2	2	**4**	10	**14**
	0.00%	0.00%	14.29%	14.29%	**28.57%**	71.43%	**1.48%**
Total Crashes	**9**	**22**	**95**	**167**	**293**	**651**	**944**

City of Fernley Local Road Safety Plan
January 01, 2019 to December 31, 2023
Crash Analysis - Local Roads and State Routes Only

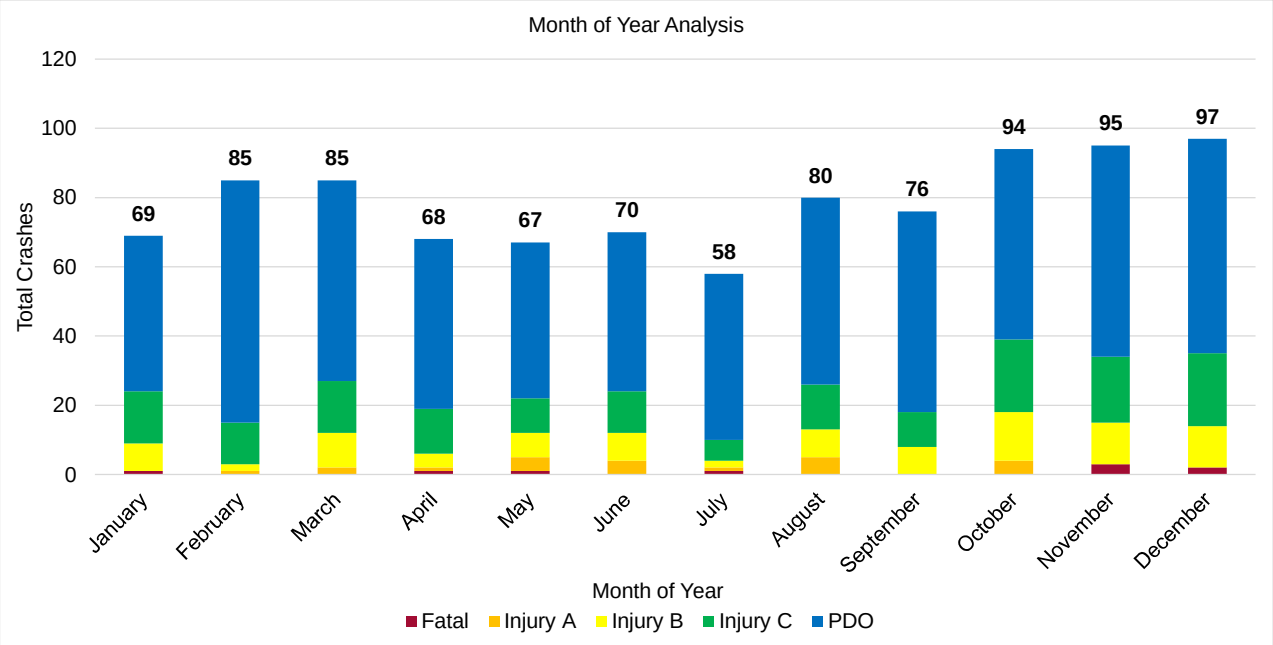
Source: Nevada Crash Database (2019-2023) and National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) (2019-2023)



City of Fernley Local Road Safety Plan
January 01, 2019 to December 31, 2023
Crash Analysis - Local Roads and State Routes Only

Source: Nevada Crash Database (2019-2023) and National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) (2019-2023)

Month of Year	Fatal and Injury					PDO (O)	Total
	Fatal (K)	Injury A	Injury B	Injury C	**Sum**		
January	1	0	8	15	**24**	45	**69**
	1.45%	0.00%	11.59%	21.74%	**34.78%**	65.22%	**7.31%**
February	0	1	2	12	**15**	70	**85**
	0.00%	1.18%	2.35%	14.12%	**17.65%**	82.35%	**9.00%**
March	0	2	10	15	**27**	58	**85**
	0.00%	2.35%	11.76%	17.65%	**31.76%**	68.24%	**9.00%**
April	1	1	4	13	**19**	49	**68**
	1.47%	1.47%	5.88%	19.12%	**27.94%**	72.06%	**7.20%**
May	1	4	7	10	**22**	45	**67**
	1.49%	5.97%	10.45%	14.93%	**32.84%**	67.16%	**7.10%**
June	0	4	8	12	**24**	46	**70**
	0.00%	5.71%	11.43%	17.14%	**34.29%**	65.71%	**7.42%**
July	1	1	2	6	**10**	48	**58**
	1.72%	1.72%	3.45%	10.34%	**17.24%**	82.76%	**6.14%**
August	0	5	8	13	**26**	54	**80**
	0.00%	6.25%	10.00%	16.25%	**32.50%**	67.50%	**8.47%**
September	0	0	8	10	**18**	58	**76**
	0.00%	0.00%	10.53%	13.16%	**23.68%**	76.32%	**8.05%**
October	0	4	14	21	**39**	55	**94**
	0.00%	4.26%	14.89%	22.34%	**41.49%**	58.51%	**9.96%**
November	3	0	12	19	**34**	61	**95**
	3.16%	0.00%	12.63%	20.00%	**35.79%**	64.21%	**10.06%**
December	2	0	12	21	**35**	62	**97**
	2.06%	0.00%	12.37%	21.65%	**36.08%**	63.92%	**10.28%**
Total Crashes	**9**	**22**	**95**	**167**	**293**	**651**	**944**



Kimley»Horn

APPENDIX C

SEGMENT NETWORK SCREENING RESULTS

Network Screening Results - Segments

Facility	Segment Length (Mile)	Cross Street 1	Cross Street 2	Crashes	Local CCR Differential[1]	EPDO[2]	K	A	B	C	O	Angle	Sideswipe	Rear End	Head On	Backing	Non-Collision	Pedestrian	Bicycle	Aggressive	Distracted	Impaired	Speeding	Dark	Wet	Priority Locations	Notes
Principal Arterial																											
US50	0.52	US50AW TO US95AN	Inglewood Dr	14	0.43	45	0	0	1	4	9	2	1	5	0	0	6	0	0	0	1	1	2	2	1	X	LCCR, Rear-End, Non-Collision
US50	1.84	Wedge Ln	Farm District Rd (SR828)	9	-0.14	623	1	1	0	2	5	1	0	1	0	0	7	0	0	0	1	1	1	1	0	X	EPDO, Fatal, Serious Injury, Non-Collision
US50	1.29	Jessica Ln	Red Rock Rd	8	-0.16	33	0	0	2	1	5	2	0	0	1	0	5	0	0	0	0	0	1	1	1		
US50	1.00	Farm District Rd (SR828)	City Limits	7	-0.12	43	0	0	2	3	2	0	0	1	1	0	5	0	1	0	0	0	0	0	2		
US50	0.50	Emigrant Wy	Nevada Pacific Pkwy	5	-0.17	25	0	0	1	2	2	0	0	3	0	0	2	0	0	0	0	0	0	0	0		
US50	0.69	Red Rock Rd	Desert Rose Ln	4	-0.20	19	0	0	1	1	2	0	0	1	0	0	3	0	0	0	0	0	1	1	1		
US50	0.27	River Ranch Rd	Emigrant Wy	4	-0.16	19	0	0	1	1	2	1	0	0	0	0	3	0	0	0	0	0	1	1	0		
US50AW TO US95AN	0.18	US50	US95A	3	0.10	8	0	0	0	1	2	0	0	1	0	0	2	0	0	0	1	1	0	0	0		
Minor Arterial																											
US95A	0.17	Chisholm Trl	E Newlands Dr/W Newlands Dr	24	1.01	76	0	0	1	8	15	10	2	11	1	0	0	0	0	0	0	0	2	2	0	X	LCCR, Angle, Rear-End
US95A	0.36	E Newlands Dr/W Newlands Dr	Truck Inn Wy	14	-0.09	30	0	0	0	3	11	2	2	6	0	0	4	0	0	0	0	0	1	1	0		
Main Street	0.30	I80W Exit Ramp	Pilot Rd/Logan Ln	11	0.75	16	0	0	0	1	10	5	1	1	0	0	4	0	0	0	0	0	1	1	0	X	LCCR, Angle, Non-Collision
US95A	0.79	Royal Oaks Dr	Sario Dr	9	-0.02	14	0	0	0	1	8	1	0	7	0	0	1	0	0	0	0	0	4	4	0		
Main Street	0.22	6th St	7th St	7	0.31	27	0	0	1	2	4	2	0	4	0	0	0	0	0	0	0	0	1	1	0	X	LCCR, Rear-End
US95A	0.09	US50/Main St	US95A	7	0.29	12	0	0	0	1	6	0	0	6	0	0	1	0	0	0	0	0	3	3	0	X	LCCR, Rear-End, Speeding, Dark
US95A	0.15	US95A	Penny Ln	7	-0.30	42	0	1	0	1	5	0	1	6	0	0	0	0	0	0	0	0	4	4	0		
US95AS TO US50AE WB	0.07	US95A	Main Street	6	19.34	32	0	0	1	3	2	0	0	5	0	1	0	0	0	0	0	0	1	1	0	X	LCCR, Rear-End
US95A	1.04	Quarry Rd	Coyote Ln	5	-0.38	5	0	0	0	0	5	0	2	1	0	0	2	0	0	0	0	0	1	1	2		
E Newlands Dr	0.26	US95A	Stanley Dr (FRLY01)	4	-0.04	9	0	0	0	1	3	3	0	1	0	0	0	0	0	0	0	0	0	0	0		
US95A	1.34	Singing Waters Ct	Gas Line Rd	4	-0.52	14	0	0	1	0	3	0	0	1	0	0	3	0	0	1	0	0	0	0	1		
US95A	0.99	Lyon Unnamed 13	Singing Waters Ct	4	-0.46	9	0	0	0	1	3	0	1	1	0	0	2	0	0	0	0	0	1	1	0		
Main Street	0.28	Hardie Ln	Silver Lace Blvd	3	-0.37	8	0	0	0	1	2	0	1	2	0	0	0	0	0	0	1	1	2	2	0		
US95A	0.62	Speedway Rd	Lyon Unnamed 15	3	-0.52	3	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	1	1	2	X	Non-Collision, Speeding, Dark, Wet
Minor Colletor																											
Nevada Pacific Pkwy	0.18	Emigrant Wy	US50	7	2.27	12	0	0	0	1	6	4	2	0	0	0	0	0	0	0	0	0	0	0	1	X	LCCR, Angle, Sideswipe
Vine St	0.59	Gazzigli Ln	Veterans Way	3	14.63	577	1	0	0	0	2	0	0	0	1	0	2	0	0	0	1	1	1	1	1	X	LCCR, EPDO, Fatal, Non-Collision, Distracted, Impaired, Speeding, Dark, Wet
Local Roads																											
Jill Marie Ln	0.24	Rosewood Dr	Anthony Ct	3	18.64	3	0	0	0	0	3	0	1	0	1	1	0	0	0	0	0	0	0	0	0		

Note: Crash factors most commonly associated with fatal and serious injury crashes across the whole network are reported in the network screening results.

9/9/2025

1. Local Critical Crash Rate
2. Equivalent Property Damage Only

APPENDIX D

INTERSECTION NETWORK SCREENING RESULTS

Network Screening Results - Intersections

Intersection	Crashes	Local CCR Differential[1]	EPDO[2]	K	A	B	C	O	Angle	Sideswipe	Rear End	Head On	Backing	Non-Collision	Pedestrian	Bicycle	Aggressive	Impaired	Distracted	Speeding	Dark	Wet	Priority Location	Notes
Signalized Intersections																								
Fremont St/Chisholm Trl & US95A	56	0.56	194	0	0	7	13	36	10	7	34	0	2	3	0	0	1	0	7	7	0	1	X	LCCR, EPDO, Rear-End, Angle, Distracted, Speeding
US95A & E Newlands Dr/W Newlands Dr	55	0.06	157	0	0	5	10	40	17	11	20	1	0	6	0	0	0	1	5	1	0	1	X	LCCR, EPDO, Angle, Rear-End, Distracted
Nevada Pacific Pkwy & US50	36	-0.24	717	1	1	2	11	21	20	4	4	1	0	6	0	0	1	2	3	2	0	3	X	EPDO, Fatal, Serious Injury, Angle, Distracted, Wet
US50/East St & US50/Main Street	16	-0.26	37	0	0	0	4	12	2	2	10	0	1	1	0	0	0	0	2	5	0	1		
River Ranch Rd & US50	13	-0.52	54	0	0	2	4	7	6	1	3	0	0	3	0	0	0	0	1	0	0	0		
Unsignalized Intersections																								
Penny Ln & US95A	26	0.04	117	0	1	1	10	14	5	2	16	0	0	3	0	0	0	0	4	6	0	2	X	LCCR, EPDO, Serious Injury, Rear-End, Distracted, Speeding
Farm District Rd (SR828) & Cottonwood Ln	25	0.97	76	0	0	3	4	18	15	0	7	0	0	3	0	0	0	0	1	2	1	1	X	LCCR, Angle
Main Street & Pilot Rd/Logan Ln	18	0.46	83	0	1	3	1	13	8	3	5	0	0	2	0	0	0	0	1	1	0	0	X	LCCR, Serious Injury, Angle, Rear-End
US95A & Cottonwood Ln	18	0.53	69	0	0	2	6	10	11	5	1	0	0	1	1	0	0	0	5	2	0	1	X	LCCR, Angle, Distracted
US95A & Shadow Ln	15	0.59	61	0	0	3	3	9	7	1	5	0	0	2	0	0	1	1	2	0	0	0	X	LCCR, Angle
Farm District Rd (SR828) & Shadow Ln	14	0.16	29	0	0	1	1	12	10	1	0	0	0	3	0	0	0	0	0	1	3	1	X	LCCR, Angle, Dark
Jenny's Lane & Farm District Rd (SR828)	11	1.13	32	0	0	0	4	7	6	1	2	0	0	1	0	0	0	0	1	1	1	1	X	LCCR, Angle
Wedge Ln & US50	11	-0.08	90	0	2	2	0	7	2	0	0	1	0	8	0	0	0	0	0	2	1	1	X	LCCR, Serious Injury, Non-Collision
Silver Lace Blvd & Main Street	10	0.33	41	0	0	2	2	6	6	0	2	0	1	1	0	1	0	0	1	1	1	0	X	LCCR, Angle
Villa Park Way & Main Street	9	0.18	29	0	0	1	2	6	3	2	3	0	1	0	0	0	0	0	3	1	0	1		
West St & Main Street	8	0.07	13	0	0	0	1	7	1	2	3	1	1	0	0	0	0	0	0	1	0	0		
Center St & Main Street	7	-0.01	17	0	0	0	2	5	1	0	5	0	0	1	0	0	0	0	2	2	0	0		
US95A & Lyon Co School Dist Rd	7	0.17	22	0	0	1	1	5	0	0	6	0	1	0	0	0	0	0	3	1	0	0		
Hardie Ln & Main Street	7	0.10	581	1	0	0	0	6	2	1	2	0	0	2	0	0	0	0	0	1	0	0	X	LCCR, EPDO, Fatal, Angle, Rear-End, Non-collision
Farm District Rd (SR828) & Villa Way	7	-0.07	72	0	1	2	3	1	2	0	2	0	0	3	0	0	0	0	0	1	0	1	X	Serious Injury, Non-Collision, Angle, Rear-End
Desert Rose Ln & US50	7	-0.18	669	1	3	0	0	3	4	0	1	0	0	2	0	0	0	1	0	1	0	1	X	EPDO, Fatal, Serious Injury, Angle
Lois Ln & Main Street	6	0.02	31	0	0	2	1	3	2	1	3	0	0	0	0	0	1	0	1	1	1	0		
Main Street & Commerce Center Dr	5	0.68	10	0	0	0	1	4	2	1	1	0	1	0	0	0	0	0	0	1	0	1	X	LCCR, Angle
US95A & Fernley Hills Dr	5	-0.06	579	1	0	0	0	4	0	0	3	0	0	2	0	0	0	1	1	1	2	0	X	EPDO, Fatal, Rear-End, Dark
Emigrant Wy & Main Street	5	-0.22	20	0	0	1	1	3	2	0	1	0	0	2	0	0	0	0	1	3	0	1		
Miller Ln & Main Street	4	-0.17	4	0	0	0	0	4	2	0	2	0	0	0	0	0	0	0	0	0	0	0		
1st St & Main Street	4	-0.16	9	0	0	0	1	3	2	0	2	0	0	0	0	0	0	0	2	2	0	0		
US95A & Mccart St	4	-0.09	9	0	0	0	1	3	1	0	2	0	0	1	0	0	1	0	2	2	0	0		
US95A & Cedar St	4	-0.16	14	0	0	1	0	3	2	0	1	1	0	0	0	0	0	0	0	0	1	0		
US95A & Comstock Dr	4	-0.15	39	0	1	0	1	2	2	0	2	0	0	0	0	0	0	0	1	1	0	0	X	Serious Injury, Angle, Rear-End, Distracted, Speeding
US95A & Sage St	4	-0.16	24	0	0	1	2	1	3	0	0	0	0	1	0	0	0	0	1	0	0	1		
Bardot Way/Brigit Cir & Cottonwood Ln	4	-0.13	4	0	0	0	0	4	0	1	2	0	0	1	0	0	0	1	1	0	0	0		

9/9/2025

1. Local Critical Crash Rate
2. Equivalent Property Damage Only

Network Screening Results - Intersections

Intersection	Crashes	Local CCR Differential[1]	EPDO[2]	K	A	B	C	O	Angle	Sideswipe	Rear End	Head On	Backing	Non-Collision	Pedestrian	Bicycle	Aggressive	Impaired	Distracted	Speeding	Dark	Wet	Priority Location	Notes
Silver Lace Blvd & Curry Dr	4	13.08	4	0	0	0	0	4	0	1	1	0	1	0	0	0	0	0	0	0	0	0		
Jessica Ln & US50	4	-0.23	9	0	0	0	1	3	1	0	1	0	0	2	0	0	0	0	0	0	0	0		
Julia Ln & US50	4	-0.22	14	0	0	1	0	3	0	0	0	0	0	4	0	0	0	0	0	0	0	0		
US95A & Canal Dr	3	-0.22	13	0	0	1	0	2	3	0	0	0	0	0	0	0	0	0	1	0	0	0		
US95A & Mull Ln	3	-0.22	577	1	0	0	0	2	1	0	1	0	0	1	1	0	0	0	0	0	1	0	X	EPDO, Fatal
Hardie Ln & Westerlund Ln	3	0.25	3	0	0	0	0	3	0	1	0	0	0	2	0	0	1	0	0	0	0	0		
US95A & Royal Oaks Dr	3	-0.20	8	0	0	0	1	2	1	0	2	0	0	0	0	0	0	0	0	0	0	0		
Brigit Cir & Cottonwood Ln	3	-0.20	23	0	0	2	0	1	0	1	1	1	0	0	0	0	0	0	2	0	0	0		
Cook Way & Cottonwood Ln	3	-0.21	18	0	0	1	1	1	1	0	1	0	0	1	0	0	0	0	1	0	1	1		
Inglewood Dr & US50	3	-0.24	13	0	0	1	0	2	1	1	0	0	0	1	0	0	0	0	0	1	0	0		
Nevada Pacific Pkwy & Emigrant Wy	3	-0.19	3	0	0	0	0	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0		
Red Rock Rd & US50	3	-0.24	8	0	0	0	1	2	1	0	1	1	0	0	0	0	0	0	0	1	0	0		
Farm District Rd (SR828) & US50	3	-0.24	3	0	0	0	0	3	1	1	0	0	0	1	0	0	0	0	0	0	0	0		
Roundabouts																								
Farm District Rd (SR828) & US50	41	-0.21	676	1	0	3	6	31	7	1	20	0	1	10	0	0	0	0	8	7	0	4	X	EPDO, Fatal, Rear-End, Non-collision, Distracted, Speeding, Wet
Note: Crash factors most commonly associated with fatal and serious injury crashes across the whole network are reported in the network screening results.																								

9/9/2025

1. Local Critical Crash Rate
2. Equivalent Property Damage Only

APPENDIX E

CMF CLEARINGHOUSE AND FHWA PROVEN SAFETY COUNTERMEASURES DETAIL SHEETS

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 153

CMF Name: Prohibit on-street parking

Description:

Prior Condition: No Prior Condition(s)

Category: On-street parking

Study ID: *Handbook of Road Safety Measures*, Elvik, R. and Vaa, T. 2004

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.8
Adjusted Standard Error:	0.05
Unadjusted Standard Error:	0.03

Crash Reduction Factor	
Value:	20
Adjusted Standard Error:	5
Unadjusted Standard Error:	3

Applicability	
Crash Type:	All
Crash Severity:	A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	Minor Arterial
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Meta-analysis

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 175

CMF Name: Install raised median with marked crosswalk (uncontrolled)

Description:

Prior Condition: Marked crosswalk with no raised median at an uncontrolled pedestrian crossing.

Category: Pedestrians

Study ID: *Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations: Executive Summary and Recommended Guidelines*, Zegeer et al. 2002

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.54
Adjusted Standard Error:	
Unadjusted Standard Error:	0.1

Crash Reduction Factor	
Value:	46
Adjusted Standard Error:	
Unadjusted Standard Error:	10

Applicability	
Crash Type:	Vehicle/pedestrian
Crash Severity:	All
Roadway Types:	Principal Arterial Other
Minimum Number of Lanes:	3
Maximum Number of Lanes:	8
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban and Suburban
Traffic Volume:	Minimum of 15000 Average Daily Traffic (ADT)
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	1994 to 1998
Municipality:	
State:	AZ,CA,FL,KS,LA,MD,MA,MO,NC,OH,OR,PA,TX,UT,WA,WI
Country:	USA
Type of Methodology Used:	Non-regression cross-section
Sample Size (crashes):	111 crashes

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	The study design was a simple comparison of crash rates, controlling for pedestrian and traffic volume.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 333

CMF Name: Change from permitted or permitted-protected to protected

Description:

Prior Condition: No Prior Condition(s)

Category: Intersection traffic control

Study ID: *Accident Modification Factors for Traffic Engineering and ITS Improvements*, Harkey et al. 2008

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.01
Adjusted Standard Error:	0.03
Unadjusted Standard Error:	0.01

Crash Reduction Factor	
Value:	99
Adjusted Standard Error:	3
Unadjusted Standard Error:	1

Applicability	
Crash Type:	Angle
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	Not specified
Traffic Control:	Signalized
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	The number of crashes in the after period were not reported in this study, however, they have been recorded as 300 to give 10 points as a beneift of doubt for one or more of the following: (1) number of miles/sites in the reference/treatment group, (2) number of crashes in the references/treatment group, (3) reporting AADTs for the aggregate dataset but not for the disaggragate dataset used for CMF development.

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CMF / CRF Details

CMF ID: 446

CMF Name: Provide flashing beacons at stop controlled intersections

Description:

Prior Condition: No Prior Condition(s)

Category: Intersection traffic control

Study ID: *Safety Evaluation of Flashing Beacons at Stop Controlled Intersections*, Srinivasan et al. 2008

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.95
Adjusted Standard Error:	0.04
Unadjusted Standard Error:	0.04

Crash Reduction Factor	
Value:	5
Adjusted Standard Error:	4
Unadjusted Standard Error:	4

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Minimum Number of Lanes:	2
Maximum Number of Lanes:	2
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	All
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	Minimum of 250 to Maximum of 42520 Average Daily Traffic (ADT)
Minor Road Traffic Volume:	Minimum of 90 to Maximum of 13270 Average Daily Traffic (ADT)

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes

Other Details

Included in HSM:	Yes. HSM lists this CMF in bold font to indicate that it has the highest reliability since it
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	Countermeasure name changed from

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 447

CMF Name: Provide flashing beacons at stop controlled intersections

Description:

Prior Condition: No Prior Condition(s)

Category: Intersection traffic control

Study ID: *Safety Evaluation of Flashing Beacons at Stop Controlled Intersections*, Srinivasan et al. 2008

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.9
Adjusted Standard Error:	0.06
Unadjusted Standard Error:	0.05

Crash Reduction Factor	
Value:	10
Adjusted Standard Error:	6
Unadjusted Standard Error:	5

Applicability	
Crash Type:	All
Crash Severity:	A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	Not Specified
Minimum Number of Lanes:	2
Maximum Number of Lanes:	2
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	All
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	Minimum of 250 to Maximum of 42520 Average Daily Traffic (ADT)
Minor Road Traffic Volume:	Minimum of 90 to Maximum of 13270 Average Daily Traffic (ADT)

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes

Other Details

Included in HSM:	Yes. HSM lists this CMF in bold font to indicate that it has the highest reliability since it
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	Countermeasure name changed from

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 1914

CMF Name: Install chevron signs, curve warning signs, and sequential flashing beacons

Description: Along a curve with a small radius, large deflection angle, available sight distance smaller than stopping sight distance, and superelevation smaller than demanded at design and operating speed

Prior Condition: No curve delineation treatment

Category: Signs

Study ID: *Safety Evaluation of Curve Delineation Improvements An Empirical Bayes Observational Before-After Study*, Montella 2009

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.524
Adjusted Standard Error:	
Unadjusted Standard Error:	0.09

Crash Reduction Factor	
Value:	47.6
Adjusted Standard Error:	
Unadjusted Standard Error:	9

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Principal Arterial Other Freeways and Expressways
Minimum Number of Lanes:	4
Maximum Number of Lanes:	4
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Not specified
Traffic Volume:	Minimum of 7400 to Maximum of 13975
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2001 to 2005
Municipality:	Trans European Road Network, Italy
State:	notusa
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (sites):	4 sites after

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 2514

CMF Name: Replace TWLTL with raised median

Description:

Prior Condition: Two way left turn lane (TWLTL)

Category: Access management

Study ID: *Modeling and Evaluating the Safety Impacts of Access Management (AM) Features in the Las Vegas Valley*, Mauga and Kaseko 2010

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.77
Adjusted Standard Error:	
Unadjusted Standard Error:	0.0616

Crash Reduction Factor	
Value:	23
Adjusted Standard Error:	
Unadjusted Standard Error:	6.16

Applicability	
Crash Type:	Angle,Fixed object,Head on,Rear end,Run off road,Sideswipe,Single vehicle
Crash Severity:	All
Roadway Types:	All
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	All
Minimum Speed Limit:	30
Maximum Speed Limit:	45
Speed Unit:	mph
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	Minimum of 4883 to Maximum of 96080 Annual Average Daily Traffic (AADT)
Average Traffic Volume:	
Time of Day:	Not specified
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2002 to 2006
Municipality:	
State:	NV
Country:	
Type of Methodology Used:	Regression cross-section

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Aug 11, 2010
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 5244

CMF Name: Add exclusive pedestrian phasing

Description:

Prior Condition: Without all pedestrian phase

Category: Intersection traffic control

Study ID: *Safety countermeasures and crash reduction in New York City - Experience and lessons learned*, Chen et al. 2013

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.65
Adjusted Standard Error:	
Unadjusted Standard Error:	0.16

Crash Reduction Factor	
Value:	35
Adjusted Standard Error:	
Unadjusted Standard Error:	16

Applicability	
Crash Type:	Vehicle/pedestrian
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	No values chosen.
Traffic Control:	Signalized
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	1989 to 2008
Municipality:	New York City
State:	NY
Country:	
Type of Methodology Used:	Other before/after

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Jan 01, 1970
Comments:	The number of crashes in the after period were not reported in this study, however, they have been recorded as 300 to give 10 points as a beneift of doubt for one or more of the following: (1) number of miles/sites in the reference/treatment group, (2) number of crashes in the references/treatment group, (3) reporting AADTs for the aggregate dataset but not for the disaggragate dataset used for CMF development.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 5252

CMF Name: Increase length of signal phases to allow pedestrians more crossing time

Description: An increase in the length of signal phases on the main and/or cross streets so that pedestrians have more time crossing streets.

Prior Condition: Without increase in signal phase length

Category: Intersection traffic control

Study ID: *Safety countermeasures and crash reduction in New York City -Experience and lessons learned*, Chen et al. 2013

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.49
Adjusted Standard Error:	
Unadjusted Standard Error:	0.1

Crash Reduction Factor	
Value:	51
Adjusted Standard Error:	
Unadjusted Standard Error:	10

Applicability	
Crash Type:	Vehicle/pedestrian
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	No values chosen.
Traffic Control:	Signalized
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	1989 to 2008
Municipality:	New York City
State:	NY
Country:	
Type of Methodology Used:	Other before/after

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Jan 01, 1970
Comments:	The number of crashes in the after period were not reported in this study, however, they have been recorded as 300 to give 10 points as a beneift of doubt for one or more of the following: (1) number of miles/sites in the reference/treatment group, (2) number of crashes in the references/treatment group, (3) reporting AADTs for the aggregate dataset but not for the disaggragate dataset used for CMF development.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 6885

CMF Name: Install dynamic speed feedback sign

Description: System consisting of a speed measuring device and a

message sign that displays feedback to those drivers who exceed a predetermined threshold.

It may be the actual speed, a message such as SLOW DOWN, or activation of a warning device, such as beacons or a c

Prior Condition: High-crash curve sites with identified speeding problem

Category: Advanced technology and ITS

Study ID: *Evaluation of Dynamic Speed Feedback Signs on Curves: A National Demonstration Project*, Hallmark et al. 2015

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.95
Adjusted Standard Error:	
Unadjusted Standard Error:	0.01

Crash Reduction Factor	
Value:	5
Adjusted Standard Error:	
Unadjusted Standard Error:	1

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	2
Maximum Number of Lanes:	2
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Undivided
Minimum Speed Limit:	50
Maximum Speed Limit:	65
Speed Unit:	mph
Speed Limit Comment:	
Area Type:	Rural
Traffic Volume:	Minimum of 400 to Maximum of 8400 Annual Average Daily Traffic (AADT)
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2005 to 2013
Municipality:	
State:	AZ,FL,IA,OH,OR,TX,WA
Country:	USA
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (crashes):	160 crashes before, 53 crashes after
Sample Size (sites):	20 sites before, 20 sites after

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Nov 01, 2015
Comments:	This CMF applies to two-lane rural horizontal curves.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 7898

CMF Name: Improve pavement friction (HFS-High Friction Surfacing)

Description: The safety benefit of High Friction Surfacing Treatment (HFS)

Prior Condition: Ramp with perceived problem with friction-related crashes

Category: Roadway

Study ID: *Evaluation of Pavement Safety Performance*, Merritt et al. 2015

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.653
Adjusted Standard Error:	
Unadjusted Standard Error:	0.092

Crash Reduction Factor	
Value:	34.7
Adjusted Standard Error:	
Unadjusted Standard Error:	9.2

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	All
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	KS,KY,MI,MT,SC,WI
Country:	USA
Type of Methodology Used:	Before/after using comparison group
Sample Size (crashes):	77 crashes after
Sample Size (sites):	12 sites before, 12 sites after

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Nov 01, 2015
Comments:	CMF is for HFS treatment at ramps. This CMF was adjusted by the authors to correct a likely regression-to-the-mean bias.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 8496

CMF Name: Change right-turn lane geometry to increase line of sight (intersection level)

Description: Changes made to study approaches include: sharpening the flat approach angle typical in the traditional design, reducing the radius, adjusting the stop/yield bar position, and/or modifying the corner island to improve safety by increasing the line of sight of approaching through traffic.

Prior Condition: Traditional right-turn lane design

Category: Intersection geometry

Study ID: *Effectiveness Evaluation of a Modified Right-Turn Lane Design at Intersections*, Schattler et al. 2016

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.558
Adjusted Standard Error:	
Unadjusted Standard Error:	0.089

Crash Reduction Factor	
Value:	44.2
Adjusted Standard Error:	
Unadjusted Standard Error:	8.95

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	All
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	25
Maximum Speed Limit:	45
Speed Unit:	mph
Speed Limit Comment:	
Area Type:	
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Other
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Other
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2003 to 2014
Municipality:	
State:	IL
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (crashes):	274 crashes before, 161 crashes after
Sample Size (sites):	6 sites before, 6 sites after
Sample Size (site-years):	**site-years before, 18 site-years after**

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Mar 13, 2017
Comments:	Authors indicate that this CMF should be used with caution, since improvements were made to other approaches. Intersection AADT ranges from 15,558 to 29,992. CMF applies to both stop-controlled and signalized intersections. Roadway/roadway both interchange and not-interchange related.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 10223

CMF Name: Change lane width from X to Y (in feet)

Description: Change lane width on rural two-lane highways from X to Y (in feet)

Prior Condition: Average lane width of X feet

Category: Roadway

Study ID: *Estimation of bicycle crash modification factors (CMFs) on urban facilities using zero inflated negative binomial models*, Raihan et al. 2019

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor	
Value:	
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
Crash Type:	Vehicle/bicycle
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	4
Maximum Number of Lanes:	4
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Divided by Median
Minimum Speed Limit:	35
Maximum Speed Limit:	60
Speed Unit:	mph
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	Minimum of 2300 to Maximum of 120000 Annual Average Daily Traffic (AADT)
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2011 to 2014
Municipality:	
State:	FL
Country:	USA
Type of Methodology Used:	Regression cross-section
Sample Size (crashes):	1174 crashes
Sample Size (miles):	1573 miles
Sample Size (miles-years):	6292 mile-years

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 07, 2019
Comments:	This CMF applies to vehicle/bicycle crashes on urban four-lane divided segments with an average lane width from 10 to 12 feet.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 10280

CMF Name: Resurface pavement

Description:

Prior Condition: No Prior Condition(s)

Category: Roadway

Study ID: *Evaluating Safety Effectiveness of Surface Treatment at Signalised Intersections: A Before and After Study*, Hussein, N.A. and R.A. Hassan. 2018

Star Quality Rating	
Star Quality Rating:	5 Stars

Crash Modification Factor (CMF)	
Value:	0.787
Adjusted Standard Error:	
Unadjusted Standard Error:	0.0313

Crash Reduction Factor	
Value:	21.3
Adjusted Standard Error:	
Unadjusted Standard Error:	3.13

Applicability	
Crash Type:	All
Crash Severity:	K (fatal),A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	All
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban and suburban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Signalized
Major Road Traffic Volume:	Minimum of 1600 to Maximum of 27136 Annual Average Daily Traffic (AADT)
Minor Road Traffic Volume:	

Average Major Road Volume:	12865 Annual Average Daily Traffic (AADT)
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2005 to 2010
Municipality:	Melbourne
State:	notusa
Country:	Australia
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (crashes):	1355 crashes before, 1010 crashes after
Sample Size (sites):	136 sites before, 136 sites after

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 07, 2019
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 10737

CMF Name: Install bicycle lanes

Description:

Prior Condition: No Bicycle Lane

Category: Bicyclists

Study ID: *Development of Crash Modification Factors for Bicycle Lane Additions While Reducing Lane and Shoulder Widths, 2021*

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.435
Adjusted Standard Error:	
Unadjusted Standard Error:	0.225

Crash Reduction Factor	
Value:	
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	All
Minimum Number of Lanes:	4
Maximum Number of Lanes:	4
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Undivided
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	Minimum of 10 to Maximum of 92462 Annual Average Daily Traffic (AADT)
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2015 to 2018
Municipality:	
State:	TX
Country:	
Type of Methodology Used:	Regression cross-section
Sample Size (sites):	372 sites

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Feb 25, 2021
Comments:	This CMF is for bicycle lane addition resulting in reduced shoulder or lane width and no change in average daily bicycle traffic (ADBT). The base condition was 11-ft lanes, no shoulder, no median, and four-lane urban collector or local road.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 11026

CMF Name: Improve street lighting illuminance and uniformity

Description: Add or update street lighting to change the illuminance and uniformity along a roadway segment

Prior Condition: Average lighting level is [0 ft, 0.5fc]

Category: Highway lighting

Study ID: *Development of crash modification factors for roadway illuminance: A matched case-control study*, Li et al. 2021

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.679
Adjusted Standard Error:	
Unadjusted Standard Error:	0.129

Crash Reduction Factor	
Value:	32.1
Adjusted Standard Error:	
Unadjusted Standard Error:	12.9

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban and suburban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	Night
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2011 to 2014
Municipality:	Tampa
State:	FL
Country:	USA
Type of Methodology Used:	

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Mar 16, 2022
Comments:	CMF of increasing the average lighting level from [0 fc, 0.5 fc] to (0.5 fc, 1.0 fc]

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CMF / CRF Details

CMF ID: 11158

CMF Name: Install rectangular rapid flashing beacon (RRFB)

Description: Install rectangular rapid flashing beacon (RRFB)

Prior Condition: without RRFB installation

Category: Pedestrians

Study ID: *Safety Effectiveness of Rectangular Rapid Flashing Beacons (RRFB) Pedestrian Enhancement*, Amrita Goswamy, Mohamed Abdel-Aty, and Nada Mahmoud 2022

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.31
Adjusted Standard Error:	
Unadjusted Standard Error:	0.03

Crash Reduction Factor	
Value:	69
Adjusted Standard Error:	
Unadjusted Standard Error:	3

Applicability	
Crash Type:	Vehicle/pedestrian
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	All
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	Not specified
If countermeasure is intersection-based.	
Intersection Type:	Roadway/pedestrian crossing (eg, midblock crossing)
Intersection Geometry:	Not specified
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2012 to 2019
Municipality:	
State:	FL
Country:	
Type of Methodology Used:	

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Aug 25, 2022
Comments:	It is the CMF of total pedestrian crashes.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 11288

CMF Name: Lower posted speed

Description:

Prior Condition: No Prior Condition(s)

Category: Speed management

Study ID: *Evaluation of Direct and Indirect Safety Effects of Speed-Limit Reduction on Urban Networks*, Seung-oh et al. 2022

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.856
Adjusted Standard Error:	
Unadjusted Standard Error:	0.041

Crash Reduction Factor	
Value:	14.4
Adjusted Standard Error:	
Unadjusted Standard Error:	4.1

Applicability	
Crash Type:	All
Crash Severity:	K (fatal),A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	All
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	Not Specified
Number of Lanes Comment:	
Road Division Type:	All
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	km/h
Speed Limit Comment:	
Area Type:	Not specified
Traffic Volume:	Minimum of 1156 to Maximum of 59219 Annual Average Daily Traffic (AADT)
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	notusa
Country:	South Korea
Type of Methodology Used:	

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Jun 11, 2023
Comments:	This CMF presents the safety effects at Direct Treatment Sections. The paper does not clearly state the posted speed limit reduction being evaluated. However, based on the material presented, it is likely a reduction in the posted speed limit by 10 km/h

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 8992

CMF Name: Implement Systemic Signing and Visibility Improvements at Signalized Intersections

Description: replace all signal heads. Replace pedestrian signal heads, pushbuttons, and signs. Install backplates with retroreflective borders on all signal heads. Re-stripe stop lines. Re-stripe crosswalks. Install advance warning signs. Install overhead signs (e.g., r10 - 12, r3 - 5l, r3 - 5r in the mutcd(4)). Install curb.
Prior Condition: Signalized Intersection without Systemic Signing and Visibility Improvements

Study: *Safety Effects Of Low-Cost Systemic Safety Improvements At Signalized And Stop-Controlled Intersections*, Le Et Al., 2017

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.955
Adjusted Standard Error:	
Unadjusted Standard Error:	0.023

Crash Reduction Factor	
Value:	4.5
Adjusted Standard Error:	
Unadjusted Standard Error:	2.3

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	All
Minimum Number of Lanes:	2
Maximum Number of Lanes:	4
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	All
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Signalized
Major Road Traffic Volume:	Minimum of 4272 to Maximum of 41100 Annual Average Daily Traffic (AADT)
Minor Road Traffic Volume:	Minimum of 111 to Maximum of 20000 Annual Average Daily Traffic (AADT)

Average Major Road Volume:	20447 Annual Average Daily Traffic (AADT)
Average Minor Road Volume:	5864 Annual Average Daily Traffic (AADT)

Development Details

Date Range of Data Used:	2005 to 2014
Municipality:	
State:	SC
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (crashes):	5132 crashes before, 2675 crashes after
Sample Size (sites):	84 sites before, 84 sites after
Sample Size (site-years):	**site-years before, 209 site-years after**

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Nov 17, 2017
Comments:	

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MAKING OUR ROADS SAFER

One Countermeasure at a Time

28 Proven Safety Countermeasures that offer significant and measurable impacts to improving safety

U.S. Department of Transportation
Federal Highway Administration

ZERO IS OUR GOAL
A SAFE SYSTEM IS HOW WE GET THERE

Technical Report Documentation Page

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15. SUPPLEMENTARY NOTES

The Contract Manager for this report was Phillip Bobitz (FHWA Office of Safety). Matt Albee (VHB) was the Principal Investigator.

An FHWA Technical Oversight Working Group included: Dick Albin, Usman Ali, Roya Amjadi, RosemarieAnderson, Eduardo Arispe, Tori Brinkly, Joe Cheung, Becky Crowe, Mike Griffith, Ken Kochevar, MichaelMatzke, Tara McLoughlin, Laura Mero, Anyesha Mookherjee, Elliott Moore, Norah Ocel, Tamara Redmon,Jerry Roche, Cate Satterfield, Jeff Shaw, Keith Sinclair, Karen Timpone, Guan Xu, and Abdul Zineddin.

16. ABSTRACT

The Proven Safety Countermeasure Initiative (PSCi) is a collection of 28 countermeasures and strategieseffective in reducing roadway fatalities and serious injuries on our Nation's highways. Transportationagencies are strongly encouraged to consider widespread implementation of PSCs to accelerate theachievement of local, State, and National safety goals. This booklet provides 1-page handouts for all 28PSCs, broken into the focus areas of speed management, roadway departure, intersections,pedestrians/bicyclists, and crosscutting for countermeasures that apply across categories.

17. KEY WORDS	18. DISTRIBUTION STATEMENT
safety, countermeasures, speed management, roadway departure, intersections, pedestrian, bicyclist	No restrictions.

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OFFICE OF SAFETY

Proven Safety Countermeasures

SPEED MANAGEMENT


Speed Safety Cameras



Variable Speed Limits



Appropriate Speed Limits for All Road Users

ROADWAY DEPARTURE


Wider Edge Lines


Enhanced Delineation for Horizontal Curves


Longitudinal Rumble Strips and Stripes on Two-Lane Roads


SafetyEdge℠


Roadside Design Improvements at Curves


Median Barriers

INTERSECTIONS


Backplates with Retroreflective Borders


Corridor Access Management


Dedicated Left- and Right-Turn Lanes at Intersections


Reduced Left-Turn Conflict Intersections


Roundabouts


Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections


Yellow Change Intervals

PEDESTRIANS/BICYCLES


Crosswalk Visibility Enhancements


Bicycle Lanes


Rectangular Rapid Flashing Beacons (RRFB)


Leading Pedestrian Interval


Medians and Pedestrian Refuge Islands in Urban and Suburban Areas


Pedestrian Hybrid Beacons


Road Diets (Roadway Reconfiguration)


Walkways

Crosscutting


Pavement Friction Management


Lighting


Local Road Safety Plans


Road Safety Audit

Introduction

Widespread use of the 28 Proven Safety Countermeasures (PSCs) identified in this booklet can offer significant, measurable impacts as part of any agency's approach to improving safety. These strategies are designed for all road users and all kinds of roads—from rural to urban, from high-volume freeways to less traveled two-lane State and county roads, from signalized crossings to horizontal curves, and everything in between. Each countermeasure addresses at least one safety focus area – speed management, intersections, roadway departures, or pedestrians/bicyclists – while others are crosscutting strategies that address multiple safety focus areas.

Between 2016 and 2020, 85 percent[1] of all public highway fatalities occurred on Federal-aid highways, which represent 25 percent[2] of the entire public highway network. FHWA's partner agencies have invested in highway safety through the Highway Safety Improvement Program (HSIP), which provides targeted safety funding that is eligible for use on all public roads. However, this dedicated funding source represents only about 6 percent of the total Federal-aid program.[3] Every transportation project, whether or not the specific project purpose is safety related, is a new opportunity to save lives on our roadways. The FHWA's Proven Safety Countermeasures are eligible under most Federal-aid highway funding programs, and can support state, local, and tribal agency efforts to effectively accomplish goals to reduce fatalities and serious injuries. These countermeasures should serve as the basis for what agencies consider and implement when designing any highway project to improve safety.

To assist practitioners with determining the most appropriate PSC for their location of interest, the PSC webpage includes a filter tool that allows users to obtain a tailored listing of potential PSCs. Users answer questions regarding area types, functional classification, traffic volumes, issue identified, targeted crash types, and other information to receive a list of PSCs meeting thecriteria. This search function is intended to better serve practitioners, including those with limited safety background, when identifying and considering treatments and strategies that can improve safety as part of their program or project.

The PSCs can support agencies with implementation of the Safe System Approach, which seeks to build and reinforce multiple layers of protection to both prevent crashes from happening and minimize the harm caused to those involved when crashes do occur. Implementing a Safe System Approach requires collaborative engagement among a diverse group of stakeholders to increase safety for all road users. Accordingly, agencies should consider how the PSCs and National Highway Traffic Safety Administration's (NHTSA) Countermeasures That Work[4] can create a system with redundancies in place to protect all road users. Reaching our goal of zero deaths and serious injuries requires all of us to take ownership in safety. Together, we can consider the safety needs at every stage of the project development process, the safety impact of every investment decision, and the appropriate safety countermeasures for every Federal-aid project.

1 NHTSA Fatality Analysis Reporting System (FARS) 2016-2020 Final
2 FHWA Highway Statistics 2022 (https://www.fhwa.dot.gov/policyinformation/statistics/2022/hm16.cfm)
3 Federal-aid apportioned programs under the Infrastructure Investment and Jobs Act (IIJA) (https://www.fhwa.dot.gov/bipartisan-infrastructure-law/funding.cfm)
4 Countermeasures That Work (https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work)

Speed Safety Cameras

Safe Speeds is a core principle of the Safe System Approach since humans are less likely to survive high-speed crashes. Enforcing safe speeds has been challenging; however, with more information and tools communities can make progress in reducing speeds. Agencies can use speed safety cameras (SSCs) as an effective and reliable technology to supplement more traditional methods of enforcement, engineering measures, and education to alter the social norms of speeding. SSCs use speed measurement devices to detect speeding and capture photographic or video evidence of vehicles that are violating a set speed threshold.



Safety Benefits:

Fixed units can reduce crashes on urban principal arterials up to:

54% for all crashes.[4]

48% for injury crashes.[4]

P2P units can reduce crashes on urban expressways, freeways, and principal arterials up to:

37% for fatal and injury crashes.[2]

Mobile units can reduce crashes on urban principal arterials up to:

20% for fatal and injury crashes.[5]

In New York City, fixed units reduced speeding in school zones up to 63% during school hours.[6]

For more information on this and other FHWA Proven Safety Countermeasures, please reference the: Speed Safety Camera Program Planning and Operations Guide.

The contents of this Fact Sheet do not have the force and effect of law and are not meant to bind the public in any way. This Fact Sheet is intended only to provide clarity regarding existing requirements under the law or agency policies.

FHWA-SA-21-070

Applications

Agencies should conduct a network analysis of speeding-related crashes to identify locations to implement SSCs. The analysis can include scope (e.g., widespread, localized), location types (e.g., urban/suburban/rural, work zones, residential, school zones), roadway types (e.g., expressways, arterials, local streets), times of day, and road users most affected by speed-related crashes (e.g., pedestrians, bicyclists).

SSCs can be deployed as:

- **Fixed units**—a single, stationary camera targeting one location.
- **Point-to-Point (P2P) units**—multiple cameras to capture average speed over a certain distance.
- **Mobile units**—a portable camera, generally in a vehicle or trailer.

The table below describes suitable circumstances for SSC deployment.[1]

Considerations

- SSCs can produce a crash reduction upstream and downstream, thus generating a spillover effect.[2]
- Public trust is essential for any type of enforcement. With proper controls in place, SSCs can offer fair and equitable enforcement of speeding, regardless of driver age, race, gender, or socio-economic status. SSCs should be planned with community input and equity impacts in mind.
- Using both overt (i.e., highly visible) and covert (i.e., hidden) enforcement may encourage drivers to comply with limits everywhere, not only at sites they are aware are enforced.
- Agencies should conduct evaluations regularly to determine if SSCs are accomplishing safety goals and whether changes in strategy, scheduling, communications, or public engagement are necessary.
- Agencies should conduct a legal and policy review to determine if SSCs are authorized within a jurisdiction and how the authorization and other traffic laws will affect a SSC program.
- Agencies should develop an SSC program plan with consideration of the USDOT SSC guidelines for planning, public involvement, stakeholder coordination, implementation, maintenance, evaluation, etc.[3]

Considerations for Selection	Fixed	P2P	Mobile
Problems are long-term and site-specific.	X	X	—
Problems are network-wide, and shift based on enforcement efforts.	—	—	X
Speeds at enforcement site vary largely from downstream sites.	—	X	X
Overt enforcement is legally required.	X	X	X
Sight distance for the enforcement unit is limited.	X	X	—
Enforcement sites are multilane facilities.	X	X	—

1 Speed Safety Camera Program Planning and Operations Guide. FHWA, (2023).
2 (CMF ID: 7718) Montella et al. "Effects on speed and safety of point-to-point speed enforcement systems". Accident Analysis and Prevention, Vol. 75, (2015). Note that this is an international study.
3 Speed Enforcement Camera Systems Operational Guidelines. NHTSA, (2008).
4 (CMF ID: 2915,2921) Shin et al. "Evaluation of the Scottsdale Loop 101 automated speed enforcement demonstration program." Accident Analysis and Prevention, Vol. 41, (2009).
5 (CMF ID: 7582) Li et al. "A Before-and-After Empirical Bayes Evaluation of Automated Mobile Speed Enforcement on Urban Arterial Roads." Presented at the 94th Annual Meeting of the Transportation Research Board, Paper No. 15-1563, Washington, D.C., (2015). Note that this is an international study.
6 Automated Speed Enforcement Program Report 2014-2017. New York City DOT, (2018).



Variable Speed Limits

Selecting appropriate speed limits on roadways is important in maintaining a safe and efficient transportation network. Speed limits are established with an engineering study based on inputs like traffic volumes, operating speeds, roadway characteristics, and crash history. However, conditions on the roadway are susceptible to change in a short amount of time (e.g., congestion, crashes, weather). Drivers typically determine their operating speeds under normal weather conditions on a straight roadway section with good pavement quality and adequate sight distances. If ideal conditions do not exist and the roadway does not meet the driver's expectations, there is a greater chance that a driver error could result in a crash. Providing variable speeds limits (VSLs) capable of adapting to changing circumstances could reduce crash frequency and severity.

Speed management strategies, including VSLs, are integral to the Safe Speeds element of the Safe System Approach. Because humans are unlikely to survive high-speed crashes, VSLs reduce speeds so that human injury tolerances are accommodated in three ways: improving visibility, providing additional time for drivers to stop, and reducing impact forces.

Safety Benefits:

VSLs can reduce crashes on freeways up to:

34%
for total crashes.[1]

65%
for rear-end crashes.[1]

51%
for fatal and injury crashes.[1]

Benefit/Cost Ratios range between[1]

9:1 - 40:1

Applications

VSLs use prevailing information on the roadway, like traffic speed, volumes, weather, and road surface conditions, to determine appropriate speeds and display them to drivers. This strategy improves safety performance and traffic flow by reducing speed variance (i.e., improving speed harmonization). VSLs may also improve driver expectation by providing information in advance of slowdowns and potential lane closures, which could reduce the probability for secondary crashes. VSLs can mitigate adverse weather conditions or to slow faster-moving traffic as it approaches a queue or bottleneck.

Agencies can implement VSLs for the following applications:

CONGESTION

INCIDENTS

WORK ZONES

INCLEMENT WEATHER

Considerations

- Particularly effective on urban and rural freeways and high-speed arterials with posted speed limits greater than 40 mph.
- Often implemented as part of Active Traffic Management (ATM) plans or incorporated into existing Road Weather Information Systems.
- When used with ATM, VSLs can mitigate rear-end, sideswipe, and other crashes on high-speed roadways.
- May be implemented as a regulatory and/or an advisory system.
- Can be applied to an entire roadway segment or individual lanes.



Source: WSDOT

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/speed-management/reference-materials.

1 (CMF ID: 11002,11005,11003) Avelar et al. Developing Crash Modification Factors for Variable Speed Limit. FHWA, (2020).



Appropriate Speed Limits for All Road Users

There is broad consensus among global roadway safety experts that speed control is one of the most important methods for reducing fatalities and serious injuries. Speed is an especially important factor on non-limited access roadways where vehicles and vulnerable road users mix.

A driver may not see or be aware of the conditions within a corridor, and may drive at a speed that feels reasonable for themselves but may not be for all users of the system, especially vulnerable road users, including children and seniors. A driver traveling at 30 miles per hour who hits a pedestrian has a 45 percent chance of killing or seriously injuring them.[1] At 20 miles per hour, that percentage drops to 5 percent.[1] A number of cities across the United States, including New York, Washington, Seattle and Minneapolis, have reduced their local speed limits in recent years in an effort to reduce fatalities and serious injuries, with most having to secure State legislative authorization to do so.

States and local jurisdictions should set appropriate speed limits to reduce the significant risks drivers impose on others—especially vulnerable road users—and on themselves. Addressing speed is fundamental to the Safe System Approach to making streets safer, and a growing body of research shows that speed limit changes alone can lead to measurable declines in speeds and crashes.[2]

Safety Benefits:

Traffic fatalities in the City of Seattle decreased 26 percent after the city implemented comprehensive, city-wide speed management strategies and countermeasures inspired by Vision Zero. This included setting speed limits on all non-arterial streets at 20 mph and 200 miles of arterial streets at 25 mph.[5]

One study found that on rural roads, when considering other relevant factors in the engineering study along with the speed distribution, setting a speed limit no more than 5 mph below the 85th-percentile speed may result in fewer total and fatal plus injury crashes, and lead to drivers complying closely with the posted speed limit.[6]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/speed-management/reference-materials.

Applications

Posted speed limits are often the same as the legislative statutory speed limit. Agencies with designated authorities to set speed limits, which include States, and sometimes local jurisdictions, can establish non-statutory speed limits or designate reduced speed zones, and a growing number are doing so. While non-statutory speed limits must be based on an engineering study, conducted in accordance with the *Manual on Uniform Traffic Control Devices* (MUTCD) involving multiple factors and engineering judgment, FHWA is also encouraging agencies to use the following:[3]

- Expert Systems tools.
  - USLIMITS2.
  - NCHRP 966: Posted Speed Limit Setting Procedure and Tool.
- Safe System approach.

Based on international experience and implementation in the United States, the use of 20 mph speed zones or speed limits in urban core areas where vulnerable users share the road environment with motorists may result in further safety benefits.[4]

Considerations

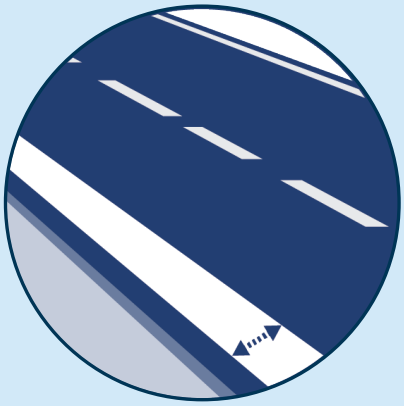
When setting a speed limit, agencies should consider a range of factors such as pedestrian and bicyclist activity, crash history, land use context, intersection spacing, driveway density, roadway geometry, roadside conditions, roadway functional classification, traffic volume, and observed speeds.

To achieve desired speeds, agencies often implement other speed management strategies concurrently with setting speed limits, such as self-enforcing roadways, traffic calming, and speed safety cameras. Additional information is in the following FHWA resources:

- FHWA Speed Management website.
- Self-Enforcing Roadways: A Guidance Report.
- Noteworthy Speed Management Practices.
- Jurisdiction Speed Management Action Plan Development Package.
- Traffic Calming ePrimer.

1 Reducing the speed limit to 20 mph in urban areas: Child deaths and injuries would be decreased.
2 Lowering the speed limit from 30 to 25 mph in Boston: effects on vehicle speeds.
3 FHWA's Methods and Practices for Setting Speed Limits: An Informational Report, (2012).
4 Recommendations of the Academic Expert Group for the 3rd Global Ministerial Conference on Road Safety.
5 https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa20047/sec8.cfm#foot813
6 Safety and Operational Impacts of Setting Speed Limits below Engineering Recommendations.

FHWA-SA-21-034



Safety Benefits:

Wider edge lines can reduce crashes up to:

37%
for non-intersection, fatal and injury crashes on rural, two-lane roads.[2]

22%
for fatal and injury crashes on rural freeways.[3]

Benefit Cost Ratio
25:1
for fatal and serious injury crashes on two-lane rural roads.[4]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/other/visibility/pavement-markings.

FHWA-SA-21-055

Wider Edge Lines

Roadway departures account for over half of all traffic fatalities in the United States. If drivers cannot clearly identify the edge of the travel lanes and see the road alignment ahead, the risk of roadway departure may be greater. Wider edge lines enhance the visibility of travel lane boundaries compared to traditional edge lines. Edge lines are considered "wider" when the marking width is increased from the minimum normal line width of 4 inches to the maximum normal line width of 6 inches.[1]

Applications

Wider edge lines increase drivers' perception of the edge of the travel lane and can provide a safety benefit to all facility types (e.g., freeways, multilane divided and undivided highways, two-lane highways) in both urban and rural areas.[2] Wider edge lines are most effective in reducing crashes on rural two-lane highways, especially for single-vehicle crashes.[3] Agencies should also consider implementing a systemic approach to wider edge line installation based roadway departure crash risk factors. Potential risk factors for two-lane rural roads include:

- Pavement and shoulder widths.
- Presence of curves.
- Traffic volumes.
- History of nighttime crashes.

Considerations

- Wider edge lines are relatively low cost.
- Wider edge lines can be implemented using existing equipment during maintenance procedures like re-striping and resurfacing, with the only cost increase being the additional material.
- Paint may have a lower initial cost, but more durable materials (e.g., thermoplastic) may result in a lower life cycle cost based on their longer service life.
- As the number of automated vehicles increases on roadways, wider edge lines may provide better guidance for these vehicles' sensors.



Source: Texas Transportation Institute

1 Manual on Uniform Traffic Control Devices (MUTCD), Section 3A.04. FHWA, (2023).
2 (CMF ID: 4737) Park et al. "Safety effects of wider edge lines on rural, two-lane highways." Accident Analysis and Prevention Vol. 48, pp.317-325, (2012).
3 Potts et al. Benefit/Cost Evaluation of MoDOT's Total Striping and Delineation Program: Phase II. Missouri Department of Transportation, (2011).
4 Abdel-Rahim et al. Safety Impacts of Using Wider Pavement Markings on Two-Lane Rural Highways in Idaho. Idaho Transportation Department, (2018).



Safety Benefits:

Chevron Signs

25% reduction in nighttime crashes.[1]

16% reduction in non-intersection fatal and injury crashes.[2]

Oversized Chevron Signs

15% reduction in fatal and injury crashes.[3]

Sequential Dynamic Chevrons

60% reduction in fatal and injury crashes.[4]

In-Lane Curve Warning Pavement Markings

35 - 38% reduction in all crashes.[5]

New Fluorescent Curve Signs or Upgrade Existing Curve Signs to Fluorescent Sheeting

18% reduction in non-intersection, head-on, run-off-road, and sideswipe in rural areas.[1]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/rwd/keep-vehicles-road/horizontal-curve-safety.

FHWA-SA-21-035

Enhanced Delineation for Horizontal Curves

Enhanced delineation at horizontal curves includes a variety of potential strategies that can be implemented in advance of or within curves, in combination, or individually.

Potential Strategies	In Advance of Curve	Within Curve
Pavement markings (standard width or wider)	✓	✓
In-lane curve warning pavement markings	✓	
Retroreflective strips on sign posts	✓	✓
Delineators		✓
Chevron signs		✓
Enhanced Conspicuity (larger, fluorescent, and/or retroreflective signs)	✓	✓
Dynamic curve warning signs (including speed radar feedback signs)	✓	
Sequential dynamic chevrons		✓

Enhanced delineation treatments can alert drivers to upcoming curves, the direction and sharpness of the curve, and appropriate operating speed.

Agencies can take the following steps to implement enhanced delineation strategies:

1. Review signing practices and policies to ensure they comply with the Manual on Uniform Traffic Control Devices (MUTCD) principles of traffic control devices. Consistent practice for similar curves sets the appropriate driver expectancy.
2. Use the systemic approach to identify and treat problem curves. For example, Minnesota uses risk factors that include curve radii between 500 and 1,200 ft, traffic volumes between 500 and 1,000 vehicles per day, intersection in the curve, and presence of a visual trap.[1]
3. Match the appropriate strategy to the identified problem(s), considering the full range of enhanced delineation treatments. Once the MUTCD requirements and recommendations have been met, an incremental approach is often beneficial to avoid excessive cost.



Chevron signs with retroreflective strips on sign posts installed along a curve. Source: FHWA

1 (CMF ID: 2439,2431,2432) Albin et al. Low-Cost Treatments for Horizontal Curve Safety 2016. FHWA-SA-15-084, (2016).
2 (CMF ID: 2438) Srinivasan et al. Safety Evaluation of Improved Curve Delineation. FHWA-HRT-09-045, (2009).
3 (CMF ID: 8978) Lyon et al. Safety Evaluation of Two Curve Warning Treatments: In-Lane Curve Warning Pavement Markings and Oversized Chevron Signs. Presented at the 96th TRB Annual Meeting, Paper No. 17-00432, (2017).
4 (CMF ID: 10362) Hallmark, S. Evaluation of Sequential Dynamic Chevrons on Rural Two-lane Highways. FHWA, (2017).
5 (CMF ID: 10312,9167) Donnell et al. Reducing Roadway Departure Crashes at Horizontal Curve Sections on Two-lane Rural Highways. FHWA-SA-19-005, (2019).



Safety Benefits:

Center Line Rumble Strips

44-64%

reduction in head-on fatal and injury crashes on two-lane rural roads.[4]

Shoulder Rumble Strips

13-51%

reduction in single vehicle, run-off-road fatal and injury crashes on two-lane rural roads.[4]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/rwd/keep-vehicles-road/rumble-strips.

FHWA-SA-21-036

Longitudinal Rumble Strips and Stripes

Longitudinal rumble strips are milled or raised elements on the pavement intended to alert drivers through vibration and sound that their vehicle has left the travel lane. They can be installed on the shoulder, edge line, or at or near the center line of an undivided roadway.

Rumble stripes are edge line or center line rumble strips where the pavement marking is placed over the rumble strip. This can increase the visibility and durability of the pavement marking during wet, nighttime conditions, and can improve the durability of the marking on roads with snowplowing operations.

With roadway departure crashes accounting for more than half of the fatal roadway crashes annually in the United States, rumble strips and stripes are designed to address these crashes by alerting distracted, drowsy, or otherwise inattentive drivers who drift from their lane. They are most effective when deployed systemically.

Transportation agencies should consider milled center line rumble strips (including in passing zone areas) and milled edge line or shoulder rumble strips with bicycle gaps for systemic safety projects, location-specific corridor safety improvements, as well as reconstruction or resurfacing projects.

Considerations

- Rumble strips are relatively low-cost, and economic analyses have indicated benefit/cost ratios that exceed 100.[1]
- Where rumble strips cannot be placed due to noise concerns, agencies may consider a design using an oscillating sine wave pattern (also known as "mumble strips") that reduces noise outside of the vehicle. However, the safety benefits of this design need more study.[2]
- Maintenance concerns:
  - Where rumble strips are placed along a pavement joint, there are typically no issues with joint stability if the pavement structure and joint was already in good condition.
  - Studies have shown no evidence of issues related to snow, ice, or rain build-up in the rumble strip.[3]



Shoulder rumble strips and center line rumble stripes are installed on this roadway. Source: FHWA



Example of an edge line rumble stripe. Source: Missouri DOT

1 Himes, S., and McGee, H. Decision Support Guide for the Installation of Shoulder and Center Line Rumble Strips on Non-Freeways. Federal Highway Administration Report No. FHWA-SA-16-115. (August 2016).
2 Bedsole et al. *Did You Hear That?* Public Roads Magazine, Volume 80, No. 4. FHWA Publication No. FHWA-HRT-17-002, (2017).
3 NCHRP Synthesis 339: Centerline Rumble Strips – A Synthesis of Highway Practices, (2005
4 (CMF ID: 3358, 3356, 3425, 3648) NCHRP Report 641: Guidance for the Design and Application of Shoulder and Centerline Rumble Strips, (2009).

SafetyEdge^{SM}

The SafetyEdge^{SM} technology shapes the edge of the pavement at approximately 30 degrees from the pavement cross slope during the paving process. This safety practice eliminates the potential for vertical drop-off at the pavement edge, has minimal effect on project cost, and can improve pavement durability by reducing edge raveling of asphalt.

Safety Benefits:

11%
reduction in fatal and injury crashes.[2]

21%
reduction in run-off-road crashes.[2]

19%
reduction in head-on crashes.[2]

Benefit-Cost Ratio Range[3]

700:1 to 1,500:1

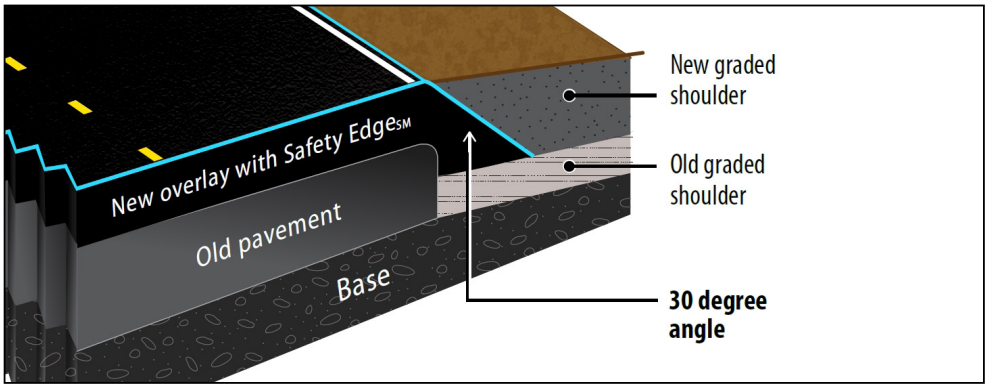
Rural road crashes involving edge drop-offs are 2-4 times more likely to include a fatality than other crashes on similar roads.[1] Vehicles may leave the roadway for various reasons ranging from distracted driver errors to low visibility, or to the presence of an animal on the road. Exposed vertical pavement edges can cause vehicles to become unstable and prevent their safe return to the roadway. The SafetyEdge^{SM} gives drivers the opportunity to return to their travel lane while maintaining control of their vehicle.

The SafetyEdge^{SM} technology only requires adding one of several commercially available devices to the screed or endgate when placing hot-mix asphalt. Forms for shaping the edge of concrete pavement are simpler and can be made on site by the contractor. Some agencies allow the SafetyEdge^{SM} to remain exposed while a segment is under construction, unlike conventional pavement edges. However, before construction ends, agencies should bring the adjacent roadside flush with the top of the pavement for both the SafetyEdge^{SM} and traditional pavement edge. Over time, regardless of the edge type, the edge may become exposed due to settling, erosion, and tire wear. When this occurs, the gentle slope provided by the SafetyEdge^{SM} is preferred versus the traditional vertical pavement edge.

Transportation agencies should develop standards for implementing the SafetyEdge^{SM} systemwide on all new asphalt paving and resurfacing projects where curbs and/or guardrail are not present, while also encouraging standard application for concrete pavements.



Example of the SafetyEdge^{SM} after backfill material settles or erodes. Source: FHWA



Cross-section view of an overlay with the SafetyEdge^{SM}. Source: FHWA-SA-17-044

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/rwd/provide-safe-recovery/safetyedge.

FHWA-SA-21-038

1 Hallmark et al. Safety Impacts of Pavement Edge Drop-offs, (Washington, DC: AAA Foundation for Traffic Safety: 2006), p 93.
2 (CMF ID: 9205, 9211, 9217) Donnell et al. Development of Crash Modification Factors for the Application of the SafetyEdge^{SM} on Two-Lane Rural Roads. FHWA-HRT-17-081, (2017).
3 Safety Effects of the SafetyEdge^{SM}, FHWA-SA-17-044, (2017).



Safety Benefits:

Flatten sideslope from 1V:3H to 1V:4H:

8%

reduction for single-vehicle crashes.[2]

Flatten sideslope from 1V:4H to 1V:6H:

12%

reduction for single-vehicle crashes.[2]

Increase the distance to roadside features from 3.3 ft to 16.7 ft:

22%

reduction for all crashes.[3]

Increase the distance to roadside features from 16.7 ft to 30 ft:

44%

reduction for all crashes.[3]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/rwd/provide-safe-recovery/clear-zones/clear-zones.

FHWA-SA-21-029

Roadside Design Improvements at Curves

Horizontal curves account for 27 percent of all fatal crashes and 80 percent of all fatal crashes at curves are roadway departure crashes.[1] Roadside design improvements at curves is a strategy encompassing several treatments that target the high-risk roadside environment along the outside of horizontal curves. These treatments can reduce roadway departure fatalities and serious injuries by giving vehicles the opportunity to recover safely and by reducing crash severity.

Roadside design improvements can be implemented alone or in combination, and are particularly recommended at horizontal curves—where data indicates a higher risk for roadway departure fatalities and serious injuries.

Roadside Design Improvements to Provide for a Safe Recovery

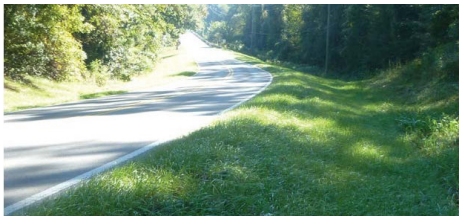
In cases where a vehicle leaves the roadway, having strategic roadside design elements, including an added or widened shoulder, flattened sideslopes, or a widened clear zone can provide drivers with an opportunity to regain control and re-enter the roadway in their lane or come to a safe stop before rolling over or encountering a fixed object.

- A **clear zone** is an unobstructed, traversable roadside area that allows a driver to stop safely or regain control of a vehicle that has left the roadway. Agencies should avoid adding new fixed objects such as trees and utility cabinets or poles in the clear zone. AASHTO's *Roadside Design Guide* details the clear zone width adjustment factors to be applied at horizontal curves.
- **Slope flattening** reduces the steepness of the sideslope to increase drivers' ability to keep the vehicle stable, regain control of the vehicle, and avoid obstacles. Slopes of 1V:4H or flatter are considered recoverable (i.e., drivers can retain control of a vehicle by slowing or stopping). Slopes between 1V:3H and 1V:4H are generally considered traversable, but non-recoverable (i.e., errant vehicle will continue to the bottom of the slope).
- **Adding or widening shoulders** gives drivers more recovery area to regain control in the event of a roadway departure.

Roadside Design Improvements to Reduce Crash Severity

Since not all roadside hazards can be removed, relocated, or redesigned at curves, installing roadside barriers to shield unmovable objects or steep embankments may be an appropriate treatment. Three common types of roadside barriers are:

- **Cable barrier** is a flexible barrier made from steel cables mounted on weak steel posts. Flexible barriers are more forgiving and have the most deflection.
- **Metal-beam guardrail** is a semi-rigid barrier where a W-beam or box-beam is mounted on steel or timber posts. These deflect less than cable barriers, so they can be located closer to objects where space is limited.
- **Concrete barrier** is a rigid barrier that has little to no deflection.



Clear zone provided on the outside of the curve. Source: FHWA.

1 Fatality Analysis Reporting System.
2 (CMF ID: 4627,4632) NCHRP Report 617: Accident Modification Factors for Traffic Engineering and ITS Improvements, (2008).
3 (CMF ID: 35,36) Elvik, R., and Vaa, T. Handbook of Road Safety Measures, (2004).



8%

of all fatalities on divided highways are due to head-on crashes.[1]

Safety Benefits:

Median Barriers Installed on Rural Four-Lane Freeways

97%

reduction in cross-median crashes.[2]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/rwd/reduce-crash-severity.

FHWA-SA-21-037

Median Barriers

Median barriers are longitudinal barriers that separate opposing traffic on a divided highway and are designed to redirect vehicles striking either side of the barrier. Median barriers significantly reduce the number of cross-median crashes, which are attributed to the relatively high speeds that are typical on divided highways. AASHTO's ***Roadside Design Guide*** (RDG) recommends guidelines for the use of median barriers on high-speed, fully controlled-access roadways for locations where the median is 30 ft in width or less and the average daily traffic (ADT) is greater than 20,000 vehicles per day (vpd). For locations with median widths greater than 50 ft and where the ADT is less than 20,000 vpd, a median barrier is optional. For locations where the median is between 30 and 50 feet, the RDG suggests an analysis to determine the cost effectiveness of median barrier installation. Median barriers can be cable, metal-beam, or concrete.

- **Cable barriers** are flexible barriers, made from steel cables mounted on weak steel posts, resulting in less occupant impact force as it absorbs energy from the crash, capturing or redirecting the vehicle. Due to larger deflection, median width is an important consideration. These barriers are more adaptable to slopes typically found in medians. Cable barriers tend to require more frequent maintenance and repair than other barrier types.
- **Metal-beam guardrails** are considered semi-rigid barriers, where the W-beam or box-beam is mounted to steel or timber posts. When impacted, they are designed to deform and deflect, absorbing some of the crash energy and redirecting the vehicle. Metal-beam guardrails often do not require maintenance after minor impacts. They deflect less than cable barriers, so they can be located closer to objects where space is limited.
- **Concrete barriers** are usually rigid and result in little to no deflection. They redirect rather than absorb energy from the impact. Rigid concrete barriers seldom require repair or maintenance. Some agencies have used portable concrete barriers as median barriers. These barriers require repositioning after an impact but are typically less maintenance than a post mounted barrier.

To reduce cross-median crashes, transportation agencies should review their head-on crash history on divided highways to identify hot spots. Agencies should also consider implementing a systemic approach to median barrier placement based on cross-median crash risk factors. Potential risk factors include:

- Traffic volumes.
- Vehicle classifications.
- Median crossover history.
- Crash incidents.
- Vertical and horizontal alignment.
- Median terrain configurations.



Median cable barrier prevents a potential head-on crash.
Source: Washington State DOT

1 Fatality Analysis Reporting System.
2 (CMF ID: 7040) NCHRP Report 794: Median Cross-Section Design for Rural Divided Highways, (2011).

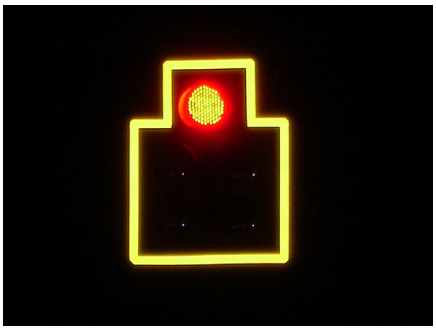
Backplates with Retroreflective Borders

Backplates added to a traffic signal head improve the visibility of the illuminated face of the signal by introducing a controlled-contrast background. The improved visibility of a signal head with a backplate is made even more conspicuous by framing it with a 1- to 3-inch yellow retroreflective border. Signal heads that have backplates equipped with retroreflective borders are more visible and conspicuous in both daytime and nighttime conditions.

Safety Benefits:

15%
reduction in total crashes.[1]

This treatment is recognized as a human factors enhancement of traffic signal visibility, conspicuity, and orientation for both older and color vision deficient drivers. This countermeasure is also advantageous during periods of power outages when the signals would otherwise be dark, providing a visible cue for motorists to stop at the intersection ahead.



Retroreflective borders are highly visible during the night. Source: South Carolina DOT

Considerations

Transportation agencies should consider backplates with retroreflective borders as part of their efforts to systematically improve safety performance at signalized intersections. Adding a retroreflective border to an existing signal backplate is a very low-cost safety treatment. This can be done by either adding retroreflective tape to an existing backplate or purchasing a new backplate with a retroreflective border already incorporated. The most efficient means of implementing this proven safety countermeasure is to adopt it as a standard treatment for signalized intersections across a jurisdiction or State.

Implementation challenges include minimizing installation time, accessing existing signal heads, and structural limitations due to added wind load in instances where an entire backplate is added. Agencies should consider the design of the existing signal support structure to determine if the design is sufficient to support the added wind load.



Signal backplate framed with a retroreflective border. Source: FHWA

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://rosap.ntl.bts.gov/view/dot/42807.

1 (CMF ID: 1410) Sayed, T., Leur, P., and Pump, J., "Safety Impact of Increased Traffic Signal Backboards Conspicuity." 2005 TRB 84th Annual Meeting: Compendium of Papers CD-ROM, Vol. TRB#05-16, Washington, D.C., (2005).



Safety Benefits:

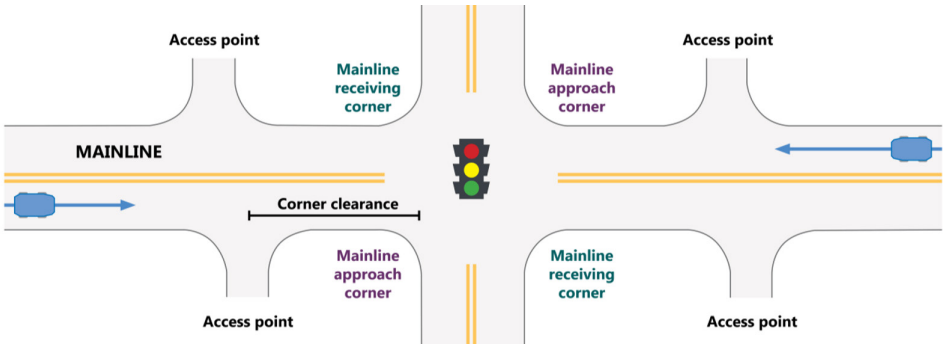
Reducing driveway density

5-23%
reduction in total crashes along 2-lane rural roads.[3]

25-31%
reduction in fatal and injury crashes along urban/ suburban arterials.[4]

Corridor Access Management

Access management refers to the design, application, and control of entry and exit points along a roadway. This includes intersections with other roads and driveways that serve adjacent properties. Thoughtful access management along a corridor can simultaneously enhance safety for all modes, facilitate walking and biking, and reduce trip delay and congestion.



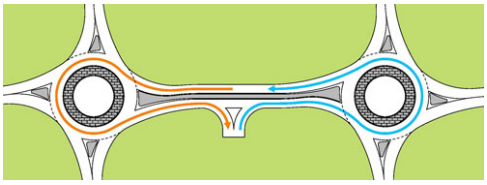
Schematic of an intersection and adjacent access points. Source: FHWA

Every intersection, from a signalized intersection to an unpaved driveway, has the potential for conflicts between vehicles, pedestrians, and bicyclists. The number and types of conflict points—locations where the travel paths of two users intersect—influence the safety performance of the intersection or driveway. FHWA developed corridor-level crash prediction models to estimate and analyze the safety effects of selected access management techniques for different area types, land uses, roadway variables, and traffic volumes.[1]

The following access management strategies can be used individually or in combination with one another:

- Reduce density through driveway closure, consolidation, or relocation.
- Manage spacing of intersection and access points.
- Limit allowable movements at driveways (such as right-in/ right-out only).
- Place driveways on an intersection approach corner rather than a receiving corner, which is expected to have fewer total crashes.[2]
- Implement raised medians that preclude across-roadway movements.
- Utilize designs such as roundabouts or reduced left-turn conflicts (such as restricted crossing U-turn, median U-turns, etc.).
- Provide turn lanes (i.e., left-only, right-only, or interior two-way left).
- Use lower speed one-way or two-way off-arterial circulation roads.

Successful corridor access management involves balancing overall safety and mobility for all users along with the needs of adjacent land uses.



Tandem roundabouts with a continuous raised median eliminates left-turn and across-roadway conflicts. Source: FHWA

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/intersection-safety/cam.

FHWA-SA-21-040

1 Gross et al. Safety Evaluation of Access Management Policies and Techniques. FHWA-HRT-14-057, (2018).
2 Le et al. Safety Evaluation of Corner Clearance at Signalized Intersections. FHWA-HRT-17-084, (2018).
3 Harwood et al. Prediction of the Expected Safety Performance of Rural Two-Lane Highways. FHWA-RD-99-207, (2000).
4 (CMF ID: 179,178) Elvik, R. and Vaa, T., Handbook of Road Safety Measures. Oxford, United Kingdom, Elsevier, (2004).

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Dedicated Left- and Right-Turn Lanes at Intersections

Auxiliary turn lanes—either for left turns or right turns—provide physical separation between turning traffic that is slowing or stopped and adjacent through traffic at approaches to intersections. Turn lanes can be designed to provide for deceleration prior to a turn, as well as for storage of vehicles that are stopped and waiting for the opportunity to complete a turn.

Safety Benefits:

Left-Turn Lanes

28-48%

reduction in total crashes.[1]

Positive Offset Left-Turn Lanes

36%

reduction in fatal and injury crashes.[2]

Right-Turn Lanes

14-26%

reduction in total crashes.[1]



Left- and right-turn lanes at a two-way stop-controlled intersection. Source: City of Greeley, CO

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://www.fhwa.dot.gov/publications/research/safety/02103/02103techbrief.pdf.

FHWA-SA-21-041

While turn lanes provide measurable safety and operational benefits at many types of intersections, they are particularly helpful at two-way stop-controlled intersections. Crashes occurring at these intersections are often related to turning maneuvers. Since the major route traffic is free flowing and typically travels at higher speeds, crashes that do occur are often severe. The main crash types include collisions of vehicles turning left across opposing through traffic and rear-end collisions of vehicles turning left or right with other vehicles following closely behind. Turn lanes reduce the potential for these types of crashes.

Installing left-turn lanes and/or right-turn lanes should be considered for the major road approaches for improving safety at both three- and four-leg intersections with stop control on the minor road, where significant turning volumes exist, or where there is a history of turn-related crashes. Pedestrian and bicyclist safety and convenience should also be considered when adding turn lanes at an intersection. Specifically, offset left- and right-turn lanes will lengthen crossing distances for pedestrians.

Offset Turn Lanes

Providing offset of left- and right-turn lanes to increase visibility can provide added safety benefits, and is preferable in many situations, particularly at locations with higher speeds, or where free-flow or permissive movements are possible.

At turn lanes with zero or negative offset, turning vehicles can block sightlines. For left-turn lanes, this usually involves opposing left-turning vehicles occupying the turn lanes at the same time. For right-turn lanes, this typically involves right-turning vehicles from the major road and vehicles entering the intersection from the minor road. In both scenarios, adding positive offset to turn lanes enhances the sight distance to approaching vehicles that conflict with the turning movement. Offset turn lanes should be considered when there is a high frequency of these types of conflicts in order to reduce the likelihood of a severe crash.

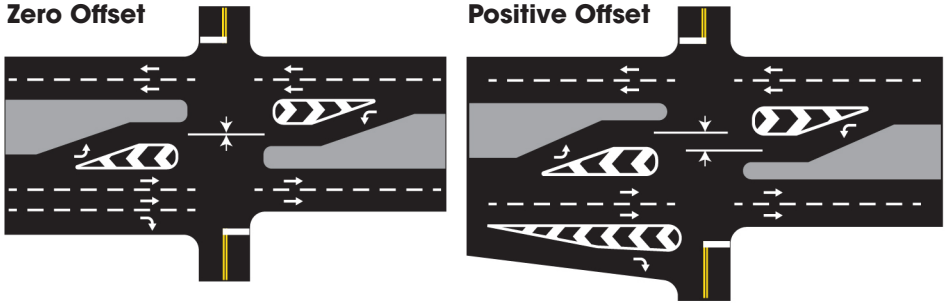


Illustration comparing zero offset to positive offset of left- and right-turn lanes. Source: FHWA

1 (CMF ID: 260, 268, 285, 289) Harwood et al. Safety Effectiveness of Intersection Left- and Right-Turn Lanes. FHWA-HRD-02-089, (2002).
2 (CMF ID: 6096) Persaud et al. Safety Evaluation of Offset Improvements for Left-Turn Lanes. FHWA-HRT-09-035, (2009).



Safety Benefits:

RCUT

Two-Way Stop-Controlled to RCUT:

54%

reduction in fatal and injury crashes.[2]

Signalized Intersection to Signalized RCUT:

22%

reduction in fatal and injury crashes.[3]

Unsignalized Intersection to Unsignalized RCUT:

63%

reduction in fatal and injury crashes. [4]

MUT

30%

reduction in intersection-related injury crash rate.[5]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/intersection-safety/intersection-types/reduced-left-turn-conflict-intersections.

FHWA-SA-21-030

Reduced Left-Turn Conflict Intersections

Reduced left-turn conflict intersections are geometric designs that alter how left-turn movements occur. These intersections simplify decision-making for drivers and minimize the potential for higher severity crash types, such as head-on and angle. Two highly effective designs that rely on U-turns to complete certain left-turn movements are known as the Restricted Crossing U-turn (RCUT) and the Median U-turn (MUT).

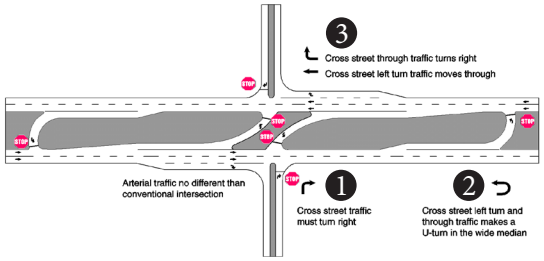
Restricted Crossing U-turn

The RCUT intersection, also known as a J-Turn, Superstreet, or Reduced Conflict Intersection, modifies the direct left-turn and through movements from cross-street approaches. Minor road traffic makes a right turn followed by a U-turn at a designated location—either signalized or unsignalized—to continue in the desired direction. The RCUT is suitable for and adaptable to a wide variety of circumstances, ranging from isolated rural, high-speed locations to urban and suburban high-volume, multimodal corridors. It is a competitive and less costly alternative to constructing an interchange. RCUTs work well when consistently used along a corridor, but also can be used effectively at individual intersections. Studies have shown that installing an RCUT can result in a 30-percent increase in throughput and a 40-percent reduction in network intersection travel time.[1]

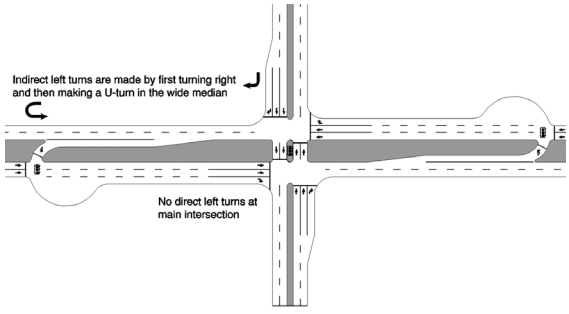
Median U-turn

The MUT intersection modifies direct left turns from the major approaches. Vehicles proceed through the main intersection, make a U-turn a short distance downstream, followed by a right turn at the main intersection. The U-turns can also be used for modifying the cross-street left turns, similar to the RCUT.

The MUT is an excellent choice for intersections with heavy through traffic and moderate left-turn volumes. Studies have shown a 20- to 50-percent improvement in intersection throughput for various lane configurations as a result of implementing the MUT design. When implemented at multiple intersections along a corridor, the efficient two-phase signal operation of the MUT can reduce delay, improve travel times, and create more crossing opportunities for pedestrians and bicyclists.



Example of a unsignalized RCUT intersection. Source: FHWA



Example of a MUT intersection. Source: FHWA

1 Hugher and Jagannathan. Restricted Crossing U-Turn Intersection. FHWA-HRT-09-059, (2009).
2 (CMF ID: 5556) Edara et al. Evaluation of J-turn Intersection Design Performance in Missouri. MoDOT, (2013).
3 (CMF ID: 9985) Hummer and Rao. Safety Evaluation of a Signalized Restricted Crossing U-Turn. FHWA-HRT-17-082, (2017).
4 (CMF ID: 4884) Hummer et al. Superstreet Benefits and Capacities. FHWA/NC/2009-06, NC State University, (2010).
5 (CMF ID: 10867) Synthesis of the Median U-Turn Treatment, Safety, and Operational Benefits, FHWA-HRT-07-033, (2007).

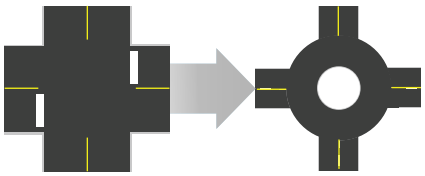


Roundabouts

The modern roundabout is an intersection with a circular configuration that safely and efficiently moves traffic. Roundabouts feature channelized, curved approaches that reduce vehicle speed, entry yield control that gives right-of-way to circulating traffic, and counterclockwise flow around a central island that minimizes conflict points. The net result of lower speeds and reduced conflicts at roundabouts is an environment where crashes that cause injury or fatality are substantially reduced.

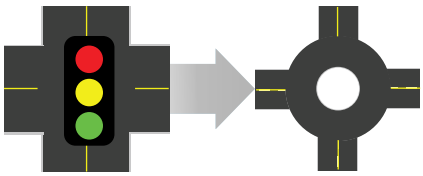
Safety Benefits:

Two-Way Stop-Controlled Intersection to a Roundabout



82%
reduction in fatal and injury crashes.[1]

Signalized Intersection to a Roundabout



78%
reduction in fatal and injury crashes.[1]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/intersection-safety/intersection-types/roundabouts.

FHWA-SA-21-042

Roundabouts are not only a safer type of intersection; they are also efficient in terms of keeping people moving. Even while calming traffic, they can reduce delay and queuing when compared to other intersection alternatives. Furthermore, the lower vehicular speeds and reduced conflict environment can create a more suitable environment for walking and bicycling.

Roundabouts can be implemented in both urban and rural areas under a wide range of traffic conditions. They can replace signals, two-way stop controls, and all-way stop controls. Roundabouts are an effective option for managing speed and transitioning traffic from high-speed to low-speed environments, such as freeway interchange ramp terminals, and rural intersections along high-speed roads.

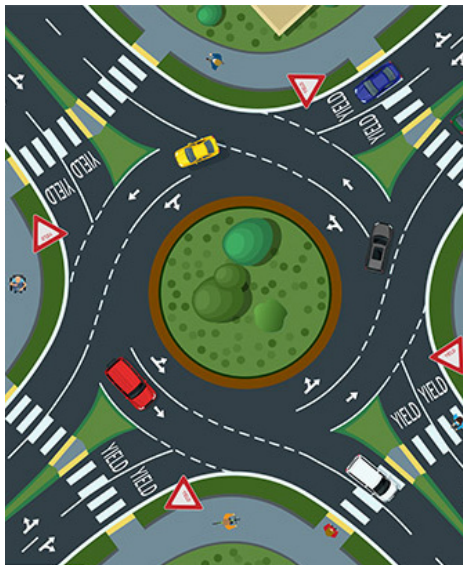


Illustration of a multilane roundabout. Source: FHWA



Example of a single-lane roundabout. Source: FHWA

1 (CMF ID: 211,226) AASHTO. The Highway Safety Manual, American Association of State Highway Transportation Professionals, Washington, D.C., (2010).

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Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections

This systemic approach to intersection safety involves deploying a package of multiple low-cost countermeasures, including enhanced signing and pavement markings, at a large number of stop-controlled intersections within a jurisdiction. These countermeasures increase driver awareness and recognition of the intersections and potential conflicts.

Safety Benefits:

10%
reduction of fatal and injury crashes at all locations/types/areas.

15%
reduction of nighttime crashes at all locations/types/areas.

27%
reduction of fatal and injury crashes at rural intersections.

19%
reduction of fatal and injury crashes at 2-lane by 2-lane intersections.

Average Benefit-Cost Ratio

12:1

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/fhwasa18047.pdf.

FHWA-SA-21-031

There are several benefits to systemically applying multiple low-cost countermeasures at stop-controlled intersections, including,

- Resources are maximized because the treatments are low cost.
- A high number of intersections can receive treatment.
- Improvements are highly cost-effective, with an average benefit-cost ratio of 12:1, even assuming a conservative 3-year service life.



Example of countermeasures on the through approach.
Source: South Carolina DOT



Example of countermeasures on the stop approach.
Source: South Carolina DOT

The low-cost countermeasures for stop-controlled intersections generally consist of the following treatments:

On the Through Approach

- Doubled-up (left and right), oversized advance intersection warning signs, with supplemental street name plaques (can also include flashing beacon).
- Retroreflective sheeting on sign posts.
- Enhanced pavement markings that delineate through lane edge lines.

On the Stop Approach

- Doubled-up (left and right), oversized advance "Stop Ahead" intersection warning signs (can also include flashing beacon).
- Doubled-up (left and right), oversized Stop signs.
- Retroreflective sheeting on sign posts.
- Properly placed stop bar.
- Removal of vegetation, parking, or obstructions that limit sight distance.
- Double arrow warning sign at stem of T-intersections.

Source: (CMF ID: 8867, 8870, 8874, 8893) T. Le et al. "Safety Effects of Low-Cost Systemic Safety Improvements at Signalized and Stop-Controlled Intersections," 96th Annual Meeting of the Transportation Research Board, Paper Number 17-05379, January 2017.



Safety Benefits:

36-50%
reduction in red light running.[3]

8-14%
reduction in total crashes.[3]

12%
reduction in injury crashes.[3]

Yellow Change Intervals

At a signalized intersection, the yellow change interval is the length of time that the yellow signal indication is displayed following a green signal indication. The yellow signal confirms to motorists that the green has ended and that a red will soon follow.

Since red-light running is a leading cause of severe crashes at signalized intersections, it is imperative that the yellow change interval be appropriately timed. Too brief an interval may result in drivers being unable to stop safely and cause unintentional red-light running. Too long of an interval may result in drivers treating the yellow as an extension of the green phase and invite intentional red-light running. Factors such as the speed of approaching and turning vehicles, driver perception-reaction time, vehicle deceleration, and intersection geometry should all be considered in the timing calculation.

Transportation agencies can improve signalized intersection safety and reduce red-light running by reviewing and updating their traffic signal timing policies and procedures concerning the yellow change interval. Agencies should institute regular evaluation and adjustment protocols for existing traffic signal timing. Refer to the *Manual on Uniform Traffic Control Devices* for basic requirements and further recommendations about yellow change interval timing.[1] As part of strategic signal system modernization and updates, incorporating automated traffic signal performance measures (ATSPMs) is a proven approach to improve on traditional retiming processes. ATSPMs provide continuous performance monitoring capability and the ability to modify timing based on actual performance, without requiring expensive modeling or data collection.[2]



Appropriately timed yellow change intervals can reduce red-light running and improve overall intersection safety. Source: FHWA

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/fhwasa13027.pdf.

1 Manual on Uniform Traffic Control Devices (MUTCD), Section 4F.17. FHWA, (2023).
2 Federal Highway Administration. "Automated Traffic Signal Performance," (2020).
3 (CMF ID: 380,384) NCHRP Report 731: Guidelines for Timing Yellow and All-Red Intervals at Signalized Intersections, (2011).

FHWA-SA-21-043



Safety Benefits:

High-visibility crosswalks can reduce pedestrian injury crashes up to:

40% [1]

Intersection lighting can reduce pedestrian crashes up to:

42% [2]

Advance yield or stop markings and signs can reduce pedestrian crashes up to:

25% [3]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/techSheetVizEnhancemt2018.pdf.

FHWA-SA-21-049

Crosswalk Visibility Enhancements

Poor lighting conditions, obstructions such as parked cars, and horizontal or vertical roadway curvature can reduce visibility at crosswalks, contributing to safety issues. For multilane roadway crossings where vehicle volumes are in excess of 10,000 Average Annual Daily Traffic (AADT), a marked crosswalk alone is typically not sufficient. Under such conditions, more substantial crossing improvements could prevent an increase in pedestrian crash potential.

Three main crosswalk visibility enhancements help make crosswalks and the pedestrians, bicyclists, wheelchair and other mobility device users, and transit users using them more visible to drivers. These include high-visibility crosswalks, lighting, and signing and pavement markings. These enhancements can also assist users in deciding where to cross. Agencies can implement these features as standalone or combination enhancements to indicate the preferred location for users to cross.

High-visibility crosswalks

High-visibility crosswalks use patterns (i.e., bar pairs, continental, ladder) that are visible to both the driver and pedestrian from farther away compared to traditional transverse line crosswalks. They should be considered at all midblock pedestrian crossings and uncontrolled intersections. Agencies should use materials such as inlay or thermoplastic tape, instead of paint or brick, for highly reflective crosswalk markings.

Improved Lighting

The goal of crosswalk lighting should be to illuminate with positive contrast to make it easier for a driver to visually identify the pedestrian. This involves carefully placing the luminaires in forward locations to avoid a silhouette effect of the pedestrian.

Enhanced Signing and Pavement Markings

On multilane roadways, agencies can use "YIELD Here to Pedestrians" or "STOP Here for Pedestrians" signs 20 to 50 feet in advance of a marked crosswalk to indicate where a driver should stop or yield to pedestrians, depending on State law. To supplement the signing, agencies can also install a STOP or YIELD bar (commonly referred to as "shark's teeth") pavement markings.

In-street signing, such as "STOP Here for Pedestrians" or "YIELD Here to Pedestrians" may be appropriate on roads with two- or three-lane roads where speed limits are 30 miles per hour or less.

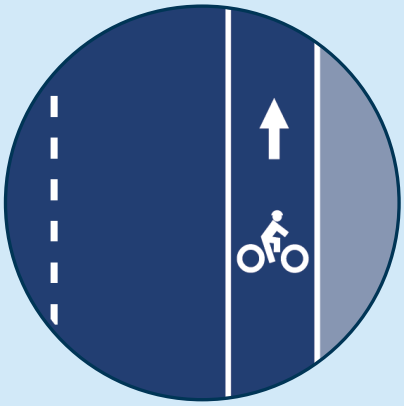


Source: FHWA

1 (CMF ID: 4123) Chen, L., C. Chen, and R. Ewing. The Relative Effectiveness of Pedestrian Safety Countermeasures at Urban Intersections - Lessons from a New York City Experience. (2012).
2 (CMF ID: 436) Elvik, R. and Vaa, T. Handbook of Road Safety Measures. Oxford, United Kingdom, Elsevier, (2004).
3 (CMF ID: 9017) Zeeger et al. Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments, FHWA, (2017).

Transportation agencies should refer to the Manual on Uniform Traffic Control Devices (MUTCD) for information on crosswalk markings (Chapter 3C) and in-street signing (Sections 2B.19 and 2B.20).

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Bicycle Lanes

Most fatal and serious injury bicyclist crashes occur at non-intersection locations. Nearly one-third of these crashes occur when motorists are overtaking bicyclists[1] because the speed and size differential between vehicles and bicycles can lead to severe injury. Many people are not comfortable riding a bicycle because of their fear that this type of crash may occur. To make bicycling safer and more comfortable for most types of bicyclists, State and local agencies should consider installing bicycle lanes. Providing bicycle facilities can mitigate or prevent interactions, conflicts, and crashes between bicyclists and motor vehicles, and create a network of safer roadways for bicycling. Bicycle Lanes align with the Safe System Approach principle of recognizing human vulnerability—where separating users in space can enhance safety for all road users.

Safety Benefits:

Converting traditional or flush buffered bicycle lanes to a separated bicycle lane with flexible delineator posts can reduce crashes up to:

53%

for bicycle/vehicle crashes.[3]

Bicycle Lane Additions can reduce crashes up to:

49%

for total crashes on urban 4-lane undivided collectors and local roads.[7]

30%

for total crashes on urban 2-lane undivided collectors and local roads.[7]



Bicycle lane in Washington, DC. Source: Alex Baca, Washington Area Bicyclist Association.

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-07/fhwasa18077.pdf.

Applications

The FHWA's *Bikeway Selection Guide* and *Incorporating On-Road Bicycle Networks into Resurfacing Projects* assist agencies in determining which facilities provide the most benefit in various contexts. Bicycle lanes can be included on new roadways or created on existing roads by reallocating space in the right-of-way through *Road Diets*. Separated bicycle lanes, which use vertical elements—such as flexible delineator posts, curbs, or vegetation—between the bicycle lane and motorized traffic lanes provide additional safety benefits.[2,3] For a marked bike lane without vertical elements, a lateral offset with marked buffer can help to further separate bicyclists from vehicle traffic.

Considerations

- In order to maximize a roadway's suitability for riders of all ages and abilities, bicycle lane design should vary according to roadway characteristics (number of lanes, motor vehicle and truck volumes, speed, presence of transit), user needs (current and forecasted ridership, types of bicycles and micromobility devices in use within the community, role within the bicycling network), and land-use context (adjacent land uses, types and intensity of conflicting uses, demands from other users for curbside access). Separated bicycle lanes are recommended on roadways with higher vehicle volumes and speeds, such as arterials.
- City and State policies may require minimum bicycle lane widths, although desirable bicycle lane widths can differ by agency and functional classification of the road, current and forecasted bicycle volumes, and contextual attributes such as topography.
- Studies have found that roadways did not experience an increase in crashes or congestion when travel lane widths were decreased to add a bicycle lane.[4]
- Studies and experience in U.S. cities show that bicycle lanes increase ridership and may help jurisdictions better manage roadway capacity.
- In rural areas, rumble strips can negatively impact bicyclists' ability to ride if not properly installed. Agencies should consider the dimensions, placement, and offset of rumble strips when adding a bicycle lane.[5]
- Bicycle lanes should be considered on roadways where adjacent land use suggests that trips could be served by varied modes, particularly to meet the safety and travel needs of low-income populations likely to use bicycles to reach essential destinations.[6]

1 Thomas et al. *Bicyclist Crash Types on National, State, and Local Levels: A New Look*. Transportation Research Record 673(6), 664-676, (2019).
2 Separated Bike Lane Planning and Design Guide. FHWA-HEP-15-025, (2015).
3 (CMF ID: 11296) Developing CMFs for Separated Bicycle Lanes. FHWA-HRT-23-025, (2023).
4 Park and Abdel-Aty. *Evaluation of safety effectiveness of multiple cross sectional features on urban arterials*. Accident Analysis and Prevention, Vol. 92, pp. 245-255, (2016).
5 FHWA Tech Advisory Shoulder and Edge Line Rumble Strips, (2011).
6 Sandt et al. Pursuing Equity in Pedestrian and Bicycle Planning. FHWA, (2016).
7 (CMF ID: 10738, 10742) Development of Crash Modification Factors for Bicycle Lane Additions While Reducing Lane and Shoulder Widths. FHWA-HRT-21-012, (2021).

FHWA-SA-21-051



Safety Benefits:

RRFBs can reduce crashes up to:

47%

for pedestrian crashes.[4]

RRFBs can increase motorist yielding rates up to:

98%

(varies by speed limit, number of lanes, crossing distance, and time of day).[3]



RRFBs used at a trail crossing.
Source: LJB

Rectangular Rapid Flashing Beacons (RRFB)

A marked crosswalk or pedestrian warning sign can improve safety for pedestrians crossing the road, but at times may not be sufficient for drivers to visibly locate crossing locations and yield to pedestrians. To enhance pedestrian conspicuity and increase driver awareness at uncontrolled, marked crosswalks, transportation agencies can install a pedestrian actuated Rectangular Rapid Flashing Beacon (RRFB) to accompany a pedestrian warning sign. RRFBs consist of two, rectangular- shaped yellow indications, each with a light-emitting diode (LED)-array-based light source.[1] RRFBs flash with an alternating high frequency when activated to enhance conspicuity of pedestrians at the crossing to drivers.

Transportation agencies should refer to the *Manual on Uniform Traffic Control Devices (MUTCD)* for information on the application of RRFBs.[1]

Applications

The RRFB is applicable to many types of pedestrian crossings but is particularly effective at multilane crossings with speed limits less than 40 miles per hour.[2] Research suggests RRFBs can result in motorist yielding rates as high at 98 percent at marked crosswalks, but varies depending on the location, posted speed limit, pedestrian crossing distance, one- versus two-way road, and the number of travel lanes.[3] RRFBs can also accompany school or trail crossing warning signs.

RRFBs are placed on both sides of a crosswalk below the pedestrian crossing sign and above the diagonal downward arrow plaque pointing at the crossing.[1] The flashing pattern can be activated with pushbuttons or passive (e.g., video or infrared) pedestrian detection, and should be unlit when not activated.

Considerations

Agencies should:[2]

- Install RRFBs in the median rather than the far-side of the roadway if there is a pedestrian refuge or other type of median.
- Use solar-power panels to eliminate the need for a power source.
- Reserve the use of RRFBs for locations with significant pedestrian safety issues, as over-use of RRFB treatments may diminish their effectiveness.

Agencies shall not:[2]

- Use RRFBs without the presence of a pedestrian, school or trail crossing warning sign.
- Use RRFBs for crosswalks across approaches controlled by YIELD signs, STOP signs, traffic control signals, or pedestrian hybrid beacons, except for the approach or egress from a roundabout.

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/techSheet_RRFB_2018.pdf.

FHWA-SA-21-053

1 Manual on Uniform Traffic Control Devices (MUTCD), Chapter 4L. FHWA, (2023).
2 "Rectangular Rapid Flash Beacon" in PEDSAFE: Pedestrian Safety Guide and Countermeasure Selection System. FHWA, (2013).
3 Fitzpatrick et al. "Will You Stop for Me? Roadway Design and Traffic Control Device Influences on Drivers Yielding to Pedestrians in a Crosswalk with a Rectangular Rapid-Flashing Beacon." Report No. TTI-CTS-0010. Texas A&M Transportation Institute, (2016).
4 (CMF ID: 9024) NCHRP Research Report 841 Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments, (2017).



Safety Benefits:

13%

reduction in pedestrian-vehicle crashes at intersections.[2]

Leading Pedestrian Interval

A leading pedestrian interval (LPI) gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication. Pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn right or left.

LPIs provide the following benefits:

- Increased visibility of crossing pedestrians.
- Reduced conflicts between pedestrians and vehicles.
- Increased likelihood of motorists yielding to pedestrians.
- Enhanced safety for pedestrians who may be slower to start into the intersection.

FHWA's Handbook for ***Designing Roadways for the Aging Population*** recommends the use of the LPI at intersections with high turning vehicle volumes. Transportation agencies should refer to the ***Manual on Uniform Traffic Control Devices*** for guidance on LPI timing and ensure that pedestrian signals are accessible for all users.[1] Costs for implementing LPIs are very low when only signal timing alteration is required.



An LPI allows a pedestrian to establish a presence in the crosswalk before vehicles are given a green indication. Source: FHWA



LPIs reduce potential conflicts between pedestrians and turning vehicles. Source: FHWA

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/fhwasa19040.pdf.

1 Manual on Uniform Traffic Control Devices (MUTCD), Section 4I.06. FHWA, (2023).
2 (CMF ID: 9918) Goughnour, E., D. Carter, C. Lyon, B. Persaud, B. Lan, P. Chun, I. Hamilton, and K. Signor. "Safety Evaluation of Protected Left-Turn Phasing and Leading Pedestrian Intervals on Pedestrian Safety." Report No. FHWA-HRT-18-044. Federal Highway Administration. (October 2018)

FHWA-SA-21-032



Safety Benefits:

Median with Marked Crosswalk

46%

reduction in pedestrian crashes.[2]

Pedestrian Refuge Island

56%

reduction in pedestrian crashes.[2]

Medians and Pedestrian Refuge Islands in Urban and Suburban Areas

A **median** is the area between opposing lanes of traffic, excluding turn lanes. Medians in urban and suburban areas can be defined by pavement markings, raised medians, or islands to separate motorized and non-motorized road users.

A **pedestrian refuge island** (or crossing area) is a median with a refuge area that is intended to help protect pedestrians who are crossing a road.

Pedestrian crashes account for approximately 17 percent of all traffic fatalities annually, and 74 percent of these occur at non-intersection locations.[1] For pedestrians to safely cross a roadway, they must estimate vehicle speeds, determine acceptable gaps in traffic based on their walking speed, and predict vehicle paths. Installing a median or pedestrian refuge island can help improve safety by allowing pedestrians to cross one direction of traffic at a time.

Transportation agencies should consider medians or pedestrian refuge islands in curbed sections of urban and suburban multilane roadways, particularly in areas with a significant mix of pedestrian and vehicle traffic, traffic volumes over 9,000 vehicles per day, and travel speeds 35 mph or greater. Medians/refuge islands should be at least 4-ft wide, but preferably 8 ft for pedestrian comfort. Some example locations that may benefit from medians or pedestrian refuge islands include:

- Mid-block crossings.
- Approaches to multilane intersections.
- Areas near transit stops or other pedestrian-focused sites.



Example of a road with a median and pedestrian refuge islands. Source: City of Charlotte, NC



Median and pedestrian refuge island near a roundabout. Source: www.pedbikeimages.org / Dan Burden

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-08/techSheet_PedRefugeIsland2018.pdf.

1 National Center for Statistics and Analysis. (2020, March). Pedestrians: 2018 data (Traffic Safety Facts. Report No. DOT HS 812 850). National Highway Traffic Safety Administration

2 (CMF ID: 175) Desktop Reference for Crash Reduction Factors, FHWA-SA-08-011, September 2008, Table 11.



Safety Benefits:

55%
reduction in pedestrian crashes.[3]

29%
reduction in total crashes.[4]

15%
reduction in fatal and serious injury crashes.[4]



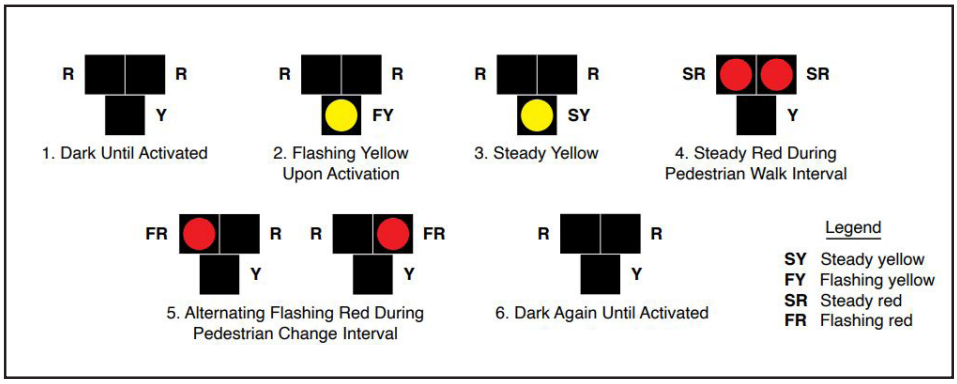
Example of PHBs mounted on a mast arm. Source: FHWA

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/fhwasa18064.pdf.

FHWA-SA-21-045

Pedestrian Hybrid Beacons

The pedestrian hybrid beacon (PHB) is a traffic control device designed to help pedestrians safely cross higher-speed roadways at midblock crossings and uncontrolled intersections. The beacon head consists of two red lenses above a single yellow lens. The lenses remain "dark" until a pedestrian desiring to cross the street pushes the call button to activate the beacon, which then initiates a yellow to red lighting sequence consisting of flashing and steady lights that directs motorists to slow and come to a stop, and provides the right-of-way to the pedestrian to safely cross the roadway before going dark again.



Sequence for a PHB. Source: MUTCD 2023 Edition, Chapter 4J, FHWA

Nearly 74 percent of pedestrian fatalities occur at non-intersection locations, and vehicle speeds are often a major contributing factor.[1] As a safety strategy to address this pedestrian crash risk, the PHB is an intermediate option between a flashing beacon and a full pedestrian signal because it assigns right of way and provides positive stop control. It also allows motorists to proceed once the pedestrian has cleared their side of the travel lane(s), reducing vehicle delay.

Transportation agencies should refer to the *Manual on Uniform Traffic Control Devices* (MUTCD) for information on the application of PHBs.[2] Transportation agencies should locate pedestrian signals to be accessible for all users.

In general, PHBs are used where it is difficult for pedestrians to cross a roadway, such as when gaps in traffic are not sufficient or speed limits exceed 35 miles per hour. They are very effective at locations where three or more lanes will be crossed or traffic volumes are above 9,000 annual average daily traffic. Installation of a PHB must also include a marked crosswalk and pedestrian countdown signal. If PHBs are not already familiar to a community, agencies should conduct appropriate education and outreach as part of implementation.

1 National Center for Statistics and Analysis. (2020, March). Pedestrians: 2018 data (Traffic Safety Facts. Report No. DOT HS 812 850). National Highway Traffic Safety Administration
2 Manual on Uniform Traffic Control Devices, Chapter 4J. FHWA, (2023).
3 (CMF ID: 9020) Zegeer et al. NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. TRB, (2017).
4 (CMF ID: 2911,2917) Fitzpatrick, K. and Park, E.S. Safety Effectiveness of the HAWK Pedestrian Crossing Treatment, FHWA-HRT-10-042, (2010).



Safety Benefits:

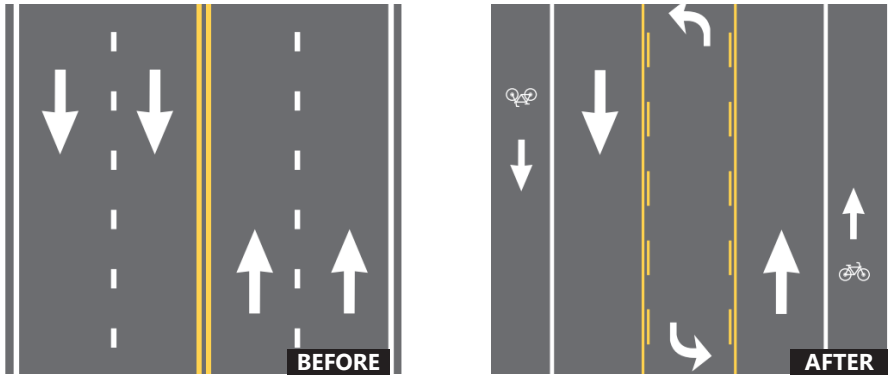
4-Lane to 3-Lane Road Diet Conversions

19-47%

reduction in total crashes.[1]

Road Diets (Roadway Reconfiguration)

A Road Diet, or roadway reconfiguration, can improve safety, calm traffic, provide better mobility and access for all road users, and enhance overall quality of life. A Road Diet typically involves converting an existing four-lane undivided roadway to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane (TWLTL).



Before and after example of a Road Diet. Source: FHWA

Benefits of Road Diet installations may include:

- Reduction of rear-end and left-turn crashes due to the dedicated left-turn lane.
- Reduced right-angle crashes as side street motorists cross three versus four travel lanes.
- Fewer lanes for pedestrians to cross.
- Opportunity to install pedestrian refuge islands, bicycle lanes, on-street parking, or transit stops.
- Traffic calming and more consistent speeds.
- A more community-focused, Complete Streets environment that better accommodates the needs of all road users.

A Road Diet can be a low-cost safety solution when planned in conjunction with a simple pavement overlay, and the reconfiguration can be accomplished at no additional cost. Typically, a Road Diet is implemented on a roadway with a current and future average daily traffic of 25,000 or less.



Road Diet project in Honolulu, Hawaii. Source: Leidos

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/other/road-diets.

1 (CMF ID: 5554,2841) *Evaluation of Lane Reduction "Road Diet" Measures on Crashes*, FHWA-HRT-10-053, (2010).



Safety Benefits:

Sidewalks

65-89%

reduction in crashes involving pedestrians walking along roadways.[3]

Paved Shoulders

71%

reduction in crashes involving pedestrians walking along roadways.[3]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and http://www.pedbikesafe.org/PEDSAFE/countermeasures_detail.cfm?CM_NUM=1.

FHWA-SA-21-047

Walkways

A walkway is any type of defined space or pathway for use by a person traveling by foot or using a wheelchair. These may be pedestrian walkways, shared use paths, sidewalks, or roadway shoulders.

With more than 6,200 pedestrian fatalities and 75,000 pedestrian injuries occurring in roadway crashes annually,[1] it is important for transportation agencies to improve conditions and safety for pedestrians and to integrate walkways more fully into the transportation system. Research shows people living in low-income communities are less likely to encounter walkways and other pedestrian-friendly features.[2]

Well-designed pedestrian walkways, shared use paths, and sidewalks improve the safety and mobility of pedestrians. Pedestrians should have direct and connected network of walking routes to desired destinations without gaps or abrupt changes. In some rural or suburban areas, where these types of walkways are not feasible, roadway shoulders provide an area for pedestrians to walk next to the roadway, although these are not preferable.

Transportation agencies should work towards incorporating pedestrian facilities into all roadway projects unless exceptional circumstances exist. It is important to provide and maintain accessible walkways along both sides of the road in urban areas, particularly near school zones and transit locations, and where there is a large amount of pedestrian activity. Walkable shoulders should also be considered along both sides of rural highways when routinely used by pedestrians.



Example of a sidewalk in a residential area. Source: pedbikeimages.org / Burden



Paved shoulder used as a walkway. Source: pedbikeimages.org / Burden

1 National Center for Statistics and Analysis. (2020, March). Pedestrians: 2018 data (Traffic Safety Facts. Report No. DOT HS 812 850). National Highway Traffic Safety Administration.
2 Gibbs, et all. Income Disparities in Street Features that Encourage Walking. Bridging the Gap, (2012, March).
3 Gan et al. Update of Florida Crash Reduction Factors and Countermeasures to Improve the Development of District Safety Improvement Projects. Florida DOT, (2005).



Safety Benefits:

HFST can reduce crashes up to:

63%
for injury crashes at ramps.[2]

48%
for injury crashes at horizontal curves.[2]

20%
for total crashes at intersections.[3]



Automated application of HFST.
Source: FHWA

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/rwd/keep-vehicles-road/pavement-friction/hfst.

FHWA-SA-21-052

Pavement Friction Management

Friction is a critical characteristic of a pavement that affects how vehicles interact with the roadway, including the frequency of crashes. Measuring, monitoring, and maintaining pavement friction—especially at locations where vehicles are frequently turning, slowing, and stopping—can prevent many roadway departure, intersection, and pedestrian-related crashes.

Pavement friction treatments, such as High Friction Surface Treatment (HFST), can be better targeted and result in more efficient and effective installations when using continuous pavement friction data along with crash and roadway data.

Continuous Pavement Friction Measurement

Friction data for safety performance is best measured with Continuous Pavement Friction Measurement (CPFM) equipment. Spot friction measurement devices, like locked-wheel skid trailers, cannot safely and accurately collect friction data in curves or intersections, where the pavement polishes more quickly and adequate friction is so much more critical. Without CPFM equipment, agencies will assume the same friction over a mile or more.

CPFM technology measures friction continuously at highway speeds and provides both network and segment level data. Practitioners can analyze the friction, crash, and roadway data to better understand and predict where friction-related crashes will occur to better target locations and more effectively install treatments.[1]

High Friction Surface Treatment

HFST consists of a layer of durable, anti-abrasion, and polish-resistant aggregate over a thermosetting polymer resin binder that locks the aggregate in place to restore or enhance friction and skid resistance. Calcined bauxite is the aggregate shown to yield the best results and should be used with HFST applications.

Applications

HFST should be applied in locations with increased friction demand, including:

- Horizontal curves.
- Interchange ramps.
- Intersection approaches.
  - Higher-speed signalized and stop-controlled intersections.
  - Steep downward grades.
- Locations with a history of rear-end, failure to yield, wet-weather, or red-light-running crashes.
- Crosswalk approaches.

Considerations

- HFST is applied on existing pavement, so no new pavement is added.
- If the underlying pavement structure is unstable, then the HFST life cycle may be shortened, resulting in pre-mature failure.
- The automated installation method is preferred as it minimizes issues often associated with manual installation: human error due to fatigue, inadequate binder mixing, improper and uneven binder thickness, delayed aggregate placement, and inadequate aggregate coverage.
- The cost can be reduced when bundling installations at multiple locations.

1 Izeppi et al. Continuous Friction Measurement Equipment as a Tool for Improving Crash Rate Prediction: A Pilot Study. Virginia Department of Transportation, (2016).
2 (CMF ID: 10342, 10333) Merritt et al. Development of Crash Modification Factors for High Friction Surface Treatments. FHWA, (2020).
3 (CMF ID: 2259) NCHRP Report 617: Accident Modification Factors for Traffic Engineering and ITS Improvements, (2008).



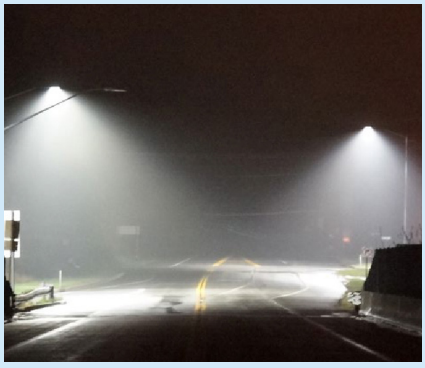
Safety Benefits:

Lighting can reduce crashes up to:

42%
for nighttime injury pedestrian crashes at intersections.[1]

33-38%
for nighttime crashes at rural and urban intersections.[2,1]

28%
for nighttime injury crashes on rural and urban highways.[1]



Source: FHWA

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/other/visibility/roadway-lighting-resources.

FHWA-SA-21-050

Lighting

The number of fatal crashes occurring in daylight is about the same as those that occur in darkness. However, the nighttime fatality rate is three times the daytime rate because only 25 percent of vehicle miles traveled (VMT) occur at night. At nighttime, vehicles traveling at higher speeds may not have the ability to stop once a hazard or change in the road ahead becomes visible by the headlights. Therefore, lighting can be applied continuously along segments and at spot locations such as intersections and pedestrian crossings in order to reduce the chances of a crash.

Adequate lighting (i.e., at or above minimum acceptable standards) is based on research recommending horizontal and vertical illuminance levels to provide safety benefits to all users of the roadway environment. Adequate lighting can also provide benefits in terms of personal security for pedestrians, wheelchair and other mobility device users, bicyclists, and transit users as they travel along and across roadways.

Applications

Roadway Segments

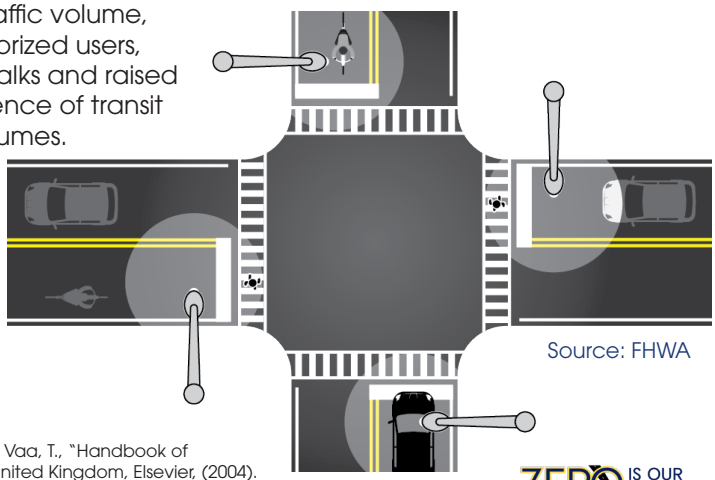
Research indicates that continuous lighting on both rural and urban highways (including freeways) has an established safety benefit for motorized vehicles.[1] Agencies can provide adequate visibility of the roadway and its users through the uniform application of lighting that provides full coverage along the roadway and the strategic placement of lighting where it is needed the most.

Intersections and Pedestrian Crossings

Increased visibility at intersections at nighttime is important since various modes of travel cross paths at these locations. Agencies should consider providing lighting to intersections based on factors such as a history of crashes at nighttime, traffic volume, the volume of non-motorized users, the presence of crosswalks and raised medians, and the presence of transit stops and boarding volumes.

Considerations

Most new lighting installations are made with breakaway features, shielded, or placed far enough from the roadway to reduce the probability and/or severity of fixed-object crashes. Modern lighting technology gives precise control with minimal excessive light affecting the nighttime sky or spilling over to adjacent properties. Agencies can equitably engage with underserved communities to determine where and how new and improved lighting can most benefit the community by considering their priorities, including eliminating crash disparities, connecting to essential neighborhood services, improving active transportation routes, and promoting personal safety.



Source: FHWA

1 (CMF ID: 436,433,192) Elvik, R. and Vaa, T., "Handbook of Road Safety Measures." Oxford, United Kingdom, Elsevier, (2004).
2 (CMF ID: 2376) Ye et al. A Simultaneous Equations Model of Crash Frequency By Collision Type for Rural Intersections, 87th Annual Meeting of the Transportation Research Board, (2008).



Safety Benefits:

Agencies have experienced the following benefits after LRSP implementation:

25%
reduction in county road fatalities in Minnesota.

17%
reduction in fatal and serious injury crashes on county-owned roads in Washington State.

35%
reduction in severe curve crashes in Thurston County, WA.

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/local-rural/local-road-safety-plans.

FHWA-SA-21-033

Local Road Safety Plans

A local road safety plan (LRSP) provides a framework for identifying, analyzing, and prioritizing roadway safety improvements on local roads. The LRSP development process and content are tailored to local issues and needs. The process results in a prioritized list of issues, risks, actions, and improvements that can be used to reduce fatalities and serious injuries on local roads. FHWA has developed several resources including an LRSP Do-It-Yourself website which further explains the process and includes resources local agencies and their partners need to create and implement an LRSP.[1]

Approximately 75 percent of rural roads are owned by local agencies.[2] While local roads are less traveled than State highways, they have a much higher rate of fatal and serious injury crashes.[2] Developing an LRSP is an effective strategy to improve local road safety for all road users and support the goals of a State's overall Strategic Highway Safety Plan (SHSP).

Although the development process and resulting plan can vary depending on the local agency's needs, available resources, and targeted crash types, aspects common to LRSPs include:

- Stakeholder engagement representing the 4E's: engineering, enforcement, education, and emergency medical services.
- Collaboration among municipal, county, Tribal, State, and/or Federal entities to leverage expertise and resources.
- Identification of target crash types and crash risk with corresponding recommended proven safety countermeasures.
- Timeline and goals for implementation and evaluation.

Local road agencies should consider developing an LRSP to be used as a tool for reducing roadway fatalities, injuries, and crashes.[3] LRSPs can help agencies create a prioritized list of improvements. LRSPs are also a proactive risk management technique to demonstrate an agency's responsiveness. The plan should be viewed as a living document that can be updated to reflect changing local needs and priorities.



Infographic showing the LRSP process. Source: FHWA

1 https://highways.dot.gov/safety/local-rural/local-road-safety-plans
2 Anderson et al. Noteworthy Practices: Addressing Safety on Locally-Owned and Maintained Roads A Domestic Scan, FHWA-SA-09-019, (2010).
3 Developing Safety Plans: A Manual for Local Rural Road Owners, FHWA-SA-12-017, provides guidance on developing an LRSP.



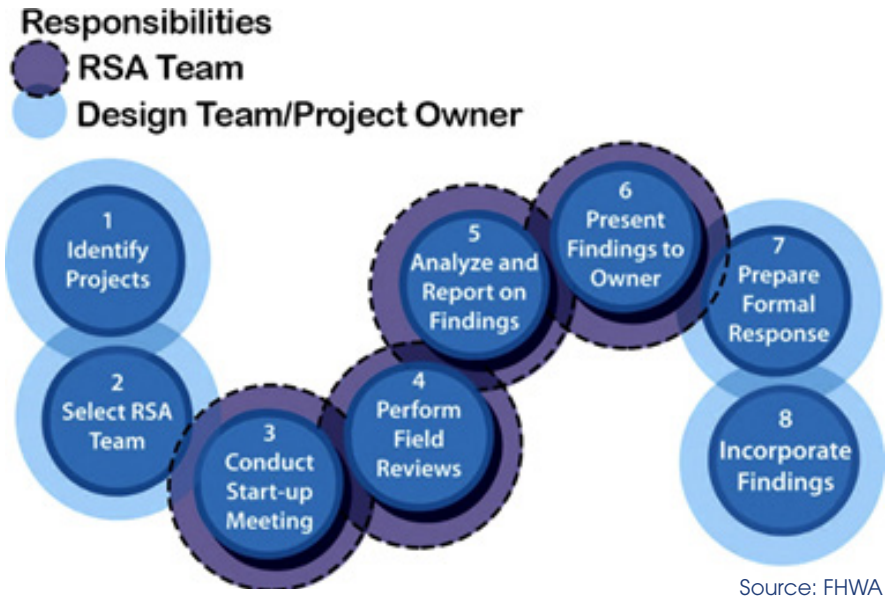
Safety Benefits:

10-60%

reduction in total crashes.[1]

Road Safety Audit

While most transportation agencies have established traditional safety review procedures, a road safety audit (RSA) or assessment is unique. RSAs are performed by a multidisciplinary team independent of the project. RSAs consider all road users, account for human factors and road user capabilities, are documented in a formal report, and require a formal response from the road owner. (See the eight steps for conducting an RSA below.)



Source: FHWA

RSAs provide the following benefits:

- Reduced number and severity of crashes due to safer designs.
- Reduced costs resulting from early identification and mitigation of safety issues before projects are built.
- Increased opportunities to integrate multimodal safety strategies and proven safety countermeasures.
- Expanded ability to consider human factors in all facets of design.
- Increased communication and collaboration among safety stakeholders.
- Objective review by independent multidisciplinary team.

RSAs can be performed in any phase of project development, from planning through construction. Agencies may focus RSAs specifically on motorized vehicles, pedestrians, bicyclists, motorcyclists, or a combination of these roadway users. Agencies are encouraged to conduct an RSA at the earliest stage possible, as all roadway design options and alternatives are being explored.



Multidisciplinary team performs field review during an RSA. Source: FHWA

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/data-analysis-tools/systemic/road-safety-audits-rsa.

1 Road Safety Audits: An Evaluation of RSA Programs and Projects, FHWA-SA-12-037; and FHWA Road Safety Audit Guidelines, FHWA-SA-06-06.



https://highways.dot.gov/safety/proven-safety-countermeasures

FHWA-SA-21-071

NEVADA DEPARTMENT OF TRANSPORTATION

Planning Level Crash Modification Factor (CMF) LIST*

VERSION 1.0

Revised January 2021

For questions please contact NDOT Traffic & Safety (ltisler@dot.nv.gov)

***The NDOT Planning Level CMF List is for planning purposes only. The user of this document must ensure that most recent version is being used and that more relevant, applicable, and updated research in the area of CMFs hasn't been completed and published since that version was published by NDOT. It is important to ensure the NDOT design standards are followed during the planning process to the extent possible.**

23 U.S.C. § 409: Discovery and Admission as Evidence of Certain Reports and Surveys

Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

List of Acronyms

A	Serious Injury
AADT	Annual Average Daily Traffic
B	Minor Injury
BP	Bicycle/Pedestrian
C	Possible Injury
CFI	Continuous Flow Intersection
CMF	Crash Modification Factor
CS	Curve Segment
HAWK	High intensity Activated crossWalK
HSM	Highway Safety Manual
ICWS	Intersection Conflict Warning System
IN	Interchange
K	Fatal Injury
NDOT	Nevada Department of Transportation
PHB	Pedestrian Hybrid Beacon
RCUT	Restricted crossing U-Turn
RR	Railroad
RRFB	Rectangular Rapid Flashing Beacon
RS	Road Segment
SI	Signalized Intersection
TWLTL	Two-Way Left-Turn Lane
US	Unsignalized Intersection

NDOT Planning Level CMF List

Version 1.0

#	Facility Type	Countermeasure Type	Countermeasure	Intersection or Roadway Type	Prior Condition	Area Type	Crash Type	Crash Severity	Nevada CMF Value	Last Updated	Notes
RS-01	Road Segment	Barriers	Install Cable Median Barrier	Freeway and Expressway	No Cable Median Barrier	All	All	Fatal and Serious Injury (K,A)	**0.48**	Dec-20	
RS-02	Road Segment	Barriers	Install Median Barrier	Freeway and Expressway	No Cable Median Barrier	All	All	All	**1.58**	Dec-20	
RS-03	Road Segment	Barriers	Install W-Beam Guardrail	Freeway and Expressway	No Roadside Barrier	All	All	All	**1.06**	Dec-20	
RS-04	Road Segment	Barriers	Install W-Beam Guardrail	Freeway and Expressway	No Roadside Barrier	All	All	Fatal and Serious Injury (K,A)	**0.84**	Dec-20	
RS-03	Road Segment	Clear Zone	Remove and Relocate Fixed Objects Outside of Clear Zone	All	-	Rural	All	All	**0.65**	Dec-20	
RS-04	Road Segment	Lanes	Converting 4-Lane Roadways to 3-Lane Roadways with TWLTL	Undivided	4 Lane Roadway	Urban	All	All	**0.73**	Dec-20	
RS-05	Road Segment	Lanes	Add TWLTL to Two-Lane Roadway	Undivided	2 Lane Roadway	All	All	All	**0.72**	Dec-20	
RS-06	Road Segment	Lanes	Provide Passing or Climbing Lanes	2-Lane Undivided Roadway	No Passing/Climbing Lanes	Rural	All	All	**0.62**	Dec-20	The HSM CMF for a rural passing lane in one direction is 0.75 and is 0.65 for a short 4-lane section or passing lanes in both directions.
RS-07	Road Segment	Lanes	Increase Rural Lane Widths While Maintaining Existing Shoulder Width	-	-	Rural	All	All	**2% Crash Decrease per Foot of Lane Widening (4% Max - Up to 12' Lane Widths)**	Dec-20	May only be used to increase lane widths up to 12 feet (4%). HSM can be used for more accuracy.
RS-08	Road Segment	Lanes	Decrease Rural Lane Widths While Maintaining Shoulder Width	All	12'	Rural	All	All	**2% Crash Increase Per Foot of Lane Reduction (Max 4% Increase)**	Dec-20	May only be used to decrease to 11 feet (2%) of 10 feet (4%)
RS-09	Road Segment	Pavement	Pavement Resurfacing	Undivided	Poor Pavement Conditions	Rural	All	All	**1.02**	Dec-20	
RS-10	Road Segment	Pavement	Pavement Resurfacing	All	Poor Pavement Conditions	Urban	All	All	**1.00**	Dec-20	
RS-11	Road Segment	Pavement	Improve Pavement Friction (Diamond Grinding)	All	-	All	All	All	**0.94**	Dec-20	
RS-12	Road Segment	Pavement	Improve Pavement Friction (Microsurfacing)	All	-	All	All	All	**1.06**	Dec-20	
RS-13	Road Segment	Pavement	Improve Pavement Friction (Chip Seal)	All	-	All	All	All	**0.97**	Dec-20	
RS-14	Road Segment	Roadside	Flatten Sideslope	2 Lane	1V:2H to 1V:6H	Rural	All	All	**See HSM Table 13-18**	Dec-20	
RS-15	Road Segment	Rumble Strips	Install Centerline Rumble Strips	Undivided	No Centerline Rumble Strips	Rural	All	All	**0.90**	Dec-20	
RS-16	Road Segment	Rumble Strips	Install Edgeline or Shoulder Rumble Strips	-	No Rumble Strips	Rural	All	All	**0.90**	Dec-20	
RS-21	Road Segment	Rumble Strips	Install Edgeline or Shoulder Rumble Strips	-	No Rumble Strips	Rural	Edgeline Related	All	**0.84**	Dec-20	
RS-22	Road Segment	Rumble Strips	Install Centerline and Shoulder Rumble Strips	Undivided	No Rumble Strips	Rural	All	All	**0.81**	Dec-20	
RS-23	Road Segment	Shoulder Treatment	Installation of Safety Edge Treatment	Principal Arterial Other	No Safety Edge	Rural	All	All	**0.94**	Dec-20	

NDOT Planning Level CMF List

Version 1.0

#	Facility Type	Countermeasure Type	Countermeasure	Intersection or Roadway Type	Prior Condition	Area Type	Crash Type	Crash Severity	Nevada CMF Value	Last Updated	Notes
RS-24	Road Segment	Shoulder Treatment	Install Wider Edgeline (6 in)	-	4 in Wide Edgeline	Rural	All	All	**0.79**	Dec-20	
RS-25	Road Segment	Shoulder Treatment	Install 4 Inch Edgeline Pavement Marking	-	No Edgelines	Rural	All	All	**0.87**	Dec-20	
RS-26	Road Segment	Shoulder Treatment	Provide Paved shoulder	2 Lane	No Paved Shoulder	Rural	All	All	**USE HSM**	Dec-20	Use the HSM Prediction Models for detailed results on potential crash reduction do to changes in shoulder types and widths
RS-27	Road Segment	Shoulder Treatment	Install Shoulder Rumble Strips and Widen Shoulder	-	No Rumble Strips	Rural	All	All	**0.55**	Dec-20	
RS-28	Road Segment	Shoulder Treatment	Widening Paved Shoulder (Maintaining Existing Lane Width)	Undivided	Paved Shoulder	Rural	All	All	**6% Crash Decrease per Foot of Shoulder Widening (30% Max - Up to 8' Shoulder**	Dec-20	Only apply a crash reduction on up to 8 foot shoulder. Can use the HSM Prediction Model for more accurate results.
US-01	Unsignalized Intersection	Geometry	Install Reduced Conflict Intersection (S-Island or J-Turn)	Stop-Controlled 3-Leg, 4-Leg	Stop-Controlled	Rural	All	All	**0.66**	Dec-20	
US-02	Unsignalized Intersection	Geometry	Install Reduced Conflict Intersection (S-Island or J-Turn)	Stop-Controlled 3-Leg, 4-Leg	Stop-Controlled	Rural	All	Fatal and Injury (K,A,B,C)	**0.49**	Dec-20	
US-03	Unsignalized Intersection	Geometry	Install Reduced Conflict Intersection (S-Island, J-Turn, or RCUT)	4-Leg	Signalized and Stop Controlled Intersections	Urban	All	All	**0.81**	Dec-20	
US-04	Unsignalized Intersection	Lanes	Install Left-Turn Lanes When Warranted	Stop-Controlled 3-Leg, 4-Leg	Minor Approach Stop-Controlled without Left-Turn Lanes	Rural	All	All	**0.75**	Dec-20	
US-05	Unsignalized Intersection	Lanes	Install Left-Turn Lanes with Positive Offset When Warranted	Stop-Controlled 4-Leg	Minor Approach Stop-Controlled without Left-Turn Lanes	Rural	All	All	**0.66**	Dec-20	
US-06	Unsignalized Intersection	Lanes	Install Left-Turn Lanes When Warranted	Stop-Controlled 3-Leg, 4-Leg	Minor Approach Stop-Controlled without Left-Turn Lanes	Urban	All	All	**0.64**	Dec-20	
US-07	Unsignalized Intersection	Lanes	Install Right-Turn Lanes When Warranted	Stop-Controlled 3-Leg, 4-Leg	Minor Approach Stop-Controlled Intersection without Right-Turn Lanes	All	All	All	**0.78**	Dec-20	
US-08	Unsignalized Intersection	Lanes	Install Offset Right-Turn Lanes When Warranted	Stop-Controlled 4-Leg	Intersection without Right-Turn Lanes	Rural	All	All	**0.98**	Dec-20	
US-09	Unsignalized Intersection	Lighting	Install Destination Lighting at Unsignalized Intersection	Stop-Controlled 3-Leg, 4-Leg	No Lighting	Rural	Nighttime	All	**0.30**	Dec-20	
US-10	Unsignalized Intersection	Lighting	Install Intersection Lighting	3-Leg, 4-Leg	No Lighting	Urban	Nighttime	All	**0.90**	Dec-20	
US-11	Unsignalized Intersection	Roundabout	Convert Non-Signalized Rural Intersection to Roundabout	3-Leg, 4-Leg	Unsignalized	Rural	All	All	**0.35**	Dec-20	
US-12	Unsignalized Intersection	Roundabout	Convert Non-Signalized Rural Intersection to Roundabout	3-Leg, 4-Leg	Unsignalized	Rural	All	Fatal and Injury (K,A,B,C)	**0.22**	Dec-20	
US-13	Unsignalized Intersection	Roundabout	Convert Non-Signalized Urban Intersection to Roundabout	3-Leg, 4-Leg	Unsignalized	Urban	All	All	**0.56**	Dec-20	

NDOT Planning Level CMF List

#	Facility Type	Countermeasure Type	Countermeasure	Intersection or Roadway Type	Prior Condition	Area Type	Crash Type	Crash Severity	Nevada CMF Value	Last Updated	Notes
US-14	Unsignalized Intersection	Roundabout	Convert Non-Signalized Urban Intersection to Roundabout	3-Leg, 4-Leg	Unsignalized	Urban	All	Fatal and Injury (K,A,B,C)	**0.29**	Dec-20	
US-15	Unsignalized Intersection	Rumble Strips	Install Transverse Rumble Strips on Stop-Controlled Approaches	Stop-Controlled 3-Leg, 4-Leg	No Transverse Rumble Strips	Rural	All	All	**0.94**	Dec-20	
US-16	Unsignalized Intersection	Sight Distance	Increase Triangle Sight Distance	Unsignalized 3-Leg, 4-Leg	-	All	All	Fatal and Injury (K,A,B,C)	**0.53**	Dec-20	
US-17	Unsignalized Intersection	Signs and Markings	Implementing Systemic Signing and Marking Improvements at Stop-Controlled Intersections	Unsignalized 3-Leg, 4-Leg	No Systemic Signing and Marking Improvements	Rural	All	All	**0.75**	Dec-20	
US-18	Unsignalized Intersection	Signs and Markings	Increase Retroreflectivity of Stop Signs	Unsignalized 3-Leg, 4-Leg	Stop Signs with Low Retroreflectivity	All	All	All	**0.91**	Dec-20	
US-19	Unsignalized Intersection	Traffic Control	Install Intersection Conflict Warning System (ICWS)	4-Leg	No ICWS - Stop Controlled (2-Lane and/or 4-Lane)	Rural	All	All	**0.73**	Dec-20	
US-20	Unsignalized Intersection	Traffic Control	Install Intersection Conflict Warning System (ICWS)	4-Leg	No ICWS - Stop Controlled (2-Lane and/or 4-Lane)	Rural	All	Fatal and Injury (K,A,B,C)	**0.69**	Dec-20	
US-21	Unsignalized Intersection	Traffic Control	Install a Traffic Signal When Warrants are Met	3-Leg, 4-Leg	Unsignalized Intersection	All	All	All	**USE HSM**	Dec-20	This is too broad to develop and use a single CMF. The HSM should be used to determine the percent change in crashes for installing a traffic signal as it can include AADT values.
US-22	Unsignalized Intersection	Traffic Control	Convert Two-Way Stop-Control to All-Way Stop-Control When Warranted	4-Leg	Two-Way Stop-Controlled	All	All	All	**0.41**	Dec-20	
US-23	Unsignalized Intersection	Traffic Control	Convert Two-Way Stop-Control to All-Way Stop-Control When Warranted	4-Leg	Two-Way Stop-Controlled	All	All	Fatal and Injury (K,A,B,C)	**0.27**	Dec-20	
US-24	Unsignalized Intersection	Traffic Control	Provide Flashing Beacons at Stop-Controlled Intersections	Stop-Controlled 4-Leg	No Flashing Beacons	All	All	All	**0.95**	Dec-20	
SI-01	Signalized Intersection	Geometry	Install Reduced Conflict Intersection (S-Island, J-Turn, or RCUT)	4-Leg	Signalized and Stop Controlled Intersections	Urban	All	All	**0.81**	Dec-20	
SI-02	Signalized Intersection	Geometry	Convert a Signalized Intersection to a CFI	4-Leg	Conventional Signalized Intersection	Urban	All	All	**0.88**	Dec-20	
SI-03	Signalized Intersection	Lanes	Install Left-Turn Lanes When Warranted	Signalized 4-Leg	Intersection without Left-Turn Lanes	Urban	All	All	**0.76**	Dec-20	
SI-04	Signalized Intersection	Lanes	Install Right-Turn Lanes When Warranted	Signalized 3-Leg, 4-Leg	Intersection without Right-Turn Lanes	All	All	All	**0.94**	Dec-20	
SI-05	Signalized Intersection	Roundabout	Convert Signalized Urban Intersection to Roundabout	3-Leg, 4-Leg	Signalized	Urban	All	All	**0.78**	Dec-20	
SI-06	Signalized Intersection	Roundabout	Convert Signalized Urban Intersection to Roundabout	3-Leg, 4-Leg	Signalized	Urban	All	Fatal and Injury (K,A,B,C)	**0.34**	Dec-20	

NDOT Planning Level CMF List

#	Facility Type	Countermeasure Type	Countermeasure	Intersection or Roadway Type	Prior Condition	Area Type	Crash Type	Crash Severity	Nevada CMF Value	Last Updated	Notes
SI-07	Signalized Intersection	Signal Phasing	Change From Permitted-Protected to Protected on Major Approach	Signalized 3-Leg, 4-Leg or More	Permitted or Permitted-Protected Left-Turn Phase	Urban	All	All	**0.58**	Dec-20	
SI-08	Signalized Intersection	Signal Phasing	Add Flashing Yellow Arrow Left-Turn Phase	Signalized 3-Leg, 4-Leg	Permissive Phasing	Urban	All	All	**0.85**	Dec-20	
SI-09	Signalized Intersection	Signal Visibility	Convert Signal From Pedestal-Mounted to Mast Arm	Signalized	Pedestal-Mounted Traffic Signal	Urban	All	All	**0.66**	Dec-20	
SI-10	Signalized Intersection	Signal Visibility	Add 3-Inch Yellow Retroreflective Sheeting to Signal Backplates	Signalized	No Retroreflective Sheeting	Urban	All	All	**0.85**	Dec-20	
SI-11	Signalized Intersection	Signal Visibility	Add Additional Signal Heads and Upgrade to 12-Inch Lenses	Signalized 4-Leg	-	Urban	All	All	**0.76**	Dec-20	
SI-12	Signalized Intersection	Signal Visibility	Replace 8-Inch Signal Heads with 12-Inch	Signalized	8-Inch Signal Heads	All	All	All	**0.97**	Dec-20	
SI-13	Signalized Intersection	Signs and Markings	Install Advance Street Name Signs	Signalized 3-Leg, 4-Leg	No Advanced Signs at a Signalized Intersection	All	All	All	**1.00**	Dec-20	Under certain circumstances this can be selected with a CMF value of 0.98 when the advanced sign can easily be seen and does not cause sign clutter or is installed in a location without existing sign clutter.
SI-14	Signalized Intersection	Signs and Markings	Implement Systemic Signing and Visibility Improvements at Signalized Intersections	Signalized 3-Leg, 4-Leg	No Systemic Signing and Visibility Improvements	All	All	All	**0.96**	Dec-20	
CS-01	Curve Segment	Curve Treatments	Install Dynamic Speed Feedback Signs	Undivided	High Crash Curve Sites with Identified Speeding Problem	Rural	All	All	**0.95**	Dec-20	
CS-02	Curve Segment	Pavement	Improve Pavement Friction - High Friction Surface Treatment (HFST)	All	History of Friction Related Crashes	All	All	All	**0.65**	Dec-20	
CS-03	Curve Segment	Rumble Strips	Install Centerline Rumble Strips on Horizontal Curves	All-Undivided	No Centerline Rumble Strips	Rural	All	All	**0.97**	Dec-20	
CS-04	Curve Segment	Rumble Strips	Install Edgeline Rumble Strips at Horizontal Curve	All-Undivided	No Rumble Strips	Rural	All	All	**0.77**	Dec-20	
CS-05	Curve Segment	Signs and Markings	Install Chevron Signs and Curve Warning Signs When Warranted	-	No Curve Delineation Treatment	-	All	All	**0.61**	Dec-20	
CS-06	Curve Segment	Signs and Markings	Install Chevron Signs on Horizontal Curves	All	Curve Warning Sign but No Chevron Signs	Rural	All	All	**0.77**	Dec-20	
CS-07	Curve Segment	Signs and Markings	Upgrade Existing Curve Warning and Chevron Signs (Flourescent Sheeting and/or Oversized Signs)	-	-	Rural	All	All	**0.88**	Dec-20	
CS-08	Curve Segment	Signs and Markings	Install Edgelines on Curves	All	2-Lane Roadway without Edgeline	Rural	All	All	**0.74**	Dec-20	
CS-09	Curve Segment	Signs and Markings	Install In-Line Curve Warning Pavement Markings	All - Undivided	No Pavement Markings	Rural	All	All	**0.63**	Dec-20	

NDOT Planning Level CMF List

Version 1.0

#	Facility Type	Countermeasure Type	Countermeasure	Intersection or Roadway Type	Prior Condition	Area Type	Crash Type	Crash Severity	Nevada CMF Value	Last Updated	Notes
IN-01	Interchange	Geometery	Convert At-Grade Intersection into Grade-Separated Interchange	3-Leg, 4-Leg	At Grade Intersection	All	All	All	**0.72**	Dec-20	
IN-02	Interchange	Geometery	Convert Diamond Interchange to Diverging Diamond Interchange (DDI)	-	Diamond Interchange	Urban	All	All	**0.62**	Dec-20	
IN-03	Interchange	Metering	Install Ramp Meter	-	Freeway On-Ramp with No Ramp Meter	Urban	All	All	**0.64**	Dec-20	
IN-04	Interchange	Roundabout	Convert Interchange Ramp Terminals to Single-Lane Roundabout	Interchange Ramp Terminal	Interchange without Roundabouts	All	All	All	**0.76**	Dec-20	
RR-01	Railroad	Crossings	Upgrade Railroad Crossings Signs to Include Flashing Lights	At Grade Roadway/ Railroad Crossing	Signs Only	All	Vehicle/ Train	All	**0.37**	Dec-20	
RR-02	Railroad	Crossings	Install Automatic Gates at Railroad Crossings	At Grade Roadway/ Railroad Crossing	Flashing Lights and Signs	All	Vehicle/ Train	All	**0.55**	Dec-20	
RR-03	Railroad	Crossings	Install Automatic Gates at Railroad Crossings	At Grade Roadway/ Railroad Crossing	Signs Only	All	Vehicle/ Train	All	**0.14**	Dec-20	
RR-04	Railroad	Crossings	Install Railroad Crossings Signs	At Grade Roadway/ Railroad Crossing	Unprotected Crossing - Crossbuck Only Signs	All	Vehicle/ Train	All	**0.72**	Dec-20	
BP-01	Bicycle	Lanes	Install On-Street Bike Facility	-	No Bike Lanes	Urban	Vehicle/ Bicycle	All	**0.40**	Dec-20	
BP-02	Pedestrian	Crossing	Install a Pedestrian Hybrid Beacon (PHB or HAWK)	Minor Arterial	No PHB	Urban	Vehicle/ Pedestrian	All	**0.40**	Dec-20	
BP-03	Pedestrian	Crossing	Install RRFB	Minor Arterial	No RRFB	Urban	Vehicle/ Pedestrian	All	**0.53**	Dec-20	
BP-04	Pedestrian	Crossing	Install Pedestrian Countdown Timer	Signalized	No Pedestrian Countdown Timer	All	Vehicle/ Pedestrian	All	**0.30**	Dec-20	
BP-05	Pedestrian	Crossing	Implement Leading Pedestrian Interval	Signalized	Signalized Intersection without Leading	All	Vehicle/ Pedestrian	All	**0.64**	Dec-20	

APPENDIX F

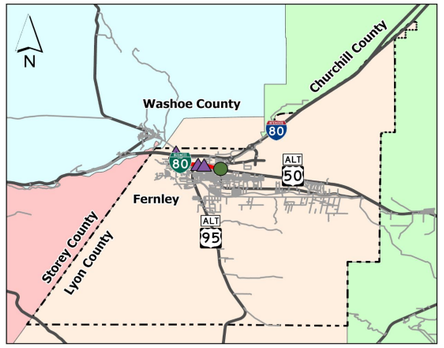
PRIORITY LOCATION PROJECT SHEETS, NDOT BCA SHEETS, AND COST ESTIMATE

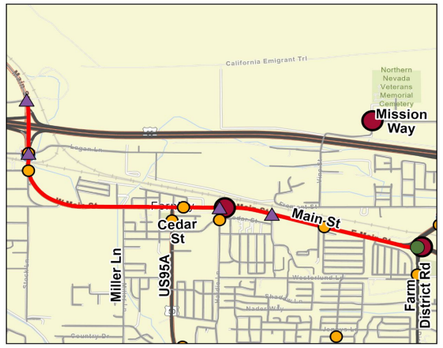
Opinion of Probable Construction Cost Disclaimer:

Kimley-Horn has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Kimley-Horn at this time and represent only Kimley-Horn's judgment as a design professional familiar with the construction industry. Kimley-Horn cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

Main Street

Location: Main Street from Commerce Center Drive to US95A/Farm District Road (SR828)







Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	1
A - Serious Injury	4
B - Non-incapacitating Injury	12
C - Possible Injury	28
O - PDO	104
Total Crashes	149
Crash Type	
Angle	47
Sideswipe	15
Rear End	61
Head-On	1
Non-Collision	20
Backing	4
Other	1
Non-Motorist Crashes	
Pedestrian	0
Bicycle	2
Contributing Factors	
Aggressive	2
Distracted	24
Impaired	2
Crash Conditions	
Dark*	27
Wet	6

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Segment Length: 2.72 miles
Posted Speed: 45 mph (Commerce Center Dr to I-80 Exit Ramp); 35 mph (I-80 Exit Ramp to just west of Dallas St, and US95A/Farm District Rd to just west of Hardie Ln); 25 mph (just east of Dallas St to just west of Hardie Ln)
Right-of-Way: Varies from Commerce St to Pilot Rd (>200 feet); 50-100 feet from Mesa Dr to Marie Dr; 50 feet from Marie Dr to Carroll Dr; 80 feet from Carroll Dr to Poplar St; 65-75 feet from Poplar St to Locust St; 75-100 feet from Locust St to Hardie Ln; 100-130 feet from Hardie Ln to Silverlace Blvd; 95-120 feet from Silverlace Blvd to Lois Ln; 120 feet from Lois Ln to US95A/Farm District Rd (SR828)
Pavement Width: 25-45 feet from Commerce Lane to Miller Ln; 55-75 feet from Miller Ln to the roundabout
Number of Lanes 1 lane each direction with alternating TWLTL and left-turn lane from Stock Ln to Miller Ln; 1 lane with TWLTL from Miller Ln to 7th St; 2 lanes each direction from 7th St to the roundabout
Other Features: Sidewalk (both sides) from Miller Ln to Silver Lace Blvd and 7th St to the roundabout; Sidewalk (south side only) from Silver Lace Blvd to 7th St; bike lane (south side only) from Hardie Ln to the roundabout
Adjacent Land Uses: Commercial, Suburban Mixed Use, Mixed Residential, Multi-Family Residential, and Public Facility

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

								2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					
#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Priority
1	Corridorwide	Review development timelines and the potential to install sidewalk if development is delayed.	Install sidewalk	0.60	Vehicle/Pedestrian/ All	0	0.00	$ 861,500	$ -	$ 77,571	$ (77,571)	0.00	$ 994,000	$ -	$ 89,502	$ (89,502)	0.00	3: Long-Term
2	Corridorwide	Conduct an ADA/PROWAG field survey of the corridor and install ADA/PROWAG-compliant curb ramps and sidewalks where needed.	N/A	N/A	N/A	N/A	N/A	$ 31,500	-	-	-	-	$ 31,500	-	-	-	-	2: Mid-Term
3	Corridorwide	Recommend maintaining 25 mph speed limit to the roundabout. *The costs for this item only consider the cost for replacing the existing speed limit signs, but enforcement and engagement with the community should also be conducted in conjunction with the speed limit change.	Lower Posted Speed Limit	0.86	All/All	41	1.15	$ 4,000	$ 68,903	$ 360	$ 68,543	191.31	$ 4,500	$ 399,618	$ 405	$ 399,213	986.25	2: Mid-Term

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
4	Corridorwide	Trim and maintain vegetation.	N/A	N/A	N/A	N/A	N/A	$ 2,000	-	-	-	-	$ 2,000	-	-	-	-	1: Short-Term
5	Corridorwide	Replace faded and damaged signs.	N/A	N/A	N/A	N/A	N/A	$ 19,500	-	-	-	-	$ 21,500	-	-	-	-	2: Mid-Term
6	Corridorwide	Restripe the corridor.	N/A	N/A	N/A	N/A	N/A	$ 720,500	-	-	-	-	$ 919,500	-	-	-	-	2: Mid-Term
7	Corridorwide	Conduct sign inventory and install/remove signage as needed.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
8	Corridorwide	Evaluate the potential for shoulders and the addition of bike lanes where space allows.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
9	Miller Lane to Hardie Lane	Evaluate existing parking and the potential to add a buffer to the existing bike lanes. Explore adding a designated bike lane in the westbound direction.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
10	Corridorwide (Center Street, US 95A, Locust Street, and Hardie Lane)	Realign intersections to allow perpendicular crosswalks where possible. *City to conduct further analysis to determine the effort to complete intersection realignment.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	3: Long-Term
11	Corridorwide (West Street, Center Street, US 95A, Locust Street, and Hardie Lane)	Install lighting at all crosswalk locations.	Install Intersection Lighting	0.90	Nighttime/All	6	0.12	$ 92,500	$ 3,019	$ 8,329	$ (5,310)	0.36	$ 115,500	$ 6,020	$ 10,400	$ (4,380)	0.58	2: Mid-Term
12	I-80 WB Off-Ramp	Install an acceleration lane.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	3: Long-Term
13	Pilot Road Intersection	Evaluate sight visibility at the intersection.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
14	Pilot Road Intersection	Repave intersection.	Change street surface condition from poor to good	0.74	All/All	18	0.94	$ 131,000	$ 57,885	$ 11,795	$ 46,089	4.91	$ 161,000	$ 174,873	$ 14,497	$ 160,376	12.06	2: Mid-Term
15	Pilot Road Intersection	Replace HPS lighting with LED lighting.	Improve street lighting illuminance and uniformity	0.68	Nighttime/All	3	0.19	$ 3,500	$ 2,593	$ 315	$ 2,277	8.23	$ 3,500	$ 3,556	$ 315	$ 3,241	11.28	1: Short-Term

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
16	I-80-EB Off-Ramp/Pilot Road Intersection	Evaluate the I-80 off-ramp merge lane and its impacts on the Pilot Road intersection.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
17	Railroad Underpass	Install lighting at the underpass.	Install Intersection Lighting	0.90	Nighttime/All	1	0.02	$ 26,500	$ 2,978	$ 2,386	$ 592	1.25	$ 33,000	$ 7,834	$ 2,971	$ 4,862	2.64	1: Short-Term
18	Miller Lane, Poplar Street, West Street, Center Street, Locust Street, and Hardie Lane Intersections	Install yield signs at crosswalks.	Install advanced yield or stop markings and signs.	0.75	Vehicle/Pedestrian/ All	1	0.05	$ 6,000	$ 386,945	$ 540	$ 386,405	716.23	$ 6,500	$ 815,388	$ 585	$ 814,803	1393.18	1: Short-Term
19	Center Street	Realign and repave the north approach with the south approach and provide diagonal parking on the north approach to service adjacent businesses.	N/A	N/A	N/A	N/A	N/A	$ 9,619,500	-	-	-	-	$ 9,900,000	-	-	-	-	3: Long-Term
20	US95A Intersection	Upgrade traffic signal heads so there is one signal head centered on each lane.	N/A	N/A	N/A	N/A	N/A	$ 62,500	-	-	-	-	$ 64,500	-	-	-	-	2: Mid-Term
21	US95A Intersection	Install retroreflective sheeting to backplates.	Add 3-Inch Yellow Retroreflective Sheeting to Signal Backplates	0.85	All/All	16	0.48	$ 2,000	$ 14,884	$ 180	$ 14,704	82.65	$ 2,000	$ 31,689	$ 180	$ 31,509	175.97	2: Mid-Term
22	US95A Intersection	Repair signal head.	N/A	N/A	N/A	N/A	N/A	$ 1,500	-	-	-	-	$ 1,500	-	-	-	-	1: Short-Term
23	US95A Intersection	Install "No Parking" signs and red curb in advance of the intersection.	Prohibit on-street parking	0.80	All/A,B,C,O	16	0.64	$ 5,500	$ 19,845	$ 495	$ 19,350	40.07	$ 7,000	$ 42,252	$ 630	$ 41,622	67.04	1: Short-Term
24	Big R Hardware Store	Review drainage of the corridor at this location.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
25	Big R Hardware Store	Consider removing the innermost sidewalk.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
26	7th Street	Install an enhanced pedestrian crossing in front of the 7-Eleven and the Nugget Casino.	Install RRFB	0.53	Vehicle/Pedestrian/ All	0	0.00	$ 113,000	$ -	$ 10,175	$ (10,175)	0.00	$ 128,000	$ -	$ 11,525	$ (11,525)	0.00	2: Mid-Term

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Lower Posted Speed Limit. (Countermeasure ID: 11288)
PROJECT LOCATION	Main St from Hardie Ln to the roundabout
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$4,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

Note: *This BCA only considers the cost for replacing the existing speed limit signs, but enforcement and engagement with the community should also be conducted in conjunction with the speed limit change.*

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	14.00%	0.00
INJURY A	$399,795	1	14.00%	0.03
INJURY B	$145,991	6	14.00%	0.17
INJURY C	$82,009	10	14.00%	0.28
PDO	$13,197	24	14.00%	0.67

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.03	$399,795	$11,194
INJURY B	0.17	$145,991	$24,526
INJURY C	0.28	$82,009	$22,963
PDO	0.67	$13,197	$8,868

TOTAL ANNUAL BENEFITS (Summation of Column E)	$67,552
TOTAL ANNUAL BENEFITS (Including Growth)	$68,903
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$360
TOTAL ANNUALIZED COSTS	$360
AVERAGE ANNUAL NET RETURN	$68,543
BENEFIT/COST	**191.31**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install sidewalk. (Countermeasure ID: 11246)
PROJECT LOCATION	Main St from Pilot Rd to Miller Ln
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$861,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	40.20%	0.00
INJURY A	$399,795	0	40.20%	0.00
INJURY B	$145,991	0	40.20%	0.00
INJURY C	$82,009	0	40.20%	0.00
PDO	$13,197	0	40.20%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$77,571
TOTAL ANNUALIZED COSTS	$77,571
AVERAGE ANNUAL NET RETURN	($77,571)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Intersection Lighting. (NDOT Planning Level: US-10)
PROJECT LOCATION	Main St at Miller Ln, West St, Center St, US95A, Locust St, one midblock crossing, and Hardie Ln
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$92,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	10.00%	0.00
INJURY A	$399,795	0	10.00%	0.00
INJURY B	$145,991	0	10.00%	0.00
INJURY C	$82,009	1	10.00%	0.02
PDO	$13,197	5	10.00%	0.10

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.02	$82,009	$1,640
PDO	0.10	$13,197	$1,320

TOTAL ANNUAL BENEFITS (Summation of Column E)	$2,960
TOTAL ANNUAL BENEFITS (Including Growth)	$3,019
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$8,329
TOTAL ANNUALIZED COSTS	$8,329
AVERAGE ANNUAL NET RETURN	($5,310)
BENEFIT/COST	**0.36**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Intersection Lighting. (NDOT Planning Level: US-10))
PROJECT LOCATION	Main St at the Fernley Underpass
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$26,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	10.00%	0.00
INJURY A	$399,795	0	10.00%	0.00
INJURY B	$145,991	1	10.00%	0.02
INJURY C	$82,009	0	10.00%	0.00
PDO	$13,197	0	10.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.02	$145,991	$2,920
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$2,920
TOTAL ANNUAL BENEFITS (Including Growth)	$2,978
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$2,386
TOTAL ANNUALIZED COSTS	$2,386
AVERAGE ANNUAL NET RETURN	$592
BENEFIT/COST	**1.25**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install RRFB. (NDOT Planning Level: BP-03)
PROJECT LOCATION	Main St and 7th St
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$113,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	47.00%	0.00
INJURY A	$399,795	0	47.00%	0.00
INJURY B	$145,991	0	47.00%	0.00
INJURY C	$82,009	0	47.00%	0.00
PDO	$13,197	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$10,175
TOTAL ANNUALIZED COSTS	$10,175
AVERAGE ANNUAL NET RETURN	($10,175)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Change street surface conditions from poor to good. (Countermeasure ID: 5627)
PROJECT LOCATION	Main St and Pilot Rd
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$131,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	26.00%	0.00
INJURY A	$399,795	1	26.00%	0.05
INJURY B	$145,991	3	26.00%	0.16
INJURY C	$82,009	1	26.00%	0.05
PDO	$13,197	13	26.00%	0.68

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.05	$399,795	$20,789
INJURY B	0.16	$145,991	$22,775
INJURY C	0.05	$82,009	$4,264
PDO	0.68	$13,197	$8,921

TOTAL ANNUAL BENEFITS (Summation of Column E)	$56,750
TOTAL ANNUAL BENEFITS (Including Growth)	$57,885
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$11,795
TOTAL ANNUALIZED COSTS	$11,795
AVERAGE ANNUAL NET RETURN	$46,089
BENEFIT/COST	**4.91**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Improve street lighting illuminance and uniformity. (Countermeasure ID: 11026)
PROJECT LOCATION	Main St and Pilot Rd
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$3,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	32.10%	0.00
INJURY A	$399,795	0	32.10%	0.00
INJURY B	$145,991	0	32.10%	0.00
INJURY C	$82,009	0	32.10%	0.00
PDO	$13,197	3	32.10%	0.19

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.19	$13,197	$2,542

TOTAL ANNUAL BENEFITS (Summation of Column E)	$2,542
TOTAL ANNUAL BENEFITS (Including Growth)	$2,593
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$315
TOTAL ANNUALIZED COSTS	$315
AVERAGE ANNUAL NET RETURN	$2,277
BENEFIT/COST	**8.23**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install advanced yield or stop markings and signs. (Countermeasure ID: 9017)
PROJECT LOCATION	Main St at Miller Ln, Poplar St, West St, Center St, Locust St, midblock crossing (between Locust St and Hardie Ln), and Hardie Ln
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$6,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	1	25.00%	0.05
INJURY A	$399,795	0	25.00%	0.00
INJURY B	$145,991	0	25.00%	0.00
INJURY C	$82,009	0	25.00%	0.00
PDO	$13,197	0	25.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.05	$7,587,157	$379,358
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$379,358
TOTAL ANNUAL BENEFITS (Including Growth)	$386,945
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$540
TOTAL ANNUALIZED COSTS	$540
AVERAGE ANNUAL NET RETURN	$386,405
BENEFIT/COST	**716.23**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Add 3-Inch Yellow Retroreflective Sheeting to Signal Backplates. (NDOT Planning Level: SI-10)
PROJECT LOCATION	Main St and US95A
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$2,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	15.00%	0.00
INJURY A	$399,795	0	15.00%	0.00
INJURY B	$145,991	0	15.00%	0.00
INJURY C	$82,009	4	15.00%	0.12
PDO	$13,197	12	15.00%	0.36

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.12	$82,009	$9,841
PDO	0.36	$13,197	$4,751

TOTAL ANNUAL BENEFITS (Summation of Column E)	$14,592
TOTAL ANNUAL BENEFITS (Including Growth)	$14,884
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$180
TOTAL ANNUALIZED COSTS	$180
AVERAGE ANNUAL NET RETURN	$14,704
BENEFIT/COST	**82.65**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Prohibit on-street parking. (Countermeasure ID: 153)
PROJECT LOCATION	Main St and US95A
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$5,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	20.00%	0.00
INJURY A	$399,795	0	20.00%	0.00
INJURY B	$145,991	0	20.00%	0.00
INJURY C	$82,009	4	20.00%	0.16
PDO	$13,197	12	20.00%	0.48

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.16	$82,009	$13,121
PDO	0.48	$13,197	$6,335

TOTAL ANNUAL BENEFITS (Summation of Column E)	$19,456
TOTAL ANNUAL BENEFITS (Including Growth)	$19,845
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$495
TOTAL ANNUALIZED COSTS	$495
AVERAGE ANNUAL NET RETURN	$19,350
BENEFIT/COST	**40.07**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Lower Posted Speed Limit. (Countermeasure ID: 11288)
PROJECT LOCATION	Main St from Hardie Ln to the roundabout
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$4,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

Note: *This BCA only considers the cost for replacing the existing speed limit signs, but enforcement and engagement with the community should also be conducted in conjunction with the speed limit change.*

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	14.00%	0.00
INJURY A	$1,705,100	1	14.00%	0.03
INJURY B	$384,000	6	14.00%	0.17
INJURY C	$204,600	10	14.00%	0.28
PDO	$18,100	24	14.00%	0.67

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.03	$1,705,100	$47,743
INJURY B	0.17	$384,000	$64,512
INJURY C	0.28	$204,600	$57,288
PDO	0.67	$18,100	$12,163

TOTAL ANNUAL BENEFITS (Summation of Column E)	$181,706
TOTAL ANNUAL BENEFITS (Including Growth)	$185,340
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$405
TOTAL ANNUALIZED COSTS	$405
AVERAGE ANNUAL NET RETURN	$184,935
BENEFIT/COST	**457.42**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install sidewalk. (Countermeasure ID: 11246)
PROJECT LOCATION	Main St from Pilot Rd to Miller Ln
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$994,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	40.20%	0.00
INJURY A	$1,705,100	0	40.20%	0.00
INJURY B	$384,000	0	40.20%	0.00
INJURY C	$204,600	0	40.20%	0.00
PDO	$18,100	0	40.20%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$89,502
TOTAL ANNUALIZED COSTS	$89,502
AVERAGE ANNUAL NET RETURN	($89,502)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Intersection Lighting. (NDOT Planning Level: US-10)
PROJECT LOCATION	Main St at Miller Ln, West St, Center St, US95A, Locust St, one midblock crossing, and Hardie Ln
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$115,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	10.00%	0.00
INJURY A	$1,705,100	0	10.00%	0.00
INJURY B	$384,000	0	10.00%	0.00
INJURY C	$204,600	1	10.00%	0.02
PDO	$18,100	5	10.00%	0.10

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.02	$204,600	$4,092
PDO	0.10	$18,100	$1,810

TOTAL ANNUAL BENEFITS (Summation of Column E)	$5,902
TOTAL ANNUAL BENEFITS (Including Growth)	$6,020
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$10,400
TOTAL ANNUALIZED COSTS	$10,400
AVERAGE ANNUAL NET RETURN	($4,380)
BENEFIT/COST	**0.58**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install sidewalk. (Countermeasure ID: 11246)
PROJECT LOCATION	Main St at the Fernley Underpass.
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$33,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	10.00%	0.00
INJURY A	$1,705,100	0	10.00%	0.00
INJURY B	$384,000	1	10.00%	0.02
INJURY C	$204,600	0	10.00%	0.00
PDO	$18,100	0	10.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.02	$384,000	$7,680
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$7,680
TOTAL ANNUAL BENEFITS (Including Growth)	$7,834
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$2,971
TOTAL ANNUALIZED COSTS	$2,971
AVERAGE ANNUAL NET RETURN	$4,862
BENEFIT/COST	**2.64**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install RRFB. (NDOT Planning Level: BP-03)
PROJECT LOCATION	Main St and 7th St
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$128,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	47.00%	0.00
INJURY A	$1,705,100	0	47.00%	0.00
INJURY B	$384,000	0	47.00%	0.00
INJURY C	$204,600	0	47.00%	0.00
PDO	$18,100	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$11,525
TOTAL ANNUALIZED COSTS	$11,525
AVERAGE ANNUAL NET RETURN	($11,525)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Change street surface conditions from poor to good. (Countermeasure ID: 5627)
PROJECT LOCATION	Main St and Pilot Rd
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$161,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	26.00%	0.00
INJURY A	$1,705,100	1	26.00%	0.05
INJURY B	$384,000	3	26.00%	0.16
INJURY C	$204,600	1	26.00%	0.05
PDO	$18,100	13	26.00%	0.68

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.05	$1,705,100	$88,665
INJURY B	0.16	$384,000	$59,904
INJURY C	0.05	$204,600	$10,639
PDO	0.68	$18,100	$12,236

TOTAL ANNUAL BENEFITS (Summation of Column E)	$171,444
TOTAL ANNUAL BENEFITS (Including Growth)	$174,873
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$14,497
TOTAL ANNUALIZED COSTS	$14,497
AVERAGE ANNUAL NET RETURN	$160,376
BENEFIT/COST	**12.06**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Improve street lighting illuminance and uniformity. (Countermeasure ID: 11026)
PROJECT LOCATION	Main St and Pilot Rd
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$3,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	32.10%	0.00
INJURY A	$1,705,100	0	32.10%	0.00
INJURY B	$384,000	0	32.10%	0.00
INJURY C	$204,600	0	32.10%	0.00
PDO	$18,100	3	32.10%	0.19

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.19	$18,100	$3,486

TOTAL ANNUAL BENEFITS (Summation of Column E)	$3,486
TOTAL ANNUAL BENEFITS (Including Growth)	$3,556
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$315
TOTAL ANNUALIZED COSTS	$315
AVERAGE ANNUAL NET RETURN	$3,241
BENEFIT/COST	**11.28**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install advanced yield or stop markings and signs. (Countermeasure ID: 9017)
PROJECT LOCATION	Main St at Miller Ln, Poplar St, West St, Center St, Locust St, midblock crossing (between Locust St and Hardie Ln), and Hardie Ln
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$6,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	1	25.00%	0.05
INJURY A	$1,705,100	0	25.00%	0.00
INJURY B	$384,000	0	25.00%	0.00
INJURY C	$204,600	0	25.00%	0.00
PDO	$18,100	0	25.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.05	$15,988,000	$799,400
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$799,400
TOTAL ANNUAL BENEFITS (Including Growth)	$815,388
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$585
TOTAL ANNUALIZED COSTS	$585
AVERAGE ANNUAL NET RETURN	$814,803
BENEFIT/COST	**1393.18**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Add 3-Inch Yellow Retroreflective Sheeting to Signal Backplates. (NDOT Planning Level: SI-10)
PROJECT LOCATION	Main St and US95A
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$2,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	15.00%	0.00
INJURY A	$1,705,100	0	15.00%	0.00
INJURY B	$384,000	0	15.00%	0.00
INJURY C	$204,600	4	15.00%	0.12
PDO	$18,100	12	15.00%	0.36

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.12	$204,600	$24,552
PDO	0.36	$18,100	$6,516

TOTAL ANNUAL BENEFITS (Summation of Column E)	$31,068
TOTAL ANNUAL BENEFITS (Including Growth)	$31,689
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$180
TOTAL ANNUALIZED COSTS	$180
AVERAGE ANNUAL NET RETURN	$31,509
BENEFIT/COST	**175.97**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 5/1/2026

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Prohibit on-street parking. (Countermeasure ID: 153)
PROJECT LOCATION	Main St and US95A
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$7,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	20.00%	0.00
INJURY A	$1,705,100	0	20.00%	0.00
INJURY B	$384,000	0	20.00%	0.00
INJURY C	$204,600	4	20.00%	0.16
PDO	$18,100	12	20.00%	0.48

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.16	$204,600	$32,736
PDO	0.48	$18,100	$8,688

TOTAL ANNUAL BENEFITS (Summation of Column E)	$41,424
TOTAL ANNUAL BENEFITS (Including Growth)	$42,252
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$630
TOTAL ANNUALIZED COSTS	$630
AVERAGE ANNUAL NET RETURN	$41,622
BENEFIT/COST	**67.04**

City of Fernley Local Road Safety Plan Main Street Cost Estimate Details

Recommendation: Conduct an ADA/PROWAG assessment along Main Street.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
ADA/PROWAG Field Assessment	1.5	MILE	$19,000	$28,500	$19,000	$28,500
			Subtotal	$28,500	Subtotal	$28,500
Project Cost Summary						
			Contingency (40%)	$11,400		$11,400
			Preliminary Engineering (15%)	$4,275		$4,275
			Construction Engineering (10%)	$2,850		$2,850
			Total Site Improvement Cost	$47,000		$47,000
Assumptions: Assessment along approximately 1.5 miles of the corridor that has existing pedestrian facilities. This item does not include the design or construction of new ADA/PROWAG facilities.						

Recommendation: Install lighting at the crosswalks without lighting at Miller Ln, West St, Center St, US95A, Locust St, one midblock crossing, and Hardie Ln.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED Bulbs	7	EA	$8,000	$56,000	$10,000	$70,000
			Subtotal	$56,000	Subtotal	$70,000
Project Cost Summary						
			Contingency (40%)	$22,400		$28,000
			Preliminary Engineering (15%)	$8,400		$10,500
			Construction Engineering (10%)	$5,600		$7,000
			Total Site Improvement Cost	$92,500		$115,500
Assumptions: Two lights are needed at Miller Ln, three lights at West St, four lights at Center St, three lights at US95A, two lights at Locust, one light at the midblock crossing, and two lights at Hardie Ln.						

Recommendation: Trim and maintain vegetation.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Trim/Remove Vegetation	0.08	ACRE	$14,000	$1,120	$15,000	$1,200
			Subtotal	$1,120	Subtotal	$1,200
Project Cost Summary						
			Contingency (40%)	$448		$480
			Preliminary Engineering (15%)	$168		$180
			Construction Engineering (10%)	$112		$120
			Total Site Improvement Cost	$2,000		$2,000
Assumptions: Assume four-foot wide space at select locations along Main Street.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Main Street Cost Estimate Details

Recommendation: Install shoulders and bike lanes where space allows.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install New Pavement	5,250	SY	$40	$210,000	$50	$262,500
Bike Lane Striping	6,600	LF	$6	$39,600	$8	$52,800
			Subtotal	$249,600	Subtotal	$315,300
Project Cost Summary						
			Contingency (40%)	$99,840		$126,120
			Preliminary Engineering (15%)	$37,440		$47,295
			Construction Engineering (10%)	$24,960		$31,530
			Total Site Improvement Cost	$412,000		$520,000
Assumptions: Approximately 0.75 miles of the corridor has little to no shoulder. Assume six-foot shoulder added on both sides. Approximately 1.25 miles of the corridor are without bike lanes. Assume bike lane added on south side to match existing facilities.						

Recommendation: Replace faded and damaged signs.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Sign and Pole	20	EA	$245	$4,900	$250	$5,000
Sign and Pole (with Installation)	20	EA	$350	$7,000	$400	$8,000
			Subtotal	$11,900	Subtotal	$13,000
Project Cost Summary						
			Contingency (40%)	$4,760		$5,200
			Preliminary Engineering (15%)	$1,785		$1,950
			Construction Engineering (10%)	$1,190		$1,300
			Total Site Improvement Cost	$19,500		$21,500
Assumptions: Assume 20 signs get replaced.						

Recommendation: Install an enhanced crossing at the Main St/7th St intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install High Visibility Crosswalk Striping	1	EA	$2,450	$2,450	$2,500	$2,500
Install RRFB	1	EA	$50,000	$50,000	$55,000	$55,000
Install Single Mast-Arm Lighting with LED Bulbs	2	EA	$8,000	$16,000	$10,000	$20,000
			Subtotal	$68,450	Subtotal	$77,500
Project Cost Summary						
			Contingency (40%)	$27,380		$31,000
			Preliminary Engineering (15%)	$10,268		$11,625
			Construction Engineering (10%)	$6,845		$7,750
			Total Site Improvement Cost	$113,000		$128,000
Assumptions: Install crosswalk and RRFB on the west side of the Main St/7th St intersection. Install one light on each end of the crosswalk.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Main Street Cost Estimate Details

Recommendation: Redesign intersection to improve sight visibility and install an acceleration lane.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Intersection Reconfiguration	1	INT	$5,830,000	$5,830,000	$6,000,000	$6,000,000
			Subtotal	$5,830,000	Subtotal	$6,000,000
Project Cost Summary						
			Contingency (40%)	$2,332,000		$2,400,000
			Preliminary Engineering (15%)	$874,500		$900,000
			Construction Engineering (10%)	$583,000		$600,000
			Total Site Improvement Cost	$9,619,500		$9,900,000
Assumptions: Reconfiguration of Pilot Rd intersection assumes civil work and pedestrian facilities.						

Recommendation: Repave the Main St/Pilot Rd intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement	1,433	SY	$14	$20,062	$16	$22,928
Install New Pavement	1,433	SY	$40	$57,320	$50	$71,650
Install 6" White Edge Line	210	LF	$6	$1,260	$8	$1,680
Install 4" Yellow Center Line (Per Line)	300	LF	$3	$900	$4	$1,200
			Subtotal	$79,542	Subtotal	$97,458
Project Cost Summary						
			Contingency (40%)	$31,817		$38,983
			Preliminary Engineering (15%)	$11,931		$14,619
			Construction Engineering (10%)	$7,954		$9,746
			Total Site Improvement Cost	$131,000		$161,000
Assumptions: Repave intersection of Main St/Pilot Rd. Assumed an intersection area of 60' x 215'. Assume ~210 ft of six-inch white striping and ~150 ft of double yellow center striping will be replaced.						

Recommendation: Upgrade existing HPS lights with LED lights at the Main St/Pilot Rd intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Replace HPS Bulbs with LED	3	EA	$700	$2,100	$750	$2,250
			Subtotal	$2,100	Subtotal	$2,250
Project Cost Summary						
			Contingency (40%)	$840		$900
			Preliminary Engineering (15%)	$315		$338
			Construction Engineering (10%)	$210		$225
			Total Site Improvement Cost	$3,500		$3,500
Assumptions: Upgrade the three existing lights at the Main St/Pilot Rd intersection.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Main Street Cost Estimate Details

Recommendation: Install "Yield Here to Pedestrians" (MUTCD R1-5) signs at the crosswalks at Miller Ln, Poplar St, West St, Center St, Locust St, midblock crossing (between Locust St and Hardie Ln), and Hardie Ln.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Sign and Pole (with Installation)	10	EA	$350	$3,500	$400	$4,000
			Subtotal	$3,500	Subtotal	$4,000
Project Cost Summary						
			Contingency (40%)	$1,400		$1,600
			Preliminary Engineering (15%)	$525		$600
			Construction Engineering (10%)	$350		$400
			Total Site Improvement Cost	$6,000		$6,500
Assumptions: Install ten signs, two at each unsignalized crossing/intersection. Yield bars currently exist.						

Recommendation: Install retroreflective backplates at the Main St/US95A intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Retroreflective Backplates	2	EA	$590	$1,180	$600	$1,200
			Subtotal	$1,180	Subtotal	$1,200
Project Cost Summary						
			Contingency (40%)	$472		$480
			Preliminary Engineering (15%)	$177		$180
			Construction Engineering (10%)	$118		$120
			Total Site Improvement Cost	$2,000		$2,000
Assumptions: Add retroreflective backplates to the two signal heads currently without.						

Recommendation: Install "No Parking" signage and striping in advance of the US95 intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Sign and Pole (with Installation)	4	EA	$350	$1,400	$400	$1,600
Install 4" White Edge Line	243	LF	$5	$1,215	$7	$1,701
Curb Painting (Yellow or Red)	200	LF	$3	$600	$4	$800
			Subtotal	$3,215	Subtotal	$4,101
Project Cost Summary						
			Contingency (40%)	$1,286		$1,640
			Preliminary Engineering (15%)	$482		$615
			Construction Engineering (10%)	$322		$410
			Total Site Improvement Cost	$5,500		$7,000
Assumptions: Install four "No Parking" signs on Main St (one at each corner of the intersection). Stripe off ~50 feet of the existing parking lanes as "No Parking" zones on three corners of the intersection. Assume ~81 ft of striping for each "No Parking" zone. ("No Parking" striping exists on the SW corner.)						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Main Street Cost Estimate Details

Recommendation: Install sidewalks from Pilot Road to Miller Lane.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Sidewalk	40,170	SF	$13	$522,210	$15	$602,550
			Subtotal	$522,210	Subtotal	$602,550
Project Cost Summary						
			Contingency (40%)	$208,884		$241,020
			Preliminary Engineering (15%)	$78,332		$90,383
			Construction Engineering (10%)	$52,221		$60,255
			Total Site Improvement Cost	$861,500		$994,000
Assumptions: Assume five-foot sidewalk on both sides of the road.						

Recommendation: Lower the speed limit to 25mph from Hardie Ln to the roundabout.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Sign and Pole	4	EA	$245	$980	$250	$1,000
Sign and Pole (with Installation)	4	EA	$350	$1,400	$400	$1,600
			Subtotal	$2,380	Subtotal	$2,600
Project Cost Summary						
			Contingency (40%)	$952		$1,040
			Preliminary Engineering (15%)	$357		$390
			Construction Engineering (10%)	$238		$260
			Total Site Improvement Cost	$4,000		$4,500
Assumptions: Replace four speed limit signs to reflect the new speed limit.						

Recommendation: Restripe the corridor.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement Marking	48,950	LF	$4	$195,800	$5	$244,750
Install 4" Yellow Center Line (Per Line)	23,760	LF	$3	$71,280	$4	$95,040
Install 6" White Edge Line	23,760	LF	$6	$142,560	$8	$190,080
Install High Visibility Crosswalk Striping	11	EA	$2,450	$26,950	$2,500	$27,500
			Subtotal	$436,590	Subtotal	$557,370
Project Cost Summary						
			Contingency (40%)	$174,636		$222,948
			Preliminary Engineering (15%)	$65,489		$83,606
			Construction Engineering (10%)	$43,659		$55,737
			Total Site Improvement Cost	$720,500		$919,500
Assumptions: Corridor is approximately 2.25 miles long. Assume four lines along the full corridor needing removal and replacement, half is six-inch edgeline and half is double solid yellow. Eleven crosswalks need restriping. Assume 130 LF for each crosswalk						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Main Street Cost Estimate Details

Recommendation: Install lighting at the Fernley underpass.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED Bulbs	2	EA	$8,000	$16,000	$10,000	$20,000
			Subtotal	$16,000	Subtotal	$20,000
Project Cost Summary						
			Contingency (40%)	$6,400		$8,000
			Preliminary Engineering (15%)	$2,400		$3,000
			Construction Engineering (10%)	$1,600		$2,000
			Total Site Improvement Cost	$26,500		$33,000
Assumptions: Underpass is extremely dark at night. Recommend installing two lights, one on each end of the underpass.						

Recommendation: Adjust signal heads at the US95A intersection so that there is one signal head centered over each lane.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Traffic Signal Head	6	EA	$1,450	$8,700	$1,500	$9,000
Traffic Signal Head with Installation	6	EA	$4,850	$29,100	$5,000	$30,000
			Subtotal	$37,800	Subtotal	$39,000
Project Cost Summary						
			Contingency (40%)	$15,120		$15,600
			Preliminary Engineering (15%)	$5,670		$5,850
			Construction Engineering (10%)	$3,780		$3,900
			Total Site Improvement Cost	$62,500		$64,500
Assumptions: The six existing signal heads are not centered over the appropriate lanes.						

Recommendation: Realign the Center Street intersection and provide on-street parking.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Intersection Reconfiguration	1	INT	$5,830,000	$5,830,000	$6,000,000	$6,000,000
			Subtotal	$5,830,000	Subtotal	$6,000,000
Project Cost Summary						
			Contingency (40%)	$2,332,000		$2,400,000
			Preliminary Engineering (15%)	$874,500		$900,000
			Construction Engineering (10%)	$583,000		$600,000
			Total Site Improvement Cost	$9,619,500		$9,900,000
Assumptions: Realign the north side of the intersection and provide parking on the north approach.						

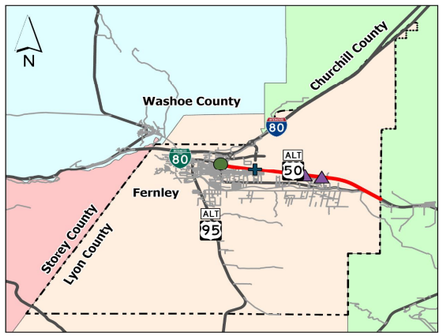
Recommendation: Repair the damaged signal head at the Main St/US95A intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Repair Traffic Signal Head	1	EA	$950	$950	$1,000	$1,000
			Subtotal	$950	Subtotal	$1,000
Project Cost Summary						
			Contingency (40%)	$380		$400
			Preliminary Engineering (15%)	$143		$150
			Construction Engineering (10%)	$95		$100
			Total Site Improvement Cost	$1,500		$1,500
Assumptions: Assumed the cost of repair to be 25% of the cost of a new signal head with installation.						

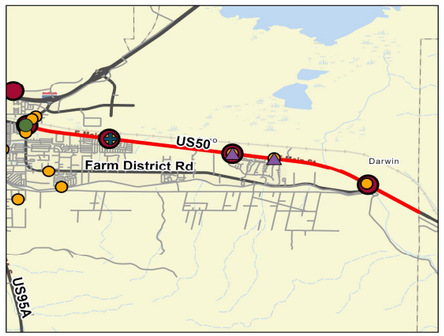
Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

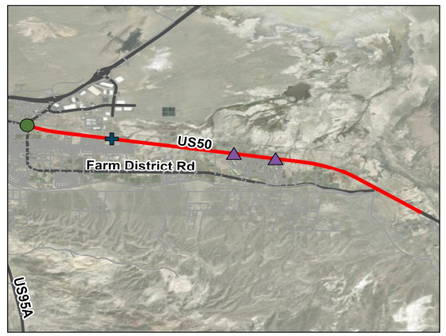
Fernley Local Road Safety Plan
Project Description for Segment Improvements

US50

Location: US50 from US95A/Farm District Road (SR828) to City Limits







Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	4
A - Serious Injury	7
B - Non-incapacitating Injury	19
C - Possible Injury	36
O - PDO	91
Total Crashes	**157**
Crash Type	
Angle	45
Sideswipe	8
Rear End	28
Head-On	5
Non-Collision	70
Backing	0
Other	1
Non-Motorist Crashes	
Pedestrian	0
Bicycle	1
Contributing Factors	
Aggressive	0
Distracted	10
Impaired	5
Crash Conditions	
Dark*	40
Wet	13

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Segment Length: 7.82 miles
Posted Speed: 50 mph (US95A/Farm District Rd to Inglewood Dr); 65 mph (Inglewood Dr to City Limits)
Right-of-Way: 195-200 feet (Note: exact ROW dimensions are undefined on some rural segments)
Pavement Width: 90-105 feet
Number of Lanes 2 lanes each direction with a concrete median. Occasional left turn lanes.
Other Features: No sidewalk. No bike lanes. Shoulder width varies across the segment (the shoulder occasionally becomes a right-turn or acceleration lane).
Adjacent Land Uses: Commercial; Mixed Employment; Industrial; Suburban Mixed Use; Open Space/Parks

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

								2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					
#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Priority
1	Corridorwide	Evaluate the corridor based on NDOT's Speed Management Action Plan (SMAP) recommendations.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
2	Roundabout to Jessica Lane	Install a shared use path.	Install Off-Street Shared Use Path**	0**	Bicycle/Pedestrian/ All	0	0.00	$ 729,500	$ -	$ 65,685	$ (65,685)	0.00	$ 911,500	$ -	$ 82,073	$ (82,073)	0.00	2: Mid-Term
3	Nevada Pacific Pkwy Intersection	Evaluate the need for pedestrian facilities at the intersection.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
4	Nevada Pacific Pkwy Intersection	Extend the yellow phase for eastbound traffic.	N/A	N/A	N/A	N/A	N/A	$ 5,000	-	-	-	-	$ 5,000	-	-	-	-	1: Short-Term
5	Nevada Pacific Pkwy Intersection	Paint intersection median.	N/A	N/A	N/A	N/A	N/A	$ 500	-	-	-	-	$ 1,000	-	-	-	-	1: Short-Term
6	Nevada Pacific Pkwy Intersection	Evaluate lighting levels at the intersection. Install additional lighting if needed.	N/A	N/A	N/A	N/A	N/A	$ 8,000	-	-	-	-	$ 8,500	-	-	-	-	1: Short-Term

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
7	Farm District Rd Intersection	Repave intersection.	Change street surface condition from poor to good	0.74	All/All	7	0.36	$ 188,000	$ 4,900	$ 16,928	$ (12,028)	0.29	$ 230,000	$ 6,720	$ 20,710	$ (13,989)	0.32	2: Mid-Term
8	Farm District Rd Intersection	Install additional lighting at the intersection.	N/A	N/A	N/A	N/A	N/A	$ 39,500	-	-	-	-	$ 49,500	-	-	-	-	2: Mid-Term

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install shared use path.
PROJECT LOCATION	US50 from the roundabout to Jessica Ln
ROADWAY CHARACTERISTICS	4 LANE DIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	3 OTHER PRINCIPAL ARTERI
IMPLEMENTATION COSTS	$729,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	100.00%	0.00
INJURY A	$399,795	0	100.00%	0.00
INJURY B	$145,991	0	100.00%	0.00
INJURY C	$82,009	0	100.00%	0.00
PDO	$13,197	0	100.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$65,685
TOTAL ANNUALIZED COSTS	$65,685
AVERAGE ANNUAL NET RETURN	($65,685)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Change street surface condition from poor to good. (Countermeasure ID: 5627)
PROJECT LOCATION	US50 and Farm District Rd intersection
ROADWAY CHARACTERISTICS	4 LANE DIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	3 OTHER PRINCIPAL ARTERI
IMPLEMENTATION COSTS	$188,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	26.00%	0.00
INJURY A	$399,795	0	26.00%	0.00
INJURY B	$145,991	0	26.00%	0.00
INJURY C	$82,009	0	26.00%	0.00
PDO	$13,197	7	26.00%	0.36

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.36	$13,197	$4,804

TOTAL ANNUAL BENEFITS (Summation of Column E)	$4,804
TOTAL ANNUAL BENEFITS (Including Growth)	$4,900
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$16,928
TOTAL ANNUALIZED COSTS	$16,928
AVERAGE ANNUAL NET RETURN	($12,028)
BENEFIT/COST	**0.29**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install shared use path.
PROJECT LOCATION	US50 from the roundabout to Jessica Ln
ROADWAY CHARACTERISTICS	4 LANE DIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	3 OTHER PRINCIPAL ARTERI
IMPLEMENTATION COSTS	$911,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	100.00%	0.00
INJURY A	$1,705,100	0	100.00%	0.00
INJURY B	$384,000	0	100.00%	0.00
INJURY C	$204,600	0	100.00%	0.00
PDO	$18,100	0	100.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$82,073
TOTAL ANNUALIZED COSTS	$82,073
AVERAGE ANNUAL NET RETURN	($82,073)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Change street surface condition from poor to good. (Countermeasure ID: 5627)
PROJECT LOCATION	US50 and Farm District Rd intersection
ROADWAY CHARACTERISTICS	4 LANE DIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	3 OTHER PRINCIPAL ARTERI
IMPLEMENTATION COSTS	$230,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	26.00%	0.00
INJURY A	$1,705,100	0	26.00%	0.00
INJURY B	$384,000	0	26.00%	0.00
INJURY C	$204,600	0	26.00%	0.00
PDO	$18,100	7	26.00%	0.36

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.36	$18,100	$6,588

TOTAL ANNUAL BENEFITS (Summation of Column E)	$6,588
TOTAL ANNUAL BENEFITS (Including Growth)	$6,720
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$20,710
TOTAL ANNUALIZED COSTS	$20,710
AVERAGE ANNUAL NET RETURN	($13,989)
BENEFIT/COST	**0.32**

City of Fernley Local Road Safety Plan US50 Cost Estimate Details

Recommendation: Install a shared-use path from the roundabout to Jessica Lane.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Turnout or Roadway Aggregate Base	996	CY	$80	$79,680	$100	$99,600
Install New Pavement	9,058	SY	$40	$362,320	$50	$452,900
			Subtotal	$442,000	Subtotal	$552,500
Project Cost Summary						
			Contingency (40%)	$176,800		$221,000
			Preliminary Engineering (15%)	$66,300		$82,875
			Construction Engineering (10%)	$44,200		$55,250
			Total Site Improvement Cost	$729,500		$911,500
Assumptions: Segment is approximately 1.93 miles long. Assume an eight foot path on the south side with a four-inch aggregate base depth.						

Recommendation: Extend the yellow phase for eastbound traffic at the intersection of US50 and Nevada Pacific Pkwy.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Signal Retiming	1	INT	$2,900	$2,900	$3,000	$3,000
			Subtotal	$2,900	Subtotal	$3,000
Project Cost Summary						
			Contingency (40%)	$1,160		$1,200
			Preliminary Engineering (15%)	$435		$450
			Construction Engineering (10%)	$290		$300
			Total Site Improvement Cost	$5,000		$5,000
Assumptions: Retime the signal at Nevada Pacific Pkwy.						

Recommendation: Paint the median at the intersection of US50 and Nevada Pacific Pkwy.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Curb Painting (Yellow or Red)	120	LF	$3	$360	$4	$480
			Subtotal	$360	Subtotal	$480
Project Cost Summary						
			Contingency (40%)	$144		$192
			Preliminary Engineering (15%)	$54		$72
			Construction Engineering (10%)	$36		$48
			Total Site Improvement Cost	$500		$1,000
Assumptions: Assumed edge of median directly facing Nevada Pacific Blvd is painted.						

Recommendation: Evaluate the need for non-motorist facilities at the Nevada Pacific Parkway intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Traffic Impact Study	1	EA	$17,000	$17,000	$17,500	$17,500
			Subtotal	$17,000	Subtotal	$17,500
Project Cost Summary						
			Contingency (40%)	$6,800		$7,000
			Preliminary Engineering (15%)	$2,550		$2,625
			Construction Engineering (10%)	$1,700		$1,750
			Total Site Improvement Cost	$28,000		$29,000
Assumptions: No non-motorist facilities currently exist on US50, but non-motorists have been observed to travel parallel to the road.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan US50 Cost Estimate Details

Recommendation: Repave the intersection at US50 and Farm District Rd.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement	2,111	SY	$14	$29,554	$16	$33,776
Install New Pavement	2,111	SY	$40	$84,440	$50	$105,550
			Subtotal	$113,994	Subtotal	$139,326
Project Cost Summary						
			Contingency (40%)	$45,598		$55,730
			Preliminary Engineering (15%)	$17,099		$20,899
			Construction Engineering (10%)	$11,399		$13,933
			Total Site Improvement Cost	$188,000		$230,000
Assumptions:						
Assumed approximately 100' x 190' intersection area for the US50 and Farm District Rd intersection.						

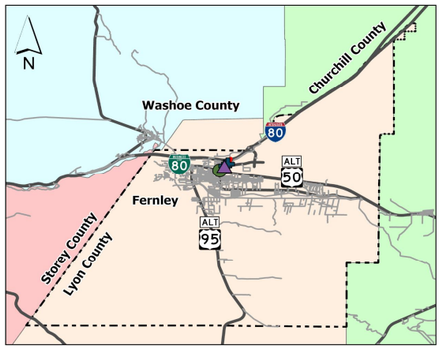
Recommendation: Evaluate the lighting at Nevada Pacific Parkway.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Lighting Study	1	EA	$4,850	$4,850	$5,000	$5,000
			Subtotal	$4,850	Subtotal	$5,000
Project Cost Summary						
			Contingency (40%)	$1,940		$2,000
			Preliminary Engineering (15%)	$728		$750
			Construction Engineering (10%)	$485		$500
			Total Site Improvement Cost	$8,000		$8,500
Assumptions:						
Evaluate the lighitng at the Nevada Pacific Pkwy intersection.						

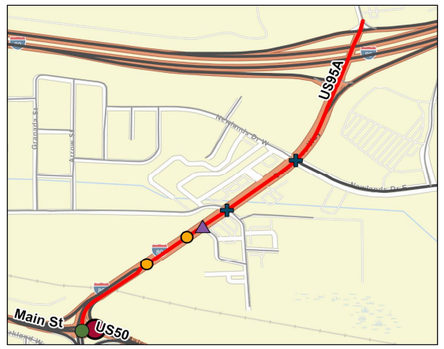
Recommendation: Install additional lighting at Farm District Road.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED Bulbs	3	EA	$8,000	$24,000	$10,000	$30,000
			Subtotal	$24,000	Subtotal	$30,000
Project Cost Summary						
			Contingency (40%)	$9,600		$12,000
			Preliminary Engineering (15%)	$3,600		$4,500
			Construction Engineering (10%)	$2,400		$3,000
			Total Site Improvement Cost	$39,500		$49,500
Assumptions:						
Add three lights at the Farm District Rd intersection, one for each corner currently missing lighting.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

US95A (I-80 to Roundabout)

Location: US95A from Main Street/US50 to I-80 WB Ramps







Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	0
A - Serious Injury	2
B - Non-incapacitating Injury	16
C - Possible Injury	49
O - PDO	138
Total Crashes	205
Crash Type	
Angle	44
Sideswipe	24
Rear End	109
Head-On	2
Non-Collision	22
Backing	4
Other	0
Non-Motorist Crashes	
Pedestrian	0
Bicycle	0
Contributing Factors	
Aggressive	1
Distracted	31
Impaired	2
Crash Conditions	
Dark*	44
Wet	8

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Segment Length: 0.93 miles
Posted Speed: 35 mph
Right-of-Way: Varies from the roundabout to Fremont St; 215-225 feet from Fremont St to Newlands Dr; Varies from Newlands Dr to the I-80 WB Ramp
Pavement Width: 70-105 feet; drops to 30 feet at I-80 ramps
Number of Lanes 2 lanes in each direction with concrete median (one instance of TWLTL at offset intersection); 1 lane each direction after I-80 WB ramp
Other Features: Sidewalk (both sides) from the roundabout to Newlands Dr; Bike lanes (both sides) from the roundabout to Fremont St/ Chisholm Trl (the bike lanes suddenly start/end between Fremont St/Chisholm Trl and Newlands
Adjacent Land Uses: Commercial and Multi-Family Residential

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

								2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					
#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Priority
1	N. of Chisholm/Fremont Intersection	Consider consolidating access at the commercial development by closing the driveway serving the Shell gas station and add access off-site to share the existing Jack-in-the-Box driveway.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
2	Roundabout and Penny Lane	Restripe median with solid double yellow lines and diagonal hatching.	N/A	N/A	N/A	N/A	N/A	$ 9,000	-	-	-	-	$ 11,500	-	-	-	-	1: Short-Term
3	Newlands Drive Intersection	Observe both traffic signals along the corridor and see how they interact with the roundabout.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
4	Newlands Drive Intersection	Trim and maintain vegetation.	N/A	N/A	N/A	N/A	N/A	$ 230	-	-	-	-	$ 250	-	-	-	-	1: Short-Term
5	Newlands Drive Intersection	Replace pedestrian pushbuttons with APS at Newlands Drive intersection.	N/A	N/A	N/A	N/A	N/A	$ 15,500	-	-	-	-	$ 16,000	-	-	-	-	1: Short-Term

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
6	Newlands Drive Intersection	Upgrade intersection with ADA/PROWAG compliant facilities.	N/A	N/A	N/A	N/A	N/A	$ 39,500	-	-	-	-	$ 45,500	-	-	-	-	2: Mid-Term
7	Newlands Drive & Fremont/Chisholm Intersections	Evaluate the pedestrian crossing phase to optimize intersection signal timing and apply a Leading Pedestrian Interval (LPI).	Implement Leading Pedestrian Interval	0.64	Vehicle/Pedestrian/ All	3	0.22	$ 74,000	$ 27,466	$ 6,663	$ 20,803	4.12	$ 76,000	$ 71,128	$ 6,843	$ 64,585	10.44	1: Short-Term
8	Newlands Drive Intersection	Modify the northeast corner curb return and realign the skewed crosswalk on north leg.	N/A	N/A	N/A	N/A	N/A	$ 23,500	-	-	-	-	$ 25,500	-	-	-	-	2: Mid-Term
9	Fremont/Chisholm Intersection	Install MUTCD R9-3a "No Pedestrian Crossing" and R3-9bP "Use Crosswalk" signs	N/A	N/A	N/A	N/A	N/A	$ 1,000	-	-	-	-	$ 1,500	-	-	-	-	1: Short-Term
10	Fremont/Chisholm Intersection	Replace pedestrian countdown.	N/A	N/A	N/A	N/A	N/A	$ 1,000	-	-	-	-	$ 1,000	-	-	-	-	1: Short-Term
11	Fremont/Chisholm Intersection	Observe both traffic signals along the corridor and see how they interact with the roundabout.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
12	Fremont/Chisholm Intersection	Evaluate lighting levels at the intersection.	N/A	N/A	N/A	N/A	N/A	$ 8,000	-	-	-	-	$ 8,500	-	-	-	-	1: Short-Term
13	Fremont/Chisholm Intersection	Evaluate realignment of the crosswalk.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Implement Leading Pedestrian Interval. (NDOT Planning Level: BP-05)
PROJECT LOCATION	US95A and Fremont St/Chisholm Trl; and US95A and Newlands Dr
ROADWAY CHARACTERISTICS	4 LANE DIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	3 OTHER PRINCIPAL ARTERI
IMPLEMENTATION COSTS	$74,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	36.00%	0.00
INJURY A	$399,795	0	36.00%	0.00
INJURY B	$145,991	2	36.00%	0.14
INJURY C	$82,009	1	36.00%	0.07
PDO	$13,197	0	36.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.14	$145,991	$21,023
INJURY C	0.07	$82,009	$5,905
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$26,927
TOTAL ANNUAL BENEFITS (Including Growth)	$27,466
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$6,663
TOTAL ANNUALIZED COSTS	$6,663
AVERAGE ANNUAL NET RETURN	$20,803
BENEFIT/COST	**4.12**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Implement Leading Pedestrian Interval. (NDOT Planning Level: BP-05)
PROJECT LOCATION	US95A and Fremont St/Chisholm Trl; and US95A and Newlands Dr
ROADWAY CHARACTERISTICS	4 LANE DIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	3 OTHER PRINCIPAL ARTERI
IMPLEMENTATION COSTS	$76,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	36.00%	0.00
INJURY A	$1,705,100	0	36.00%	0.00
INJURY B	$384,000	2	36.00%	0.14
INJURY C	$204,600	1	36.00%	0.07
PDO	$18,100	0	36.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.14	$384,000	$55,296
INJURY C	0.07	$204,600	$14,731
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$70,027
TOTAL ANNUAL BENEFITS (Including Growth)	$71,428
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$6,843
TOTAL ANNUALIZED COSTS	$6,843
AVERAGE ANNUAL NET RETURN	$64,585
BENEFIT/COST	**10.44**

City of Fernley Local Road Safety Plan US95A (I-80 to Roundabout) Cost Estimate Details

Recommendation: Trim and maintain vegetation at the Newlands Drive intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Trim/Remove Vegetation	0.01	ACRE	$14,000	$140	$15,000	$150
			Subtotal	$140	Subtotal	$150
Project Cost Summary						
			Contingency (40%)	$56		$60
			Preliminary Engineering (15%)	$21		$23
			Construction Engineering (10%)	$14		$15
			Total Site Improvement Cost	$230		$250
Assumptions: NW corner of Newlands Dr intersection. *Note: Costs were rounded to the nearest $5 due to the smaller area.						

Recommendation: Replace pedestrian pushbuttons with APS at Newlands Drive intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pedestrian Pushbutton	8	EA	$195	$1,560	$200	$1,600
Accessible Pedestrian Signal (APS)	8	EA	$970	$7,760	$1,000	$8,000
			Subtotal	$9,320	Subtotal	$9,600
Project Cost Summary						
			Contingency (40%)	$3,728		$3,840
			Preliminary Engineering (15%)	$1,398		$1,440
			Construction Engineering (10%)	$932		$960
			Total Site Improvement Cost	$15,500		$16,000
Assumptions: Assume four of eight APS are not functioning, and the other four are not compliant.						

Recommendation: Upgrade the Newlands Drive intersection with ADA/PROWAG-compliant facilities.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Concrete Curb Ramp	2	EA	$650	$1,300	$750	$1,500
Remove Sidewalk	480	SF	$5	$2,400	$6	$2,880
Install Sidewalk Curb Ramp (includes Detectable Warnings)	4	EA	$3,500	$14,000	$4,000	$16,000
Install Sidewalk	480	SF	$13	$6,240	$15	$7,200
			Subtotal	$23,940	Subtotal	$27,580
Project Cost Summary						
			Contingency (40%)	$9,576		$11,032
			Preliminary Engineering (15%)	$3,591		$4,137
			Construction Engineering (10%)	$2,394		$2,758
			Total Site Improvement Cost	$39,500		$45,500
Assumptions: Assume two of the existing six curb ramps and an average of 240 sq ft. of sidewalk on each corner are removed and replaced. Assume four new curb ramps are built.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan US95A (I-80 to Roundabout) Cost Estimate Details

Recommendation: Realign skewed crosswalk on north leg of the Newlands Drive intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement Marking	1,110	LF	$4	$4,440	$5	$5,550
Install High Visibility Crosswalk Striping	4	EA	$2,450	$9,800	$2,500	$10,000
			Subtotal	$14,240	Subtotal	$15,550
Project Cost Summary						
			Contingency (40%)	$5,696		$6,220
			Preliminary Engineering (15%)	$2,136		$2,333
			Construction Engineering (10%)	$1,424		$1,555
			Total Site Improvement Cost	$23,500		$25,500
Assumptions: Assume all four crosswalks need to be restriped in conjunction with the ramp upgrades.						

Recommendation: Evaluate Newlands Dr and Fremont St/Chisholm Trl intersections and see how they interact with the roundabout; Retime the signal to optimize volume to capacity and maximize the pedestrian crossing phase using a Leading Pedestrian Interval (LPI).						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Corridor Signal Optimization Study	1	EA	$38,900	$38,900	$40,000	$40,000
Signal Retiming	2	INT	$2,900	$5,800	$3,000	$6,000
			Subtotal	$44,700	Subtotal	$46,000
Project Cost Summary						
			Contingency (40%)	$17,880		$18,400
			Preliminary Engineering (15%)	$6,705		$6,900
			Construction Engineering (10%)	$4,470		$4,600
			Total Site Improvement Cost	$74,000		$76,000
Assumptions: Two signalized intersections at Newlands Drive and Fremont Street/Chisholm Trail.						

Recommendation: Install MUTCD R9-3a "No Pedestrian Crossing" and R3-9bP "Use Crosswalk" signs.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Sign and Pole (with Installation)	2	EA	$350	$700	$400	$800
			Subtotal	$700	Subtotal	$800
Project Cost Summary						
			Contingency (40%)	$280		$320
			Preliminary Engineering (15%)	$105		$120
			Construction Engineering (10%)	$70		$80
			Total Site Improvement Cost	$1,000		$1,500
Assumptions: Add signs on the NE corner of the Fremont/Chisholm intersection. Assume both signs are placed on the same pole.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan US95A (I-80 to Roundabout) Cost Estimate Details

Recommendation: Consolidate access at the commercial development by closing the driveway serving the Shell gas station and adding access off-site to share the existing Jack-in-the-Box driveway.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement	289	SY	$14	$4,046	$16	$4,624
Remove Sidewalk	429	SF	$5	$2,145	$6	$2,574
Install Sidewalk	852	SF	$13	$11,076	$15	$12,780
Turnout or Roadway Aggregate Base	140	CY	$80	$11,200	$100	$14,000
Install New Pavement	840	SY	$40	$33,600	$50	$42,000
			Subtotal	$62,067	Subtotal	$75,978
Project Cost Summary						
			Contingency (40%)	$24,827		$30,391
			Preliminary Engineering (15%)	$9,310		$11,397
			Construction Engineering (10%)	$6,207		$7,598
			Total Site Improvement Cost	$102,500		$125,500
Assumptions: Assume six-inch aggregate base. Assume new access path is approximately 30 feet in width and 252 feet long. Approximately 77 feet of sidewalk to be removed. Existing sidewalk is approximately 5.5 feet in width.						

Recommendation: Restripe the median space between the roundabout and Penny Lane.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement Marking	675	LF	$4	$2,700	$5	$3,375
Install 4" Yellow Center Line (Per Line)	900	LF	$3	$2,700	$4	$3,600
			Subtotal	$5,400	Subtotal	$6,975
Project Cost Summary						
			Contingency (40%)	$2,160		$2,790
			Preliminary Engineering (15%)	$810		$1,046
			Construction Engineering (10%)	$540		$698
			Total Site Improvement Cost	$9,000		$11,500
Assumptions: Approximately 225 feet of median was striped improperly as a TWLTL. Remove and restripe with double solid yellow lines on both sides of the median space.						

Recommendation: Evaluate lighting levels at the Fremont St/Chisholm Trl intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Lighting Study	1	EA	$4,850	$4,850	$5,000	$5,000
			Subtotal	$4,850	Subtotal	$5,000
Project Cost Summary						
			Contingency (40%)	$1,940		$2,000
			Preliminary Engineering (15%)	$728		$750
			Construction Engineering (10%)	$485		$500
			Total Site Improvement Cost	$8,000		$8,500
Assumptions: Evaluate the intersection lighting at Fremont Street and Chisholm Trail.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

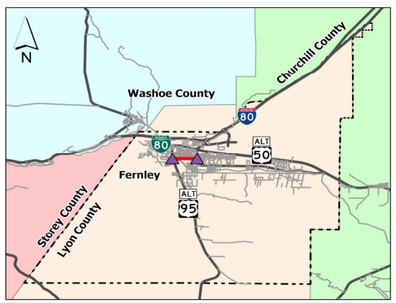
City of Fernley Local Road Safety Plan US95A (I-80 to Roundabout) Cost Estimate Details

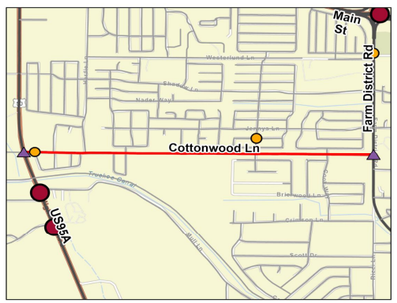
Recommendation: Replace the pedestrian countdown timer at the SE corner of the Fremont St/Chisholm Trl intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Pedestrian Countdown Timer (with installation)	1	EA	$465	$465	$480	$480
			Subtotal	$465	Subtotal	$480
Project Cost Summary						
			Contingency (40%)	$186		$192
			Preliminary Engineering (15%)	$70		$72
			Construction Engineering (10%)	$47		$48
			Total Site Improvement Cost	$1,000		$1,000
Assumptions: Replace the timer unit on the southeast corner of the Fremont St and Chisholm Trl intersection.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

Farm District Road

Location: Farm District Road (SR828) from Main Street/US50 to US50







Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	0
A - Serious Injury	1
B - Non-incapacitating Injury	10
C - Possible Injury	10
O - PDO	37
Total Crashes	58
Crash Type	
Angle	28
Sideswipe	8
Rear End	13
Head-On	2
Non-Collision	6
Backing	1
Other	0
Non-Motorist Crashes	
Pedestrian	2
Bicycle	1
Contributing Factors	
Aggressive	0
Distracted	11
Impaired	1
Crash Conditions	
Dark*	8
Wet	2

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Segment Length: 7.72 miles
Posted Speed: 35 mph (Main St/US50 to Whipple Tree Ln); 45 mph (Whipple Tree Ln to US50)
Right-of-Way: 75-85 feet from Westerlund Ln to Ricci Ln; 100 feet from Ricci Ln to private driveway (just East of Camille Dr); 65-60 feet from private driveway to ~330 feet west of Clover Ln; 105 feet from Clover Ln to Linley Ln; 60 feet from Linley Ln to Jessica Ln; 35-50 feet from Jessica Ln to Jessica Ln; 45-60 feet from Jessica Ln to Baron Ln; 30-60 feet from Baron Ln to US50
Pavement Width: 25-45 feet
Number of Lanes 1 lane each direction with alternating TWLTL and left-turn lanes from Villa Way to Red Rock Rd; 1 lane each direction with occasional
Other Features: Shared use path from Villa Way to Jasmine Ln (west/south side only)
Adjacent Land Uses: Single-Family Residential, Multi-Family Residential, Commercial, and Open Space/Parks

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
1	Corridorwide	Install shoulders where space allows while considering the shared use path on the south side of the corridor.	Add new paved shoulder	0.57	Fixed Object, head on, run off road, sideswipe/K	0	N/A	$ 3,517,500	$ 164,286	$ 316,722	$ (152,436)	0.52	$ 4,396,500	$ 496,557	$ 395,869	$ 100,688	1.25	3: Long-Term
2	Corridorwide	Install shoulders where space allows while considering the shared use path on the south side of the corridor.	Add new paved shoulder	0.33	Fixed Object, head on, run off road, sideswipe/ABC	7	0.94	$ 3,517,500	$ 164,286	$ 316,722	$ (152,436)	0.52	$ 4,396,500	$ 496,557	$ 395,869	$ 100,688	1.25	3: Long-Term
3	Corridorwide	Install shoulders where space allows while considering the shared use path on the south side of the corridor.	Add new paved shoulder	0.25	Fixed object, Head on, Run off road, Sideswipe/O	8	1.20	$ 3,517,500	$ 164,286	$ 316,722	$ (152,436)	0.52	$ 4,396,500	$ 496,557	$ 395,869	$ 100,688	1.25	3: Long-Term
4	Corridorwide	Evaluate the need to update the cross section along the corridor, taking into account the considerations from the Corridor Action Plan that is currently being developed by the City.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
5	Corridorwide	Extend the shared use path approximately 1.1 miles to Clearwater Parkway.	Install Off-Street Shared Use Path**	0**	Bicycle/Pedestrian/ All	0	0.00	$ 419,500	$ -	$ 37,773	$ (37,773)	0.00	$ 524,500	$ -	$ 47,227	$ (47,227)	0.00	3: Long-Term

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
6	Corridorwide	Install sensor-based lighting that remains dim when the path is unoccupied and automatically brightens when bicyclists or pedestrians are present along existing and proposed shared use paths.	N/A	N/A	N/A	N/A	N/A	$ 2,004,000	-	-	-	-	$ 2,504,500	-	-	-	-	2: Mid-Term
7	Corridorwide	Evaluate sight visibility at intersections.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
8	Corridorwide	Install speed feedback signs.	N/A	N/A	N/A	N/A	N/A	$ 219,500	-	-	-	-	$ 231,000	-	-	-	-	2: Mid-Term
9	Jenny's Lane Intersection	Repair RRFB.	N/A	N/A	N/A	N/A	N/A	$ 8,500	-	-	-	-	$ 9,000	-	-	-	-	1: Short-Term
10	Jenny's Lane Intersection	Refresh crosswalk markings.	N/A	N/A	N/A	N/A	N/A	$ 4,500	-	-	-	-	$ 5,000	-	-	-	-	1: Short-Term
11	Jenny's Lane Intersection	Install intersection lighting.	Install Intersection Lighting	0.90	Nighttime/All	4	0.08	$ 53,000	$ 2,481	$ 4,772	$ (2,292)	0.52	$ 66,000	$ 5,282	$ 5,943	$ (661)	0.89	2: Mid-Term
12	Cottonwood Lane Intersection	Remove E-W crosswalk at Cottonwood/Farm. Students should be directed to use the crosswalk on the west approach that connects to the existing shared use path. Students who need to cross Farm District Road can use the crosswalk at Farm Lane that has crossing guards.	N/A	N/A	N/A	N/A	N/A	$ 500	-	-	-	-	$ 1,000	-	-	-	-	2: Mid-Term
13	Cottonwood Lane Intersection	Install intersection lighting.	Install Intersection Lighting	0.90	Nighttime/All	5	0.10	$ 13,000	$ 2,750	$ 1,171	$ 1,579	2.35	$ 16,500	$ 5,651	$ 1,486	$ 4,165	3.80	2: Mid-Term
14	Cottonwood Lane Intersection	Provide crossing guards at the intersection.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
15	Cottonwood Lane Intersection	Trim and maintain vegetation.	N/A	N/A	N/A	N/A	N/A	$ 160	-	-	-	-	$ 175	-	-	-	-	1: Short-Term
16	Cottonwood Elementary School	Evaluate the current school zone flasher settings and adjust timing.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
17	Cottonwood Elementary School	City to coordinate with the school regarding the pick-up/drop off to avoid blocking the shared use path. Note: The City is exploring a pilot project to install delineators separating general travel lanes from the shared use path and adding striping in the middle of the path.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
18	Cottonwood Elementary School	Provide enforcement and signage to discourage U-turns in front of the school.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
19	3,000 ft west of US50 Intersection	Restripe to prohibit passing on the curve.	N/A	N/A	N/A	N/A	N/A	$ 16,000	-	-	-	-	$ 21,000	-	-	-	-	1: Short-Term

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Add new paved shoulder. (Countermeasure ID: 6707/6709/6711)
PROJECT LOCATION	Farm District Rd from the roundabout to US50
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$3,517,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	43.00%	0.00
INJURY A	$399,795	1	67.00%	0.13
INJURY B	$145,991	3	67.00%	0.40
INJURY C	$82,009	3	67.00%	0.40
PDO	$13,197	8	75.00%	1.20

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.13	$399,795	$53,573
INJURY B	0.40	$145,991	$58,688
INJURY C	0.40	$82,009	$32,968
PDO	1.20	$13,197	$15,836

TOTAL ANNUAL BENEFITS (Summation of Column E)	$161,065
TOTAL ANNUAL BENEFITS (Including Growth)	$164,286
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$316,722
TOTAL ANNUALIZED COSTS	$316,722
AVERAGE ANNUAL NET RETURN	($152,436)
BENEFIT/COST	**0.52**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO. NONE

PROJECT NO. 092202057.A: Fernley LRSP

COUNTERMEASURE Install Intersection Lighting. (NDOT Planning Level: US-10)

PROJECT LOCATION Farm District Rd and Jenny's Ln

ROADWAY CHARACTERISTICS 2 LANE UNDIVIDED W/TWLT

DEMOGRAPHIC DESIGNATION URBAN

FUNCTIONAL CLASSIFICATION 6 MINOR COLLECTOR

IMPLEMENTATION COSTS $53,000 (NDOT Bid Tabs and other Local Projects)

ANNUAL MAINTENENCE COSTS $0

CURRENT PRIME INTEREST RATE 3.25%

PERCENTAGE OF GROWTH 2.00%

ESTIMATED SERVICE LIFE -- YEAR(S)

LENGTH OF STUDY YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	10.00%	0.00
INJURY A	$399,795	0	10.00%	0.00
INJURY B	$145,991	0	10.00%	0.00
INJURY C	$82,009	1	10.00%	0.02
PDO	$13,197	3	10.00%	0.06

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.02	$82,009	$1,640
PDO	0.06	$13,197	$792

TOTAL ANNUAL BENEFITS (Summation of Column E)	$2,432
TOTAL ANNUAL BENEFITS (Including Growth)	$2,481
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$4,772
TOTAL ANNUALIZED COSTS	$4,772
AVERAGE ANNUAL NET RETURN	($2,292)
BENEFIT/COST	**0.52**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Intersection Lighting. (NDOT Planning Level: US-10)
PROJECT LOCATION	Farm District Rd and Cottonwood Ln
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$13,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	10.00%	0.00
INJURY A	$399,795	0	10.00%	0.00
INJURY B	$145,991	0	10.00%	0.00
INJURY C	$82,009	1	10.00%	0.02
PDO	$13,197	4	10.00%	0.08

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.02	$82,009	$1,640
PDO	0.08	$13,197	$1,056

TOTAL ANNUAL BENEFITS (Summation of Column E)	$2,696
TOTAL ANNUAL BENEFITS (Including Growth)	$2,750
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$1,171
TOTAL ANNUALIZED COSTS	$1,171
AVERAGE ANNUAL NET RETURN	$1,579
BENEFIT/COST	**2.35**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install off-street shared use path
PROJECT LOCATION	Farm District Rd from Jasmine Ln to Clearwater Pkwy
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$419,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	100.00%	0.00
INJURY A	$399,795	0	100.00%	0.00
INJURY B	$145,991	0	100.00%	0.00
INJURY C	$82,009	0	100.00%	0.00
PDO	$13,197	0	100.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$37,773
TOTAL ANNUALIZED COSTS	$37,773
AVERAGE ANNUAL NET RETURN	($37,773)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO. NONE

PROJECT NO. 092202057.A: Fernley LRSP

COUNTERMEASURE Add new paved shoulder. (Countermeasure ID: 6707/6709/6711)

PROJECT LOCATION Farm District Rd from the roundabout to US50

ROADWAY CHARACTERISTICS 2 LANE UNDIVIDED W/TWLT

DEMOGRAPHIC DESIGNATION URBAN

FUNCTIONAL CLASSIFICATION 6 MINOR COLLECTOR

IMPLEMENTATION COSTS $4,396,500 (NDOT Bid Tabs and other Local Projects)

ANNUAL MAINTENENCE COSTS $0

CURRENT PRIME INTEREST RATE 3.25%

PERCENTAGE OF GROWTH 2.00%

ESTIMATED SERVICE LIFE -- YEAR(S)

LENGTH OF STUDY YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	43.00%	0.00
INJURY A	$1,705,100	1	67.00%	0.13
INJURY B	$384,000	3	67.00%	0.40
INJURY C	$204,600	3	67.00%	0.40
PDO	$18,100	8	75.00%	1.20

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.13	$1,705,100	$228,483
INJURY B	0.40	$384,000	$154,368
INJURY C	0.40	$204,600	$82,249
PDO	1.20	$18,100	$21,720

TOTAL ANNUAL BENEFITS (Summation of Column E)	$486,821
TOTAL ANNUAL BENEFITS (Including Growth)	$496,557
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$395,869
TOTAL ANNUALIZED COSTS	$395,869
AVERAGE ANNUAL NET RETURN	$100,688
BENEFIT/COST	**1.25**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO. NONE

PROJECT NO. 092202057.A: Fernley LRSP

COUNTERMEASURE Install Intersection Lighting. (NDOT Planning Level: US-10)

PROJECT LOCATION Farm District Rd and Jenny's Ln

ROADWAY CHARACTERISTICS 2 LANE UNDIVIDED W/TWLT

DEMOGRAPHIC DESIGNATION URBAN

FUNCTIONAL CLASSIFICATION 6 MINOR COLLECTOR

IMPLEMENTATION COSTS $66,000 (NDOT Bid Tabs and other Local Projects)

ANNUAL MAINTENENCE COSTS $0

CURRENT PRIME INTEREST RATE 3.25%

PERCENTAGE OF GROWTH 2.00%

ESTIMATED SERVICE LIFE -- YEAR(S)

LENGTH OF STUDY YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	10.00%	0.00
INJURY A	$1,705,100	0	10.00%	0.00
INJURY B	$384,000	0	10.00%	0.00
INJURY C	$204,600	1	10.00%	0.02
PDO	$18,100	3	10.00%	0.06

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.02	$204,600	$4,092
PDO	0.06	$18,100	$1,086

TOTAL ANNUAL BENEFITS (Summation of Column E)	$5,178
TOTAL ANNUAL BENEFITS (Including Growth)	$5,282
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$5,943
TOTAL ANNUALIZED COSTS	$5,943
AVERAGE ANNUAL NET RETURN	($661)
BENEFIT/COST	**0.89**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO. NONE

PROJECT NO. 092202057.A: Fernley LRSP

COUNTERMEASURE Install Intersection Lighting. (NDOT Planning Level: US-10)

PROJECT LOCATION Farm District Rd and Cottonwood Ln

ROADWAY CHARACTERISTICS 2 LANE UNDIVIDED W/TWLT

DEMOGRAPHIC DESIGNATION URBAN

FUNCTIONAL CLASSIFICATION 6 MINOR COLLECTOR

IMPLEMENTATION COSTS $16,500 (NDOT Bid Tabs and other Local Projects)

ANNUAL MAINTENENCE COSTS $0

CURRENT PRIME INTEREST RATE 3.25%

PERCENTAGE OF GROWTH 2.00%

ESTIMATED SERVICE LIFE -- YEAR(S)

LENGTH OF STUDY YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	10.00%	0.00
INJURY A	$1,705,100	0	10.00%	0.00
INJURY B	$384,000	0	10.00%	0.00
INJURY C	$204,600	1	10.00%	0.02
PDO	$18,100	4	10.00%	0.08

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.02	$204,600	$4,092
PDO	0.08	$18,100	$1,448

TOTAL ANNUAL BENEFITS (Summation of Column E)	$5,540
TOTAL ANNUAL BENEFITS (Including Growth)	$5,651
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$1,486
TOTAL ANNUALIZED COSTS	$1,486
AVERAGE ANNUAL NET RETURN	$4,165
BENEFIT/COST	**3.80**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO. NONE

PROJECT NO. 092202057.A: Fernley LRSP

COUNTERMEASURE Install off-street shared use path

PROJECT LOCATION Farm District Rd from Jasmine Ln to Clearwater Pkwy

ROADWAY CHARACTERISTICS 2 LANE UNDIVIDED W/TWLT

DEMOGRAPHIC DESIGNATION URBAN

FUNCTIONAL CLASSIFICATION 6 MINOR COLLECTOR

IMPLEMENTATION COSTS $524,500 (NDOT Bid Tabs and other Local Projects)

ANNUAL MAINTENENCE COSTS $0

CURRENT PRIME INTEREST RATE 3.25%

PERCENTAGE OF GROWTH 2.00%

ESTIMATED SERVICE LIFE -- YEAR(S)

LENGTH OF STUDY YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	100.00%	0.00
INJURY A	$1,705,100	0	100.00%	0.00
INJURY B	$384,000	0	100.00%	0.00
INJURY C	$204,600	0	100.00%	0.00
PDO	$18,100	0	100.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$47,227
TOTAL ANNUALIZED COSTS	$47,227
AVERAGE ANNUAL NET RETURN	($47,227)
BENEFIT/COST	**0.00**

City of Fernley Local Road Safety Plan Farm District Road Cost Estimate Details

Recommendation: Restripe to prohibit passing on the curve between Brush Dr and US50.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement Marking	980	LF	$4	$3,920	$5	$4,900
Install 4" Yellow Center Line (Per Line)	1,960	LF	$3	$5,880	$4	$7,840
			Subtotal	$9,800	Subtotal	$12,740
Project Cost Summary						
			Contingency (40%)	$3,920		$5,096
			Preliminary Engineering (15%)	$1,470		$1,911
			Construction Engineering (10%)	$980		$1,274
			Total Site Improvement Cost	$16,000		$21,000
Assumptions: Remove existing center striping and restripe with a double yellow center line along the curve (approximately 980 ft total).						

Recommendation: Install shoulders along the corridor between Clearwater Pkwy and US50.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install New Pavement	53,293	SY	$40	$2,131,720	$50	$2,664,650
			Subtotal	$2,131,720	Subtotal	$2,664,650
Project Cost Summary						
			Contingency (40%)	$852,688		$1,065,860
			Preliminary Engineering (15%)	$319,758		$399,698
			Construction Engineering (10%)	$213,172		$266,465
			Total Site Improvement Cost	$3,517,500		$4,396,500
Assumptions: Corridor is approximately 7.57 miles long. Assume a six foot shoulder on both sides.						

Recommendation: Extend the existing shared use path from Jasmine Ln to Clearwater Pkwy.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Turnout or Roadway Aggregate Base	573	CY	$80	$45,840	$100	$57,300
Install New Pavement	5,210	SY	$40	$208,400	$50	$260,500
			Subtotal	$254,240	Subtotal	$317,800
Project Cost Summary						
			Contingency (40%)	$101,696		$127,120
			Preliminary Engineering (15%)	$38,136		$47,670
			Construction Engineering (10%)	$25,424		$31,780
			Total Site Improvement Cost	$419,500		$524,500
Assumptions: Extending the shared use path approximately 1.11 miles. Assume four-inch aggregate base. Existing path is approximately eight feet wide.						

Recommendation: Restripe the crosswalks at Jenny's Ln.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement Marking	100	LF	$4	$400	$5	$500
Install High Visibility Crosswalk Striping	1	EA	$2,450	$2,450	$2,500	$2,500
			Subtotal	$2,850	Subtotal	$3,000
Project Cost Summary						
			Contingency (40%)	$1,140		$1,200
			Preliminary Engineering (15%)	$428		$450
			Construction Engineering (10%)	$285		$300
			Total Site Improvement Cost	$4,500		$5,000
Assumptions: Existing crosswalk is approximately 100 LF.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Farm District Road Cost Estimate Details

Recommendation: Repair existing RRFB at Jenny's Ln (southern intersection).						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Repair RRFB	1	EA	$5,000	$5,000	$5,500	$5,500
			Subtotal	$5,000	Subtotal	$5,500
Project Cost Summary						
			Contingency (40%)	$2,000		$2,200
			Preliminary Engineering (15%)	$750		$825
			Construction Engineering (10%)	$500		$550
			Total Site Improvement Cost	$8,500		$9,000
Assumptions: Existing RRFB is no longer functioning and needs repairs. Cost of repair is assumed at 10% of the cost of a new RRFB purchase with installation.						

Recommendation: Install intersection lighting at Jenny's Ln (southern intersection).						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED Bulbs	4	EA	$8,000	$32,000	$10,000	$40,000
			Subtotal	$32,000	Subtotal	$40,000
Project Cost Summary						
			Contingency (40%)	$12,800		$16,000
			Preliminary Engineering (15%)	$4,800		$6,000
			Construction Engineering (10%)	$3,200		$4,000
			Total Site Improvement Cost	$53,000		$66,000
Assumptions: Install four lights at the intersection, one on each corner.						

Recommendation: Trim and maintain vegetation at the SW corner of the Cottonwood Ln intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Trim/Remove Vegetation	0	ACRE	$14,000	$98	$15,000	$105
			Subtotal	$98	Subtotal	$105
Project Cost Summary						
			Contingency (40%)	$39		$42
			Preliminary Engineering (15%)	$15		$16
			Construction Engineering (10%)	$10		$11
			Total Site Improvement Cost	$160		$175
Assumptions: Assume a 13 ft x 25 ft area to be maintained.						

Recommendation: Install lighting at the Cottonwood Ln intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED Bulbs	1	EA	$8,000	$8,000	$10,000	$10,000
			Subtotal	$8,000	Subtotal	$10,000
Project Cost Summary						
			Contingency (40%)	$3,200		$4,000
			Preliminary Engineering (15%)	$1,200		$1,500
			Construction Engineering (10%)	$800		$1,000
			Total Site Improvement Cost	$13,000		$16,500
Assumptions: Install one additional light over the N-S crosswalk at the Cottonwood Ln intersection.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Farm District Road Cost Estimate Details

Recommendation: Install speed feedback signs along the corridor.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Speed Feedback Sign (with Installation)	14	EA	$9,500	$133,000	$10,000	$140,000
			Subtotal	$133,000	Subtotal	$140,000
Project Cost Summary						
			Contingency (40%)	$53,200		$56,000
			Preliminary Engineering (15%)	$19,950		$21,000
			Construction Engineering (10%)	$13,300		$14,000
			Total Site Improvement Cost	$219,500		$231,000
Assumptions: Corridor is approximately 7.57 miles long. Assume two speed feedback signs, one for each direction of travel, for every mile of corridor.						

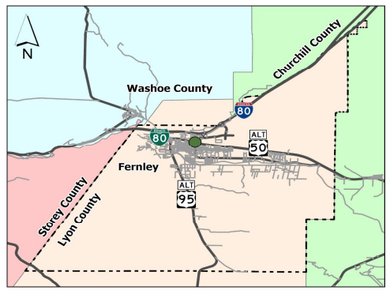
Recommendation: Install sensor-based lighting along the shared use path.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Motion-Sensor Lighting	138	EA	$8,800	$1,214,400	$11,000	$1,518,000
			Subtotal	$1,214,400	Subtotal	$1,518,000
Project Cost Summary						
			Contingency (40%)	$485,760		$607,200
			Preliminary Engineering (15%)	$182,160		$227,700
			Construction Engineering (10%)	$121,440		$151,800
			Total Site Improvement Cost	$2,004,000		$2,504,500
Assumptions: Current shared-use path is approximately 2.61 miles long. Assume lighting on one side of the path, spaced every 100 feet. Cost is assumed at 10% greater than a standard single-arm LED light.						

Recommendation: Remove the E-W crosswalk across Farm District at the Cottonwood Ln intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement Marking	100	LF	$4	$400	$5	$500
			Subtotal	$400	Subtotal	$500
Project Cost Summary						
			Contingency (40%)	$160		$200
			Preliminary Engineering (15%)	$60		$75
			Construction Engineering (10%)	$40		$50
			Total Site Improvement Cost	$500		$1,000
Assumptions: Existing crosswalk does not connect to any pedestrian facilities on the east side of Farm District Rd. Ten bars existing, assume 10 LF per bar.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

Roundabout: US95A/Farm District Rd (SR 828)/Main St/US50)

Location: Main Street/US50 & US95A/Farm District Road (SR828) Roundabout







Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	1
A - Serious Injury	0
B - Non-incapacitating Injury	3
C - Possible Injury	6
O - PDO	31
Total Crashes	**41**
Crash Type	
Angle	7
Sideswipe	1
Rear End	20
Head-On	0
Non-Collision	10
Backing	1
Other	2
Non-Motorist Crashes	
Pedestrian	0
Bicycle	0
Contributing Factors	
Aggressive	0
Distracted	8
Impaired	0
Crash Conditions	
Dark	10
Wet	4

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Control Type: Roundabout
Adjacent Land Uses: Suburban Mixed Use, Mixed Residential, and Open Space/Park
Other: Each approach has a channellized right turn lane to bypass the roundabout. Roundabout guide sign only on the Farm District Rd (SR828) approach.

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
1	Roundabout	Replace faded and damaged signs.	N/A	N/A	N/A	N/A	N/A	$ 13,500	-	-	-	-	$ 15,000	-	-	-	-	1: Short-Term
2	Roundabout	Restripe intersection.	N/A	N/A	N/A	N/A	N/A	$ 176,000	-	-	-	-	$ 221,500	-	-	-	-	1: Short-Term
3	Roundabout	Enhance existing pedestrian crossings by installing RRFBs at all crosswalk locations.	Install RRFB	0.53	Vehicle/Pedestrian/ All	0	0.00	$ 742,500	$ -	$ 66,856	$ (66,856)	0.00	$ 817,000	$ -	$ 73,564	$ (73,564)	0.00	2: Mid-Term
4	Roundabout	Evaluate lighting levels at the intersection.	N/A	N/A	N/A	N/A	N/A	$ 8,000	-	-	-	-	$ 8,500	-	-	-	-	1: Short-Term

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO. NONE

PROJECT NO. 092202057.A: Fernley LRSP

COUNTERMEASURE Install RRFB. (NDOT Planning Level: BP-03)

PROJECT LOCATION US95A/Farm District Rd (SR 828)/Main St/US50 Roundabout

ROADWAY CHARACTERISTICS ROUNDABOUT

DEMOGRAPHIC DESIGNATION URBAN

FUNCTIONAL CLASSIFICATION 3 OTHER PRINCIPAL ARTERIAL

IMPLEMENTATION COSTS $742,500 (NDOT Bid Tabs and other Local Projects)

ANNUAL MAINTENENCE COSTS $0

CURRENT PRIME INTEREST RATE 3.25%

PERCENTAGE OF GROWTH 2.00%

ESTIMATED SERVICE LIFE -- YEAR(S)

LENGTH OF STUDY YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	47.00%	0.00
INJURY A	$399,795	0	47.00%	0.00
INJURY B	$145,991	0	47.00%	0.00
INJURY C	$82,009	0	47.00%	0.00
PDO	$13,197	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$66,856
TOTAL ANNUALIZED COSTS	$66,856
AVERAGE ANNUAL NET RETURN	($66,856)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO. NONE

PROJECT NO. 092202057.A: Fernley LRSP

COUNTERMEASURE Install RRFB. (NDOT Planning Level: BP-03)

PROJECT LOCATION US95A/Farm District Rd (SR 828)/Main St/US50 Roundabout

ROADWAY CHARACTERISTICS ROUNDABOUT

DEMOGRAPHIC DESIGNATION URBAN

FUNCTIONAL CLASSIFICATION 3 OTHER PRINCIPAL ARTERIAL

IMPLEMENTATION COSTS $817,000 (NDOT Bid Tabs and other Local Projects)

ANNUAL MAINTENENCE COSTS $0

CURRENT PRIME INTEREST RATE 3.25%

PERCENTAGE OF GROWTH 2.00%

ESTIMATED SERVICE LIFE -- YEAR(S)

LENGTH OF STUDY YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	47.00%	0.00
INJURY A	$1,705,100	0	47.00%	0.00
INJURY B	$384,000	0	47.00%	0.00
INJURY C	$204,600	0	47.00%	0.00
PDO	$18,100	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$73,564
TOTAL ANNUALIZED COSTS	$73,564
AVERAGE ANNUAL NET RETURN	($73,564)
BENEFIT/COST	**0.00**

City of Fernley Local Road Safety Plan Roundabout (Main Street/US50/US95A/Farm District Road) Cost Estimate Details

Recommendation: Replace faded and damaged signs at the roundabout.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Sign and Pole	14	EA	$245	$3,430	$250	$3,500
Sign and Pole (with Installation)	14	EA	$350	$4,900	$400	$5,600
			Subtotal	$8,330	Subtotal	$9,100
Project Cost Summary						
			Contingency (40%)	$3,332		$3,640
			Preliminary Engineering (15%)	$1,250		$1,365
			Construction Engineering (10%)	$833		$910
			Total Site Improvement Cost	$13,500		$15,000
Assumptions: Assume approximately half of the existing 29 signs are replaced.						

Recommendation: Restripe the intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement Marking	11,080	LF	$4	$44,320	$5	$55,400
Install 6" White Edge Line	5,544	LF	$6	$33,264	$8	$44,352
Install 4" Yellow Edge Line	4,900	LF	$3	$14,700	$4	$19,600
Shark's Teeth Yield Markings (Film)	20	EA	$145	$2,900	$150	$3,000
Install 24" Solid White Stop Line	12	LF	$15	$180	$17	$204
Crosswalk Striping	120	SF	$12	$1,440	$15	$1,800
Install High Visibility Crosswalk Striping	4	EA	$2,450	$9,800	$2,500	$10,000
			Subtotal	$106,604	Subtotal	$134,356
Project Cost Summary						
			Contingency (40%)	$42,642		$53,742
			Preliminary Engineering (15%)	$15,991		$20,153
			Construction Engineering (10%)	$10,660		$13,436
			Total Site Improvement Cost	$176,000		$221,500
Assumptions: Assume five yield markings per entrance (four entrances). Approximately 5,544 LF of white edgeline striping on all approaches and exits. Assume an average of 425 LF yellow edge striping on each bypass lane. Assume an average of 800 LF of yellow edge striping along each splitter island. Assume 12 stop bars to be restriped, three averaging 26 LF and nine averaging 12 LF. Assume three crosswalks averaging 90 LF, four crosswalks at 30 LF, and one crosswalk with 60 LF for removal. Assume that the four larger crosswalks are restriped with high visibility crosswalk striping and the three smaller ones receive standard crosswalk striping.						

Recommendation: Install pedestrian flashers at the crosswalks.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install RRFB	9	EA	$50,000	$450,000	$55,000	$495,000
			Subtotal	$450,000	Subtotal	$495,000
Project Cost Summary						
			Contingency (40%)	$180,000		$198,000
			Preliminary Engineering (15%)	$67,500		$74,250
			Construction Engineering (10%)	$45,000		$49,500
			Total Site Improvement Cost	$742,500		$817,000
Assumptions: There are nine existing crosswalks.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Roundabout (Main Street/US50/US95A/Farm District Road) Cost Estimate Details

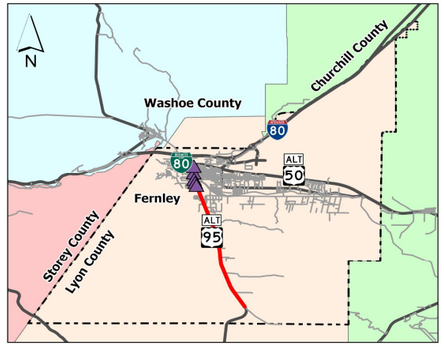
Recommendation: Evaluate lighting levels at the intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Lighting Study	1	EA	$4,850	$4,850	$5,000	$5,000
			Subtotal	$4,850	Subtotal	$5,000
Project Cost Summary						
			Contingency (40%)	$1,940		$2,000
			Preliminary Engineering (15%)	$728		$750
			Construction Engineering (10%)	$485		$500
			Total Site Improvement Cost	$8,000		$8,500
Assumptions: Evaluate lighting levels at the roundabout.						

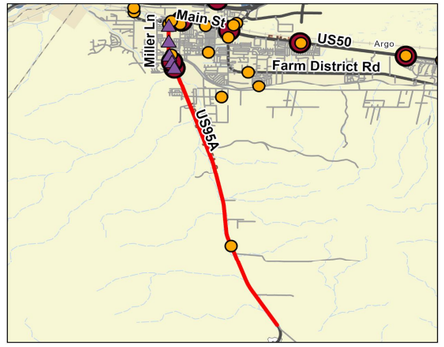
Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

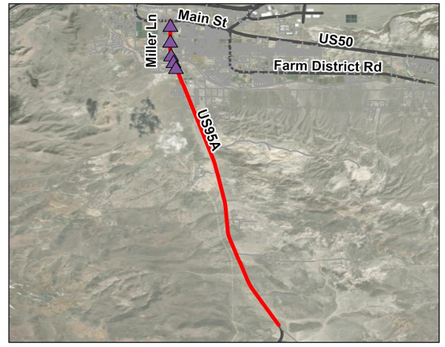
Fernley Local Road Safety Plan
Project Description for Segment Improvements

US95A/US50A
(Main Street to City Limits)

Location: US95A from Main Street/US50 to I-80 WB Ramps







Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	2
A - Serious Injury	2
B - Non-incapacitating Injury	12
C - Possible Injury	19
O - PDO	79
Total Crashes	114
Crash Type	
Angle	35
Sideswipe	10
Rear End	39
Head-On	1
Non-Collision	27
Backing	2
Other	0
Non-Motorist Crashes	
Pedestrian	1
Bicycle	0
Contributing Factors	
Aggressive	3
Distracted	20
Impaired	2
Crash Conditions	
Dark*	25
Wet	5

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Segment Length: 9.40 miles
Posted Speed: 25 mph (Main St to Shadow Ln); 35 mph (Shadow Ln to Cottonwood Ln); 45 mph (Cottonwood Ln to Sage Dr);
Right-of-Way: 75-85 feet from Main St to Cottonwood Ln; 100-105 feet from Cottonwood Ln to Sage St; 200 feet from Sage St to Mile Post 5
Pavement Width: 35 feet from Main St to Falcon Drive; 30-60 feet from Falcon Dr to Shadow Ln; 60-75 feet from Shadow Ln to Mile Post 5
Number of Lanes 1 lane each direction from Main St to Cottonwood Ln; 1 lane each direction with Two-Way Left Turn Lane (TWLTL) or left-turn lane from Cottonwood Ln to Big Oaks Dr/Desert Shadows Ln; 1 lane each direction with occasional left-turn lane from Big Oaks Dr/Desert Shadows Ln to Mile Post 5
Other Features: Bike Lanes (both sides) from Main St to Shadow Ln; Sidewalk from Main St to Falcon Dr (West side only); Wide shoulders provided inconsistently between Shadow Ln and Desert Shadows Ln
Adjacent Land Uses: Mixed Residential, Suburban Mixed Use, Multi-Family Residential, Commercial, Industrial, Mixed Employment, Open Space/Parks, General Rural

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

								2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					
#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Priority
1	Corridorwide	Install 6-in wide edge lines along the corridor.	Install Wider Edge line (6 in)	0.79	All/All	114	4.79	$ 388,000	$ 870,789	$ 34,936	$ 835,852	24.93	$ 517,000	$ 1,941,145	$ 46,552	$ 1,894,593	41.70	2: Mid-Term
2	Corridorwide	Refresh centerline striping.	N/A	N/A	N/A	N/A	N/A	$ 452,500	-	-	-	-	$ 582,000	-	-	-	-	1: Short-Term
3	Corridorwide	Install reflective tape to the back of signs.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
4	Main Street to Cottonwood & Fernley High School driveway to Desert Shadows Lane	Extend the shared use paved path to provide connection between Main Street and Desert Shadows Lane.	Install Off-Street Shared Use Path**	0**	Bicycle/Pedestrian/ All	8	8.00	$ 446,000	$ -	$ 40,159	$ (40,159)	0.00	$ 557,500	$ -	$ 50,198	$ (50,198)	0.00	3: Long-Term

23 U.S.C. § 407: US Code - Section 407

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
5	Main Street to Cottonwood & Fernley High School driveway to Desert Shadows Lane	Install sensor-based lighting that remains dim when the path is unoccupied and automatically brightens when bicyclists or pedestrians are present along existing and proposed shared use paths.	N/A	N/A	N/A	N/A	N/A	$ 711,500	-	-	-	-	$ 889,500	-	-	-	-	2: Mid-Term
6	Cottonwood & Royal Oaks Drive Intersections	Install intersection lighting.	Install Intersection Lighting	0.90	Nighttime/All	2	0.04	$ 79,000	$ 538	$ 7,113	$ (6,575)	0.08	$ 99,000	$ 738	$ 8,914	$ (8,176)	0.08	2: Mid-Term
7	Fernley High School	Establish a school zone and reduce the speed limit within this area during school hours. Coordination with NDOT Traffic Operations will be required.	N/A	N/A	N/A	N/A	N/A	$ 2,500	-	-	-	-	$ 2,500	-	-	-	-	2: Mid-Term
8	Fernley High School	Install an enhanced pedestrian crossing at Royal Oaks. Coordination with NDOT Traffic Operations will be required.	Install RRFB	0.53	Vehicle/Pedestrian/ All	0	0.00	$ 1,621,000	$ -	$ 145,958	$ (145,958)	0.00	$ 1,670,500	$ -	$ 150,415	$ (150,415)	0.00	2: Mid-Term
9	Fernley High School	Repair lighting on the high school driveway	Improve street lighting illuminance and uniformity	0.68	Nighttime/All	0	0.00	$ 13,000	$ -	$ 1,171	$ (1,171)	0.00	$ 16,500	$ -	$ 1,486	$ (1,486)	0.00	1: Short-Term
10	Segment Near Reno Fernley Raceway (1 mi North of Driveway south to City Limit)	Consider widening the shoulder to 8 feet with shouldering material then slope flattening to 4:1 for 22 feet (30 feet from edge line).	Flatten sideslope from 1V:3H to 1V:4H	0.58	All/ABC	6	0.50	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
11	Segment Near Reno Fernley Raceway (1 mi North of Driveway south to City Limit)	Consider widening the shoulder to 8 feet with shouldering material then slope flattening to 4:1 for 22 feet (30 feet from edge line).	Flatten sideslope from 1V:3H to 1V:4H	0.71	All/PDO	14	0.81	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Wider Edgeline. (NDOT Planning Level: RS-24)
PROJECT LOCATION	US95A/US50 at Royal Oaks Dr
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$388,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	2	21.00%	0.08
INJURY A	$399,795	2	21.00%	0.08
INJURY B	$145,991	12	21.00%	0.50
INJURY C	$82,009	19	21.00%	0.80
PDO	$13,197	79	21.00%	3.32

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.08	$7,587,157	$637,321
INJURY A	0.08	$399,795	$33,583
INJURY B	0.50	$145,991	$73,579
INJURY C	0.80	$82,009	$65,443
PDO	3.32	$13,197	$43,788

TOTAL ANNUAL BENEFITS (Summation of Column E)	$853,714
TOTAL ANNUAL BENEFITS (Including Growth)	$870,789
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$34,936
TOTAL ANNUALIZED COSTS	$34,936
AVERAGE ANNUAL NET RETURN	$835,852
BENEFIT/COST	**24.93**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install RRFB. (NDOT Planning Level: BP-03)
PROJECT LOCATION	US95A/US50 at Royal Oaks Dr
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$1,621,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	47.00%	0.00
INJURY A	$399,795	0	47.00%	0.00
INJURY B	$145,991	0	47.00%	0.00
INJURY C	$82,009	0	47.00%	0.00
PDO	$13,197	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$145,958
TOTAL ANNUALIZED COSTS	$145,958
AVERAGE ANNUAL NET RETURN	($145,958)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Improve street lighting illuminance and uniformity. (Countermeasure ID: 11026)
PROJECT LOCATION	US95A/US50 at the Fernley High School driveway.
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$13,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	32.10%	0.00
INJURY A	$399,795	0	32.10%	0.00
INJURY B	$145,991	0	32.10%	0.00
INJURY C	$82,009	0	32.10%	0.00
PDO	$13,197	0	32.10%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$1,171
TOTAL ANNUALIZED COSTS	$1,171
AVERAGE ANNUAL NET RETURN	($1,171)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Intersection Lighting. (NDOT Planning Level: US-10)
PROJECT LOCATION	US95A/US50 and Cottonwood Ln; and US95A/US50 and Royal Oaks Dr
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$79,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	10.00%	0.00
INJURY A	$399,795	0	10.00%	0.00
INJURY B	$145,991	0	10.00%	0.00
INJURY C	$82,009	0	10.00%	0.00
PDO	$13,197	2	10.00%	0.04

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.04	$13,197	$528

TOTAL ANNUAL BENEFITS (Summation of Column E)	$528
TOTAL ANNUAL BENEFITS (Including Growth)	$538
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$7,113
TOTAL ANNUALIZED COSTS	$7,113
AVERAGE ANNUAL NET RETURN	($6,575)
BENEFIT/COST	**0.08**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install shared use path.
PROJECT LOCATION	US95A/US50 from Main St to Cottonwood Ln and the Fernley High School driveway to Desert Shadows Ln
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$446,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	100.00%	0.00
INJURY A	$399,795	0	100.00%	0.00
INJURY B	$145,991	0	100.00%	0.00
INJURY C	$82,009	0	100.00%	0.00
PDO	$13,197	0	100.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$40,159
TOTAL ANNUALIZED COSTS	$40,159
AVERAGE ANNUAL NET RETURN	($40,159)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Wider Edgeline. (NDOT Planning Level: RS-24)
PROJECT LOCATION	US95A/US50 at Royal Oaks Dr
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$517,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	2	21.00%	0.08
INJURY A	$1,705,100	2	21.00%	0.08
INJURY B	$384,000	12	21.00%	0.50
INJURY C	$204,600	19	21.00%	0.80
PDO	$18,100	79	21.00%	3.32

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.08	$15,988,000	$1,342,992
INJURY A	0.08	$1,705,100	$143,228
INJURY B	0.50	$384,000	$193,536
INJURY C	0.80	$204,600	$163,271
PDO	3.32	$18,100	$60,056

TOTAL ANNUAL BENEFITS (Summation of Column E)	$1,903,083
TOTAL ANNUAL BENEFITS (Including Growth)	$1,941,145
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$46,552
TOTAL ANNUALIZED COSTS	$46,552
AVERAGE ANNUAL NET RETURN	$1,894,593
BENEFIT/COST	**41.70**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install RRFB. (NDOT Planning Level: BP-03)
PROJECT LOCATION	US95A/US50 at Royal Oaks Dr
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$1,670,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	47.00%	0.00
INJURY A	$1,705,100	0	47.00%	0.00
INJURY B	$384,000	0	47.00%	0.00
INJURY C	$204,600	0	47.00%	0.00
PDO	$18,100	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$150,415
TOTAL ANNUALIZED COSTS	$150,415
AVERAGE ANNUAL NET RETURN	($150,415)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Improve street lighting illuminance and uniformity. (Countermeasure ID: 11026)
PROJECT LOCATION	US95A/US50 at the Fernley High School driveway.
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$16,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	32.10%	0.00
INJURY A	$1,705,100	0	32.10%	0.00
INJURY B	$384,000	0	32.10%	0.00
INJURY C	$204,600	0	32.10%	0.00
PDO	$18,100	0	32.10%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$1,486
TOTAL ANNUALIZED COSTS	$1,486
AVERAGE ANNUAL NET RETURN	($1,486)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Intersection Lighting. (NDOT Planning Level: US-10)
PROJECT LOCATION	US95A/US50 and Cottonwood Ln; and US95A/US50 and Royal Oaks Dr
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$99,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	10.00%	0.00
INJURY A	$1,705,100	0	10.00%	0.00
INJURY B	$384,000	0	10.00%	0.00
INJURY C	$204,600	0	10.00%	0.00
PDO	$18,100	2	10.00%	0.04

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.04	$18,100	$724

TOTAL ANNUAL BENEFITS (Summation of Column E)	$724
TOTAL ANNUAL BENEFITS (Including Growth)	$738
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$8,914
TOTAL ANNUALIZED COSTS	$8,914
AVERAGE ANNUAL NET RETURN	($8,176)
BENEFIT/COST	**0.08**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install shared use path.
PROJECT LOCATION	US95A from Main St to Cottonwood Ln and the Fernley High School driveway to Desert Shadows Ln
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED W/TWLT
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	4 MINOR ARTERIAL
IMPLEMENTATION COSTS	$557,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	100.00%	0.00
INJURY A	$1,705,100	0	100.00%	0.00
INJURY B	$384,000	0	100.00%	0.00
INJURY C	$204,600	0	100.00%	0.00
PDO	$18,100	0	100.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$50,198
TOTAL ANNUALIZED COSTS	$50,198
AVERAGE ANNUAL NET RETURN	($50,198)
BENEFIT/COST	**0.00**

City of Fernley Local Road Safety Plan US95A/US50 (Main Street to City Limits) Cost Estimate Details

Recommendation: Install six-inch wide edge lines along the corridor.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install 6" White Edge Line	39,178	LF	$6	$235,068	$8	$313,424
			Subtotal	$235,068	Subtotal	$313,424
Project Cost Summary						
			Contingency (40%)	$94,027		$125,370
			Preliminary Engineering (15%)	$35,260		$47,014
			Construction Engineering (10%)	$23,507		$31,342
			Total Site Improvement Cost	$388,000		$517,000
Assumptions:						
Corridor is approximately 3.71 miles. Assume edge lines on each side along the full length.						

Recommendation: Refresh centerline striping along the corridor.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement	Unit Cost (2024)	Improvement
Site Improvement Costs						
Remove Pavement Marking	39,178	LF	$4	$156,712	$5	$195,890
Install 4" Yellow Center Line (Per Line)	39,178	LF	$3	$117,534	$4	$156,712
			Subtotal	$274,246	Subtotal	$352,602
Project Cost Summary						
			Contingency (40%)	$109,698		$141,041
			Preliminary Engineering (15%)	$41,137		$52,890
			Construction Engineering (10%)	$27,425		$35,260
			Total Site Improvement Cost	$452,500		$582,000
Assumptions:						
Corridor is approximately 3.71 miles. Remove and replace the double center striping along the full length.						

Recommendation: Extend the bike/walking path north to Main St and south to Big Oaks Dr (residential area).						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Turnout or Roadway Aggregate Base	600	CY	$80	$48,000	$100	$60,000
Install New Pavement	5,555	SY	$40	$222,200	$50	$277,750
			Subtotal	$270,200	Subtotal	$337,750
Project Cost Summary						
			Contingency (40%)	$108,080		$135,100
			Preliminary Engineering (15%)	$40,530		$50,663
			Construction Engineering (10%)	$27,020		$33,775
			Total Site Improvement Cost	$446,000		$557,500
Assumptions:						
Assumed 4" of aggregate base. (10' x 5000' x 0.33' = 16500 CF = ~600 CY)						
The existing path is approximately 10 feet wide. Need approximately 2,000 feet to Main St, and approximately 3,000 ft to Big Oaks Dr. (10' x 5000' = 50,000 SF = ~5,555 SY)						

Recommendation: Reduce the speed limit during school hours.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Sign and Pole (with Installation)	4	EA	$350	$1,400	$400	$1,600
			Subtotal	$1,400	Subtotal	$1,600
Project Cost Summary						
			Contingency (40%)	$560		$640
			Preliminary Engineering (15%)	$210		$240
			Construction Engineering (10%)	$140		$160
			Total Site Improvement Cost	$2,500		$2,500
Assumptions:						
Four signs total: two in each direction to signal start and end of school zone.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan US95A/US50 (Main Street to City Limits) Cost Estimate Details

Recommendation: Install an enhanced pedestrian crossing at Royal Oaks Dr.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install High Visibility Crosswalk Striping	1	EA	$2,450	$2,450	$2,500	$2,500
Install RRFB (with mast arm)	1	EA	$972,000	$972,000	$1,000,000	$1,000,000
Install Single Mast-Arm Lighting with LED	1	EA	$8,000	$8,000	$10,000	$10,000
			Subtotal	$982,450	Subtotal	$1,012,500
Project Cost Summary						
			Contingency (40%)	$392,980		$405,000
			Preliminary Engineering (15%)	$147,368		$151,875
			Construction Engineering (10%)	$98,245		$101,250
			Total Site Improvement Cost	$1,621,000		$1,670,500
Assumptions: One crosswalk with an RRFB.						

Recommendation: Repair the lighting on the high school driveway.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED Bulbs	1	EA	$8,000	$8,000	$10,000	$10,000
			Subtotal	$8,000	Subtotal	$10,000
Project Cost Summary						
			Contingency (40%)	$3,200		$4,000
			Preliminary Engineering (15%)	$1,200		$1,500
			Construction Engineering (10%)	$800		$1,000
			Total Site Improvement Cost	$13,000		$16,500
Assumptions: Replace non-functional light at the Fernley High School driveway intersection.						

Recommendation: Install intersection lighting at Cottonwood Ln and Royal Oaks Dr.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED Bulbs	6	EA	$8,000	$48,000	$10,000	$60,000
			Subtotal	$48,000	Subtotal	$60,000
Project Cost Summary						
			Contingency (40%)	$19,200		$24,000
			Preliminary Engineering (15%)	$7,200		$9,000
			Construction Engineering (10%)	$4,800		$6,000
			Total Site Improvement Cost	$79,000		$99,000
Assumptions: Assumed three lights per intersection.						

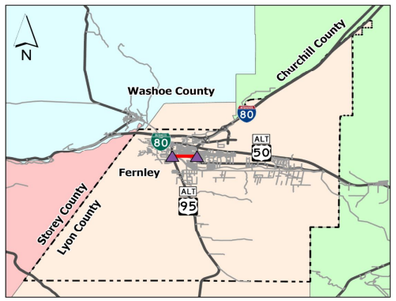
Recommendation: Install sensor-based lighting along the existing shared use path.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Motion-Sensor Lighting	49	EA	$8,800	$431,200	$11,000	$539,000
			Subtotal	$431,200	Subtotal	$539,000
Project Cost Summary						
			Contingency (40%)	$172,480		$215,600
			Preliminary Engineering (15%)	$64,680		$80,850
			Construction Engineering (10%)	$43,120		$53,900
			Total Site Improvement Cost	$711,500		$889,500
Assumptions: Existing path is approximately 4,897 feet long. Assume lighting on one side, spaced approximately 100 feet apart.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

Fernley Local Road Safety Plan
Project Description for Segment Improvements

Cottonwood Lane

Location: Cottonwood Lane from US95A to Farm District Road (SR828)







Segment Length: 1.27 miles
Posted Speed: 35 mph
Right-of-Way: 55 feet from US95A to Hardie Ln; 60-65 feet from Hardie Ln to Farm District Rd (SR828)
Pavement Width: 40 feet
Number of Lanes 1 lane each direction
Other Features: Sidewalks and bike lanes on
Adjacent Land Uses: Single-Family Residential, and Mixed Residential

Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	0
A - Serious Injury	1
B - Non-incapacitating Injury	10
C - Possible Injury	10
O - PDO	37
Total Crashes	**58**
Crash Type	
Angle	28
Sideswipe	8
Rear End	13
Head-On	2
Non-Collision	6
Backing	1
Other	0
Non-Motorist Crashes	
Pedestrian	2
Bicycle	1
Contributing Factors	
Aggressive	0
Distracted	11
Impaired	1
Crash Conditions	
Dark*	8
Wet	2

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

								2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					
#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Priority
1	Corridorwide	Evaluate the opportunity to narrow lanes and add a 2-ft buffer to bike lanes.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	1: Short-Term
2	Corridorwide	Install speed feedback signs.	N/A	N/A	N/A	N/A	N/A	$ 62,500	-	-	-	-	$ 66,000	-	-	-	-	2: Mid-Term
3	Corridorwide (Street Lighting)	Install corridor lighting along residential areas.	Install lighting	0.63	Nighttime/All	8	0.59	$ 119,000	$ 23,186	$ 10,715	$ 12,471	2.16	$ 148,500	$ 52,625	$ 13,371	$ 39,253	3.94	2: Mid-Term
4	Corridorwide (Cook Way, Rosewood Drive, Red Hawk Road, Bardot Way, Brigit Cir., Hardie, Marshall Street)	Install additional lighting at intersections, especially at locations with marked crosswalks.	Install Intersection Lighting	0.90	Nighttime/All	2	0.04	$ 383,000	$ 3,247	$ 34,486	$ (31,239)	0.09	$ 478,500	$ 8,203	$ 43,085	$ (34,882)	0.19	2: Mid-Term
5	Intersections (Cook Way, Rosewood Drive, Red Hawk Road, Bardot Way, US95)	Trim and maintain vegetation.	N/A	N/A	N/A	N/A	N/A	$ 4,000	-	-	-	-	$ 4,500	-	-	-	-	1: Short-Term

								2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					
#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Priority
6	Cottonwood Elementary School	Install a school sign with a flasher.	N/A	N/A	N/A	N/A	N/A	$ 8,500	-	-	-	-	$ 10,000	-	-	-	-	2: Mid-Term
7	Cook Way Intersection	Adjust the curb return and align the crosswalk to be perpendicular.	N/A	N/A	N/A	N/A	N/A	$ 13,000	-	-	-	-	$ 14,500	-	-	-	-	2: Mid-Term
8	Cook Way Intersection	Install an RRFB at the crosswalk.	Install RRFB	0.53	Vehicle/Pedestrian/ All	1	0.09	$ 82,500	$ 13,998	$ 7,428	$ 6,569	1.88	$ 91,000	$ 36,818	$ 8,194	$ 28,624	4.49	2: Mid-Term
9	Cook Way Intersection	Install fluorescent school signage.	N/A	N/A	N/A	N/A	N/A	$ 2,500	-	-	-	-	$ 2,500	-	-	-	-	1: Short-Term
10	Red Hawk Road, and Hardie Lane	Install an enhanced pedestrian crossing at Red Hawk Road, and one at the existing Hardie Lane crossing.	Install RRFB	0.53	Vehicle/Pedestrian/ All	0	0.00	$ 199,500	$ -	$ 17,963	$ (17,963)	0	$ 223,000	$ -	$ 20,079	$ (20,079)	0	2: Mid-Term
11	Rosewood Drive Intersection	Evaluate the potential for a small roundabout at this location.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	2: Mid-Term
12	Hardie Lane	Restripe yield bar in the westbound direction to meet MUTCD requirements.	N/A	N/A	N/A	N/A	N/A	$ 1,500	-	-	-	-	$ 1,500	-	-	-	-	1: Short-Term
13	US95 Intersection	Note: NDOT is planning to construct a roundabout at this location in 2028 which should help with the sight visibility at the intersection.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	N/A

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install lighting. (Countermeasure ID: 7774)
PROJECT LOCATION	Cottonwood Ln from US95A to Farm District Rd
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$119,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	37.00%	0.00
INJURY A	$399,795	0	37.00%	0.00
INJURY B	$145,991	1	37.00%	0.07
INJURY C	$82,009	1	37.00%	0.07
PDO	$13,197	6	37.00%	0.44

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.07	$145,991	$10,803
INJURY C	0.07	$82,009	$6,069
PDO	0.44	$13,197	$5,859

TOTAL ANNUAL BENEFITS (Summation of Column E)	$22,731
TOTAL ANNUAL BENEFITS (Including Growth)	$23,186
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$10,715
TOTAL ANNUALIZED COSTS	$10,715
AVERAGE ANNUAL NET RETURN	$12,471
BENEFIT/COST	**2.16**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install intersection lighting. (NDOT Planning Level: US-10)
PROJECT LOCATION	Cottonwood Ln from US95A to Farm District Rd (all intersections)
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$383,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	10.00%	0.00
INJURY A	$399,795	0	10.00%	0.00
INJURY B	$145,991	1	10.00%	0.02
INJURY C	$82,009	0	10.00%	0.00
PDO	$13,197	1	10.00%	0.02

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.02	$145,991	$2,920
INJURY C	0.00	$82,009	$0
PDO	0.02	$13,197	$264

TOTAL ANNUAL BENEFITS (Summation of Column E)	$3,184
TOTAL ANNUAL BENEFITS (Including Growth)	$3,247
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$34,486
TOTAL ANNUALIZED COSTS	$34,486
AVERAGE ANNUAL NET RETURN	($31,239)
BENEFIT/COST	**0.09**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install RRFB. (NDOT Planning Level: BP-03)
PROJECT LOCATION	Cottonwood Ln at Red Hawk Rd and Hardie Ln (recommended locations)
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$199,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	47.00%	0.00
INJURY A	$399,795	0	47.00%	0.00
INJURY B	$145,991	0	47.00%	0.00
INJURY C	$82,009	0	47.00%	0.00
PDO	$13,197	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$17,963
TOTAL ANNUALIZED COSTS	$17,963
AVERAGE ANNUAL NET RETURN	($17,963)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install RRFB. (NDOT Planning Level: BP-03)
PROJECT LOCATION	Cottonwood Ln and Cook Way
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$82,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	47.00%	0.00
INJURY A	$399,795	0	47.00%	0.00
INJURY B	$145,991	1	47.00%	0.09
INJURY C	$82,009	0	47.00%	0.00
PDO	$13,197	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.09	$145,991	$13,723
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$13,723
TOTAL ANNUAL BENEFITS (Including Growth)	$13,998
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$7,428
TOTAL ANNUALIZED COSTS	$7,428
AVERAGE ANNUAL NET RETURN	$6,569
BENEFIT/COST	**1.88**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install lighting. (Countermeasure ID: 7774)
PROJECT LOCATION	Cottonwood Ln from US95A to Farm District Rd
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$148,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	37.00%	0.00
INJURY A	$1,705,100	0	37.00%	0.00
INJURY B	$384,000	1	37.00%	0.07
INJURY C	$204,600	1	37.00%	0.07
PDO	$18,100	6	37.00%	0.44

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.07	$384,000	$28,416
INJURY C	0.07	$204,600	$15,140
PDO	0.44	$18,100	$8,036

TOTAL ANNUAL BENEFITS (Summation of Column E)	$51,593
TOTAL ANNUAL BENEFITS (Including Growth)	$52,625
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$13,371
TOTAL ANNUALIZED COSTS	$13,371
AVERAGE ANNUAL NET RETURN	$39,253
BENEFIT/COST	**3.94**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install intersection lighting. (NDOT Planning Level: US-10)
PROJECT LOCATION	Cottonwood Ln from US95A to Farm District Rd (all intersections)
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$478,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	10.00%	0.00
INJURY A	$1,705,100	0	10.00%	0.00
INJURY B	$384,000	1	10.00%	0.02
INJURY C	$204,600	0	10.00%	0.00
PDO	$18,100	1	10.00%	0.02

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.02	$384,000	$7,680
INJURY C	0.00	$204,600	$0
PDO	0.02	$18,100	$362

TOTAL ANNUAL BENEFITS (Summation of Column E)	$8,042
TOTAL ANNUAL BENEFITS (Including Growth)	$8,203
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$43,085
TOTAL ANNUALIZED COSTS	$43,085
AVERAGE ANNUAL NET RETURN	($34,882)
BENEFIT/COST	**0.19**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install RRFB. (NDOT Planning Level: BP-03)
PROJECT LOCATION	Cottonwood Ln at Red Hawk Rd and Hardie Ln (recommended locations)
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$223,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	47.00%	0.00
INJURY A	$1,705,100	0	47.00%	0.00
INJURY B	$384,000	0	47.00%	0.00
INJURY C	$204,600	0	47.00%	0.00
PDO	$18,100	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$20,079
TOTAL ANNUALIZED COSTS	$20,079
AVERAGE ANNUAL NET RETURN	($20,079)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install RRFB. (NDOT Planning Level: BP-03)
PROJECT LOCATION	Cottonwood Ln and Cook Way
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$91,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	47.00%	0.00
INJURY A	$1,705,100	0	47.00%	0.00
INJURY B	$384,000	1	47.00%	0.09
INJURY C	$204,600	0	47.00%	0.00
PDO	$18,100	0	47.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.09	$384,000	$36,096
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$36,096
TOTAL ANNUAL BENEFITS (Including Growth)	$36,818
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$8,194
TOTAL ANNUALIZED COSTS	$8,194
AVERAGE ANNUAL NET RETURN	$28,624
BENEFIT/COST	**4.49**

City of Fernley Local Road Safety Plan Cottonwood Lane Cost Estimate Details

Recommendation: Trim and maintain vegetation.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Trim/Remove Vegetation	0.18	ACRE	$14,000	$2,520	$15,000	$2,700
			Subtotal	$2,520	Subtotal	$2,700
Project Cost Summary						
			Contingency (40%)	$1,008		$1,080
			Preliminary Engineering (15%)	$378		$405
			Construction Engineering (10%)	$252		$270
			Total Site Improvement Cost	$4,000		$4,500
Assumptions: Assumed seven locations with an average area of 780 sqft, and approximately 640 ft at the west end of Cottonwood where two feet on both sides of the road should be maintained.						

Recommendation: Install speed-feedback signs along the corridor.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Speed Feedback Sign (with Installation)	4	EA	$9,500	$38,000	$10,000	$40,000
			Subtotal	$38,000	Subtotal	$40,000
Project Cost Summary						
			Contingency (40%)	$15,200		$16,000
			Preliminary Engineering (15%)	$5,700		$6,000
			Construction Engineering (10%)	$3,800		$4,000
			Total Site Improvement Cost	$62,500		$66,000
Assumptions: Corridor is approximately 1.25 miles long. Assumed two signs, one for each direction of travel, for every half mile.						

Recommendation: Install corridor lighting along residential areas.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED Bulbs	9	EA	$8,000	$72,000	$10,000	$90,000
			Subtotal	$72,000	Subtotal	$90,000
Project Cost Summary						
			Contingency (40%)	$28,800		$36,000
			Preliminary Engineering (15%)	$10,800		$13,500
			Construction Engineering (10%)	$7,200		$9,000
			Total Site Improvement Cost	$119,000		$148,500
Assumptions: Corridor is approximately 1.25 miles long. Assumed one light every 750 ft on one side of the road.						

Recommendation: Install additional lighting at intersections, especially at locations with marked crosswalks.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED Bulbs	29	EA	$8,000	$232,000	$10,000	$290,000
			Subtotal	$232,000	Subtotal	$290,000
Project Cost Summary						
			Contingency (40%)	$92,800		$116,000
			Preliminary Engineering (15%)	$34,800		$43,500
			Construction Engineering (10%)	$23,200		$29,000
			Total Site Improvement Cost	$383,000		$478,500
Assumptions: Install two lights at 12 intersections (Circle Dr, Elm St, Circle Dr, Hardie Ln, W Bright Cir, Bardot Wy, E Bright Cir, Red Hawk Rd, Rosewood Dr, and Cook Wy). One additional light needed at intersections with partial lighting (Marshall St and Farm District Rd.) Three lights are needed at the US95A intersection.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

Recommendation: Install an enhanced pedestrian crossing at Red Hawk Road, and one at the existing Hardie Lane crossing.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install High Visibility Crosswalk Striping	2	EA	$2,450	$4,900	$2,500	$5,000
Install RRFB	2	EA	$50,000	$100,000	$55,000	$110,000
Install Single Mast-Arm Lighting with LED	2	EA	$8,000	$16,000	$10,000	$20,000
			Subtotal	$120,900	Subtotal	$135,000
Project Cost Summary						
			Contingency (40%)	$48,360		$54,000
			Preliminary Engineering (15%)	$18,135		$20,250
			Construction Engineering (10%)	$12,090		$13,500
			Total Site Improvement Cost	$199,500		$223,000
Assumptions: Install two new RRFBs at existing intersections.						

Recommendation: Install a school sign with a flasher near the Farm District Rd intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Custom Flashing Advisory Sign (with Installation)	1	EA	$5,000	$5,000	$6,000	$6,000
			Subtotal	$5,000	Subtotal	$6,000
Project Cost Summary						
			Contingency (40%)	$2,000		$2,400
			Preliminary Engineering (15%)	$750		$900
			Construction Engineering (10%)	$500		$600
			Total Site Improvement Cost	$8,500		$10,000
Assumptions: Approximately 130 feet west of Farm District Rd in the WB direction, in front of Cottonwood Elementary School.						

Recommendation: Realign the crosswalk at Cook Way to be perpendicular.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement Marking	65	LF	$4	$260	$5	$325
Remove Concrete Curb Ramp	1	EA	$650	$650	$750	$750
Remove Sidewalk	60	SF	$5	$300	$6	$360
Install High Visibility Crosswalk Striping	1	EA	$2,450	$2,450	$2,500	$2,500
Install Sidewalk Curb Ramp (includes Detectable Warnings)	1	EA	$3,500	$3,500	$4,000	$4,000
Install Sidewalk	60	SF	$13	$780	$15	$900
			Subtotal	$7,940	Subtotal	$8,835
Project Cost Summary						
			Contingency (40%)	$3,176		$3,534
			Preliminary Engineering (15%)	$1,191		$1,325
			Construction Engineering (10%)	$794		$884
			Total Site Improvement Cost	$13,000		$14,500
Assumptions: Realign the skewed crosswalk at the Cook Way intersection.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Cottonwood Lane Cost Estimate Details

Recommendation: Install fluorescent school signage.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Sign and Pole (with Installation)	4	EA	$350	$1,400	$400	$1,600
			Subtotal	$1,400	Subtotal	$1,600
Project Cost Summary						
			Contingency (40%)	$560		$640
			Preliminary Engineering (15%)	$210		$240
			Construction Engineering (10%)	$140		$160
			Total Site Improvement Cost	$2,500		$2,500
Assumptions: Assume four signs (two on each pole) at the east crosswalk at Cook Way, one on each side of the road. Recommend two S1-1 and two W16-7p signs (one of each on each pole).						

Recommendation: Install an RRFB at the crosswalk at Cook Way.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install RRFB	1	EA	$50,000	$50,000	$55,000	$55,000
			Subtotal	$50,000	Subtotal	$55,000
Project Cost Summary						
			Contingency (40%)	$20,000		$22,000
			Preliminary Engineering (15%)	$7,500		$8,250
			Construction Engineering (10%)	$5,000		$5,500
			Total Site Improvement Cost	$82,500		$91,000
Assumptions: Install an RRFB at the existing N-S crosswalk at Cook Way.						

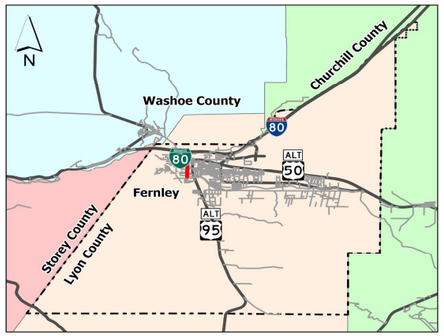
Recommendation: Restripe the yield bar in the westbound direction at Hardie Ln to meet MUTCD requirements.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement Marking	24	LF	$4	$96	$5	$120
Shark's Teeth Yield Markings (Film)	6	EA	$145	$870	$150	$900
			Subtotal	$966	Subtotal	$1,020
Project Cost Summary						
			Contingency (40%)	$386		$408
			Preliminary Engineering (15%)	$145		$153
			Construction Engineering (10%)	$97		$102
			Total Site Improvement Cost	$1,500		$1,500
Assumptions: Remove and restripe the existing yield bar in the westbound direction to meet MUTCD requirements.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

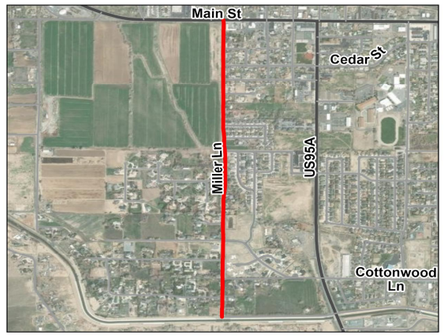
Fernley Local Road Safety Plan
Project Description for Segment Improvements

Miller Lane

Location: Miller Lane from Main Street to Canal Drive







Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	0
A - Serious Injury	0
B - Non-incapacitating Injury	1
C - Possible Injury	0
O - PDO	5
Total Crashes	**6**
Crash Type	
Angle	2
Sideswipe	0
Rear End	2
Head-On	0
Non-Collision	2
Backing	0
Other	0
Non-Motorist Crashes	
Pedestrian	0
Bicycle	0
Contributing Factors	
Aggressive	0
Distracted	0
Impaired	0
Crash Conditions	
Dark*	3
Wet	0

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Segment Length: 1.15 miles
Posted Speed: 25 mph
Right-of-Way: 30-60 feet
Pavement Width: 20 feet
Number of Lanes 1 lane each direction
Other Features: Sidewalk on east side of
Adjacent Land Uses: Rural Residential, Single-Family Residential, and Mixed Residential

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

								2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					
#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Priority
1	Corridorwide	While signs generally have good reflectivity it is recommended that reflective tape is added to the back of signs.	N/A	N/A	N/A	N/A	N/A	$ 11,500	-	-	-	-	$ 11,500	-	-	-	-	1: Short-Term
2	Corridorwide	Trim and maintain vegetation.	N/A	N/A	N/A	N/A	N/A	$ 32,000	-	-	-	-	$ 34,000	-	-	-	-	1: Short-Term
3	Corridorwide	Coordinate with planned development to install sidewalk.	Install sidewalk	0.60	Vehicle/Pedestrian/ All	0	0.00	$ 799,500	$ -	$ 71,988	$ (71,988)	0.00	$ 920,500	$ -	$ 82,883	$ (82,883)	0.00	3: Long-Term
4	Corridorwide	Coordinate with planned development to install street lighting. Consider install sensor-based lighting that remains dim when the sidewalk is unoccupied and automatically brightens when in use to preserve the rural nature of the road.	Install lighting	0.63	Nighttime/All	3	0.22	$ 501,500	$ 13,012	$ 45,156	$ (32,144)	0.29	$ 627,000	$ 31,717	$ 56,456	$ (24,739)	0.56	3: Long-Term
5	Corridorwide	Repave roadway.	Change street surface condition from poor to good	0.74	All/All	6	0.31	$ 1,194,000	$ 11,243	$ 107,510	$ (96,267)	0.10	$ 1,459,500	$ 25,167	$ 131,416	$ (106,248)	0.19	2: Mid-Term

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
6	Canal Drive	Install new stop sign and barrier/hazard signage and reflectors at barrier, and relocate "Stop Sigh Ahead" sign.	Implement systemic signing and marking improvements at stop-controlled intersections	0.92	All/All	0	0.00	$ 2,000	$ -	$ 180	$ (180)	0.00	$ 2,500	$ -	$ 225	$ (225)	0.00	1: Short-Term

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Change street surface condition from poor to good. (Countermeasure ID: 5627)
PROJECT LOCATION	Miller Lane from W Main Street to N Canal Lane on one side of the road
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$1,194,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	26.00%	0.00
INJURY A	$399,795	0	26.00%	0.00
INJURY B	$145,991	1	26.00%	0.05
INJURY C	$82,009	0	26.00%	0.00
PDO	$13,197	5	26.00%	0.26

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.05	$145,991	$7,592
INJURY C	0.00	$82,009	$0
PDO	0.26	$13,197	$3,431

TOTAL ANNUAL BENEFITS (Summation of Column E)	$11,023
TOTAL ANNUAL BENEFITS (Including Growth)	$11,243
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$107,510
TOTAL ANNUALIZED COSTS	$107,510
AVERAGE ANNUAL NET RETURN	($96,267)
BENEFIT/COST	**0.10**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install sidewalk. (Countermeasure ID: 11246)
PROJECT LOCATION	Miller Lane from W Main Street to N Canal Lane
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$799,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	40.20%	0.00
INJURY A	$399,795	0	40.20%	0.00
INJURY B	$145,991	0	40.20%	0.00
INJURY C	$82,009	0	40.20%	0.00
PDO	$13,197	0	40.20%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$71,988
TOTAL ANNUALIZED COSTS	$71,988
AVERAGE ANNUAL NET RETURN	($71,988)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install lighting. (Countermeasure ID: 7774)
PROJECT LOCATION	Miller Lane from W Main Street to N Canal Lane
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$501,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	37.00%	0.00
INJURY A	$399,795	0	37.00%	0.00
INJURY B	$145,991	1	37.00%	0.07
INJURY C	$82,009	0	37.00%	0.00
PDO	$13,197	2	37.00%	0.15

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.07	$145,991	$10,803
INJURY C	0.00	$82,009	$0
PDO	0.15	$13,197	$1,953

TOTAL ANNUAL BENEFITS (Summation of Column E)	$12,756
TOTAL ANNUAL BENEFITS (Including Growth)	$13,012
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$45,156
TOTAL ANNUALIZED COSTS	$45,156
AVERAGE ANNUAL NET RETURN	($32,144)
BENEFIT/COST	**0.29**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Implement systemic signing and marking improvements at stop-controlled intersections. (Countermeasure ID:8866)
PROJECT LOCATION	Miller Lane and Canal Drive
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$2,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	8.30%	0.00
INJURY A	$399,795	0	8.30%	0.00
INJURY B	$145,991	0	8.30%	0.00
INJURY C	$82,009	0	8.30%	0.00
PDO	$13,197	0	8.30%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$180
TOTAL ANNUALIZED COSTS	$180
AVERAGE ANNUAL NET RETURN	($180)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Change street surface condition from poor to good. (Countermeasure ID: 5627)
PROJECT LOCATION	Miller Lane from W Main Street to N Canal Lane on one side of the road
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$1,459,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	26.00%	0.00
INJURY A	$1,705,100	0	26.00%	0.00
INJURY B	$384,000	1	26.00%	0.05
INJURY C	$204,600	0	26.00%	0.00
PDO	$18,100	5	26.00%	0.26

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.05	$384,000	$19,968
INJURY C	0.00	$204,600	$0
PDO	0.26	$18,100	$4,706

TOTAL ANNUAL BENEFITS (Summation of Column E)	$24,674
TOTAL ANNUAL BENEFITS (Including Growth)	$25,167
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$131,416
TOTAL ANNUALIZED COSTS	$131,416
AVERAGE ANNUAL NET RETURN	($106,248)
BENEFIT/COST	**0.19**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install sidewalk. (Countermeasure ID: 11246)
PROJECT LOCATION	Miller Lane from W Main Street to N Canal Lane
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$920,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	40.20%	0.00
INJURY A	$1,705,100	0	40.20%	0.00
INJURY B	$384,000	0	40.20%	0.00
INJURY C	$204,600	0	40.20%	0.00
PDO	$18,100	0	40.20%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$82,883
TOTAL ANNUALIZED COSTS	$82,883
AVERAGE ANNUAL NET RETURN	($82,883)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install lighting. (Countermeasure ID: 7774)
PROJECT LOCATION	Miller Lane from W Main Street to N Canal Lane
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$627,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	37.00%	0.00
INJURY A	$1,705,100	0	37.00%	0.00
INJURY B	$384,000	1	37.00%	0.07
INJURY C	$204,600	0	37.00%	0.00
PDO	$18,100	2	37.00%	0.15

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.07	$384,000	$28,416
INJURY C	0.00	$204,600	$0
PDO	0.15	$18,100	$2,679

TOTAL ANNUAL BENEFITS (Summation of Column E)	$31,095
TOTAL ANNUAL BENEFITS (Including Growth)	$31,717
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$56,456
TOTAL ANNUALIZED COSTS	$56,456
AVERAGE ANNUAL NET RETURN	($24,739)
BENEFIT/COST	**0.56**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Implement systemic signing and marking improvements at stop-controlled intersections. (Countermeasure ID:8866)
PROJECT LOCATION	Miller Lane and Canal Drive
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$2,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	8.30%	0.00
INJURY A	$1,705,100	0	8.30%	0.00
INJURY B	$384,000	0	8.30%	0.00
INJURY C	$204,600	0	8.30%	0.00
PDO	$18,100	0	8.30%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$225
TOTAL ANNUALIZED COSTS	$225
AVERAGE ANNUAL NET RETURN	($225)
BENEFIT/COST	**0.00**

City of Fernley Local Road Safety Plan Miller Lane Cost Estimate Details

Recommendation: Install reflective tape to back of signs.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Reflective Tape (2")	115	LF	$60	$6,900	$60	$6,900
			Subtotal	$6,900	Subtotal	$6,900
Project Cost Summary						
			Contingency (40%)	$2,760		$2,760
			Preliminary Engineering (15%)	$1,035		$1,035
			Construction Engineering (10%)	$690		$690
			Total Site Improvement Cost	$11,500		$11,500
Assumptions: Assume two 30-inch strips of tape on each sign (23 signs).						

Recommendation: Trim and maintain vegetation.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement	Unit Cost (2024)	Improvement
Site Improvement Costs						
Trim/Remove Vegetation	1.38	ACRE	$14,000	$19,320	$15,000	$20,700
			Subtotal	$19,320	Subtotal	$20,700
Project Cost Summary						
			Contingency (40%)	$7,728		$8,280
			Preliminary Engineering (15%)	$2,898		$3,105
			Construction Engineering (10%)	$1,932		$2,070
			Total Site Improvement Cost	$32,000		$34,000
Assumptions: Corridor is approximately 1.14 miles with an assumed five-foot space on both sides to keep clear.						

Recommendation: Install sidewalk on Miller Ln.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Sidewalk	30,000	SF	$13	$390,000	$15	$450,000
Install Sidewalk Curb Ramp (includes Detectable Warnings)	27	EA	$3,500	$94,500	$4,000	$108,000
			Subtotal	$484,500	Subtotal	$558,000
Project Cost Summary						
			Contingency (40%)	$193,800		$223,200
			Preliminary Engineering (15%)	$72,675		$83,700
			Construction Engineering (10%)	$48,450		$55,800
			Total Site Improvement Cost	$799,500		$920,500
Assumptions: Assumed five-foot sidewalk on one side of the road (1.14 miles). Curb ramps at all intersections currently without pedestrian facilities.						

Recommendation: Install lighting on Miller Ln.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement	Unit Cost (2024)	Improvement
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED	38	EA	$8,000	$304,000	$10,000	$380,000
			Subtotal	$304,000	Subtotal	$380,000
Project Cost Summary						
			Contingency (40%)	$121,600		$152,000
			Preliminary Engineering (15%)	$45,600		$57,000
			Construction Engineering (10%)	$30,400		$38,000
			Total Site Improvement Cost	$501,500		$627,000
Assumptions: Assumed one light every 750 feet on one side of the road (8 lights total). Assumed two lights at every intersection (30 lights).						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Miller Lane Cost Estimate Details

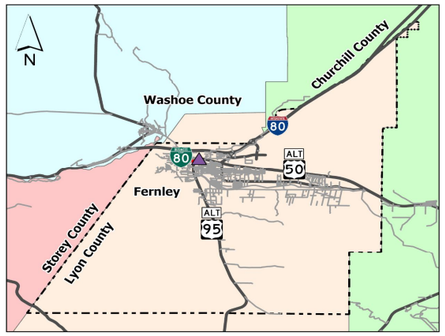
Recommendation: Repave the roadway.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement	13,400	SY	$14	$187,600	$16	$214,400
Install New Pavement	13,400	SY	$40	$536,000	$50	$670,000
			Subtotal	$723,600	Subtotal	$884,400
Project Cost Summary						
			Contingency (40%)	$289,440		$353,760
			Preliminary Engineering (15%)	$108,540		$132,660
			Construction Engineering (10%)	$72,360		$88,440
			Total Site Improvement Cost	$1,194,000		$1,459,500
Assumptions: Corridor is approximately 1.14 miles long and approximately 20 feet in width.						

Recommendation: Upgrade signage at the intersection of Miller Lane and Canal Drive.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Relocate Sign and Pole	1	EA	$300	$300	$350	$350
Sign and Pole (with Installation)	3	EA	$350	$1,050	$400	$1,200
			Subtotal	$1,350	Subtotal	$1,550
Project Cost Summary						
			Contingency (40%)	$540		$620
			Preliminary Engineering (15%)	$203		$233
			Construction Engineering (10%)	$135		$155
			Total Site Improvement Cost	$2,000		$2,500
Assumptions: Relocate the existing stop sign. Install an additional stop sign. Add three object markers in front of the canal.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

Cedar Street/Hardie Lane

Location: **Cedar Street from US95A to Hardie Lane; Hardie Lane from Cedar Street to Main Street**







Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	0
A - Serious Injury	0
B - Non-incapacitating Injury	1
C - Possible Injury	0
O - PDO	5
Total Crashes	**6**
Crash Type	
Angle	4
Sideswipe	0
Rear End	0
Head-On	1
Non-Collision	1
Backing	0
Other	0
Non-Motorist Crashes	
Pedestrian	0
Bicycle	0
Contributing Factors	
Aggressive	0
Distracted	0
Impaired	0
Crash Conditions	
Dark*	0
Wet	0

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Segment Length: 0.37 miles
Posted Speed: 20 mph (Cedar St); 25 mph (Hardie Ln)
Right-of-Way: 40 feet on Cedar St; 55 feet on Hardie Ln
Pavement Width: 25 feet on Cedar St; 35-45 feet on Hardie Ln
Number of Lanes 1 lane each direction
Other Features: Sidewalks and bike lanes (both sides) on Hardie Ln. No sidewalks on Cedar St. On-street parking on Cedar St.
Adjacent Land Uses: Mixed Residential, Multi-Family Residential, Suburban Mixed Use, and Open Space/Parks

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					Priority
								Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	
1	Hardie Lane	Install flashing beacon on school speed limit sign.	N/A	N/A	N/A	N/A	N/A	$ 8,500	-	-	-	-	$ 10,000	-	-	-	-	1: Short-Term
2	Hardie Lane	Install "No Parking" signs where bike lanes exist and provide enforcement.	Prohibit on-street parking	0.80	All/A,B,C,O	0	0.00	$ 3,500	$ -	$ 315	$ (315)	0.00	$ 4,000	$ -	$ 360	$ (360)	0.00	1: Short-Term

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Prohibit on-street parking. Countermeasure ID 153
PROJECT LOCATION	Hardie St from Cedar Street to Main St
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$3,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	0	20.00%	0.00
INJURY A	$399,795	0	20.00%	0.00
INJURY B	$145,991	0	20.00%	0.00
INJURY C	$82,009	0	20.00%	0.00
PDO	$13,197	0	20.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$7,587,157	$0
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$315
TOTAL ANNUALIZED COSTS	$315
AVERAGE ANNUAL NET RETURN	($315)
BENEFIT/COST	**0.00**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Prohibit on-street parking. Countermeasure ID 153
PROJECT LOCATION	Hardie St from Cedar Street to Main St
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	URBAN
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$4,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	0	20.00%	0.00
INJURY A	$1,705,100	0	20.00%	0.00
INJURY B	$384,000	0	20.00%	0.00
INJURY C	$204,600	0	20.00%	0.00
PDO	$18,100	0	20.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.00	$15,988,000	$0
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$0
TOTAL ANNUAL BENEFITS (Including Growth)	$0
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$360
TOTAL ANNUALIZED COSTS	$360
AVERAGE ANNUAL NET RETURN	($360)
BENEFIT/COST	**0.00**

City of Fernley Local Road Safety Plan Cedar Street/Hardie Lane Cost Estimate Details

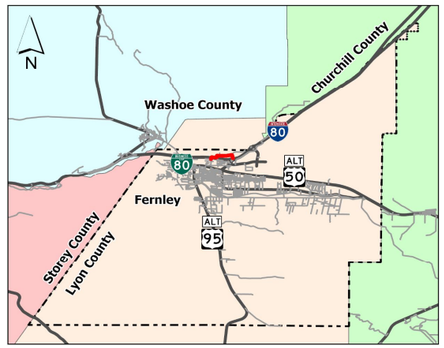
Recommendation: Install flashing beacon on existing school speed limit sign.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Custom Flashing Advisory Sign (with Installation)	1	EA	$5,000	$5,000	$6,000	$6,000
			Subtotal	$5,000	Subtotal	$6,000
Project Cost Summary						
			Contingency (40%)	$2,000		$2,400
			Preliminary Engineering (15%)	$750		$900
			Construction Engineering (10%)	$500		$600
			Total Site Improvement Cost	$8,500		$10,000
Assumptions: Install new flashing beacon school speed limit sign.						

Recommendation: Install "No Parking" signs where bike lanes exist.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Sign and Pole (with Installation)	6	EA	$350	$2,100	$400	$2,400
			Subtotal	$2,100	Subtotal	$2,400
Project Cost Summary						
			Contingency (40%)	$840		$960
			Preliminary Engineering (15%)	$315		$360
			Construction Engineering (10%)	$210		$240
			Total Site Improvement Cost	$3,500		$4,000
Assumptions: There is approximately 650 feet of combined bike lane. Assume one sign per 100 feet on each side that bike lanes are present.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

Vine Street/Mission Way/Truck Inn Way

Location: Vine Street from Gazzigli Lane to Mission Way; Mission Way from Vine Street to Truck Inn Lane; Truck Inn Lane from M







Legend

- Fatal Crash (K)
- Serious Injury Crash (A)
- Priority Intersection: Signalized
- Priority Intersection: Roundabout
- Priority Intersection: Unsignalized
- Priority Segment
- State Road
- Local Road

Priority 1: Can be completed in the near future by agency maintenance
Priority 2: Will require some engineering design
Priority 3: Will require significant engineering design

Total Crashes	
K - Fatal	1
A - Serious Injury	0
B - Non-incapacitating Injury	1
C - Possible Injury	0
O - PDO	2
Total Crashes	4
Crash Type	
Angle	1
Sideswipe	0
Rear End	0
Head-On	1
Non-Collision	2
Backing	0
Other	0
Non-Motorist Crashes	
Pedestrian	0
Bicycle	0
Contributing Factors	
Aggressive	0
Distracted	0
Impaired	1
Crash Conditions	
Dark*	1
Wet	0

Sources: NDOT Crash Data and NHTSA FARS Data (January 1, 2019 to December 31, 2023)

***Note:** "Dark" includes all nighttime crashes, with and without lighting.

Segment Length: 1.37 miles
Posted Speed: 25 mph
Right-of-Way: 55 feet at Gazzigli Ln; 60 feet on Vine St (North of I-80) and Mission Way; 80 feet on Truck Inn Ln
Pavement Width: 25 feet (widens to 75 feet near the truck stop)
Number of Lanes 1 lane each direction
Other Features: No sidewalks and no bike lanes.
Adjacent Land Uses: Commercial and Open Space/Parks

Note: Recommendations without crash modification factors (CMFs) will not have safety benefit-cost analysis results.
*Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.
**Off-street bike facilities would reduce vehicle/bicycle conflicts to zero; therefore, a 100% crash reduction was assumed based on engineering judgement.

								2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					
#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Priority
1	Vine Street (Gazzigli Ln to Vine Street)	Repave and restripe roadway.	Change street surface condition from poor to good	0.74	All/All	4	0.21	$ 2,062,000	$ 411,566	$ 185,666	$ 225,900	2.22	$ 2,549,500	$ 870,291	$ 229,561	$ 640,729	3.79	2: Mid-Term
2	Corridorwide (Vine Street)	Install speed limit signs.	N/A	N/A	N/A	3	N/A	$ 3,500	-	-	-	-	$ 4,000	-	-	-	-	2: Mid-Term
3	Corridorwide (Vine Street and Mission Way)	Install corridor lighting.	Install lighting	0.63	Nighttime/All	1	0.07	$ 119,000	$ 572,679	$ 10,715	$ 561,964	53.45	$ 148,500	$ 1,206,774	$ 13,371	$ 1,193,403	90.25	2: Mid-Term
4	Vine Street/Mission Way and Mission Way/Truck Inn Way Intersection	Install intersection lighting.	Install Intersection Lighting	0.90	Nighttime/All	1	0.02	$ 145,000	$ 154,778	$ 13,056	$ 141,722	11.85	$ 181,500	$ 326,155	$ 16,343	$ 309,813	19.96	2: Mid-Term
5	Vine Street/Mission Way Intersection	Install roadway barrier/hazard signage and reflectors to notify drivers of dead tree stump.	Install roadside barrier	0.49	Run off road/K,A,B,C	2	0.20	$ 10,500	$ 790,741	$ 945	$ 789,795	836.37	$ 11,000	$ 1,665,275	$ 990	$ 1,664,284	1681.32	1: Short-Term

								2023 Dollar Benefit Cost Analysis Results					2024 Dollar Benefit Cost Analysis Results					
#	Location	Recommendation	Countermeasure	CMF	Associated Crash Type/Severity	Associated Crashes (2019-2023)	Crashes Saved Annually*	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Implementation Cost	Total Annual Benefit	Total Annualized Cost	Average Annual Net Return	Benefit Cost Ratio	Priority
6	Vine Street/Mission Way Intersection	Install MUTCD W14-1 “Dead End” sign.	N/A	N/A	N/A	N/A	N/A	$ 500	-	-	-	-	$ 500	-	-	-	-	1: Short-Term
7	Vine Street/Mission Way Intersection	Relocate stop signs.	Implement systemic signing and marking improvements at stop-controlled intersections	0.92	All/All	2	0.03	$ 2,000	$ 128,689	$ 180	$ 128,509	714.61	$ 2,000	$ 271,015	$ 180	$ 270,835	1504.94	1: Short-Term
8	Vine Street/Mission Way Intersection	Consider realignment of the intersection to become a curve following the dirt path vehicles are using.	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	N/A	-	-	-	-	3: Long-Term
9	Corridorwide (Mission Way)	Install speed limit signs and speed feedback signs.	N/A	N/A	N/A	N/A	N/A	$ 65,500	-	-	-	-	$ 69,500	-	-	-	-	2: Mid-Term
10	Corridorwide (Truck Inn Way)	Replace faded/damaged signs.	N/A	N/A	N/A	N/A	N/A	$ 1,500	-	-	-	-	$ 1,500	-	-	-	-	1: Short-Term
11	Vine Street/Mission Way	Install advance street signage for Veteran's Way.	N/A	N/A	N/A	N/A	N/A	$ 1,000	-	-	-	-	$ 1,500	-	-	-	-	1: Short-Term
12	Truck Inn Way/I-80 WB Ramp Intersection	Evaluate and reconfigure interchange off-ramp to avoid traffic back ups onto the I-80 mainline.	N/A	N/A	N/A	N/A	N/A	$ 9,619,500	-	-	-	-	$ 9,900,000	-	-	-	-	3: Long-Term
13	Truck Inn Way/I-80 WB Ramp Intersection	Evaluate and reconfigure interchange off-ramp for improved sight visibility.																
14	Truck Inn Way/I-80 WB Ramp Intersection	Reconfigure the right turn into a right-turn slip lane.																
15	Truck Inn Way/I-80 WB Ramp Intersection	Evaluate if a traffic signal is warranted at the interchange off-ramps. Install a "Cross Traffic Does Not Stop" sign in the interim.	N/A	N/A	N/A	N/A	N/A	$ 500	-	-	-	-	$ 500	-	-	-	-	2: Mid-Term
16	Truck Inn Way/I-80 WB Ramp Intersection	Evaluate interchange and install appropriate sized signs.	N/A	N/A	N/A	N/A	N/A	$ 8,000	-	-	-	-	$ 8,500	-	-	-	-	2: Mid-Term

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Change street surface conditions from poor to good. (Countermeasure ID: 5627)
PROJECT LOCATION	Vine St from Gazzigli Ln to Mission Wy; Mission Wy from Vine St to Truck Inn Wy; Truck Inn Way from Mission Wy to I-80
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$2,062,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	1	26.00%	0.05
INJURY A	$399,795	0	26.00%	0.00
INJURY B	$145,991	1	26.00%	0.05
INJURY C	$82,009	0	26.00%	0.00
PDO	$13,197	2	26.00%	0.10

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.05	$7,587,157	$394,532
INJURY A	0.00	$399,795	$0
INJURY B	0.05	$145,991	$7,592
INJURY C	0.00	$82,009	$0
PDO	0.10	$13,197	$1,372

TOTAL ANNUAL BENEFITS (Summation of Column E)	$403,496
TOTAL ANNUAL BENEFITS (Including Growth)	$411,566
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$185,666
TOTAL ANNUALIZED COSTS	$185,666
AVERAGE ANNUAL NET RETURN	$225,900
BENEFIT/COST	**2.22**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install lighting CMF ID: 7774
PROJECT LOCATION	Vine St from Gazzigli Ln to Mission Wy; Mission Wy from Vine St to Truck Inn Wy; Truck Inn Way from Mission Wy to I-80
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$119,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	1	37.00%	0.07
INJURY A	$399,795	0	37.00%	0.00
INJURY B	$145,991	0	37.00%	0.00
INJURY C	$82,009	0	37.00%	0.00
PDO	$13,197	0	37.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.07	$7,587,157	$561,450
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$561,450
TOTAL ANNUAL BENEFITS (Including Growth)	$572,679
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$10,715
TOTAL ANNUALIZED COSTS	$10,715
AVERAGE ANNUAL NET RETURN	$561,964
BENEFIT/COST	**53.45**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Intersection Lighting CMF ID: US-10
PROJECT LOCATION	Vine St and Gazzigli Wy, Vine St and Mission Wy, Mission Wy and Veterans Wy, Mission Wy and Truck Inn Wy, and Truck Inn Wy and I-80
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$145,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	1	10.00%	0.02
INJURY A	$399,795	0	10.00%	0.00
INJURY B	$145,991	0	10.00%	0.00
INJURY C	$82,009	0	10.00%	0.00
PDO	$13,197	0	10.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.02	$7,587,157	$151,743
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.00	$13,197	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$151,743
TOTAL ANNUAL BENEFITS (Including Growth)	$154,778
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$13,056
TOTAL ANNUALIZED COSTS	$13,056
AVERAGE ANNUAL NET RETURN	$141,722
BENEFIT/COST	**11.85**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install roadside barrier. (Countermeasure ID: 6402)
PROJECT LOCATION	Vine St and Gazzigli Wy, Vine St and Mission Wy, Mission Wy and Veterans Wy, Mission Wy and Truck Inn Wy, and Truck Inn Wy and I-80
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$10,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	1	51.00%	0.10
INJURY A	$399,795	0	51.00%	0.00
INJURY B	$145,991	0	51.00%	0.00
INJURY C	$82,009	0	51.00%	0.00
PDO	$13,197	1	51.00%	0.10

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.10	$7,587,157	$773,890
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.10	$13,197	$1,346

TOTAL ANNUAL BENEFITS (Summation of Column E)	$775,236
TOTAL ANNUAL BENEFITS (Including Growth)	$790,741
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$945
TOTAL ANNUALIZED COSTS	$945
AVERAGE ANNUAL NET RETURN	$789,795
BENEFIT/COST	**836.37**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2023 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Implement systemic signing and marking improvements at stop-controlled intersections. (Countermeasure ID: 8866)
PROJECT LOCATION	Vine St and Mission Wy
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$2,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2023 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$7,587,157	1	8.30%	0.02
INJURY A	$399,795	0	8.30%	0.00
INJURY B	$145,991	0	8.30%	0.00
INJURY C	$82,009	0	8.30%	0.00
PDO	$13,197	1	8.30%	0.02

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.02	$7,587,157	$125,947
INJURY A	0.00	$399,795	$0
INJURY B	0.00	$145,991	$0
INJURY C	0.00	$82,009	$0
PDO	0.02	$13,197	$219

TOTAL ANNUAL BENEFITS (Summation of Column E)	$126,166
TOTAL ANNUAL BENEFITS (Including Growth)	$128,689
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$180
TOTAL ANNUALIZED COSTS	$180
AVERAGE ANNUAL NET RETURN	$128,509
BENEFIT/COST	**714.61**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Change street surface conditions from poor to good. (Countermeasure ID: 5627)
PROJECT LOCATION	Vine St from Gazzigli Ln to Mission Wy; Mission Wy from Vine St to Truck Inn Wy; Truck Inn Way from Mission Wy to I-80
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$2,549,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	1	26.00%	0.05
INJURY A	$1,705,100	0	26.00%	0.00
INJURY B	$384,000	1	26.00%	0.05
INJURY C	$204,600	0	26.00%	0.00
PDO	$18,100	2	26.00%	0.10

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.05	$15,988,000	$831,376
INJURY A	0.00	$1,705,100	$0
INJURY B	0.05	$384,000	$19,968
INJURY C	0.00	$204,600	$0
PDO	0.10	$18,100	$1,882

TOTAL ANNUAL BENEFITS (Summation of Column E)	$853,226
TOTAL ANNUAL BENEFITS (Including Growth)	$870,291
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$229,561
TOTAL ANNUALIZED COSTS	$229,561
AVERAGE ANNUAL NET RETURN	$640,729
BENEFIT/COST	**3.79**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install lighting CMF ID: 7774
PROJECT LOCATION	Vine St from Gazzigli Ln to Mission Wy; Mission Wy from Vine St to Truck Inn Wy; Truck Inn Way from Mission Wy to I-80
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$148,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	1	37.00%	0.07
INJURY A	$1,705,100	0	37.00%	0.00
INJURY B	$384,000	0	37.00%	0.00
INJURY C	$204,600	0	37.00%	0.00
PDO	$18,100	0	37.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.07	$15,988,000	$1,183,112
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$1,183,112
TOTAL ANNUAL BENEFITS (Including Growth)	$1,206,774
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$13,371
TOTAL ANNUALIZED COSTS	$13,371
AVERAGE ANNUAL NET RETURN	$1,193,403
BENEFIT/COST	**90.25**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install Intersection Lighting CMF ID: US-10
PROJECT LOCATION	Vine St and Gazzigli Wy, Vine St and Mission Wy, Mission Wy and Veterans Wy, Mission Wy and Truck Inn Wy, and Truck Inn Wy and I-80
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$181,500 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	1	10.00%	0.02
INJURY A	$1,705,100	0	10.00%	0.00
INJURY B	$384,000	0	10.00%	0.00
INJURY C	$204,600	0	10.00%	0.00
PDO	$18,100	0	10.00%	0.00

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.02	$15,988,000	$319,760
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.00	$18,100	$0

TOTAL ANNUAL BENEFITS (Summation of Column E)	$319,760
TOTAL ANNUAL BENEFITS (Including Growth)	$326,155
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$16,343
TOTAL ANNUALIZED COSTS	$16,343
AVERAGE ANNUAL NET RETURN	$309,813
BENEFIT/COST	**19.96**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO.	NONE
PROJECT NO.	092202057.A: Fernley LRSP
COUNTERMEASURE	Install roadside barrier. (Countermeasure ID: 6402)
PROJECT LOCATION	Vine St and Gazzigli Wy, Vine St and Mission Wy, Mission Wy and Veterans Wy, Mission Wy and Truck Inn Wy, and Truck Inn Wy and I-80
ROADWAY CHARACTERISTICS	2 LANE UNDIVIDED
DEMOGRAPHIC DESIGNATION	RURAL
FUNCTIONAL CLASSIFICATION	6 MINOR COLLECTOR
IMPLEMENTATION COSTS	$11,000 (NDOT Bid Tabs and other Local Projects)
ANNUAL MAINTENENCE COSTS	$0
CURRENT PRIME INTEREST RATE	3.25%
PERCENTAGE OF GROWTH	2.00%
ESTIMATED SERVICE LIFE	-- YEAR(S)
LENGTH OF STUDY	YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	1	51.00%	0.10
INJURY A	$1,705,100	0	51.00%	0.00
INJURY B	$384,000	0	51.00%	0.00
INJURY C	$204,600	0	51.00%	0.00
PDO	$18,100	1	51.00%	0.10

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.10	$15,988,000	$1,630,776
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.10	$18,100	$1,846

TOTAL ANNUAL BENEFITS (Summation of Column E)	$1,632,622
TOTAL ANNUAL BENEFITS (Including Growth)	$1,665,275
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$990
TOTAL ANNUALIZED COSTS	$990
AVERAGE ANNUAL NET RETURN	$1,664,284
BENEFIT/COST	**1681.32**

Fernley LRSP
CMF METHOD
BENEFIT-COST RATIO (BCR)

(2024 DOLLAR FIGURES) 05/01/26

ENGINEERING AUTHORIZATION NO. NONE

PROJECT NO. 092202057.A: Fernley LRSP

COUNTERMEASURE Implement systemic signing and marking improvements at stop-controlled intersections. (Countermeasure ID: 8866)

PROJECT LOCATION Vine St and Mission Wy

ROADWAY CHARACTERISTICS 2 LANE UNDIVIDED

DEMOGRAPHIC DESIGNATION RURAL

FUNCTIONAL CLASSIFICATION 6 MINOR COLLECTOR

IMPLEMENTATION COSTS $2,000 (NDOT Bid Tabs and other Local Projects)

ANNUAL MAINTENENCE COSTS $0

CURRENT PRIME INTEREST RATE 3.25%

PERCENTAGE OF GROWTH 2.00%

ESTIMATED SERVICE LIFE -- YEAR(S)

LENGTH OF STUDY YEAR(S)

CALCULATION OF REDUCTIONS

Crash Reduction Factor (CRF) - Clearinghouse, www.cmfclearinghouse.org

Equate crash types to crash severity for total reductions by severity.

	2024 CRASH COSTS	PRESENT CRASHES (A)	EXPECTED CRF % (B)	CRASHES SAVED ANNUALLY (C)
FATAL	$15,988,000	1	8.30%	0.02
INJURY A	$1,705,100	0	8.30%	0.00
INJURY B	$384,000	0	8.30%	0.00
INJURY C	$204,600	0	8.30%	0.00
PDO	$18,100	1	8.30%	0.02

**Since the current process for estimating crash reduction uses crash history, it is not possible to estimate the predicted crashes for those areas in which no existing crashes exist. It is anticipated that the application of the specified countermeasures will lower the probability of future crashes at these locations.*

CALCULATION OF BENEFITS

	CRASHES SAVED ANNUALLY (C)	SOCIETAL COST (D)	SOCIETAL BENEFIT (E)
FATAL	0.02	$15,988,000	$265,401
INJURY A	0.00	$1,705,100	$0
INJURY B	0.00	$384,000	$0
INJURY C	0.00	$204,600	$0
PDO	0.02	$18,100	$300

TOTAL ANNUAL BENEFITS (Summation of Column E)	$265,701
TOTAL ANNUAL BENEFITS (Including Growth)	$271,015
CAPITAL RECOVERY FACTOR	0.0900
ANNUALIZED IMPLEMENTATION COSTS	$180
TOTAL ANNUALIZED COSTS	$180
AVERAGE ANNUAL NET RETURN	$270,835
BENEFIT/COST	**1504.94**

City of Fernley Local Road Safety Plan Vine Street/Mission Way/Truck Inn Way Cost Estimate Details

Recommendation: Repave and restripe roadway.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Pavement	21,000	SY	$14	$294,000	$16	$336,000
Install New Pavement	21,000	SY	$40	$840,000	$50	$1,050,000
Install 4" Yellow Center Line (Per Line)	14,475	LF	$3	$43,425	$4	$57,900
Install 4" White Edge Line	14,475	LF	$5	$72,375	$7	$101,325
			Subtotal	$1,249,800	Subtotal	$1,545,225
Project Cost Summary						
			Contingency (40%)	$499,920		$618,090
			Preliminary Engineering (15%)	$187,470		$231,784
			Construction Engineering (10%)	$124,980		$154,523
			Total Site Improvement Cost	$2,062,000		$2,549,500
Assumptions: Corridor is approximately 1.37 miles long, averaging about 25 feet wide.						

Recommendation: Install speed limit signs along Vine Street.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Sign and Pole (with Installation)	6	EA	$350	$2,100	$400	$2,400
			Subtotal	$2,100	Subtotal	$2,400
Project Cost Summary						
			Contingency (40%)	$840		$960
			Preliminary Engineering (15%)	$315		$360
			Construction Engineering (10%)	$210		$240
			Total Site Improvement Cost	$3,500		$4,000
Assumptions: One sign at Vine/Gazzigli; two where Vine turns east just north of the overpass (one on SB Vine and one on EB Vine); two where Vine turns north towards Mission (one on WB Vine and one on NB Vine); and one at Vine/Mission on SB Vine.						

Recommendation: Install speed limit and speed feedback signs along Mission Way.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement	Unit Cost (2024)	Improvement
Site Improvement Costs						
Sign and Pole (with Installation)	5	EA	$350	$1,750	$400	$2,000
Speed Feedback Sign (with Installation)	4	EA	$9,500	$38,000	$10,000	$40,000
			Subtotal	$39,750	Subtotal	$42,000
Project Cost Summary						
			Contingency (40%)	$15,900		$16,800
			Preliminary Engineering (15%)	$5,963		$6,300
			Construction Engineering (10%)	$3,975		$4,200
			Total Site Improvement Cost	$65,500		$69,500
Assumptions: One sign at Vine/Mission on WB Mission Wy; two on Mission midway between Vine and Truck Inn; two at Mission/Truck Inn (one on WB Mission and one on SB Truck Inn). Assume four speed feedback signs on Mission Wy.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

City of Fernley Local Road Safety Plan Vine Street/Mission Way/Truck Inn Way Cost Estimate Details

Recommendation: Install corridor and intersection lighting. (Split between corridor and intersection lighting for BCA and project sheets.)						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Install Single Mast-Arm Lighting with LED	20	EA	$8,000	$160,000	$10,000	$200,000
			Subtotal	$160,000	Subtotal	$200,000
Project Cost Summary						
			Contingency (40%)	$64,000		$80,000
			Preliminary Engineering (15%)	$24,000		$30,000
			Construction Engineering (10%)	$16,000		$20,000
			Total Site Improvement Cost	$264,000		$330,000

Assumptions:
Corridor is approximately 1.37 miles long. Assumed one light approximately every 750 feet on one side of the road, per City of Fernley standards.

Assumed two lights at each intersection and the stop-controlled bend on Vine (ten total). Only one additional light at the Truck Inn/I-80 interchange.

Recommendation: Install roadway barrier/hazard signage and reflectors to notify drivers of dead tree stump.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Sign and Pole (with Installation)	2	EA	$350	$700	$400	$800
Install Barrier (Guardrail)	100	LF	$57	$5,700	$60	$6,000
			Subtotal	$6,400	Subtotal	$6,800
Project Cost Summary						
			Contingency (40%)	$2,560		$2,720
			Preliminary Engineering (15%)	$960		$1,020
			Construction Engineering (10%)	$640		$680
			Total Site Improvement Cost	$10,500		$11,000

Assumptions:
The proposed barrier location along the west side of Vine Street, extending approximately 70 feet north from Mission Way and continuing approximately 30 feet along the southwest corner of the Vine Street/Mission Way of the unpaved intersection.

Recommendation: Install "Dead End" sign at the Vine St/Mission Wy intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Sign and Pole (with Installation)	1	EA	$350	$350	$400	$400
			Subtotal	$350	Subtotal	$400
Project Cost Summary						
			Contingency (40%)	$140		$160
			Preliminary Engineering (15%)	$53		$60
			Construction Engineering (10%)	$35		$40
			Total Site Improvement Cost	$500		$500

Assumptions:
Install "Dead End" sign on the north side of the Vine St/Mission Wy intersection.

Recommendation: Relocate stop signs at the Vine St/Mission Wy intersection.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Relocate Sign and Pole	2	EA	$300	$600	$350	$700
Remove Pavement Marking	30	LF	$4	$120	$5	$150
Install 24" Solid White Stop Line	30	LF	$15	$450	$17	$510
			Subtotal	$1,170	Subtotal	$1,360
Project Cost Summary						
			Contingency (40%)	$468		$544
			Preliminary Engineering (15%)	$176		$204
			Construction Engineering (10%)	$117		$136
			Total Site Improvement Cost	$2,000		$2,000

Assumptions:
Remove and relocate the two existing stop signs at the Vine St/Mission Wy intersection.
Remove the existing stop bars and restripe in alignment with the new stop sign positions.

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

Recommendation: Install advance street signage for Veteran's Way.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement	Unit Cost (2024)	Improvement
Site Improvement Costs						
Sign and Pole (with Installation)	2	EA	$350	$700	$400	$800
			Subtotal	$700	Subtotal	$800
Project Cost Summary						
			Contingency (40%)	$280		$320
			Preliminary Engineering (15%)	$105		$120
			Construction Engineering (10%)	$70		$80
			Total Site Improvement Cost	$1,000		$1,500
Assumptions: Install two signs, one for each direction of travel, in advance of the Veteran's Way intersection on Mission Way.						

Recommendation: Replace faded/damaged signs on Truck Inn Way.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Sign and Pole	1	EA	$245	$245	$250	$250
Sign and Pole (with Installation)	2	EA	$350	$700	$400	$800
			Subtotal	$945	Subtotal	$1,050
Project Cost Summary						
			Contingency (40%)	$378		$420
			Preliminary Engineering (15%)	$142		$158
			Construction Engineering (10%)	$95		$105
			Total Site Improvement Cost	$1,500		$1,500
Assumptions: Replacing two signs on one pole at the Truck Inn Way/I-80 interchange, using the cost for sign and pole replacement.						

Recommendation: Replace improperly sized signs at the I-80 interchange, and add a "Cross Traffic Does Not Stop" sign.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Remove Sign and Pole	8	EA	$245	$1,960	$250	$2,000
Sign and Pole (with Installation)	9	EA	$350	$3,150	$400	$3,600
			Subtotal	$5,110	Subtotal	$5,600
Project Cost Summary						
			Contingency (40%)	$2,044		$2,240
			Preliminary Engineering (15%)	$767		$840
			Construction Engineering (10%)	$511		$560
			Total Site Improvement Cost	$8,500		$9,000
Assumptions: Assume half of the existing 16 signs are improperly sized and need to be replaced.						

Recommendation: Reconfigure the Truck Inn/I-80 interchange to improve site visibility and reduce back-ups onto the freeway.						
Improvements	Quantity	Units	Unit Cost (2023)	Improvement Cost (2023)	Unit Cost (2024)	Improvement Cost (2024)
Site Improvement Costs						
Intersection Reconfiguration	1	INT	$5,830,000	$5,830,000	$6,000,000	$6,000,000
			Subtotal	$5,830,000	Subtotal	$6,000,000
Project Cost Summary						
			Contingency (40%)	$2,332,000		$2,400,000
			Preliminary Engineering (15%)	$874,500		$900,000
			Construction Engineering (10%)	$583,000		$600,000
			Total Site Improvement Cost	$9,619,500		$9,900,000
Assumptions: Additional preliminary evaluation and design is needed. Intersection reconfiguration assumes civil work and pedestrian facilities.						

Note: The "Total Site Improvement Cost" reflects costs rounded to the nearest $500.

APPENDIX G

FISCAL YEAR 2026 SS4A SELF-CERTIFICATION ELIGIBILITY WORKSHEET

Safe Streets and Roads for All
Self-Certification Eligibility Worksheet

All applicants should follow the instructions in the NOFO to correctly apply for a grant. See the SS4A website for more information.

Table 1 of the SS4A NOFO describes seven components of an Action Plan, which correspond to the questions in this worksheet. Applicants should use this worksheet to determine whether their existing plan(s) contains the required components to be considered an eligible Action Plan for SS4A.

This worksheet is required for all SS4A **Implementation Grant** applications and any **Planning and Demonstration Grant applications to conduct Supplemental Planning/Demonstration Activities only**. Please complete the form in its entirety, do not adjust the formatting or headings of the worksheet, and upload the completed PDF with your application.

Eligibility

An Action Plan is considered eligible for an SS4A application for an Implementation Grant or a Planning and Demonstration Grant to conduct Supplemental Planning/Demonstration Activities if the following two conditions are met:

- You can answer "YES" to Questions **3, 6,** and **8** in this worksheet; *and*
- You can answer "YES" to **at least three of the five remaining** Questions, **1, 2, 4, 5,** and **7.**

If both conditions are not met, an applicant is still eligible to apply for a Planning and Demonstration Grant to fund the creation of a new Action Plan or updates to an existing Action Plan to meet SS4A requirements.

Applicant Information

Lead Applicant: City of Fernley _____ **UEI:** _____

Action Plan Documents

In the table below, list the relevant Action Plan and any additional plans or documents that you reference in this form. **Up to three plans or documents may be included**. Please provide a hyperlink to any documents available online or indicate that the Action Plan or other documents will be uploaded in Valid Eval as part of your application. Note that, to be considered an eligible Action Plan for SS4A, the plan(s) coverage must be broader than just a corridor, neighborhood, or specific location.

Document Title	Link	Date of Most Recent Update
City of Fernley Local Road Safety Plan		May 2026

Action Plan Components

For each question below, answer "YES" or "NO." If "YES," list the relevant plan(s) or supporting documentation that address the condition and the specific page number(s) in each document that corroborates your response. This form provides space to reference multiple plans, but please list only the most relevant document(s).

1. Leadership Commitment and Goal Setting

Are **BOTH** of the following true?

- A high-ranking official and/or governing body in the jurisdiction publicly committed to an eventual goal of zero roadway fatalities and serious injuries; and
- The commitment includes either setting a target date to reach zero OR setting one or more targets to achieve a reduction in roadway fatalities and serious injuries by a specific date.

☑ **YES**

☐ **NO**

Note: This may include a resolution, policy, ordinance, executive order, or other official announcement from a high-ranking official and the official adoption of a plan that includes the commitment by a legislative body.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

2. Planning Structure

To develop the Action Plan, was a committee, task force, implementation group, or similar body established and charged with the plan's development, implementation, and monitoring?

☑ **YES**

☐ **NO**

Note: This should include a description of the membership of the group and what role they play in the development, implementation, and monitoring of the Action Plan.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)
City of Fernley Local Road Safety Plan	4

3. Safety Analysis

Does the Action Plan include **ALL** of the following?

- Analysis of existing conditions and historical trends to provide a baseline level of crashes involving fatalities and serious injuries across a jurisdiction, locality, Tribe, or region;
- Analysis of the location(s) of crashes, the severity, contributing factors, and crash types;
- Analysis of systemic and specific safety needs, as needed (e.g., high-risk road features, specific safety needs of relevant road users, or post-crash care and emergency response); and,
- A geospatial identification (geographic or locational data using maps) of higher risk locations.

☑ **YES**
☐ **NO**

Note: Availability and level of detail of safety data may vary greatly by location. The Fatality and Injury Reporting System Tool (FIRST) provides county- and city-level data. When available, local data should be used to supplement nationally available data sets.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)
City of Fernley Local Road Safety Plan	19-51

4. Engagement and Collaboration

Did development of the Action Plan include **ALL** of the following activities?

- Engagement with the public and relevant stakeholders, including the private sector and community groups;
- Incorporation of information received from the engagement and collaboration into the plan; and
- Coordination that included inter- and intra-governmental cooperation and collaboration, as appropriate.

☑ **YES**
☐ **NO**

Note: This should include a description of public meetings, participation in public and private events, and proactive meetings with stakeholders.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)
City of Fernley Local Road Safety Plan	4

5. Policy and Process Changes

Are **BOTH** of the following true?

- The plan development included an assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize safety; and
- The plan discusses implementation through the adoption of revised or new policies, guidelines, and/or standards.

☑ **YES**

☐ **NO**

Note: This may include existing and/or recommended Complete Streets policy, guidelines for community engagement and collaboration, policy for prioritizing areas of greatest need, local laws (e.g., speed limit), design guidelines, and other policies and processes that prioritize safety.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)
City of Fernley Local Road Safety Plan	64-65

6. Strategy and Project Selections

Does the plan identify a comprehensive set of projects and strategies to address the safety problems in the Action Plan, with information about time ranges when projects and strategies will be deployed, and an explanation of project prioritization criteria?

☑ **YES**

☐ **NO**

Note: This should include one or more lists of community-wide multi-modal and multi-disciplinary projects that respond to safety problems and reflect community input, indication of expected time ranges to complete each project, and a description of how your community will prioritize projects in the future.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)
City of Fernley Local Road Safety Plan	

7. Progress and Transparency

Does the plan include **BOTH** of the following?

- A description of how progress will be measured over time that includes, at a minimum, outcome data.
- The plan is posted publicly online.

☑ **YES**

☐ **NO**

Note: This should include a progress reporting structure and list of proposed metrics.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)
City of Fernley Local Road Safety Plan	66-67

8. Action Plan Date

Was at least one of your plans finalized and/or last updated between 2021 and May 26, 2026?

☑ **YES**

☐ **NO**

Note: Updates may include major revisions, updates to the data used for analysis, status updates, or the addition of supplemental planning documents, including but not limited to an ADA Transition Plan, one or more Road Safety Audits conducted in high-crash locations, or a Vulnerable Road User Plan.

If "YES," please list your most recent document, date of finalization, and page number(s) that corroborate your response.

Document Title	Date of Most Recent Update	Page Number(s)
City of Fernley Local Road Safety Plan	5/20/2026	1

City of Fernley Agency Pledge

In this pledge, we formalize the City of Fernley's (City's) support for the goals in *Nevada's 2026-2030 Strategic Highway Safety Plan (SHSP)* and the overall vision of Zero Fatalities on Nevada's public roadways. In following the Safe System Approach principles, the safety of all road users relies on shared responsibility from everyone, including all levels of government, non-profit and advocacy groups, engineers, researchers, and the public. Dedication to proven safety programs and projects can reduce traffic fatalities and serious injuries. The City of Fernley is committed to enhancing existing programs that work and implementing the safety strategies outlined in the Local Road Safety Plan (LRSP) to continue to drive down fatalities and serious injuries within the City.

Mayor Neal E. McIntyre	Councilmember Ryan Hanan
Councilmember Felicity Zoberski	Councilmember Stan Lau
Councilmember Albert Torres	Councilmember Joe Mendoza

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Robert Carson, Finance Director**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No:	Yes:	No:	.

ACTION REQUESTED: Motion

AGENDA ITEM:

(For possible action) Discussion regarding the Fiscal Year 2026/2027 final budget including,but not limited to: All funds within the Water Enterprise Fund; Wastewater Enterprise Fund; General Fund; Special Revenue Funds; Capital Improvement Program; rates; all city departments; the budget process; timelines, goals, and existing budget; debt, staffing, including but not limited to reorganization, reclassification, employee positions and contracts, new positions, and other matters related thereto

AGENDA ITEM BRIEF:

.

RECOMMENDED MOTION:

BUSINESS IMPACT (per NRS Chapter 237):

.

See attached report for background, analysis, alternatives.

ALTERNATIVES:

BACKGROUND:

.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

FINANCIAL IMPLICATIONS:

ATTACHMENTS:
None

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Michele Rambo, Planning Director**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:X	No:	Yes:	No: X	General Fund

ACTION REQUESTED: Ordinance

AGENDA ITEM:

(For Possible Action) Introduction and first reading of Bill #386, an Ordinance establishing the Fernley Power District as a municipal electric utility of the City of Fernley pursuant to NRS 266.290; setting forth the public utility proposed to be established, the estimated cost thereof, and the proposed manner and terms of payment; defining the initial service area within the victory logistics district; establishing the Fernley Power District board as the governing body of the district and prescribing its composition, member selection, and powers and duties; delegating to the board administrative and regulatory authority over the district; and other matters properly related thereto.

AGENDA ITEM BRIEF:

Due to the lag time expected for NV Energy to bring needed power, Mark IV Capital, the developer of the Victory Logistics District, is requesting the formation of a power utility district to encompass their development area. The proposed Ordinance to accomplish this request establishes that district and a board to oversee the district.

This is an introduction and first reading only. A full discussion on this item will occur at the June 17, 2026 meeting when the Ordinance returns to City Council for action.

RECOMMENDED MOTION:

None - 1st Reading Only

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is required. However, since the district will only impact the property owned by Mark IV, they have provided a written waiver of the Business Impact Statement (attached).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

None - 1st Reading Only

BACKGROUND:

The establishment of the Fernley Power District is a strategic initiative by Mark IV Capital to create a specialized utility system to serve the customers within the Victory Logistics District. NV Energy does not have the infrastructure needed to service the anticipated end-users and will not for several years. The creation of this power district will allow for continued economic development within Fernley and result in direct revenues to the City and increased services to the residents. This model relies on long-established municipal utility models currently in use by Boulder City, the City of Caliente, and the City of Fallon. Lyon County is also currently considering the same type of power district model to accommodate development.

Formation costs will be paid by Mark IV Capital and their partner, Stella Power Company. The City of Fernley, including residents, will not be required to contribute to the costs of the future power plant. Instead, the estimated $600,000,000 will be paid entirely by the developers. In addition, because the only customers will be within the Victory Logistics development, customers using NV Energy will not see any increase to their rates.

A Conditional Use Permit will be required for the construction of the associated power plant that is planned as part of this power district. This permit will be approved by the Planning Commission. However, the Planning Commission decision may be appealed, in which case it would be heard by the City Council.

The Fernley Power District will also have a benefit to the City of Fernley and its residents in the form of franchise fees. The district will deliver (at full buildout) nearly $24,000,000 in annual revenue to the Fernley budget which will increase the services that the City can provide. This money could be used for things such as (but not limited to): roads, parks, recreation, and public safety.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

NRS 266.260
NRS 266.285
NRS 266.290
NRS Chapter 268
NRS Chapter 271
NRS Chapter 350
NRS Chapter 704A

FINANCIAL IMPLICATIONS:

See Bill #386, Appendix A for a full financial discussion.

ATTACHMENTS:

1. Bill #386 with Attachment

BILL #_____
CITY OF FERNLEY
ORDINANCE #_____

AN ORDINANCE ESTABLISHING THE FERNLEY POWER DISTRICT AS A MUNICIPAL ELECTRIC UTILITY OF THE CITY OF FERNLEY PURSUANT TO NRS 266.290; SETTING FORTH THE PUBLIC UTILITY PROPOSED TO BE ESTABLISHED, THE ESTIMATED COST THEREOF, AND THE PROPOSED MANNER AND TERMS OF PAYMENT; DEFINING THE INITIAL SERVICE AREA WITHIN THE VICTORY LOGISTICS DISTRICT; ESTABLISHING THE FERNLEY POWER DISTRICT BOARD AS THE GOVERNING BODY OF THE DISTRICT AND PRESCRIBING ITS COMPOSITION, MEMBER SELECTION, AND POWERS AND DUTIES; DELEGATING TO THE BOARD ADMINISTRATIVE AND REGULATORY AUTHORITY OVER THE DISTRICT; AND OTHER MATTERS PROPERLY RELATED THERETO

THE CITY COUNCIL OF THE CITY OF FERNLEY, hereinafter "the Council", DO HEREBY ORDAIN:

Section 1. Findings and Purpose.

The Council hereby makes the following findings in support of this Ordinance:

(a) The City of Fernley (the "City") is a general-law municipality organized under Nevada Revised Statutes ("NRS") Chapter 266, and is broadly empowered under NRS 266.285, NRS 266.290, and NRS Chapter 268 to acquire, construct, operate, and maintain public utilities to serve the needs of its residents and businesses.

(b) The City is further empowered by: NRS 266.260 to provide, by Ordinance, the manner and details necessary for the full exercise of any municipal power conferred upon it; NRS 266.390 to create any office that may be deemed necessary for the City, and regulate and prescribe the powers and duties of all such officers, except as otherwise provided by law; and NRS 266.460 to define the duties, powers and privileges of all officers, where not so defined under NRS Chapter 266, by Ordinance.

(b) The Victory Logistics District ("VLD") is an industrial and commercial development within the City, operated pursuant to that certain Development Agreement with the City of Fernley identified as DA22001.

(c) The incumbent electric public utility, NV Energy, has communicated an inability to provide sufficient electric service to VLD within a commercially reasonable timeframe.

(d) Such prolonged delays by the incumbent utility would render the continued development of VLD impractical, if not entirely impossible, thereby threatening significant planned capital investment within the City and the substantial tax revenues, franchise fees, and economic development benefits associated therewith.

(e) On April 1, 2026, the Council adopted Resolution #26-005, authorizing the formation of a working group (the "Working Group") comprised of designated representatives from the City of Fernley, Mark IV Capital, Stella Power Company, and the North Lyon Fire District, for the purpose of developing the cost estimates required by NRS 266.290(2)(b).

(f) The Working Group has prepared its written report, dated _____, 2026 (the "Working Group Report"), a copy of which is attached hereto as **Exhibit A** and incorporated herein by reference.

(g) The Council, together with the Mayor, has reviewed and hereby approves the Working Group Report as the report of a body theretofore appointed by the Council for the purpose contemplated by NRS 266.290(2)(b).

(h) The Council finds that the establishment of the Fernley Power District serves a compelling public purpose and is firmly in the economic development and public interests of the City, will produce substantial recurring franchise fee revenues for the City's general fund, and will be accomplished without any cost to, or financial obligation of, the City, its general fund, or the taxpayers of the City.

(i) The recitals set forth above are hereby adopted as findings of the Council.

Section 2. Establishment of Fernley Power District; Public Utility Proposed to be Established.

There is hereby created and established, pursuant to NRS 266.290 and the powers granted by NRS 266.010, a municipal public utility of the City of Fernley to be known as the "**Fernley Power District**" (the "**District**" or "**FPD**"), as a body corporate and instrumentality of the City. In satisfaction of NRS 266.290(2)(a), the public utility proposed to be established is described as follows: the District shall be a municipal electric utility authorized to acquire, construct, install, own, operate, maintain, repair, replace, and extend electric generation facilities, electric transmission and distribution facilities, substations, interconnection facilities, metering and control equipment, and all related real and personal property, fixtures, easements, and appurtenances reasonably necessary or convenient to provide retail electric service to End-Use Customers within the Initial Service Area defined in this Ordinance. The District shall operate as an instrumentality of the City and shall be governed by the Fernley Power District Board, established under Section 3 of this Ordinance, in accordance with this Ordinance, applicable provisions of NRS Chapters 266 and 268, and such further ordinances and resolutions as the Council may from time to time adopt.

Section 3. Estimated Cost.

In satisfaction of NRS 266.290(2)(b), and as set forth fully and in detail in the Working Group Report attached hereto as **Exhibit A** and incorporated herein by reference, the estimated cost of establishing, constructing, and placing the Fernley Power District into initial operation is approximately Six Hundred Million Dollars ($600,553,000), comprised of the following principal components:

(a) approximately Five Hundred Fifty-Three Thousand Dollars ($553,000) for initial Energy Service Company stand-up costs (including one-time equipment and materials, one-time legal, and recurring operational costs in the first year of operations); and

(b) approximately Six Hundred Million Dollars ($600,000,000) for foundational construction, equipment, labor, fuel rights, and related initial development costs.

The detailed cost estimates, including the five-year operational revenue and expense scenarios under both high-cost and low-cost assumptions, are set forth in the Working Group Report attached

as **Exhibit A**.[1] All cost figures stated in this Section and in **Exhibit A** are estimates and are subject to refinement based on final construction costs, customer load ramp, fuel availability, and the timing of permitting for subsequent stages, as more particularly described in the Working Group Report.

Section 4. Proposed Manner and Terms of Payment.

In satisfaction of NRS 266.290(2)(c), the proposed manner and terms of payment for the costs of establishing, constructing, and operating the District are as follows:

(a) ***Privately Funded Formation and Construction.*** All capital, development, construction, formation, and ongoing operational costs of the District, including without limitation the costs identified in Section 3 of this Ordinance and in **Exhibit A**, shall be borne entirely by Mark IV Capital and Stella Power (collectively, together with their respective affiliates, successors, and assigns, the "Pioneer Developers"), or by other private developers, generators, or End-Use Customers within the District. In no event shall the City, the City's general fund, or the taxpayers of the City be obligated for, or required to advance, any such cost or expense.

(b) ***Cost Recovery Through Rates.*** Recovery of the Pioneer Developers' capital outlay and ongoing operational costs shall be effectuated through electric service rates charged to End-Use Customers within the District pursuant to Power Purchase Agreements, Operational Agreements (including potential line extension agreements), and such other contractual arrangements as may be approved by the District and the Council, consistent with applicable law.

(c) ***Franchise Fee.*** The City shall receive a franchise fee equal to one percent (1%) of gross receipts from electric service provided to End-Use Customers within the District (also defined as "gross revenues from District Operations"), payable to the City's general fund. Such franchise fee shall not be subject to offset, reduction, or recoupment on account of any cost recovery owed to the Pioneer Developers and shall accrue to the City beginning on the District's in-service date.

(d) ***No Pledge of City Credit; Revenue Bonds.*** Subject to compliance with all applicable provisions of NRS Chapters 266, 268, 271, 350, and 704A, the District may issue or require revenue bonds, performance bonds or similar financial instruments secured exclusively by net revenues derived from District operations, or privately secured through at Developer or end-use customer voluntary election, or obligation, as relevant, to finance future expansion or capital improvement; provided, however, that no such bonds shall constitute general obligations of the City or pledge the full faith, credit, or taxing power of the City.

[1] For the avoidance of doubt, Exhibit A is not inclusive of all potential pre-construction, construction, equipment costs, labor contracts, legal contract review and compliance, permitting, but rather models how such foundational infrastructure costs will be structured amongst pioneer end-use customers at front-end, first-phase power purchase agreements. Overall costs, as required by NRS 266.290(2)(b) requires only the "estimated cost" of establishing the District. Therefore, many foundational costs have been aggregated based on current market rates and are subject to end-use customer requirements.

Section 5. Initial Service Area; Expansion.

(a) ***Initial Service Area.*** The initial service area of the District (the "Initial Service Area") shall consist of those portions of the Victory Logistics District, as more particularly described in Development Agreement DA22001 and any exhibits or amendments thereto, that are not, as of the effective date of this Ordinance, receiving electric utility service from NV Energy or any other certificated public utility.

(b) ***Preservation of Existing Service.*** Nothing in this Ordinance is intended to, nor shall it be construed to, displace, terminate, or otherwise impair the existing electric service provided by NV Energy to any retail residential or commercial customer within the City, or to any property within the boundaries of VLD that is receiving electric utility service from NV Energy as of the effective date of this Ordinance. Such customers and properties shall remain within the certificated service territory of NV Energy and shall not be included within the Initial Service Area of the District.

(c) ***Expansion of Service Area.*** The Council may, upon application and by subsequent ordinance or resolution adopted in accordance with applicable law, expand the service area of the District to include additional contiguous areas within the corporate limits of the City; provided, however, that no such expansion shall affect the existing certificated service territory of any other public utility except in compliance with applicable provisions of NRS Chapter 704 and the orders and regulations of the Public Utilities Commission of Nevada.

Section 6. Fernley Power District Board; Composition.

(a) *Establishment.* There is hereby created the Fernley Power District Board (the "Board"), which shall be the governing body of the District. The Board is created pursuant to the authority of the Council under NRS 266.260 and NRS 266.390 to provide by ordinance the manner and details necessary for the full exercise of municipal utility powers conferred by NRS 266.290.

(b) *Composition During Initial Stand-Up Period.* The Board shall consist of three (3) voting members appointed by the Council as follows:

(1) one (1) member nominated by Mark IV Capital, in its capacity as Pioneer Developer of the District;

(2) one (1) member nominated by Stella Power Company, in its capacity as Pioneer Generation Partner of the District; and

(3) one (1) member nominated by the Mayor and confirmed by the Council, who shall represent the City of Fernley.

(c) *Initial Stand-Up Period.* To ensure consistency, continuity, and long-term stability during the District's stand-up and early operational phases, the composition of the Board set forth in subsection (b) shall remain in effect from the effective date of this Ordinance through and including the twentieth (20th) anniversary of the In-Service Date defined in Section 9(b) of this Ordinance (the "Initial Stand-Up Period"). Prior to the expiration of the Initial Stand-Up Period, the District shall, by separate ordinance or resolution, adopt provisions governing the long-term

composition, structure, and selection of the Board. Upon approval of such ordinance, resolution, or whether contained within the Bylaws drafted and adopted by the District, the District shall provide a copy of the same to the City Clerk.

(d) *Successors and Assigns.* References in this Section to Mark IV Capital and Stella Power shall include their respective affiliates, successors, and assigns. In the event of a transfer, assignment, or change of control affecting the nomination rights of either entity, those rights shall pass to the successor or assignee, subject to ratification by the City Council, which ratification shall not be unreasonably withheld.

Section 7. Board Member Selection Process; Terms; Vacancies; Removal.

(a) *Nomination and Approval.* Each entity entitled to nominate a Board member under Section 6(b) shall submit its nominee in writing to the City Clerk, accompanied by a statement of the nominee's qualifications. The Council shall consider each nomination at the next regular meeting following submission, or at a special meeting called for that purpose, and shall approve the nominee absent compelling or direct evidence of unsuitability to serve**.** For purposes of this Section, "unsuitability to serve" means the existence of a documented felony conviction involving moral turpitude or fraud, a finding by a court or regulatory body of professional misconduct relevant to utility governance, or a violation of NRS Chapter 281A (Code of Ethical Standards). Mere policy disagreement, political affiliation, or differences of opinion shall not constitute compelling or direct evidence of unsuitability.

(b) *Terms.* Each Board member shall serve a term of three (3) years and may be re-nominated and re-approved for successive terms during the Initial Stand-Up Period. To promote staggered turnover, the initial terms shall be: three (3) years for the Mark IV Capital nominee; two (2) years for the Stella Power nominee; and one (1) year for the City of Fernley nominee. All subsequent terms during the Initial Stand-Up Period shall be three (3) years.

(c) *Holdover.* A Board member whose term has expired shall continue to serve until a successor is nominated and approved.

(d) *Vacancies.* A vacancy on the Board, whether caused by resignation, removal, death, incapacity, or expiration of term without re-nomination, shall be filled by the same nomination and approval process set forth in subsection (a) within sixty (60) days of the vacancy.

(e) *Removal.* A Board member may be removed by the City Council for cause as defined in subsection (a), upon not less than thirty (30) days' written notice and an opportunity to be heard, and in compliance with NRS 244.031. If a majority of the City Council vote for removal, the nominating entity shall thereafter submit a replacement nominee in accordance with subsection (a) and (d); ***Limited Exception for Emergencies:*** Where a Board member is removed under this subsection, to ensure continuity of District Operations, and maintain the regulatory transparency necessary for the same, the District may call an emergency meeting to consider the nomination from the entity seeking to fill vacancy due to the removal, and upon unanimous vote of all remaining members of the Board, may seat an “Interim Appointee” who is vested with all powers until such time as the City Council considers and approves the formal appointment of

such nominated member, or any such alternatively nominated member, pursuant to subsection (d). Where an alternatively nominated member is so appointed, the Interim Appointee's term shall immediately conclude.

(f) *Compensation.* Board members shall serve without compensation from the City. The Board may, by resolution, authorize reasonable per diem, stipend, or expense reimbursement to be paid by the District out of District revenues; provided, however, that no such compensation or reimbursement shall be borne by the City, the City's general fund, or the taxpayers of the City.

(g) *Officers and Quorum.* The Board shall annually elect from among its members a Chair, a Vice Chair, and a Secretary. Two (2) Board members shall constitute a quorum, and action of the Board shall require the affirmative vote of a majority of those present and voting.

Section 8. Powers and Duties of the Board.

(a) *General Authority; Delegation from Council.* The Board shall have the power and authority to govern, manage, regulate, and oversee the operations of the District, subject to the provisions of this Ordinance, applicable Nevada law. The Council hereby delegates to the Board the day-to-day operational, regulatory, and administrative oversight of the District and the activities and development conducted within the District, including without limitation the powers enumerated in subsection (b). This delegation is an express, defined delegation of administrative and regulatory authority and is not a delegation of the Council's core legislative powers, which the Council retains as set forth in subsection (c) and Section 9(g) of this Ordinance. The Board shall function as the public regulator of activities and development within the District, and its decisions shall constitute official action of a municipal instrumentality of the City.

(b) *Specific Powers.* Without limiting the generality of subsection (a), the Board is expressly authorized and empowered to:

> (1) adopt, amend, and enforce electric service rules, regulations, tariffs, standards of service, and operating procedures applicable to the District and to the End-Use Customers and other parties served by or interconnected with the District;
>
> (2) negotiate, enter into, administer, and enforce contracts for services on behalf of the District, including without limitation contracts with one or more Energy Service Companies, generation operators, transmission and distribution operators, billing and administration providers, legal counsel, accountants, auditors, engineers, and consultants;
>
> (3) approve, on behalf of the District, Power Purchase Agreements, Operational Agreements (including line extension agreements), interconnection agreements, and other contractual arrangements with End-Use Customers, generators, fuel suppliers, and other counterparties;
>
> (4) regulate the District and the conduct of business within the District, including without limitation matters of safety, reliability, interconnection, metering, customer service, billing, dispute resolution, and compliance with applicable federal, state, and local law;

(5) establish, set, modify, and approve electric service rates, as dictated by Pioneer Development costs, End-Use Customer pricing, charges, fees, deposits, and price escalators applicable within the District, consistent with the cost-recovery principles set forth in this Ordinance;

(6) accept and administer indemnification agreements, performance bonds, letters of credit, insurance, and other forms of security from Pioneer Developers, generators, End-Use Customers, and other parties as contemplated by the Working Group Report and applicable law;

(7) employ or contract for the services of a District manager, electric service company, general counsel, secretary, treasurer, and such other officers, employees, and consultants as the Board determines to be necessary or convenient for District operations, with all costs borne by the District and not by the City;

(8) adopt Bylaws governing the Board's internal operations, meeting procedures, recordkeeping, and ethical standards, consistent with this Ordinance and applicable law;

(9) recommend to the Council the expansion of the Initial Service Area, the grant of franchises, and the adoption or amendment of ordinances or resolutions affecting the District; and

(10) exercise such other powers as may be necessary or convenient to carry out the purposes of this Ordinance and the lawful operations of the District as a municipal electric utility.

(c) *Limitations.* Notwithstanding subsection (b), the Board shall not:

(1) pledge the full faith, credit, or taxing power of the City;

(2) obligate the City for any cost or expense; or

(3) Without the express approval of the City Council, or amendment to this Ordinance, as appropriate:

i. expand the Initial Service Area or extend District service outside the boundaries thereof without the approval of the City Council; or

ii. take any action inconsistent with this Ordinance, or applicable Nevada law.

(d) *Open Meeting Law.* The Board shall conduct its meetings in compliance with NRS Chapter 241, the Nevada Open Meeting Law, and shall maintain minutes and audio recordings of its proceedings as required thereunder.

(e) *Annual Report.* The Board shall provide a written annual report to the Council not later than March 31 of each calendar year, summarizing District operations, financial condition, capital

expenditures, franchise fee remittances to the City, customer additions, and material contracts entered into during the prior calendar year.

Section 9. Commencement of District Operations; In-Service Date.

(a) *Effective Date of District.* The District is created and established on the effective date of this Ordinance.

(b) *In-Service Date.* The commencement of electric service operations by the District to End-Use Customers (the "In-Service Date" or "ISD") is anticipated to occur in calendar year 2029, consistent with the timeline set forth in the Working Group Report, or as earlier achievable by Pioneer Developers. The Board shall provide written notice to the Council not less than sixty (60) days prior to the projected ISD, identifying the specific commencement date, the initial generation and distribution facilities to be placed in service, and the initial End-Use Customers to be served. The actual ISD shall be established by Board resolution and confirmed in writing to the City Clerk.

(c) *Phased Build-Out.* Following the ISD, the District shall be developed in phases consistent with End-Use Customer load ramp requirements and the operational scenarios set forth in the Working Group Report.

(d) *Franchise Fee Accrual.* Notwithstanding the formation of the District on the effective date of this Ordinance, the City's right to grant a Franchise to an electric service company within the District pursuant to NRS 268.300(1)(b) and Section 4(c) of this Ordinance, shall commence on the ISD and shall continue thereafter for the duration of District operations, and the City shall receive such franchise fee payments pursuant to the terms of any such Franchise so granted.

(e) *Schedule for Initial Board Nominations and Council Confirmation Vote.* To ensure the timely formation of the Board and commencement of District activities, the following schedule shall govern initial Board nominations and confirmation:

> (1) Each entity entitled to nominate a Board member under Section 6(b) shall submit its initial nominee in writing to the City Clerk not later than sixty (60) days following the effective date of this Ordinance (the "Nomination Deadline");
>
> (2) The City Clerk shall place the nominations on the agenda of the next regular meeting of the Council occurring not less than fifteen (15) days after the Nomination Deadline, or, if no such regular meeting is scheduled within thirty (30) days after the Nomination Deadline, on the agenda of a special meeting called for that purpose;
>
> (3) The Council shall vote on each nominee at the meeting referenced in paragraph (2), applying the standard set forth in Section 7(a) and shall approve each nominee absent compelling or direct evidence of unsuitability to serve;
>
> (4) In the event the Council declines to confirm any nominee, the affected nominating entity shall submit a replacement nominee not later than thirty (30) days following the

Council's vote, and the Council shall act on the replacement nominee at its next regular meeting occurring not less than fifteen (15) days following submission, or at a special meeting called for that purpose; and

(5) The Board shall convene its first organizational meeting within thirty (30) days after the third Board member is confirmed by the Council, at which time the Board shall elect officers as provided in Section 7(h) and shall organize itself for the conduct of District business.

(f) *Six-Month Status Report; Adoption of Bylaws and Electric Service Rules.* Not later than one hundred eighty (180) days after the date on which the Board convenes its first organizational meeting (the "Six-Month Report Date"), the Board shall appear before the Council at a regular or special meeting and shall present a written report (the "Six-Month Status Report") addressing each of the following:

(1) the status of District formation and operational progress, including without limitation the status of generation, transmission, and distribution facility planning, permitting, financing, construction, and interconnection;

(2) the status of negotiations and execution of Power Purchase Agreements, Operational Agreements, interconnection agreements, and Energy Service Company contracts;

(3) the District's projected timeline to the In-Service Date;

(4) the proposed bylaws governing the Board's internal operations, meeting procedures, recordkeeping, conflicts of interest, and ethical standards (the "Bylaws"); and

(5) the proposed electric service rules, regulations, tariffs, standards of service, and operating procedures applicable within the District (the "Electric Service Rules").

(g) *Submission to City Clerk of Bylaws and Electric Service Rules; Reservation of Authority.*

(1) *Reservation of Council Authority; No Retroactive Impairment of Contracts*. Any governing document of the District (including, but not limited to, the items referenced in subsection f(4) and f(5) of this Section shall be submitted to the City Clerk within 10 days of adoption by the Board. The Council expressly reserves the right and authority to review the Bylaws and the Electric Service Rules governing the District. The Bylaws and the Electric Service Rules, once adopted by the Board, shall constitute binding regulations of the District and shall have the force and effect of law within the City. Notwithstanding the foregoing, no amendment, supplement, repeal, or replacement of the Bylaws or the Electric Service Rules, by the Board, shall:

(A) be applied retroactively to impair, alter, diminish, or otherwise affect the rights, obligations, or remedies of any party under any Power Purchase Agreement, Operational Agreement (including any line extension agreement), interconnection agreement, indemnification agreement, financing agreement,

franchise, license, contract, or other agreement entered into by, with, or on behalf of the District prior to the effective date of such amendment, supplement, repeal, or replacement ("Existing Agreement(s)");

(B) impair the obligation of any Existing Agreement in violation of Article 1, Section 15 of the Nevada Constitution or Article I, Section 10 of the United States Constitution; or

(C) deprive any party to an Existing Agreement of a vested contractual right without due process of law.

→Each Existing Agreement shall be governed by the Bylaws and Electric Service Rules in effect as of the date such Existing Agreement was executed, except to the extent the parties to the Existing Agreement expressly agree in writing to the application of subsequently adopted Bylaws or Electric Service Rules. The Board may apply amended Bylaws and Electric Service Rules prospectively to new agreements executed on or after the effective date of the amendment, and to renewals, extensions, or material modifications of Existing Agreements to the extent the parties expressly agree.

(3) *Interim Operating Authority.* Pending the final adoption of Bylaws and Electric Service Rules, the Board may operate under interim bylaws and interim electric service rules adopted by Board resolution, so long as no such interim Bylaw or Electric Service rule violates any provision of Federal or Nevada law, or any provision of the Fernley City Code.

(4) *Public Regulatory Function.* The Board's obligation to follow the provisions of NRS 241, all requirements herein to submit adopted regulations to the City Clerk, and any confirming authorities of the City Council herein reserved (such as confirming the nomination of board members), shall not be construed to diminish, qualify, or otherwise impair the Board's delegated authority to act as the public regulator of activities and development within the District as established by this Ordinance, all Bylaws and Electric Service Rules adopted hereunder, as amended from time to time, or any other delegation of authority to the District for the purpose of effectuating its duties pursuant to NRS 266.010, NRS 266.015, NRS 266.260, and NRS 266.390.

(5) *Subsequent Amendments.* After initial adoption, the Board may from time to time recommend amendments to the Bylaws or the Electric Service Rules. Any such amendment shall be effective only upon submission of the same to the City Clerk as contemplated by Section 6(c) of this ordinance, and subject only to any other requirements under Nevada law for such similarly situated actions to take effect.

Section 10. Publication Pursuant to NRS 266.290(3).

Pursuant to NRS 266.290(3), this Ordinance shall be published in full at least once a week for four (4) successive weeks in a newspaper of general circulation published in the City prior to the Council's consideration of final passage. At the first regular meeting of the Council, or any adjournment thereof, after the completion of such publication, the Council may proceed to enact

this Ordinance, which must conform in all respects to the terms and conditions of the Ordinance as previously published, unless a petition is presented pursuant to NRS 266.290(4).

Section 11. Repealer.

All ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 12. Publication of Title.

In addition to the full publication required by Section 10 of this Ordinance, the City Clerk is instructed and authorized to publish the title of this Ordinance as provided by law upon final adoption.

Section 13. Effective Date.

This Ordinance shall become effective upon passage, approval, and publication, subject to the publication requirements of NRS 266.290(3).

Section 14. Liberal Construction.

The provisions of this Ordinance shall be liberally construed to effectively carry out its purposes in the interest of the public health, safety, welfare, and convenience.

Section 15. Severability.

If any subsection, phrase, sentence, or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions.

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Section 16. NRS Chapter 237 Finding.

Pursuant to NRS 237.080, the Council has made a concerted effort to determine whether this Ordinance will impose a direct and significant economic burden upon a business or directly restrict the formation, operation, or expansion of a business, and finds that it will not. The Council further finds that Mark IV Capital is the only business directly affected by this Ordinance and has been provided notice and the opportunity to submit data or arguments pursuant to NRS 237.080(1). Because no direct and significant economic burden or business restriction has been identified, the preparation of a Business Impact Statement under NRS 237.090 is not required. The Council further finds that this Ordinance is exempt from NRS Chapter 237 to the extent it is adopted pursuant to NRS Chapter 350 within the meaning of NRS 237.060(2)(c), and that the Council has otherwise complied with all applicable requirements of NRS 237.030 to NRS 237.150, inclusive.

BILL #_____ BEING HEREBY PROPOSED on the _____ day of _____, 2026.

BILL #_____ BEING HEREBY PASSED, APPROVED, and ADOPTED this _____ day of _____, 2026, by the following vote of the Council:

Ayes: _____ Nays: _____ Abstentions: _____ Absent: _____

FERNLEY CITY COUNCIL

By: _____ Date: _____

Neal E. McIntyre, Mayor

Attest By: _____ Date:_____

Kim Swanson, City Clerk

EXHIBIT A

WORKING GROUP REPORT

(Estimated Costs of Establishing the Fernley Power District Pursuant to NRS 266.290(2)(b))

[The Working Group Report, including the "Fernley Power District 5-Year Operational Revenue and Expense Scenarios" workbook and all supporting documentation prepared by the Working Group pursuant to Resolution #26-005, is attached hereto and incorporated by reference.]

WORKING GROUP REPORT NARRATIVE

As adopted by Fernley City Council Resolution #26-005 for purposes of exploring and studying cost estimates related to formation of the Fernley Power District

A. Startup Costs and District Formation (Year 0: 2026-2029)

The establishment of the Fernley Power District ("**FPD**") within the Victory Logistics District ("**Victory**") is a strategic initiative designed to create a specialized, non-rate regulated utility system. By structuring the FPD outside the purview of traditional public regulatory cost-of-service reviews, the City of Fernley ("**Fernley**") becomes one of the most attractive power markets in the Nation, prioritizing speed-to-power and developer flexibility. While the incumbent Utility (NV Energy) publicly communicates inability to serve and delays in the range of 2036-2042, the FPD allows direct revenues to flow to the residents of Fernley, while creating an atmosphere for the world's most well-capitalized and funded industries to advance the interests of economic underpinnings of the 21st century.

The foundational phase (Year 0; 2026-2029) is dedicated to legal and administrative architecture, ensuring that the FPD is positioned to support industrial-scale energy demand through private agreements rather than public debt or taxpayer subsidies. This includes: (1) Fernley's approval of the FPD, a municipal utility backed by decades of law and precedent in the State of Nevada; (2) Sufficient planning and capital outlay by Pioneer Developers Mark IV Capital and Stella Power Company (collectively, **"Pioneer Developers**") in an effort to satisfy end-Customer requirements; and (3) Securing market interest and intent to develop from End-Use Customers (primarily data centers or other "large electric load" entities, such as manufacturing, artificial intelligence, and logistics-driven entities (collectively **"Developers"** or where relevant **"End-Use Customers")**. Of the foregoing, parts two and three (capital outlay and End-Use Customer interest) has been established. Fernley's approval of the FPD finalizes these preliminary measures, ensuring long-term revenue accruals to Fernley for the benefit of its residents and long-term financial stability.

Formation costs will be borne entirely by the Pioneer Developers within FPD, avoiding the need for any Fernley-dedicated or other tax-payer revenues to secure or otherwise be spent on the FPD. These foundational phase startup costs are formed based on the proposed first 300MW, and are estimated to, depending on very dynamic market prices, to be at, around, or in excess of $600,000,000.[1] This includes an estimated $553,000 in initial Energy Service Company stand-up costs, and over $599,500,000 in foundational electric generation and electric distribution equipment.[2] These foundational construction costs relate to procurement of

[1] Given NRS 266.290(2)(b) requires the "estimated cost" of establishing the FPD, numbers have been rounded up to the nearest million in most cases. For a more detailed breakdown of estimated start up costs, including the costs relative to the Energy Service Company see Exhibit A to this report "Fernley Power District 5-year Operational Revenue and Expense Scenarios." For the avoidance of doubt, Exhibit A excludes certain foundational, construction, and ancillary costs, which are based on dynamic market availability and pricing, and entirely subject to end-use customer or supplier negotiations. In any case, all such costs will be recovered as discussed herein, consistent with Good Utility Practice (currently examples of similar planning modeling include NV Energy, Overton Power District, Valley Electric Association, and Boulder City Electric Utility, among others).

[2] Estimates are subject to end-use customer needs, which will only be finalized once FPD is formed and initial Pioneer infrastructure agreements negotiated. These estimates are driven by specific design considerations that the Pioneer Developers iterate with End-Use Customers. Regardless of cost estimates, all costs will be adequately accounted for and recovered as discussed herein as required by NRS 266.290(2).

equipment and materials, construction and grading costs (including necessary federal, state, and local, permits, legal review, securing fuel for electric generation system and costs related thereto, compliance requirements related to worker and community safety), redundant power supply systems, bridge power supply options (if necessary), and other necessary ancillary costs in the development of electric utility infrastructure.

Financial assumptions adopt a strategy of fiscal insulation by excluding speculative Fernley revenue estimates prior to the 2029 operational start (also referred to as **"In-Service Date"** or **"ISD"**).[3] While the primary 1% franchise fee does not trigger until ISD, near-term revenues for Fernley in 2026 and 2027 through construction permitting fees and other ancillary permitting fees will bring immediate revenues to Fernley.[4] By focusing "Year 0" exclusively on formation costs and delaying revenue projections until ISD, premature fiscal dependency on the project is excluded, and merely accrued as a tangential financial benefit to Fernley. For clarity, such ancillary permitting costs are not within the scope of this report as required by NRS 266.290, but are discussed as necessary context and information to the Fernley City Council in determining whether formation of the FPD is in the public benefit and interest.

B. Ongoing Operational Costs and Infrastructure Development

The operational horizon from 2029 to 2034 is defined by a strategic scaling of infrastructure to match customer load. While the FPD (once created) will reach ISD in 2028,[5] load ramp estimates have been specifically modeled to be conservative. The FPD's expenditure profile is optimized for de-risking: fuel expenses are treated as pass-through costs through end-use customer agreements, while generation and delivery infrastructure capital remains the primary variable, as negotiated through Power Purchase Agreements ("**PPAs**") and Operational Agreements with End-Users, regulated by the FPD Board.[6]

The following table contrasts the expenditure profile for the first full year of operations (2029) under both High and Low cost scenarios:

Expense Category (Year 0 – 2026-2029)	High Cost Scenario	Low Cost Scenario
Generation & Delivery Infrastructure (including fuel service costs, and integrated battery energy storage system (BESS))	$164.83/MWh	$153.14/MWh
Electric Service Company Cost of Service	$553,000	
Total Price (Excluding Franchise Fee)	**$165.36 / MWh**	**$153.61 / MWh**

[3] Initial permitting and incremental tax revenues are not directly relevant to FPD finances, which are the subject of this report, and therefore excluded for that reason.
[4] Storey County provides a good example, demonstrating permitting and construction fees in the millions of dollars when the same type of large infrastructure and industrial development is made plausible.
[5] The 2028 ISD is more than a decade before NV Energy has publicly stated availability to serve such load.
[6] Power Purchase Agreements (sometimes referred to as Energy Supply Agreements) along with Operational Agreements (sometimes referred to as "Line Extension Agreements") are standard agreements for all utilities, accurately and adequately allocating cost responsibilities amongst various end-use customers benefitting from such infrastructure.

To protect Fernley's long-term revenue interest, a 2-3% annual price escalator will be integrated into End-Use Customer PPAs.[7] This market-based, and contractually obligated price escalator serves as a vital hedge against inflation, ensuring that costs of electric service, as well as costs related to fuel and power supply, track market rates as the FPD matures. When combined with Electric Service Company Costs of Service, this structure creates a predictable method of recovering investments costs, allowing the FPD to amortize such investments and appropriately allocating costs to beneficiaries, while maintaining competitive energy pricing for all end-use customers.

Infrastructure within the FPD will only be constructed as required and requested by End-Use Customers. The initial plan is for ~300MWs online by early 2029, but again this will be driven by customer needs. Stella Power Company's investment in generation infrastructure will not materialize without an End-Use Customer first executing the necessary long-term PPA's or other related infrastructure build-out agreements that would necessitate such project-specific infrastructure. Moreover, any initial and subsequent generation build-out or expansion of transmission and distribution lines will only be considered when first requested, and then financially secured and backed, by End-Use Customers, and has the requisite permits to allow for additional generation. Such scaled construction is both standard in Good Utility Practice and ensures the avoidance of projects that might be commenced, then subsequently abandoned.

C. Revenue Scenarios, Franchise Fees, and Cost Recovery

The FPD will allow for a long-touted phrase that large electric infrastructure users (including data centers) "pay their own way." FPD operations will require no funding, investment, or credit from Fernley's municipal financial reserves or other statutorily empowered municipal financing powers. Despite the lack of any investment or credit from Fernley, a 1% franchise fee on all gross receipts to End-Use Customers within the FPD will serve as a primary long-term revenue stream for Fernley. The design results in a "Net-Zero Public Risk" model: Pioneer Developers, along with other Developers (including Power Generators and End-Use Customers) assume 100% of formation and ongoing operational costs. Moreover, retail residential service for the residents of Fernley and existing businesses will continue to take service from NV Energy, leaving current utility services entirely unaffected. [8] Because FPD costs are entirely separate from NV Energy's network system costs, no resident or business within Fernley will realize any impact to current electric rates because of the FPD's creation. Instead, FPD revenues are driven exclusively by energy supply, revenues from the retail sales of that energy supply, and private customer agreements, shifting all market risk away from the public sector.

The initial projected Fernley franchise fee revenues are detailed below and are subject to change based on project, regulatory and other permitting requirements necessitating approval:

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[7] This assumption is subject both to market demands and tied to the Consumer Price Index. Specific escalator rates will be negotiated and adopted at the time such PPAs are executed, and FPD Board approval of the same

[8] Regardless of whether Fernley moves forward with creating the FPD, NV Energy will continue to serve all residents and business within Fernley currently served by NV Energy, and those future customers outside of the FPD, which will be located within NV Energy's dedicated service territory. NV Energy, as a private company, has the right, upon approval by the PUCN to seek rate increases for other projects and increases in costs of doing business. For the avoidance of doubt, any such rate increase would not be caused or plausibly argued to be based on the FPD's entirely ring-fenced cost model.

Year	Cal. Year	Peak Demand	High Price (80% Load)	Low Price (90% Load)
1	2029	150 MW	$1,738,223	$1,816,564
2	2030	600 MW	$7,072,878	$7,392,508
3	2031	1200 MW	$14,425,110	$15,077,156
4	2032	1800 MW	$22,068,603	$23,066,232
5	2033	1800 MW	$22,509,975	$23,572,557
6	2034	1800 MW	$22,960,175	$23,998,108

Cost recovery mechanisms will be structured to prioritize the reimbursement of the Pioneer Developer's upfront investment only after the FPD is operational ensuring that Pioneer Developers are made whole for the formation risks taken, while Fernley begins realizing substantial net revenues through initial permitting fees and other ancillary fees. For the avoidance of doubt, any such cost recovery will not have an impact on franchise fees, which will begin to accrue to Fernley upon FPD's ISD.

Ultimately, this working group study narrative demonstrates that the FPD is more than a utility; it is a transformative economic engine capable of delivering nearly $24 million in annual recurring revenue Fernley, for its discretionary use, at the current full build-out plan[9]. How Fernley decides to spend that money will be left to the Fernley City Council's budgeting process. Whether for schools, fire service, roads, parks, recreation centers, or any other public service, Fernley's general fund revenues will be augmented significantly by the creation of the FPD. From 2020-2024, Fernley's average annual fund revenues amounted to roughly $11,700,000 with the peak year being FY23 resulting in $14,817,275 in general fund revenues.[10] As demonstrated above, by FY30 the Fernley's General Fund budget more than doubles with revenues continuing to substantially increase resulting in an additional $20 million annually to Fernley and its taxpayers on full build-out of FPD's first phase.

Without the FPD, and relying on the current incumbent utility model, such revenues are not only rendered unobtainable, but also put entirely at risk, as other municipalities in Nevada, neighboring States, and communities across the Nation work to solve the issue of updating a bureaucratic, antiquated regulatory framework while attempting to build electric infrastructure to meet the demands necessitated by cell phones, computers, tablets, and the modern working economy. Today, Fernley has a unique "seat at the table" relative to such opportunities. As an incorporated City, Fernley's municipal powers allow the City to take advantage of unique

[9] Full build-out of the project, estimated 1.8GW (1800MW) is dependent on project tenants, such as, End-Use Customer credit, End-Use Customer committed growth, ability of project and Pioneer Developer ability to scale through equipment and labor contract purchases, and necessary and requisite governmental permitting.

[10] City of Fernley Financial Transparency Page: https://fernleynv.opengov.com/transparency#/167290/accountType=revenuesVersusExpenses&embed=n&breakdown=types&currentYearAmount=cumulative&currentYearPeriod=years&graph=bar&legendSort=desc&proration=true&saved_view=800848&selection=A13D77E515C27668EF9F4FFF5E946A8E&projections=null&projectionType=null&highlighting=null&highlightingVariance=null&year=2024&selectedDataSetIndex=null&fiscal_start=earliest&fiscal_end=latest

economic opportunities that will pay dividends for generations. Other jurisdictions within Nevada, including Lyon County, have under consideration the same type of "power district" model, with others under discussion across the State. Neighboring States like Utah, Idaho, Wyoming, and Arizona are currently working towards legislative changes to allow similar frameworks for their own States' economic benefit. Nevada's business-friendly environment, paired with unique, favorable, and existing statutory frameworks allow Fernley to seize its own financial destiny by relying on traditional American principles such as self-reliance, hard work, and ingenuity.

D. Liability Indemnification and Full Protection of Fernley and its Taxpayers

To ensure Fernley remains insulated from any legal or financial exposure, Developers will be required to agree to broad indemnification terms for FPD matters, which are aimed at protecting Fernley from any financial exposure or risk, under any circumstance related to FPD build-out and operations. In other words, Developers will be legally responsible for defending the Fernley and the FPD against any third-party claims, lawsuits, or damages arising from projects or operations within the FPD.

Because the FPD will operate as a municipal utility, Fernley can legally require and enforce such indemnification as a precondition of development activity within the FPD. In no case will Fernley, or the FPD, as an instrument of the City of Fernley, be responsible for conduct, liabilities or activities of the Developers within the FPD.

Example Indemnification Language:[11]

"[The Developers] shall, to the fullest extent permitted by law, defend, indemnify, and hold harmless the City and the FPD from and against any and all claims, losses, or liabilities, including reasonable attorney fees, arising out of or resulting from the development, construction, or operation of [District infrastructure]. This duty to defend is immediate from the date such claims, losses or liabilities arise."

E. CONCLUSION

As demonstrated throughout this Working Group report, the proposed FPD model provides a definitive roadmap for utility formation that fulfills the requirements of NRS 266.290 by outlining the estimated start-up and ongoing operational costs of establishing the FPD and also articulating the proposed manner and terms of payment for those costs. The model is not new. Rather, the model relies on long-established and well-utilized municipal utility models currently in use by municipal utilities like Boulder City, the City of Caliente, the City of Fallon, and Overton Power District, to name a few. By mandating that 100% of startup and ongoing operational costs are borne entirely by the Developers through up-front funding and securitized performance bonds, the FPD establishes a "Net-Zero Public Risk" environment that shields the Fernley from any fiscal or remediation liability. This structural insulation, combined with robust contractual step-in rights and projected $24 million in annual recurring franchise fees at full build-out, confirms that the FPD is not merely a viable utility, but a transformative economic

[11] Any contractual language provided by way of example in this working group narrative report is subject to ultimate approval by the FPD and contractual terms as negotiated between the Developers. Notwithstanding, the example language approximates or mirrors language in market-standard agreements used by other Utilities and municipalities for similar large infrastructure developments.

engine capable of doubling Fernley's General Fund without a single dollar of public investment or risk to existing resident utility rates.

Submitted by the Working Group organized pursuant to Resolution #26-005 for the purpose of developing cost estimates required by NRS 266.290(2)(b) in exploring the creation of the Fernley Power District.

Members
Barry Williams, Public Works Director, City of Fernley
Steve Kuntz, Representative from the North Lyon Fire
Rick Nelson, MIV Capital Representative
Nash Whitney, Stella Power Representative
Dated May 4, 2026.

EXHIBIT A ***to Working Group Report***

SPREADSHEET RE: WORKING GROUP REPORT

WORKING GROUP FINANCIAL PRO FORMA OF COST ESTIMATES AS REQUIRED BY NRS 266.290

Fernley Power District 5-Year Operational Revenue and Expense Scenarios

Note: City revenue estimates only include franchise fees; sales and other tax estimates to be determined but additive to city revenue in 2029 through 2034

All figures preliminary estimates and subject to change due to a host of variables not limited to final construction costs, customer load ramp, availability of natural gas, timing of emissions permitting for subsequest stages.

Year of District Operation	***0***	***1***	***2***	***3***	***4***	***5***
Calendar Year	*2029*	*2030*	*2031*	*2032*	*2033*	2034
High Franchise Fee Revenue Scenario	$1,738,223	$7,072,878	$14,425,110	$22,068,603	$22,509,975	$22,960,175
Low Franchise Fee Revenue Scenario	$1,816,564	$7,392,508	$15,077,156	$23,066,232	$23,527,557	$23,998,108

Based on MW at Year Start

Revenue Scenarios	**Notes**	**Units**	**2029**		**2030**		**2031**		**2032**		**2033**		**2034**	
			High	***Low***	***High***	***Low***	***High***	***Low***	***High***	***Low***	***High***	***Low***	***High***	***Low***
Energy Sales														
Power Plant Capacity	Based on full build out the previous year.	*MW*	150	150	600	600	1200	1200	1800	1800	1800	1800	1800	1800
Estimated Load Factor	High revenue estimate assumes 80%, low estimate assumes 90	%	80%	90%	80%	90%	80%	90%	80%	90%	80%	90%	80%	90%
Estimated Energy Sold	Estimated Annual Energy Consumed by Customer	MWh	1,051,200	1,182,600	4,204,800	4,730,400	8,409,600	9,460,800	12,614,400	14,191,200	12,614,400	14,191,200	12,614,400	14,191,200
Energy Price ($/MWh)	Based on high to low cost estimates to construct and operate generation and delivery infrastructure within the District; exclusive of franchise fee	*$/MWh*	$ 164.83	$ 153.14	$ 168.13	$ 156.20	$ 171.49	$ 159.33	$ 174.92	$ 162.51	$ 178.42	$ 165.76	$ 181.99	$ 169.08
Estimated Franchise Fee Revenue to City		$	**$ 1,732,692.96**	**$ 1,811,033.64**	**$7,069,387.28**	**$ 7,389,017.25**	**$ 14,421,550.04**	**$ 15,073,595.19**	**$ 22,064,971.57**	**$ 23,062,600.64**	**$ 22,506,271.00**	**$ 23,523,852.66**	**$ 22,956,396.42**	**$ 23,994,329.71**
Energy Service Company Startup and Operation Costs														
One-Time Equipment and Materials		$	$	150,000										
One-Time Legal		$	$	100,000										
Recurring Costs	Includes recurring costs for equipment and materials and legal, as well as other recurring costs (contract billing, admin, consultants, insurance, accounting, auditing)	$	$	303,000	$	349,060	$	356,041	$	363,162	$	370,425	$	377,834
Total District Costs	Total District Annual Costs (recovered in Energy Sales to end-customer)	$	$	553,000	$	349,060	$	356,041	$	363,162	$	370,425	$	377,834
Share of District Costs to Franchise Fee			$	5,530	$	3,491	$	3,560	$	3,632	$	3,704	$	3,778
Net Revenue/Estimated Franchise Fee to City			**$1,738,223**	**$1,816,564**	**$7,072,878**	**$7,392,508**	**$14,425,110**	**$15,077,156**	**$22,068,603**	**$23,066,232**	**$22,509,975**	**$23,527,557**	**$22,960,175**	**$23,998,108**

Core assumptions

Estimated customer load factor - Low		90%	
Estimated customer load factor - High		80%	
Franchise Fee		1%	
High price scenario - year 1 ($/MWh)	$	164.83	*Based on General Catalyst estimates of energy prices within the District associated with the construction and operation of generation and delivery infrastructure, exclusive of franchise fees. Actual prices will be negotiated directly with customers and are subject to change*
Low price scenario - year 1 ($/MWh)	$	153.14	
Price escalator		2%	

Contextual Note: *Assumptions presented are based on one of two models for FPD financing and cost recovery. The "Pioneer Model" contemplated here is an "all-in" cost recovery for both power generation and necessary transmission and distribution infrastructure, along with necessary costs for electric service company (ESCo) operations. This "Pioneer Model" contemplates a single Power Purchase Agreement with a single rate for all services provided (including infrastructure). Where additional power generation developers provide alternative electric energy services within FPD, ESCo may recover costs through this same Pioneer Model, or instead, recover such costs through more than one agreement, "Secondary Model". Under this "Secondary Model," it will be typical that a Power Purchase Agreement between a Subsequent Generator and End-Use customer will govern the costs of electric energy provided, while other agreements, like Line Extension Agreements or Electric Service Agreements, between the Franchise Electric Service Company and End-Use Customers, will govern up front-cost recovery from End-Use Customers to independently pay for their own power delivery infrastructure (like power lines and substations). Such agreements under this Secondary Model, like the Pioneer Model, will include the costs of the electric service company to operate and mantain that infrastructure, along with all other incremental operational costs of the electric service company to ensure full cost recovery for all infrastructure within the District.* **For Illustrative Purposes** the Secondary Model, even relying on the same numbers presented here, would have the effect of reducing the $/MWh price for End-Use Customers under the Power Purchase Agreement, while line item expenses for transmission, distribution, and ESCo services, would be left to separate agreements requiring up-front investments and securitization of long-term projects, or monthly billing agreements from the ESCo for an End-Use Customers proportionate share of ESCo costs.

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Mitzi Carter, Human Resource Manager**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes: X	No:	Yes:	No: X	100-412, 510-810, 520-810

ACTION REQUESTED: Ordinance

AGENDA ITEM:

(Discussion and Possible Action) First reading of Bill #387 amending Fernley Municipal Code Title 2, Administration, Chapter 8, Mayor and City Council, Section 2.08.01, Salaries and annual increases by adjusting the salary for Mayor and City Council.

AGENDA ITEM BRIEF:

Discussion and possible Action to adopt NRS 245.043 as amended by NV SB116 in the 2025 Legislation session for Mayor and Council wages.

RECOMMENDED MOTION:

"I move to approve the Ordinance for salary adjustment for the Mayor to be equal to that of Lyon County Commissioner and salary adjustment for City Council to be at eighty percent (80%) of that of the Mayor's salary, both effective November 2028 and both as set forth in NRS 245.043."

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

Council may approve or not approve a salary adjustment to the Mayor's and City Council's salary adjustment.

BACKGROUND:

On February 18, 2026, Council Member Torres of Ward 4, presented a City Council Agenda Item Request to adopt NRS 245.043, as amended by NV SB116 in the 2025 Legislation Session, for the adjustment of Council and Mayor's annual salaries. The Mayor's salary is proposed to be adjusted to match that of the Lyon County Commissioner's salary with the City Council's salary to be at eighty percent (80%) of the Mayor's salary.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

NRS 245.043 as amended by NV SB116, NRS 266.230

FINANCIAL IMPLICATIONS:

Exact financial implications are unknown at this time but will be budgeted for in the FY29-30 budget per NRS 266.230.

ATTACHMENTS:

1. Salary Adjustment for Mayor and City Council Redline Version
2. Bill 382

CITY OF FERNLEY, NEVADA
SALARY ADJUSTMENT FOR MAYOR AND CITY COUNCIL

INTRODUCED BY CITY COUNCIL

AN ORDINANCE AMENDING SECTION 2.08.01 OF THE CITY OF FERNLEY MUNICIPAL CODE TO ADJUST THE SALARIES OF THE MAYOR AND CITY COUNCIL MEMBERS; AND PROVIDING OTHER MATTERS PROPERLY RELATED THERETO.

WHEREAS, the salary of the mayor and city council is established by ordinance; and

WHEREAS, in order to ensure that all salaries of the mayor and city council is reflective of the number of hours worked by the participation in the meetings, committees and subcommittees as required by being the mayor and/or city council member

WHEREAS, the mayor and city council have determined their salaries should be based on a percentage of the Lyon County Commission as established by the Nevada State Legislature in NRS 245.043.

THE CITY COUNCIL OF THE CITY OF FERNLEY DOES ORDAIN:

Section 1. Section 2.08.01 is hereby amended to read as follows:

A. The *annual* salary of the *office* of mayor *shall be equal to that of a Lyon County Commissioner as set forth in NRS 245.043 and shall be payable biweekly. This salary shall become effective the Monday following the general election in November 2028.*

B. The *annual* salaries of city council members *shall be eighty percent (80%) of that of a City of Fernley mayor as set forth in NRS 245.043, and shall be payable biweekly. This salary shall become effective the Monday following the general election in November 2028.*

Section 2. Section 2.08.01 is hereby repealed in its entirety

~~Whereas, NRS 266.450 requires compensation for city-elected officers to be set by ordinance, and the council recognizes the requirements for, and workload of, the city-elected officers, just compensation is both fair and necessary for the work done by the city-elected officers; and~~

~~Whereas, effective April 2005 salaries for city council were set at $640.42 per month; and~~

~~Whereas, since that date, city council members have received annual increases, based on the U.S. Consumer Price Index, CPI U (all urban consumers); and~~

~~Whereas, effective April 2005 the salary for the mayor was set at $900.00 per month; and~~

~~Whereas, since that date, the mayor has received annual increases based on the U.S. Consumer Price Index, CPI U (all urban consumers); and~~

~~Whereas, the CPI adjustments shall continue each July 1:~~

~~(1) Therefore, council members will continue to receive annual increases adjusted to include the annual cost-of-living adjustment set by the U.S. Consumer Price Index, CPI U (all urban consumers); and~~

~~(2) Therefore, newly-elected council members will receive compensation at the same rate as the council member whose position they are assuming; and will receive annual increases adjusted to include the annual cost-of-living adjustment set by the U.S. Consumer Price Index, CPI U (all urban consumers); and~~

~~(3) Therefore, effective July 1, 2017, the mayor shall receive compensation at the rate of twice the amount being paid to council members.~~

SECTION 3: All ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 4. The City Clerk is instructed and authorized to publish the title to this ordinance as provided by law.

SECTION 5. This ordinance shall become effective upon passage, approval, and publication.

SECTION 6. The provisions of this ordinance shall be liberally construed to effectively carry out its purposes in the interest of the public health, safety, welfare and convenience.

SECTION 7. If any subsection, phrase, sentence or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions.

SECTION 8. The City Council finds that this ordinance is **not** likely to impose a direct and significant economic burden upon a business or directly restrict the formation, operation or expansion of a business, or is otherwise exempt from Nevada Revised Statutes Chapter 237.

PASSED AND ADOPTED this _____ day of _____, 2026, by the following vote of the City Council.

AYES: _____

NOES: _____

ABSTAIN: _____

ABSENT: _____

APPROVED this _____ day of _____, 2026, by:

_____
NEAL E. MCINTYRE, Mayor

ATTEST:

_____

BILL #382
CITY OF FERNLEY
ORDINANCE #2026-012

AN ORDINANCE AMENDING SECTION 2.08.01 OF THE CITY OF FERNLEY MUNICIPAL CODE TO ADJUST THE SALARIES OF THE MAYOR AND CITY COUNCIL MEMBERS; AND PROVIDING OTHER MATTERS PROPERLY RELATED THERETO.

THE CITY COUNCIL OF THE CITY OF FERNLEY, hereinafter "the Council", DO HEREBY ORDAIN:

WHEREAS, the salary of the mayor and city council is established by ordinance; and

WHEREAS, in order to ensure that all salaries of the mayor and city council is reflective of the number of hours worked by the participation in the meetings, committees and subcommittees as required by being the mayor and/or city council member

WHEREAS, the mayor and city council have determined their salaries should be based on a percentage of the Lyon County Commission as established by the Nevada State Legislature in NRS 245.043.

Section 1: Chapter 8, Section 2.08.01 is hereby amended to read as follows:

A. The *annual* salary of the *office* of mayor *shall be equal to that of a Lyon County Commissioner as set forth in NRS 245.043 and shall be payable biweekly. This salary shall become effective the Monday following the general election in November 2028.*

B. The *annual* salaries of city council members *shall be eighty percent (80%) of that of a City of Fernley mayor as set forth in NRS 245.043 and shall be payable biweekly. This salary shall become effective the Monday following the general election in November 2028.*

SECTION 2: All ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 3. The City Clerk is instructed and authorized to publish the title to this ordinance as provided by law.

SECTION 4. This ordinance shall become effective upon passage, approval, and publication.

SECTION 5. The provisions of this ordinance shall be liberally construed to effectively carry out its purposes in the interest of the public health, safety, welfare and convenience.

SECTION 6. If any subsection, phrase, sentence or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions.

SECTION 7. The City Council finds that this ordinance is **not** likely to impose a direct and significant economic burden upon a business or directly restrict the formation, operation or expansion of a business, or is otherwise exempt from Nevada Revised Statutes Chapter 237.

BILL #382 BEING HEREBY PROPOSED on the 1st day of April 2026.

BILL #382 BEING HEREBY PASSED, APPROVED, and ADOPTED this 6th day of May 2026, by the following vote of the Council:

Ayes: _____ Nays: _____ Abstentions: _____ Absent: _____

FERNLEY CITY COUNCIL

By: _____ Date: _____
Neal E. McIntyre, Mayor

Attest By: _____ Date:_____
Kim Swanson, City Clerk

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Kim Swanson, City Clerk**

FINANCIAL IMPACT:	**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
None	Yes:XX	No:	100-320-100

ACTION REQUESTED: Ordinance

AGENDA ITEM:

Discussion and Possible Action to Introduction Bill #384, an Ordinance modifying Fernley Municipal Code, Section 10, Business License regulations, updating definitions, adding an Event Organizer definition, removing the hobby crafter exemption.

AGENDA ITEM BRIEF:

City staff has been working to streamline the Temporary Use Permit process, making it easier for individuals and organizations to host Special Events in the city.

RECOMMENDED MOTION:

I move to approve Bill 384 an Ordinance modifying Fernley Municipal Code, Section 10, Business License regulations, updating definitions, adding an Event Organizer definition, removing the hobby crafter exemption

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

City Council could decide not to approve this request.

BACKGROUND:

Staff would like to propose a change that could streamline the procedure for both event organizers and vendors. Currently, the licensing process involves the event registration with the City Clerk's Office. The event organizers provide the Clerk's Office with a list of vendors.
The Clerk's office coordinates with each vendor to obtain necessary licenses. This process can be challenging, particularly because many vendors do not live in Fernley.

The Clerk's Office suggests modifying the requirement so that instead of every vendor obtaining a license from the City, the event coordinator will register the event with the City. Under the proposed licensing process:
The Event Coordinator will notify the City Clerk's Office of the proposed event before any advertising begins.
If the Event Coordinator is not a W2 employee of the business, they must obtain a City Business License.
The Event Coordinator will then collect either the vendor's annual business license number or a $25 fee from those vendors who do not have an active license. Cottage food vendors and non-profit organizations are exempt from this requirement.
A list of vendors along with the collected vendor fees, will need to be submitted to the City Clerk's Office two days prior to the event.
The event will need a business license if the sponsoring organization/individual is not currently licensed in Fernley.

Staff believes that these adjustments will simplify the process and facilitate a smoother experience for all parties involved.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

FMC Title 10

FINANCIAL IMPLICATIONS:

None

ATTACHMENTS:

1. Title_10___BUSINESS_AND_LICENSE_REGULATIONS Draft

Title 10 BUSINESS AND LICENSE REGULATIONS

CHAPTER 1. IN GENERAL

Sec. 10.01.01. Alcohol regulations and licenses.

Regulations related to alcohol are found in title 4.

(Ord. No. 2019-008, 11-16-2019)

Sec. 10.01.02. Purpose and scope.

(a) This title establishes the minimum procedural requirements for the city to issue a business license, provides a basis to regulate entities which conduct business in the city, and shall be known as the business license code.

(b) The provisions of this title apply to all businesses in the city, including privileged businesses and franchises. Nothing in this title shall be deemed or construed to exempt any organization from complying with the provisions of any other city ordinance, including but not limited to, permit requirements, zoning requirements, and restrictions on privileged or illegal activities.

(Prior Code, § 3.01.01; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.03. Definitions.

The following words, terms and phrases, when used in this title, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning. Additional definitions relating to businesses may be referenced in title 32, zoning, and state statutes.

Advertise means the act or practice of calling public attention to one's products or services, by paid or non-paid announcements in newspapers or magazines, over radio, television, internet, social media, billboards, etc., in attempt to gain business within the city.

Animal boarding, if permitted by title 32, means a business that allows owners to drop their pets off for a specified period of time in exchange for payment.

Applicant means any person who has requested or will request a city business license or permit.

Autopawn means a pawnbroker who loans money on the security of any vehicle or other transportation device.

Business or *doing business:*

(1) The term "business" or "doing business" means any commercial enterprise, trade, occupation, calling, profession, vocation, or activity engaged in, conducted, carried on by any person, his agent or employee in an attempt and with the intent to gain business for profit or having conducted business within the city, including, but not limited to:

a. Any activity conducted by a person for which such person is required to file with the Internal Revenue Service for the activities;

b. The performance of services for compensation that are not normally subject to withholding taxes, including, but not limited to, independent contractors and commissioned sales agents;

c. If business is leased or rented, or offered for rent or lease, any of the following:

1. Nonresidential office, unit or units;

2. Industrial warehouses;

3. Four or more single-family dwelling units;

4. Multifamily dwelling units; or

d. Anyone who has a contract with the city, other than a contract for employment.

(2) The term "business" or "doing business" does not include activities conducted by, or for the exclusive benefit of, organizations that are certified as tax exempt entities pursuant to 26 USC 501(c) or authorized by state law as a nonprofit organization, including, but not limited to, organizations operated for religious, charitable, scientific, literary, educational, or fraternal purposes or a business whose primary purpose is to create or produce motion pictures. Tax exempt, nonprofit organizations, and businesses deemed exempt from a state business license are required to register the entity with the city licensing department.

Check cashing service/payday loan service, as defined by the current version of NRS 604A.030, means any person engaged in the business of cashing checks for a fee, service charge or other consideration.

Child care facility includes the term "day care center," as defined by NRS 432A.024.

(1) The term "child care facility" means:

a. An establishment operated and maintained for the purpose of furnishing care on a temporary or permanent basis, during the day or overnight, to five or more children under 18 years of age, if compensation is received for the care of any of those children;

b. An on-site child care facility, as defined in NRS 432A.0275;

c. A child care institution, as defined in NRS 432A.0245;

d. An outdoor youth program, as defined as NRS 432A.028; or

e. A day care center, as defined in title 32, zoning:

1. The term "day care center, large," means a facility which provides less than 24-hour care or supervision for five or more children who are not related by blood, marriage, or adoption to the owner, operator, or manager, whether such facility operates day or night, with or without compensation for such care, and with or without stated education purpose.

2. The term "day care center, small," means a facility which provides less than 24-hour care or supervision of four or fewer children who are not related by blood, marriage, or adoption to the owner, operator, or manager, whether such facility operates day or night, with or without compensation for such care, and with or without stated educational purpose.

(2) The term "child care facility" does not include:

a. The home of a natural parent or guardian, foster home as defined in NRS 424.014 or maternity home;

b. A home in which the only children received, cared for and maintained are related within the third degree of consanguinity or affinity by blood, adoption or marriage to the person operating the facility;

c. A home in which a person provides care for the children for not more than four weeks if the person who provides the care does not regularly engage in that activity;

d. A location at which an out-of-school-time program is operated, as defined in NRS 432A.027;

e. A seasonal or temporary recreation program, as defined in NRS 432A.029; or

f. An out-of-school recreation program, as defined in NRS 432A.0277.

Commercial business means a business or individual, with a physical address within the city, who provides a service or sells physical products as an industrial, retail or commercial business office within city limits with the intent and in an attempt to gain business in the city.

Commercial mobile radio service means any commercial mobile radio service as defined in 47 CFR 20.3 as of July 5, 1995.

Commercial rental means any nonresidential office, unit, leased out or rented out, including industrial properties and warehouses.

Consignment Sales means a business arrangement where a seller (consignor) provides goods to another party (consignee) to sell, without the consignee initially purchasing the items.

Contractor, as defined by NRS 624.020, is synonymous with the term "builder."

(1) The term "contractor" means and includes:

a. Any person, except a registered architect or a licensed professional engineer, acting solely in a professional capacity, who, in any capacity other than as the employee of another with wages as the sole compensation, undertakes to, offers to undertake to, purports to have the capacity to undertake to, or submits a bid to, or does himself or by or through others, construct, alter, repair, add to, subtract from, improve, move, wreck or demolish any building, highway, road, railroad, excavation or other structure, project, development or improvement, or to do any part thereof, including the erection of scaffolding or other structures or works in connection therewith. Evidence of the securing of any permit from a governmental agency or the employment of any person on a construction project must be accepted by the board or any court of this state as prima facie evidence that the person securing that permit or employing any person on a construction project is acting in the capacity of a contractor pursuant to the provisions of this title.

b. A subcontractor or specialty contractor, but does not include anyone who merely furnishes materials or supplies without fabricating them into, or consuming them in the performance of, the work of a contractor.

c. A construction manager who performs management and counseling services on a construction project for a professional fee.

(2) The term "contractor" does not include an owner of a planned unit development who enters into one or more oral or written agreements with one or more general building contractors or general engineering contractors to construct a work of improvement in the planned unit development if the general building contractors or general engineering contractors are licensed pursuant to this title and contract with the owner of the planned unit development to construct the entire work of improvement.

Corporation means a company or group of people authorized to act as a single entity (legally a person) and recognized as such in law.

Cottage food operation:

(1) The term "cottage food operation," as defined in the current version of NRS 446.866, means a natural person who manufactures or prepares food items in his private home or, if allowed by the health authority, in the kitchen of a fraternal or social clubhouse, a school or a religious, or charitable or other nonprofit organization, for sale to a natural person for consumption and whose gross sales of such food items are not more than $35,000.00 per calendar year.

(2) The term "food item" means:

a. Nuts and nut mixes;

b. Candies;

c. Jams, jellies and preserves;

d. Vinegar and flavored vinegar;

e. Dry herbs and seasoning mixes;

f. Dried fruits;

g. Cereals, trail mixes and granola;

h. Popcorn and popcorn balls; or

i. Baked goods that:

1. Are not potentially hazardous foods;

2. Do not contain cream, uncooked egg, custard, meringue or cream cheese frosting or garnishes; and

3. Do not require time or temperature controls for food safety.

Crafter means a person that uses skill and experience to make things from raw materials and only sells their craft through an organized event. Crafter does not include online sales, consignment sales, mobile vendor, or firearms or any other craft activity directly regulated under city, state, or Federal Law.

Department means the city clerk's office.

Distribution facility means a specialized building, which is stocked with products or goods to be redistributed to retailers, wholesalers or directly to consumers.

Electric energy provider means any business or local government that provides electric energy to the public, regardless of whether they are regulated by the state public service commission.

Enterprise means any trade, calling, service, profession, or business venture.

Exempted businesses means businesses that are required to register with the city but are exempt from paying business license fees.

Farm-to-fork events, as defined by NRS 446.86;.

(1) Except as otherwise provided in subsection (3) of this definition, a farm is not a "food establishment" for purposes of holding a farm-to-fork event, provided that:

a. Any poultry and meat from a rabbit that is served at the farm-to-fork event is raised and prepared on the farm and is butchered and processed on the farm pursuant to the requirements of NRS ch. 583; and

b. Any other food item that is served at the farm-to-fork event, including, without limitation, salads, side dishes and desserts, are prepared on the farm from ingredients that are substantially produced on the farm.

(2) A farm which holds a farm-to-fork event shall, before a guest consumes any food, provide each guest with a notice which states that no inspection was conducted by a state or local health department of the farm or the food to be consumed, except as otherwise provided in subsection (1) of this definition.

(3) A farm which holds more than two events in any month that would otherwise qualify as farm-to-fork events becomes a food establishment for the remainder of that calendar year subject to all the requirements of this title and any regulations adopted pursuant thereto concerning food establishments.

Financial institution means any business engaged in the banking business, savings, and loan, credit union or lending institution. This definition does not include short-term loans or payday loans.

Firearms business means a person or business who receives compensation for engaging in such activity as a regular course of trade or business with the principal objective of livelihood and profit, including, but not limited to, manufacture, sales, trade, transfer agent, gunsmith, manufacture, repair or distribution of firearms and other similar types of conduct.

Flea market operator means any person, firm or corporation, whether as owner, agent, consignee, or employee, whether a resident of the city, or not, who leases, licenses with or without charge, any premises or portion of any premises, to any merchant as a normal business activity.

Franchise means a privilege conferred by the city to a business for the use of the municipality's public right-of-way, including, but not limited to, electric, gas, telephone, and trash service providers.

Garage:

(1) The term "garage," as defined by NRS 487.540, means a business establishment, sole proprietorship, firm, corporation, association or other legal entity that performs any of the following services on motor vehicles:

a. Repair or replacement of the:

1. Engine;
2. Brake system;
3. Transmission system;
4. Drivetrain system;
5. Heating and air-conditioning system;
6. Cooling system;
7. Muffler and exhaust system;
8. Electrical system;
9. Electrical charging system; or
10. Fuel injection or carburetion system;

b. Engine tune up;

c. Diagnostic testing;

d. Alignment; or

e. Oil change and lubrication.

(2) The term "garage" does not include a business establishment, sole proprietorship, firm, corporation, association or other legal entity that does not perform services on motor vehicles for members of the general public.

Garage sale means all occasional and casual sales of personal property opened to the public and held on the seller's own residential premises including all sales entitled "garage sale," "lawn sale," "attic sale," "rummage sale," "estate sale," or "yard sale" which do not extend beyond 72 hours in duration.

Gas provider means any business or local government that provides gas service to the public, regardless of whether they are regulated by the state public service commission, including, but not limited to, natural gas and propane gas.

Gross receipts.

(1) The term "gross receipts," as defined by NRS 372.025, means the total amount of the sale or lease or rental price, as the case may be, of the retail sales of retailers, valued in money, whether received in money or otherwise, without any deduction on account of any of the following:

a. The cost of the property sold. However, in accordance with such rules and regulations as the tax commission may prescribe, a deduction may be taken if the retailer has purchased property for some other purpose than resale, has reimbursed his vendor for tax which the vendor is required to pay to the state or has paid the use tax with respect to the property, and has resold the property before making any use of the property other than retention, demonstration or display while holding it for sale in the regular course of business. If such a deduction is taken by the retailer, no refund or credit will be allowed to his vendor with respect to the sale of the property.

b. The cost of the materials used, labor or service cost, interest paid, losses or any other expense.

c. The cost of transportation of the property before its sale to the purchaser.

(2) The total amount of the sale or lease or rental price includes all of the following:

a. Any services that are a part of the sale.

b. All receipts, cash, credits and property of any kind

c. Any amount for which credit is allowed by the seller to the purchaser.

(3) The term "gross receipts" does not include any of the following:

a. Cash discounts allowed and taken on sales.

b. The sale price of property returned by customers when the full sale price is refunded either in cash or credit, but this exclusion does not apply in any instance when the customer, in order to obtain the refund, is required to purchase other property at a price greater than the amount charged for the property that is returned.

c. The price received for labor or services used in installing or applying the property sold.

d. The amount of any tax, not including any manufacturers' or importers' excise tax, imposed by the United States upon or with respect to retail sales, whether imposed upon the retailer or the consumer.

e. The amount of any allowance against the selling price given by a retailer for the value of a used vehicle which is taken in trade on the purchase of another vehicle.

(4) For purposes of the sales tax, if the retailers establish to the satisfaction of the tax commission that the sales tax has been added to the total amount of the sale price and has not been absorbed by them, the total amount of the sale price shall be deemed to be the amount received exclusive of the tax imposed.

Handyman means a person who performs minor work, repair, or property maintenance, the value of which is less than $1,000.00, including labor and materials. This type of work includes, but is not limited to, construction clean up, janitorial, window cleaning, and lawn maintenance. Trash hauling is prohibited under this definition.

~~*Hobby/crafter business* means any activity conducted as a hobby, or to supplement one's income, if the gross income derived from such activity does not exceed $5,000.00 per year. The term "hobby/crafter business" excludes firearms businesses.~~

Hobby means an activity done regularly in one's leisure time for pleasure, or relaxation. Does not derive revenue from said activity.

Holiday means a weekday during which the city is closed in observance of this day.

Home occupation business or *home-based business* means a person, excluding contractors, conducting business out of his residence and whose business complies with the home occupation regulations of the city development code in title 32.

Industrial means any industrial use, including, but not limited to, batch plants, tank farms, refineries, paint manufacturing, processing or manufacturing of products which utilize explosive or noxious substances.

Junkyard/dismantling means storage, repair or dismantling of junk or wrecked vehicles, RVs, boats, motorcycles, or commercial vehicles, unless otherwise defined in the city development code in title 32.

Kennel:

Commercial kennel means any place of business where dogs, cats, and other domestic (non-farm) animals are kept for boarding, breeding, training grooming, treating, sale or other commercial purpose with the exception of veterinary clinics or pet shops, unless otherwise defined in the city development code in title 32.

Residential breeder/kennel, if permitted by this Code, means any enclosure, building, structure, lot or area at a residence where more than three dogs are kept, harbored or maintained for the intent to sell or collection of a re-homing fee. Minimum parcel size in rural residential areas is five acres. Residential breeders are allowed one litter per adult female dog every two years.

License means permission granted by the licensing authority to engage in the business for which the license is issued.

Lodging means a temporary place to stay for a fee, including, but not limited to, hotel, motel, inn, bed and breakfast, and RV park.

Manufactured/mobile home park, as defined in the city development code in title 32, means a parcel of land upon which two or more mobile or manufactured homes have been set for occupancy, not on individual parcels of land.

Manufacturing plant means a location where workers produce goods or operate machines processing one product into another.

Mobile vendor means any person, including an employee or agent of another, who sells or offers to sell food, beverages, goods, services, or merchandise from a motor vehicle, trailer or other mobile unit.

Multifamily dwelling means a building which is occupied or is arranged, designed, and intended to contain more than one dwelling unit, but not including hotels, motels, boarding houses or otherwise provided accessory dwellings. The term "multifamily dwelling" includes, but is not limited to, duplex, triplex, fourplex units, apartments, townhouses, and condominiums.

Nonprofit or charitable organization, as defined by NRS 82.021. "Corporation for public benefit" is a corporation formed or existing pursuant to this title that:

(1) Is recognized as exempt under section 501(c)(3) of the Internal Revenue Code in effect on October 1, 1991, future amendments to that section and the corresponding provisions of future internal revenue laws;

(2) Is organized for a public or charitable purpose and which upon dissolution must distribute its assets to the United States, a state, or a person which is recognized as exempt under section 501(c)(3) of the Internal Revenue Code, as amended; or

(3) Activities conducted by, or for the exclusive benefit of, organizations that are certified as tax-exempt entities pursuant to 26 USC 501(c)(3), including, but not limited to, organizations operated for religious, charitable, scientific, literary, educational, or fraternal purposes.

Out of town business means a person or business conducting sales or services within the city limits without a physical address in the city.

Pawnbroker, as defined by NRS 646.010, means a person engaged, in whole or in part, in the business of loaning money on the security of pledges, deposits or other secured transactions in personal property. Pawnbrokers are allowed to buy and sell new and used items.

Peddler or *solicitor* means any individual, regardless of whether a resident of the city, traveling by foot, automobile, motor vehicle, or any other type of conveyance, from place to place, from house to house, from street to street, from door to door, attempting to take orders for goods or services or distributing, disseminating or gathering information for sale of goods, wares and merchandise, personal property of any nature whatsoever for future delivery, or for services to be furnished or performed in the future.

Premises means the actual space of a particular business which would include all buildings, improvements, surrounding sidewalks, and designated parking.

Professional means one whose practice of a profession for any type of compensation as an employee requires advanced education and holds a license, certificate, registration, permit, or similar type of authorization issued by a regulatory body such as a state licensing agency, board, or commission or who is regulated pursuant to the state supreme court rules. Employees of licensed professionals or contractors are not required to obtain a city business license.

Office professional, as defined in the city development code in title 32, includes, but is not limited to, physicians, dentists, lawyers, real estate sales, architects, engineers, and accounts.

Personal service professional, as defined in the city development code in title 32, includes, but is not limited to, cosmetologists, barbers, photographers, dry cleaners, and travel agents.

Public utilities means all telecommunications companies, electric energy providers, gas providers, water, sewer, and commercial mobile radio services.

Recreational vehicle park means a recreational vehicle park where travel trailers, pick-up campers, camping trailers, motor homes, converted trucks or buses, etc. park temporarily.

Residential rental dwelling unit or *residential landlord* means and includes, but is not limited to:

(1) Single-family dwelling unit.

(2) Multifamily dwelling units.

Restaurant, as defined in the city development code in title 32, means an establishment for the sale and consumption of food and beverages on the premises, which may include a drive-through service.

Retail sale or *sale at retail*, as defined by NRS 372.050, means:

(1) A sale for any purpose other than resale in the regular course of business of tangible personal property.

(2) The delivery in this state of tangible personal property by an owner or former owner thereof or by a factor, or agent of such owner, former owner or factor, if the delivery is to a consumer or person for redelivery to a consumer, pursuant to a retail sale made by a retailer not engaged in business in this state, is a retail sale in this state by the person making the delivery. He shall include the retail selling price of the property in his gross receipts.

Seasonal sales lot means a parcel temporarily used, four times per year or less, for the sale of seasonal or holiday items, including Christmas trees, pumpkins, produce stands, flea market, or farmers market.

Secondhand dealer means anyone who engages in the business of buying, selling or exchanging goods that are previously owned or recycled. This definition does not pertain to sales as defined under the term "garage sale" in this section.

Sexually oriented business means any business, if permitted by the city development code, that offers services, materials, goods, or products which are characterized by an emphasis on matter depicting, describing, or relating to nude or semi-nude persons or sexual activities between persons or observation thereof. These businesses include, but are not limited to, topless bars, escort call out, and adult movie theaters, any business having a portion of its goods for sale, products which replicate or are designed to simulate specified anatomical areas, and sexual novelty stores.

Square footage means the area of the building(s) used for the business operations.

Single-family dwelling unit means a single detached building which is occupied by not more than one family, and which contains not more than one dwelling unit.

Sole proprietor, as defined by NRS 617.145, means a self-employed owner of an unincorporated business.

Special event means any planned gathering of persons which occupies any part of a city street, park or other city property and which hinders the general public in the ordinary and usual use of such property. The term "special event" includes, but is not limited to, community celebrations, parades, car shows, and commercial food events such as farmers market, block parties, festivals, sporting events, or music events.

Special event organizers are the people who are responsible for the end-to-end planning, execution, and oversight of specific gatherings, including, but not limited to; community celebrations, craft fairs, parades, car shows, farmers markets, festivals, or fundraisers. Organizers will need a business license if they are not a W2 employee of the sponsoring organization.

Specialty license means a business license issued for a commercial business that requires extraordinary use of city personnel to manage the license, including, but not limited to:

(1) Auto pawn;

(2) Sexually oriented businesses;

(3) Check cashing service;

(4) Secondhand dealers;

(5) Pawnbrokers.

Telecommunications company means any business or local government which provides telecommunications services who holds a certificate of public convenience and necessity issued by the state public service commission and derives intrastate revenue from the provision of that service to retail customers.

Temporary merchant/vendor means any person who either as principal or agent engages in a temporary or transient business either in one locality or in traveling from place to place buying or selling goods, wares, or merchandise.

Theater, as defined in the city development code in title 32.

Indoor theater means a facility for showing motion pictures, videos, or for staging theatrical performances to an audience, inside an enclosed structure, excluding sexually oriented/adult theaters.

Outdoor theater means a facility for outdoor performances where the audience views the production from automobiles or while seated outside, excluding sexually oriented/adult theaters.

Title loan, as defined by the current version of NRS 604A.105.

(1) The term "title loan" means a loan made to a customer pursuant to a loan agreement which, under its original terms, charges an annual percentage rate of more than 35 percent and requires the customer to secure the loan by either:

a. Giving possession of the title to a vehicle legally owned by the customer to the licensee or any agent, affiliate or subsidiary of the licensee; or

b. Perfecting a security interest in the vehicle by having the name of the licensee or any agent, affiliate or subsidiary of the licensee noted on the title as a lienholder.

(2) The term "title loan" does not include a loan which creates a purchase-money security interest in a vehicle or the refinancing of any such loan.

Traveling show/carnival means entertainers who go from place to place performing a variety of acts, wild animal routines and physical skills, games, and amusement rides or similar type conduct.

Vendor means a person or business who sells products or services.

Warehouse means a commercial or industrial building used for storage or manufacture of goods.

(Prior Code, § 3.01.02; Bill. No. 237, 9-7-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.04. Business license required; exceptions; other licenses required.

(a) Except as exempted by the provisions of this title, any business, commercial enterprise, trade, occupation, calling, profession, vocation, or activity engaged in, conducted, carried on by any person, his agent or employee in an attempt and with the intent to gain business for profit or having conducted business within the city, must first obtain a business license from the city authorizing that business and shall comply with all applicable provisions of this title.

(b) Activities exempt from license requirement:

(1) Any private individual who has no more than three garage/yard sales per year;

(2) Any business that is specifically regulated under a separate chapter of this title which exempts the business from the provisions of this chapter;

(3) Any person who owns less than four residential rental units;

(4) Businesses located outside of the city that are hired by a licensed business or government agency for seminars or training of their employees;

(5) Personal care activities of any person independently engaged as a personal care assistant as defined by NRS 449.794;

(6) Activities of any federal or Nevada governmental quasi-governmental entity acting in its governmental capacity;

(7) Wages earned as an employee;

(8) Cottage food operations;

(9) Farm-to-fork events.

(c) Activities required to submit annual business registration; fees waived:

(1) Activities conducted by, or for the exclusive benefit of, organizations that are certified as tax-exempt entities pursuant to 26 USC 501(c)(3), including, but not limited to, organizations operated for religious, charitable, scientific, literary, educational, or fraternal purposes. To obtain exemption pursuant to this section, a tax-exempt entity must provide a current copy of its letter of determination from the Internal Revenue Service. The exemption from the requirement to obtain a business license or permit does not relieve a tax-exempt entity from the obligation to obtain a tax-exempt activity license or payment of any applicable fee for inspections by any city department.

(2) Any person who transacts or conducts business as part of a permitted special event pursuant to this Code and is properly permitted for that special event as a vendor, as defined in section 10.01.03, is exempt from the requirement of obtaining a business license during and for the special event only.

(3) ~~Hobby crafter whose annual gross receipts are less than $5,000.00.~~

The above listed activities, although required to register with the city, will not be charged an annual license fee.

(d) State and other licenses required. Any business applying for or renewing a license under this title which is required by federal, state, county, or city regulation to hold a separate and independent license shall produce, exhibit, or otherwise prove to the department that such license has been issued.

(Prior Code, § 3.01.03; Ord. No. 2016-013, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.05. Application for license.

(a) An application for a business license under this title shall be made by affidavit on forms supplied by the department. The application shall require disclosure of all information that the city shall find to be reasonably necessary to the fair and efficient administration of this title. Application shall be accompanied by the full amount of the fees chargeable for such license and shall contain at a minimum the following information:

(1) The full name of the applicant and business;

(2) The physical and mailing address of the business;

(3) The anticipated date on which the business will commence;

(4) The type of business to be conducted under the license;

(5) Sufficient information to calculate fees under this title, including, but not limited to, a declaration of gross receipts for the business and if the business license being applied for is considered warehouse, manufacturing, distribution or industrial, square footage of the area used for all business operations.

(6) The applicant shall produce a legitimate, not expired, photographic driver's license, state-issued identification card, or United States identification such as passport or military identification;

(7) The application is to be signed by the applicant, a natural person, or in the case of an association or partnership, a partner or managing member with authority to bind the association or partnership; in the case of a corporation or limited liability company, an executive officer or some person specifically authorized by the entity to sign the application, to which must be attached the written evidence of the authority;

(8) Background investigation if required for the license type;

(9) Inspector, public safety officer, and/or city planner signatures if required for license type.

(b) All license fees deposited or submitted upon application are nonrefundable unless the chief license officer or his designee authorizes a refund based upon equitable principles.

(c) All information and financial statements provided by the applicant are subject to audit, inspection, and verification by authorized city personnel.

(d) If a business is discontinued the licensee shall, within ten business days, notify and file with the licensing department, a closing statement of gross receipts and shall pay any amount due in excess of the amount last paid.

(e) No statement or affidavit filed in connection with an application for a license or for renewal of a license is binding upon the city or upon any officer thereof as to the matters therein set forth, and does not prejudice the right of the city to recover any correct amount that may be ascertained to be due from such person.

(Prior Code, § 3.01.04; Ord. No. 2016-013, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.06. Review and approval process.

(a) An application for license may be referred to the appropriate city department(s) for review and investigation. The city license office shall review the recommendations of all the applicable departments and decide whether to approve or deny the license. The city license office thereafter shall either place the license application on a city council agenda for approval or notify the applicant of denial. The denial notice shall include the reason for such denial, in accordance with its decision. Any applicant that is denied a license shall be notified of the reason for the denial and the option of appealing the decision in accordance with the appeal procedures contained in this title.

(b) Background investigations (when required).

(1) Every person submitting an application for a license pursuant to this section is subject to a background investigation to determine suitability for the license or permit. A Federal Bureau of Investigation (FBI) fingerprint-based inquiry must be conducted prior to the issuance of any license or work permit.

(2) An applicant for any of the following business licenses or permits shall comply with the provisions of this section and any other FBI or law enforcement requirements necessary to obtain a FBI nationwide background check:

a. Auto pawn;

b. Sexually oriented businesses;

c. Pawnbrokers;

d. Check cashing services/payday loan services;

e. Secondhand dealers;

f. Liquor license;

g. Day care;

h. Solicitor permit;

i. Gaming.

(3) No license or work permit may be issued until the prescribed license or permit fee, and any fingerprint and investigation fee, has been paid to an authorized fingerprint agent, law enforcement agency or city staff.

(4) As defined by NRS 239B.010(1)(a) and P.L. 92-544, each applicant for a city business license or work permit set forth in this section shall provide a full set of his fingerprints to an authorized fingerprint agent as a condition of issuance of the business license or work permit. Each applicant shall also provide all necessary information to the authorized fingerprint agent in order to complete the fingerprint background process.

(5) The authorized fingerprint agent will submit the fingerprints of an applicant for a business license or permit set forth in section 10.01.05, plus any required fees and any information required for the background check, to the Central Repository for Nevada Records of Criminal History for a statewide background check and for submission by the Central Repository to the FBI to obtain the FBI nationwide background check of the applicant. The state department of public safety is hereby authorized to exchange such fingerprint data with the FBI for purposes of the background check. The criminal history will be provided to the license department for evaluation and will not be shared with any other city staff.

(6) Failure of an applicant for a business license or permit set forth in this section to submit to full fingerprinting or to provide information required by this section is grounds for denial of the application.

(c) Licenses will be placed on the first available city council agenda for action.

(d) Licenses shall show the name and address of the licensee, name of business, type of business, date business license was issued, date of expiration, and any limitations and restrictions imposed by the council or licensing department as conditions of the approval.

(e) License shall be issued promptly, within ten days of city council approval.

(f) For purposes of this section, and for all other purposes, a business license issued pursuant to this title is expired if it is not renewed by payment of all fees and penalties by the expiration date on the business license.

(g) No license issued pursuant to this title shall be construed to condone or permit the transaction of any business or the performance of any act which is otherwise contrary to the law.

(h) Failure to provide documentation of gross receipts and/or square footage. No license shall be issued if this documentation is not provided to the business license department.

(i) No license shall be issued or renewed for the conduct of any business on any premises owing delinquent amounts of money to the city for any purpose until such delinquent amounts of money, and penalties, if applicable, have been fully paid.

(j) Every license issued pursuant to this title, whether or not explicitly so stated, is subject to all other provisions of federal, state, and local law with respect to licenses, permits, safety and environmental standards, prohibited acts or conditions and any other applicable provisions.

(Prior Code, § 3.01.05; Ord. No. 2016-013, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.07. Duties of licensees.

The following shall be duties of licensees:

(1) *Comply with governing law.* Ascertain and comply at all times with all laws and regulations applicable to such licensed businesses, including, but not limited to, any changes in this Code that may be imposed after the issuance of a license.

(2) *Operate properly.* Avoid all prohibited practices or conditions which do or may affect the public health, safety, morals, or welfare.

(3) *Supervise employees.* Be responsible for the conduct of all employees or agents thereof if such conduct would violate the law if engaged in by the licensee.

(4) *Display license.* Display all licenses issued pursuant to this title in a conspicuous place at the licensed business. Every person having a license and not having a fixed place of business shall carry such license with him at all times while carrying on the business for which the license was issued and shall exhibit the license whenever requested by any authorized person. The issued and displayed license shall not be modified in any way that alters the content.

(5) *Valid only at the location shown on the license; adding or changing a location requires a new license.* A reprint fee may apply.

a. A person may not change the location stated on the license or add a new location to an existing license. A new license is required for each new location and must be obtained in the manner provided for an initial application.

b. If permitted by the licensing department, a license is transferred to a new location, the licensee shall not operate the business at the former location.

c. Licenses are not transferable. If the business changes ownership, a new application, inspection, and applicable fees are required.

d. A separate license is required for each establishment, branch, or location of a business.

(6) *Maintain records.* Business owner is responsible for maintaining records of the business.

a. Keep such records as may be necessary to determine the amount of business license fees, or any other record required by this title.

b. Preserve such records for not less than four years or until any proceedings under this Code pertaining to the business are concluded.

c. Make records available for inspection by the city upon demand at reasonable times.

(7) *Permit inspection or audit.* Permit reasonable inspections of the business and examination of its books by the city and all authorized personnel.

(8) *Notify of changes.* Ensure that a current and correct name, business address, business phone number, each business principal phone number, and business mailing address are on file with the city. Whenever a business address changes, the licensee must notify the license office a minimum of five business days prior to the date the new business location will be used to conduct business. Whenever the name of the business changes, the licensee shall notify the city in writing within ten business days of such a change and provide the city with proof of the name change and update license information.

(9) *Cease business.* Upon expiration, revocation, or suspension the licensee shall immediately cease conducting business.

(Ord. No. 2016-013, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.08. Unlawful business activity.

It is unlawful for any person to:

(1) Commence, advertise, transact, conduct, or engage in any business in the city without a valid, unexpired license issued pursuant to this title;

(2) Commence, advertise, transact, conduct, or engage in any business in the city if the business license has expired; or

(3) Cause, encourage, allow or permit another on that person's behalf to commence, advertise, transact, conduct, or engage in any business in the city without a valid, unexpired license issued pursuant to this title.

(Ord. No. 2016-013, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.09. Quarterly payments (if permitted).

(a) Businesses whose annual business license fees exceed $10,000.00 per fiscal year may request to pay said fees to the licensing department quarterly.

(b) A written request for permission to pay quarterly must be submitted to the licensing department upon new business license application or no less than 30 days prior to the expiration date on the business license for renewals.

(c) The licensing department will review the request and respond in writing within ten business days, either approving or denying the request for quarterly payments.

(d) Upon approval of the request, quarterly payments will be made to the licensing department as follows: 25 percent of the annual license fee paid no later than the 30th day following the end of each quarter for four quarters of the same fiscal year.

(e) Quarterly payment request will be cancelled if any one payment is past due.

(Ord. No. 2016-013, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.10. License fee/tax liens.

(a) License fee/tax; liens on property where located; enforcement. Any license fee based on any business within the city under the provisions of this title shall constitute a lien upon the real and personal property of the business upon which the fee was levied and upon the real and personal property upon which the business is conducted until the fee is paid in full. For the purpose of this section, any general or subcontractor performing work in the city, and whose business is located in city limits, for which a license is required shall be conducting his business at any premises in the city where he is performing work for which a license is required by this title.

(b) The lien shall be enforced by recording in the office of the county recorder, within 90 days following the date on which such fees became delinquent, a notice of the tax lien containing the following:

(1) The amount of fees/tax due and the appropriate year;

(2) The name of the record owner of the property;

(3) A description of the property sufficient for identification;

(4) A verification by the oath of the chief license officer of the city; and

(5) By an action for foreclosure against such property in the same manner as an action for foreclosure of any other lien, commenced within two years after the date of recording of the notice of the fee/tax lien, and accompanied by appropriate notice to other lienholders.

(Ord. No. 2016-013, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.11. Inspections of licensed businesses.

(a) No person shall refuse entry to any city inspector attempting to enter any premises for the purpose of inspection, if such entry is attempted during normal business hours or during reasonable hours after business hours when there are employees on the premises to let the inspector in. Such entry shall be permitted not only to areas open to the public, but also to all other areas, provided that no employee shall be required to accompany any inspector in any area that the employee deems to be dangerous.

(b) It is the policy of the city that, immediately upon arriving at the premises to be inspected, the city inspector ordinarily will identify himself to an employee on the premises, showing identification if the employee is not acquainted with the inspector. If there is no employee at the scene, the inspector may enter any area that is open to the public at the time without identifying himself. A law enforcement officer or any city employee making lawful investigation requiring a delay in identification need not identify himself immediately, provided that no person shall be required to admit any such unidentified person to any premises.

(c) If any city inspector is not permitted to enter any place or any part of any premises for inspection, the inspector shall not use force but shall leave the premises and seek a search warrant or other appropriate court order to make entry possible. However, inspection of a closely regulated business may be required without a warrant.

(d) No person and no business entity shall be required to disclose any trade secret to any city inspector. If there is a dispute between a city inspector and any person or business entity over whether any location or thing is exempt from inspection because it contains a trade secret, an attempt shall be made to settle the matter by devising a way to open part or all of the area or device for inspection, with the trade secret information removed or covered. If the matter cannot be resolved, the city inspector shall not look at the place or item until and unless the city has obtained a court ruling permitting inspection of the item or place.

(e) Failure to comply with this section may result in revocation of a license.

(Ord. No. 2016-013, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.12. Application and license fees.

(a) Application fee.

(1) Upon the filing of an application for a business license, the applicant shall pay a nonrefundable application fee. This fee is paid regardless of whether the business license application is approved. The application fee is separate and distinct from the business license fee.

(2) All businesses must register their business with the licensing department, regardless of fees charged, and apply for exemption annually.

(b) Business license fee schedule.

(1) Once a business license is approved, the business licensee shall pay a business license fee. The business license fee is separate and distinct from the application fee. This fee must be paid prior to the issuance of the license. The business license fees are based upon the most current business license fee schedule as adopted by resolution.

(2) The application, license, and renewal fees charged pursuant to this title shall be contained in the fee schedule.

(c) All annual license fees under the provisions of this title shall be due and payable on the expiration date of the license.

(d) Except as otherwise provided in this title, every person who engages in business within the city shall pay a license fee as required by resolution or is exempt from payment pursuant to this title. For any business operating without a license as required within the City of Fernley, penalties will be assessed if the business is not in compliance within 60 days of initial written contact from the city clerk according to the most current business license fee schedule as adopted by resolution.

(e) The applicant must pay inspection and processing fees imposed by city, county and state regulatory agencies for license review services. These fees are in addition to the license fee.

(f) Inspection fees and fees for permits issued by any city department, must be paid prior to the issuance or renewal of a business license. Regarding renewal of a license, if such fees are not paid by the due date for payment of the business license fee such fees are deemed to be delinquent and shall be added to the delinquent business license fee for purposes of calculating the penalty. A business license may not be renewed unless all such fees are paid.

(g) All fees required under this title must be paid in lawful money of the United States of America on or before the expiration date of the license. Late penalties will be assessed to the account the day following the expiration date of the license.

(h) If any license issued under the provisions of this title has not been renewed through payment of the applicable license fee by the expiration date, a penalty equal to 25 percent of the annual license fee shall be assessed and must be added to the delinquent license fee. The delinquent license fee, including any permit and code enforcement fees, and any penalties must be paid prior to the renewal of such license.

(i) If any license issued under the provisions of this title has not been renewed through payment of the applicable license fee within 30 days after the expiration date, a penalty equal to 50 percent of the annual license fee shall be assessed and must be added to the delinquent license fee. The delinquent license fee, including any permit and code enforcement fees, and any penalties must be paid prior to the renewal of such license.

(j) A business license cannot be renewed after it becomes 60 days delinquent. In order to resume business, the licensee is required to submit a new application and pay new application and annual business license fees. All delinquent fees must be paid prior to the application being submitted.

(Prior Code, § 3.01.06; Ord. No. 2016-013, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.13. Special business license fees, conditions, and waivers for certain businesses.

(a) *Public utilities.*

(1) *License fees.*

a. Every public utility providing service within the city must pay an annual business license fee not later than 30 calendar days after the end of each calendar quarter. The business license fee for each public utility providing service within the city shall be established and/or modified by ordinance of the council and shall not exceed the maximum rate allowed by state law.

b. The business license/franchise fee for each public utility providing services within the city shall equal the following percent of the public utility's gross revenue as regulated by NRS 354.59889:

1. Telecommunication companies: Four percent.

2. Electric energy providers: Four percent.

3. Gas providers: Five percent.

4. Commercial mobile radio services: Three percent of gross revenue from the first $15.00 for each line of access for each of the utility's customers located within the city.

(2) *Notification, revenue statement, payment, penalties, and interest.*

a. Each public utility to which this section applies or which derives or intends to derive intrastate revenue from customers located within the city shall, not later than 60 calendar days after the effective date of the ordinance from which this section is derived or 30 calendar days before the public utility begins to provide service to those customers, whichever occurs later, provide to the city:

1. An acknowledgment that the public utility is operating or intends to operate within the city; and

2. The date that the public utility began or intends to begin to derive revenue from customers located within the city.

b. Each public utility to which this section applies shall, not later than 30 days after the end of each calendar quarter, provide to the city a statement of the amount of revenue the public utility derived during that calendar quarter from service to each of its customers located within the city.

c. The fee for the utility operator license is payable not later than 30 calendar days after the end of each calendar quarter.

d. An operator license fee not received or postmarked within 30 calendar days after the end of each calendar quarter shall be delinquent and the public utility shall pay, in addition to the operator license fee, a penalty of one percent of the delinquent amount per month and interest of one percent of the delinquent amount per month.

(3) *Existing franchise agreements not altered.* This chapter does not alter the terms of any existing franchise agreement between the city and a company providing public utility services within the boundaries of the city.

(b) *Kennels.* Each business licensee who operates a kennel shall pay, in addition to the foregoing fees, an annual fee of $50.00.

(1) *Notice.* Notice of the date, time, and place the council shall consider the application for a kennel license shall be sent by registered mail or personal delivery to all adjoining property owners by the department. The business applicant is responsible for providing the names and addresses of all adjacent property owners to the department.

(2) *Conditions of license.* The following limitations and requirements shall apply to all commercial kennel licenses:

a. The number of dogs shall be set by the council, taking into consideration the size and temperament of the dogs and the size of the commercial kennel and the character of the surrounding property.

b. Every dog over the age of six months shall have a current inoculation against rabies administered by a licensed veterinarian.

c. Dogs shall have a run of adequate size and escape-proof construction.

d. The property shall be zoned industrial or commercial.

(Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.14. Expired license appeals process.

(a) Any person aggrieved by the imposition of the expired license penalty imposed by this title must first pay the penalty and then may submit a written appeal of the penalty to the city clerk within ten days after payment of the penalty. The written appeal must show good cause why the penalty should not be imposed or should be reduced. The city clerk shall review the appeal and issue a decision based on the written appeal to either uphold the penalty or reverse the penalty within 15 business days after receipt.

(b) If the decision is upheld by the city clerk, the appellant may request a formal hearing by the city council within ten business days after receiving the decision. If a formal hearing is requested, the licensing department will place the request for appeal on the next available city council agenda. The department shall, at least ten days prior to the hearing, notify the appellant of the time, date and place of the hearing by personal service or by certified mail, return receipt requested, to the address provided by the appellant. The appellant may bring only the evidence presented previously to the licensing department to support the appeal. Failure of the aggrieved person to appear at the hearing shall result in a denial of the appeal.

(c) Within ten days after a hearing, the city clerk or designee shall notify the applicant in writing of the decision of the city council. The decision of the city council is final.

(Ord. No. 2016-014, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.15. Power to audit.

(a) *Records.*

(1) Every holder of a business license issued pursuant to this title shall keep and maintain adequate records for the purpose of performing an audit to verify the accuracy of the business license fees paid and for assurance of compliance with other provisions of this title.

(2) For the purposes of this title, the term "adequate records" means records which show, or may indicate, the gross receipts of the business and includes, but is not limited to, the following:

a. Original or copies of all sales invoices and credit card receipts for a period of one year preceding the date of an audit;

b. All cash receipts journals, financial statements, ledgers, copies of business license renewal forms and related documentation supporting calculations of gross receipts for the previous four years; and

c. Income tax returns (Schedule C of 1040 Federal Tax Return for Sole Proprietorship; Form 1065 Federal Tax Return for Partnerships and LLCs; Form 1041 Fiduciary Income Tax Return and Form 1120 Federal Tax Return for Corporations) for the previous four tax years.

(3) All records required to be kept and monitored pursuant to this section must be made available to the licensing officer or designee for the four-year period preceding an audit. The information received from a licensee under this section is hereby declared to be confidential and not a public record and is available only to city officials concerned with business licensing and revenue enforcement, to the city attorney in furtherance of prosecution under this title and to a court of competent jurisdiction in a criminal prosecution or civil action commenced under this title.

(b) *Audits.* The licensing department with prior approval from the city manager may, for the purpose of ascertaining gross receipts or to verify the accuracy of any other information reported to the city, audit any information declared by a licensee in an application for license or renewal, any information presented in a hearing or appeal or any other documentation provided to the city. After reasonable notice to the

proprietor, books and records of the licensee must be made available to the license department during business hours. In accordance with NRS ch. 364, any audit of the amount due from the business must not include any period for the licensing of the business ending more than four years before the date of the audit.

(1) The procedures for the proprietor of the business to obtain a review of the results of an audit are as follows:

a. The city will disclose the results of the audit to the proprietor, discuss any relevant issues that have not previously been resolved and attempt to resolve those issues.

b. If those issues are not resolved through compliance with subsection (b)(1)a. of this section:

1. The proprietor can prepare documentation of those issues challenging to disprove the findings and submit the documentation to the city clerk; and

2. The city clerk or designee shall:

(i) Within seven days after receiving the documentation, acknowledge their receipt; and

(ii) Within 30 days after receiving the documentation, respond to the proprietor with a decision.

c. If the proprietor wishes to appeal that decision, they must file an appeal within ten days with the city clerk.

1. Within five days of the receipt of the appeal, the city clerk shall submit the documentation to the finance director; and

2. The finance director or designee shall, within 60 days after receipt of the documentation by the city clerk pursuant to subsection (b)(1)c.1. of this section, review the documentation and inform the proprietor of the decision regarding the appeal. The decision of the finance director is final.

(2) If an audit is performed pursuant to this title:

a. The proprietor must be given notice, in writing, of the amount of any interest or penalties to be paid as a result of the audit.

b. In the event the audit finding reveal that the business failed to accurately declare or pay gross revenue to the city by ten percent or more, the audited business shall be required to reimburse the city for all expenses incurred for the audit, including, without limitation, consultants and other third-parties hired by the city to assist in the audit process

c. The information received from the license under this section shall be confidential and available only to those city officials concerned with such matters.

(c) *Misrepresentation.* Any willful misrepresentation of material fact in any application or report required by this title or required by any officer in the performance of his duties pursuant hereto, is a violation of this title and, in addition to the punishment provided herein, is grounds for denial of a license or for probation, suspension or revocation if a license has been issued.

(Ord. No. 2016-014, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.16. Information confidential.

(a) The gross receipts statements filed pursuant to the provisions of this title shall be deemed confidential in character and shall not be subject to public inspection and shall be kept so that the contents thereof shall not

become known except to the persons charged with the administration of this title. It shall not be improper, however, to release the name, address and phone number of licensed businesses as well as the type of business and other general information which is unrelated to the business gross receipts.

(b) Any officer or employee who willfully violates the provisions of this section shall be deemed guilty of a misdemeanor and may be punished as in this title provided, and such violation may also result in discipline up to and including termination.

(Ord. No. 2016-014, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.17. Term of license; renewal of license.

(a) *Term of license.* All licenses shall be issued for a term of one year unless a provision is specifically made for the issuance of a daily, quarterly or temporary license. For the purpose of determining the yearly period, a license issued by the department between the first and 15th days of the month shall be deemed to begin on the first day of the month. A license issued by the department between the 16th and last day of the month shall be deemed active, but the start date, for renewal purposes, to be on the first day of the following month.

(b) *Renewal of license.*

(1) A licensee shall be required to pay the renewal fee and complete the renewal form.

(2) All businesses licensed under this title receive a renewal notice before the due date of the next licensing period; however, the failure to notify any licensed business shall not be held to waive the payment of the license fee, and that the actual receipt of such notice is in no case required. The due date shall be the last day of the month of a licensing period.

(3) The license officer may refuse to renew a business license, when it appears that any of the following circumstances exist:

a. A misrepresentation of a material fact has been made on the application;

b. The location of the proposed business substantially fails to meet requirements of the fire or building codes, or the zoning ordinance;

c. The applicant or any of its principals fails to satisfy any qualification or requirement imposed by this title or other local, state or federal laws or regulations that pertain to the particular business named on the application;

d. The proposed business is violating provisions of this Code, or state or federal law;

e. The applicant has commenced operating the proposed business without obtaining a business license under circumstances indicating that the applicant intentionally failed or refused to obtain a business license;

f. The applicant or any principal has been convicted of a crime under any local state or federal law or regulation arising out of the operation of a similar business;

g. The applicant or any principal has been convicted of a crime as a result of having perpetrated deceptive practices upon the public within the last ten years;

h. The applicant or any principal suffers from a legal disability under state or federal laws;

i. The applicant has refused entry to or obstructed a city, county or state inspector authorized to make an inspection;

j. The applicant or any of its principals is in default on any payments owed to the city; or

k. The applicant has made a material and intentional underreporting of the gross revenues of the business.

(Prior Code, § 3.01.08; Ord. No. 2016-014, 10-5-2016; Ord. No. 2017-005, 6-6-2017; Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.18. Multiple enterprises licensed as one.

(a) Any business licensee who is issued a standard business license may have endorsed on the license more than one enterprise under the following conditions:

(1) All enterprises endorsed on the license must be:

a. In the same business classification;

b. In the same location; and

c. Under the same business name.

(2) All enterprises must be owned or operated by the business licensee. If the business licensee complies with the conditions set forth herein, the department shall issue one license endorsing each specific enterprise engaged in by the business licensee.

(b) Any business licensee issued a license for multiple enterprises shall only be charged one fee. This fee shall be based on the business classification. This section does not affect liquor, gaming, or any other licenses required by the city or county.

(Prior Code § 3.01.1; Ord. No. 2016-014, 10-5-2016; 0Ord. No. 2019-008, 11-6-2019)

Sec. 10.01.19. Denial, probation, suspension, revocation of standard business license; grounds; procedure; immediate suspension; cease and desist orders.

The provisions of this section are applicable to any license or permit issued or applied for, or pursuant to any chapter of this title. The provisions of this section are in addition to any grounds for denial, nonrenewal, suspension, limitation, and revocation set forth for specific businesses or trades in other chapters of this title.

(1) *Denial.* Any license or permit application made pursuant to the provisions of this title may be denied for good cause by the city clerk or the council. Good cause for denial of a license or permit shall include, but is not limited to:

a. The application or any other document is incomplete or contains false, misleading or fraudulent statements;

b. All application, license, and/or investigation fees are not paid;

c. Failure to obtain a license, permit or receive approval for required inspections of the premises as required by this title and compliance with requirements of all other departments or divisions in the city, state or federal laws and regulations that pertain to the particular business named on the application;

d. The applicant or any principal has been subject, in any jurisdiction, to disciplinary action of any kind with respect to the license, or permit to the extent that such disciplinary action reflects upon the qualification, acceptability or ability of the applicant to conduct such a business;

e. The applicant or any principal has been convicted of any crime that involves local, state or federal law or regulation arising out of the operation of a similar business;

f. The applicant or any principal has been convicted of a crime as a result of having deceptive practices upon the public within the last ten years;

g. The premises on which the business is proposed to be conducted does not satisfy all local, state, or federal laws or regulations which relate to the activity that is to be licensed;

h. The applicant is in default on any payments owed to the city;

i. The applicant has made a material and intentional underreporting of the gross revenue of the business.

(2) *Probation, suspension or revocation.* Any business license issued under this title may be placed on probation, suspended, or revoked for good cause by the city, after notice and opportunity to be heard as provided in this title. Good cause for probation, suspension or revocation shall include, but is not limited to:

a. Failure to pay business license fees within 30 days of their due date and non-payment of any amounts owed to the city;

b. Failure to update the business license under the provisions of this title;

c. Failure to maintain other licenses required by federal, state, county, or city laws which are necessary to conduct the enterprise endorsed on the license;

d. Any act or omission by the licensee or his employees and agents, related to the operation of the business licensed, which is a threat to the public health, safety, morals or welfare;

e. Fraudulent practices or misrepresentations in the operation of the business, or concealment or misrepresentations in procuring this license;

f. Any violations of the provisions of this Code;

g. Any act in the operation of the business which is unlawful or prohibited by federal, state, county, or city law;

h. Refusal by the applicant, employees or agent to make the books and records of the business available for inspection by the licensing department designated appointee as required by this title;

i. The applicant has made a material and intentional underreporting of the gross revenue of the business;

j. Any other cause that the city through its department or its council finds to be just or equitable reason;

k. Any payments owed to the city.

(3) *Probation procedure.* Following an investigation, the license department may place a business on probation, under the following procedure:

a. The department shall notify the business licensee of the violation in person or by certified mail. The notice shall contain the following information:

1. The name and address of the business licensee;

2. The violation which has occurred;

3. The term of the probation is 12 months;

4. The licensee has ten days to appeal the decision in writing to city council.

b. If the business licensee chooses to appeal the probation, the licensee has ten business days from the date the notice was received to request a hearing before the city council.

c. If no other violations occur during the 12-month period, the probation will be cancelled.

(4) *Suspension and revocation procedure.* The license department may suspend the license, pending council action on revocation, under the following procedures:

a. The department shall notify the business licensee of the violation in person or by certified mail. The notice shall contain the following information:

1. The name and address of the business licensee;

2. The violation which has occurred.

b. The business licensee has five days, excluding weekends and holidays, from the receipt of the notice to remedy the violation.

c. If the business licensee fails to remedy the violation, the business license will be suspended.

d. If the business licensee fails to remedy the violation, the department shall send a second notice, which shall contain the following information:

1. The name and address of the business licensee;

2. The violation which has occurred;

3. The date the suspension will be in effect; and

4. A notice of revocation and hearing including the date and time regarding the intent to revoke the business license. The notice shall also inform the licensee that they have the right to present evidence in opposition regarding the revocation.

This notice shall be served upon the business licensee at least ten business days prior to the time specified for hearing by certified mail or personal service.

(5) *Hearing of revocation.* In order to revoke a business license under this title, the council shall conduct a hearing to determine whether to revoke the license. The council shall permit any interested party, including the business licensee, to testify or otherwise submit evidence in favor of or opposition to the revocation. The council shall consider all the evidence presented and cause to have entered in the minutes its findings, stating specifically any causes for revocation found by the council and enter its order in the minutes. The order of the city council shall be binding. The failure by the licensee to appear at the time of hearing and place designated for the hearing shall, in and of itself, constitute sufficient grounds for revocation of the license. There shall be no reopening or review of the proceedings by the council, except when it subsequently appears to the satisfaction of the city council that the licensee's failure to appear was due to matters beyond his control, and not through negligence on the part of licensee.

(6) *Notice of revocation.* If the council revokes the license, the business licensee shall be served notice of revocation within ten business days by certified mail or personal service following the hearing. If the license is revoked or suspended, no business shall be conducted under that license until such time as an appeal has been heard and the revocation or suspension has been reversed.

(7) *Grounds for immediate suspension of license.*

a. Any license issued pursuant to this title is subject to immediate suspension. The city clerk may immediately suspend a business license if the chief of police, fire chief, health inspector or the city building official deems there is probable cause to believe that extraordinary circumstances

have arisen which are an immediate threat to the public health, safety or welfare and that business operations pursuant to that license increase the level of that threat.

b. The license may be reinstated after all conditions warranting the suspension have ceased.

(8) *Cease and desist orders.*

a. The city clerk may issue a cease and desist order to any person who is transacting or conducting business in violation of this Code.

b. A cease and desist order issued pursuant to this title may be personally served on any owner, licensee, agent or employee of the business, either at the location of the business or at any other location in the city.

c. A cease and desist order may:

1. Inform the recipient that the business is in violation of FMC because it is being conducted without a valid business license or after a valid business license has expired;

2. Warn the recipient that each violation is a misdemeanor crime.

d. Any costs incurred by the city for personal service of a cease and desist order pursuant to this section shall be added to the business license fees, and penalties must be paid prior to issuance or renewal of a license.

(9) *Enforcement.* Any person violating any of the provisions of this title or knowingly or intentionally misrepresenting to any officer or employee of the city any material fact in securing the license herein provided for is guilty of a misdemeanor and upon conviction thereof is punished as provided in title 1.

(Prior Code, § 3.01.12; Ord. No. 2016-014, 10-5-2016; Ord. No. 2017-005, 6-6-2017)

Sec. 10.01.20. Waiver by council.

Upon application to the council, a business licensee may request that the council waive any fees required on a business by this title.

(Prior Code, § 3.01.14; Ord. No. 2016-014, 10-5-2016; Ord. No. 2017-005, 6-6-2017)

Sec. 10.01.21. Public utilities.

All public utilities must obtain a business license and comply with all provisions of this title.

(1) Notification, revenue statement, payment, penalties, and interest. Each public utility to which this title applies or which derives or intends to derive intrastate revenue from customers located within the city shall, not later than 60 calendar days after the effective date of the ordinance from which this section is derived or 30 calendar days before the public utility begins to provide service to those customers, whichever occurs later, provide to the city:

a. An acknowledgment that the public utility is operating or intends to operate within the city; and

b. The date that the public utility began or intends to begin to derive revenue from customers located within the city.

(2) Each public utility to which this title applies shall, not later than 30 days after the end of each calendar quarter, provide to the city a statement of the amount of revenue the public utility derived during that calendar quarter from service to each of its customers located within the city.

(3) The fee for the utility operator license is payable not later than 30 calendar days after the end of each calendar quarter.

(4) An operator license fee not received or postmarked within 30 calendar days after the end of each calendar quarter shall be delinquent and the public utility shall pay, in addition to the operator license fee, a penalty of one percent of the delinquent amount per month and interest of one percent of the delinquent amount per month.

(Ord. No. 2016-014, 10-5-2016; Ord. No. 2017-005, 6-6-2017)

CHAPTER 2. PEDDLERS AND SOLICITORS

Sec. 10.02.01. Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Agent means any person, whether as an employee or independent contractor, authorized to represent any business regulated under this chapter.

Applicant means any person who has requested or will request a city business license or permit.

Business or *doing business.*

(1) Any business, commercial enterprise, trade, occupation, calling, profession, vocation, or activity engaged in, conducted, carried on by any person, his or her agent or employee for the purpose of direct or indirect gain, with the principle objective of livelihood and/or profit through repetitive means within the city. This includes, but is not limited to:

a. Any activity conducted by a person for which such person is required to file with the Internal Revenue Service for the activities; or

b. The performance of services for compensation that are not normally subject to withholding taxes, including but not limited to, independent contractors and commissioned sales agents.

(2) The term "business" or "doing business" does not include activities conducted by, or for the exclusive benefit of, organizations that are certified as tax exempt entities pursuant to 26 USC 501(c) or authorized by state law as a non-profit organization, including, but not limited to, organizations operated for religious, charitable, scientific, literary, educational, or fraternal purposes.

Charitable organization means a type of non-profit organization (NPO). It differs from other types of NPOs in that it centers on non-profit philanthropic goals as well as social well-being (charitable, educational, religious, or other activities serving public interest or common good).

City means the City of Fernley, a political subdivision of the State of Nevada.

Council means the City Council of the City of Fernley.

Department means the city business license division.

Local peddler means a person or business with a valid business license property issued by the city, whose residence is located within the boundaries of the city, where such residence is not a hotel/motel, lodging house, rooming house, apartment or single-family dwelling with any rental period of less than 28 consecutive days.

Non-local peddler means any person or business who is not deemed to be a local peddler.

Non-profit or for profit organization means and include activities conducted by, or for the exclusive benefit of, organizations that are certified as tax exempt entities pursuant to 25 USC 501(c) or authorized by the state law as non-profit organization, including but not limited to organizations operated for religious, charitable, scientific, literary, educational, or fraternal purposes.

Peddle or *solicit* means selling, offering for sale or soliciting orders for goods or services or distributing, disseminating or gather information by written or spoken word upon the streets, sidewalks, alleys of the city, or by going from dwelling to dwelling, door to door, unit to unit, place to place by foot or by other means of transportation.

Peddler or *solicitor* means any individual, regardless of whether a resident of the city, traveling by foot, automobile, motor vehicle, or any other type of conveyance, from place to place, from house to house, from street to street, from door to door, attempting to take orders for goods or services or distributing, disseminating or gathering information for sale of goods, wares and merchandise, personal property of any nature whatsoever for future delivery, or for services to be furnished or performed in the future.

Temporary merchant/vendor means any person who engages in the business of selling, offering for sale, or soliciting orders for goods or services from a single location for a period of less than seven days.

(Prior Code, § 3.02.01)

Sec. 10.02.02. License required and exemptions.

(a) It is unlawful for any solicitor or peddler as defined in section 10.02.01 to engage in such business within the city without first obtaining a license therefor in compliance with the provisions of this chapter. This chapter does not apply to non-profit solicitations or any person who shall solicit funds, contributions, or donations for charitable or religious purposes.

(b) A holder of a valid, unexpired city business license properly issued by the city, whose residence is located within the boundaries of the city, where such residence is not a hotel/motel, lodging house, rooming house, apartment or single-family dwelling with any rental period of less than 28 consecutive days, is not required to obtain a peddler/solicitor license under this chapter.

(Prior Code, § 3.02.02)

Sec. 10.02.03. Application and fees.

(a) Any person who is required to have a license under this chapter must file an application with the department and pay the applicable nonrefundable fee(s). The application must be made upon forms provided by the department and shall provide the following information in addition to general business license requirements:

(1) The name and a description of the business or enterprise which the applicant proposes to engage in or represent;

(2) Permanent home address or local address of the applicant and telephone number;

(3) The dates on which the applicant desires to peddle or solicit (not to exceed 30 days);

(4) A brief description of the nature of the business and the nature of the products or services to be offered;

(5) Current (within 60 days) photograph of the solicitor or peddler, two copies;

(6) A statement from the applicant regarding any conviction of any crime of burglary, theft, embezzlement, fraud, rape, assault, battery, manslaughter, murder, sale of a controlled substance,

prostitution, or any other crime of moral turpitude including a requirement to register as a sex offender or has been released from jail or prison for conviction of an aforementioned crime;

(7) Fingerprint submission and background investigation documentation; and

(8) Any other information or documentation the department may require to establish the applicant's suitability and fitness for approval.

(b) All applicable fees shall be paid upon submitting application to the department.

(Prior Code, § 3.02.03)

Sec. 10.02.04. License process and issuance.

(a) Upon receipt of such application, applicant shall be referred to a state authorized fingerprint agency, public or private, for submitting fingerprints. Each applicant shall be required to submit fingerprints and pay all applicable fees to authorized fingerprinting agency. No more than ten agents or representatives from one company shall be licensed during a 30-day period.

(b) If as a result of application review and/or fingerprinting results, the character and business responsibility of the applicant is found to be satisfactory, the department shall approve application and issue a solicitors license.

(c) Any license issued under this chapter shall include information to identify the licensee and state the specific dates on which the licensee is authorized to operate.

(Prior Code, § 3.02.04)

Sec. 10.02.05. Exhibition of license.

Each person including business owner and his or her agents are required to have an original license, not expired or revoked, and must exhibit the license at the request of any resident, prospective customer, department representative, or law enforcement officer.

(Prior Code, § 3.02.05)

Sec. 10.02.06. Term of license.

Each peddler/solicitor issued a license pursuant to this chapter is limited to the time period approved by the department and designated on the license. The maximum time period is 30 days, subject to renewal by the department.

(Prior Code, § 3.02.06)

Sec. 10.02.07. Duty of law enforcement to enforce.

It shall be the duty of any law enforcement officer of the city, county, or state, to require any individual seen soliciting or canvassing, who is not known by such officer to be duly licensed, to require the production of a solicitor/peddler license and to enforce the provisions of this chapter against any person found to be violating the same.

(Prior Code, § 3.02.07)

Sec. 10.02.08. Records.

The department shall keep records of solicitor/peddler licenses issued and shall notify city and county law enforcement if any license is suspended or revoked prior to expiration. The department shall keep record of all license complaints and violations.

(Prior Code, § 3.02.08)

Sec. 10.02.09. Licensee responsible for acts of employees and agents.

Any person or entity who employs, contracts, or otherwise engages another to conduct soliciting or peddling activities, is responsible for the acts or omissions of his or her employees or agents committed during performance of activities governed by this chapter. In any suspension, limitation or revocation proceeding, the fact that the distributing service or person who employed, contracted, or engaged another did not have actual knowledge of the violation shall not be a defense.

(Prior Code, § 3.02.09)

Sec. 10.02.10. Grounds for denial, suspension or revocation.

(a) In addition to any grounds provided in this chapter, the following shall be grounds for the denial of license applications made under this chapter, for suspension or revocation:

(1) Fraud, misrepresentation, or false statements contained in any application;

(2) Fraud, misrepresentation, or false statements made in the course of carrying out the business of a solicitor or peddler;

(3) Any violation of this chapter;

(4) Conducting the business of soliciting or canvassing in an unlawful manner or in such a manner as to constitute a breach of the peace or to constitute a menace to the health, safety, or general welfare of the public including but not limited to:

a. Aggressive solicitation;

b. Misrepresentation of goods or services;

c. Entrance upon the premises of any person without consent;

(5) The applicant has committed acts which would constitute a crime involving moral turpitude or has been convicted within the last ten years preceding the date of application of any felony, gross misdemeanor, or a misdemeanor involving a sex offense, trafficking controlled substances, or any violent acts against a person or property.

(b) The department's disapproval and the reasons for disapproval shall be noted on the application and the applicant shall be notified by registered mail, either United States Postal Service or other parcel post, signature required, within 14 days of disapproval and that no license will be issued.

(c) The department may suspend or revoke a license immediately for violations outlined in this chapter including breach of the peace, protection of health, safety or welfare of the public. The license holder shall be notified by registered mail, either United States Postal Service or other parcel post, signature required, within five days of the decision. The notice shall include reason for suspension/revocation and the contact information for appeal process.

(d) Under this chapter, it is unlawful for any person to solicit or peddle at any residence or commercial establishment with written warning such as "No Peddlers," "No Solicitors," "No Trespassing" which has been clearly posted at the wall, fence, entrance, or gate of said private property.

(Prior Code, § 3.02.10)

Sec. 10.02.11. Appeal.

Any individual aggrieved by the action of the department in the denial or revocation of a license shall have the right of appeal to the city council. The applicant shall file a written statement within 14 days after notice of the action has been mailed to such individual's last known address, setting forth fully the grounds for the appeal. The department shall set a time for hearing on such appeal and notice of such hearing shall be given to the applicant. The decision and order of the city council on such appeal shall be final and conclusive.

(Prior Code, § 3.02.11)

Sec. 10.02.12. Location restrictions.

No person engaged in peddling or soliciting shall:

(1) Attempt to peddle or solicit at any dwelling, residence or commercial location where there is a displayed, affixed or exposed to public view, sign bearing the words "No Peddlers," "No Solicitors," "No Trespassing" or other words of similar import, except pursuant to prior invitation by any adult individual residing in such dwelling;

(2) Operate in any congested area where the operation might impede the public;

(3) Have any exclusive right to any location upon streets, sidewalks, alleys or public grounds of the city.

(Prior Code, § 3.02.12)

Sec. 10.02.13. Hours of solicitation.

No person, while conducting activities of a peddler or solicitor, shall enter upon any private property, knock on doors, ring any bells, or otherwise disturb persons in their residence before 9:00 a.m. or after 7:30 p.m. or sunset, whichever comes first.

(Prior Code, § 3.02.13)

CHAPTER 3. CHILD CARE

Sec. 10.03.01. License required; non-qualified persons described.

(a) The public health, safety, morals and welfare of the inhabitants of the city require the regulation and control of businesses engaged in the operation of child care facilities. All establishments where care for children is given, as hereinafter defined in this chapter, shall be licensed and so operated and controlled as to protect the public health, safety, morals, good order and general welfare of the inhabitants of the city, and to safeguard the public. The purpose of this chapter is to provide some screening of persons working in such facilities. This applies to each officer or employee physically present at any child care facility when children are present.

(b) It is further found and declared that the right to obtain such license is a privilege and that the operation of a child care facility, when authorized by such license, is a privileged business subject to regulation. In conformance with the policy of this chapter, the following persons are not qualified to hold a license under the provisions of this chapter:

(1) A person who is under the age of 18 years;

(2) A person who is not a citizen of the United States or a legal alien in the United States;

(3) If documented and verifiable evidence is made available or presented to the license division that would cause a reasonable person to believe a person does not possess or does not have a reputation for possessing a good moral character;

(4) A person who has been convicted of a crime involving moral turpitude, abuse or neglect of child, sexual assault, statutory sexual seduction, incest, lewdness or indecent exposure, or promoting or using a minor in producing pornography or any other sexually related crime, or any felony involving the use of firearm or other deadly weapon, or a violation of any federal or state law regulating the possession, distribution or use of any controlled substance or a dangerous drug as defined in NRS ch. 454;

(5) A person who the city council shall determine is not a suitable person to receive or hold a license, after due consideration for the protection of the public health, safety, morals, good order and general welfare of the inhabitants of the city;

(6) A person who makes application for a license whose child care environment is such that it would not be conducive to the safety and welfare of children. Factors for disqualification shall include alcoholism, use of controlled substances, serious and prolonged illness, violent behavior, physical or mental impairment, pending criminal charges, conviction of any crime listed in the subsection (4) of this section, or a finding of unsuitability by the city council as provided in subsection (5) of this section, by employees, volunteers, owners, partners, corporate officers, directors, or persons living in or frequently visiting the site of the facility;

(7) If the applicant is a corporation, limited liability company, partnership or association, each owner, member, partner, associate, corporate officer or facility director must be found suitable to hold a license by applying for a license, undergoing a background investigation and found to be free from all of the disqualifying factors listed in this section.

(Prior Code, § 3.04.01)

Sec. 10.03.02. Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Child care center means a facility in which the licensee regularly provides care for more than 12 children.

Child care facility.

(1) The term "child care facility" means an establishment operated and maintained for the purpose of furnishing care on a temporary or permanent basis, during the day or overnight to one or more children under 16 years of age, if compensation is received for the care of any of those children.

(2) The term "child care facility" does not include:

a. The home of a natural parent or guardian, foster home (as defined in NRS ch. 424), or maternity home;

b. A home in which the only children received, cared for and maintained are related within the third degree of consanguinity or affinity by blood, adoption, or marriage to the person operating the facility; or

c. A home in which a person provides care for the children of a friend or neighbor for not more than four weeks if the person who provides the care does not regularly engage in that activity.

Church nursery means a facility which provides care for ten or more children under age 16 years during the whole or any part of the day. If church nursery falls under the non-profit status and sufficient proof is provided, license fees will be waived by the licensing division, but license application, and all necessary inspections should be completed.

Group child care means a facility in which the licensee regularly provides care for at least five but not more than 12 children.

Home child care means any family dwelling in which the licensee regularly provides care, without the presence of parents, for one but not more than four children.

(1) Home child care is allowed in a rental facility as long as written notice is provided to the landlord 15 days prior to starting child care business. Proof of written notice provided to landlord needs to be attached to application submitted to license division for child care business license.

(2) Home child care is also allowed at apartment buildings and multi housing complexes as long as written notice is provided to the landlord 15 days prior to starting child care business. The licensee is allowed to conduct the child care business on the second story of a facility or residence if there is no child under the age of three years old being supervised.

(Prior Code, § 3.04.02)

Sec. 10.03.03. Enforcement agency, visitation, inspection.

(a) The business license division of the city is designated as the department of the city which shall enforce the rules, regulations and standards for the administration of the child care facilities as prescribed by the city council and this chapter.

(b) The rules and regulations prescribed by the city council shall provide for the safety, health, welfare and education of the children and shall provide for such visitations or inspections by appropriate authorities as may be necessary to obtain compliance with the standards prescribed by the city council. All facilities operating under a license from the city shall be open to inspection by the proper authorities of the city at any and all times.

(Prior Code, § 3.04.03)

Sec. 10.03.04. License application, investigation and license process.

Except as provided herein, no home child care, group child care or child care facility, person, association, corporation, institution or agency shall provide care and supervision for one or more children under 16 years of age in lieu of care and supervision ordinarily provided by parents in their own homes, for the whole or any part of a day, with charge, without having in full force and effect a license issued by or under the authority of the city council. Nothing in this chapter shall apply to care given to children by or in the homes of parents, legal guardians, or relatives, or as part of the program of an educational institution regulated by the board of education of the state.

(1) Applicants for a home child care license shall pay an investigation fee for each applicant and each person over age of 18 residing at the residence where child care will be provided to the city at the time of application. License division staff will take fingerprints or applicant can bring a fingerprint card from other acceptable agencies including but not limited to the county sheriff's office. Fingerprint checks will be completed every five years. All other child care facilities should conduct a full background investigation as required by state bureau of services for child care and Nevada Revised Statutes.

The home child care primary licensee may add a family member, employee or another person that resides at the child care business that will be providing child care services to the child care business license, on the condition that the listed person is fingerprinted, and a background investigation is completed. The listed person will not be allowed to provide care or allowed to be added to the license until a background check is completed and the listed person passes the background check. The license division staff will notify the applicant/licensee within 15 days if the investigation indicates that the applicant, employee or the person providing care listed has failed to pass the background check.

(2) The application for a license shall be in a form prescribed by the department and shall be made in person. The license shall state to whom the license is issued, the particular premises where the children are to be cared for, and the number of children that may be cared for at any one time. The application shall require the applicant to list any and all previous arrests, convictions or pending litigation, except minor traffic citations for the primary licensee, and a list of all other persons residing at the residence where child care will be provided.

(3) No license or permit shall be issued until the location of the child care facility has been approved by the health department, the fire department, and the city building department, and the background check is complete and it is determined that the applicant has not been convicted of any crime listed in section 10.03.01. Home child care facilities will be exempt from health department inspections.

At the time of original application, the child care facility shall be inspected and approved by the fire department. Thereafter, at least annually, the fire department shall inspect the child care facility (home child care facilities will be exempt from annul fire inspection) to ensure that fire standards are being met and maintained. Reports of inspections must be kept on file with parental access in the facility by the child care business owner for a minimum of two years after the date of inspection.

(4) All licenses must be obtained at the office of the license division in the manner provided for other city licenses, upon the payment of the required license fees and upon compliance with this chapter. Applicant cannot conduct business and take care of the children until investigation is complete for primary licensee and any other persons over age 18 years residing in the residence where the child care will be provided. The license division will notify applicant and will issue a license once the investigation is complete, and it is determined that the applicant and any other persons listed in the application over age 18 years residing where the child care will be provided has not been convicted of any crime involving but not limited to child abuse or neglect, crime involving physical harm to another person nor be a perpetrator of substantiated child abuse or neglect and other crimes listed in section 10.03.01.

(5) A license issued by the city shall be for one year. Each license form will contain the name of each person authorized to operate the facility, the location of the facility, the number of children for whom care may be provided pursuant to the license and the nature of child care services which may be provided. Sole supervision for children in home child care is restricted to only licensed provider and/or providers indicated on the license. Children under age 18 years are not allowed to take care of other children in the facility or personal residence for home child care. Family members are not allowed to provide care for children in home child care unless fingerprinted and background investigation is completed and family member is listed on the business license along with the primary owner of the home child care.

In accepting children for care, the home child care and child care facilities must keep within the limits of the license issued by the city.

(Prior Code, § 3.04.04)

Sec. 10.03.05. License fees.

(a) Annual license fees in the different child care categories shall be required and shall be paid prior to issuance of a license. License fees, application fees and renewal fees charged pursuant to this chapter shall be contained in the fee schedule which shall be maintained by the city clerk's office, and amended by resolution upon approval of the city council.

(b) Any child care facility, upon proof that such facility operates on a nonprofit basis, may have its license fee waived by the department director.

(Prior Code, § 3.04.05)

Sec. 10.03.06. License display, license nontransferrable.

(a) Each current license issued by the city shall be displayed in a prominent place in the child care facility.

(b) Any license issued under the provisions of this chapter shall not be transferable by the licensee to any other person or entity and shall be valid only for the particular premises described therein and the type(s) of facility and number of children for which it is issued.

(Prior Code, § 3.04.06)

Sec. 10.03.07. Inspection, investigation of violations and license suspension and revocation.

(a) *Inspection.*

(1) Inspections of any buildings or premises of a child care facility may be unannounced if the license division have reason to believe the licensee of a facility is not meeting the requirements of this chapter.

(2) In conducting inspections and investigations, the officer may call upon agencies for assistance. The licensee or applicant shall cooperate with the person conducting the investigation by providing access to the buildings, records and staff of the facility. Failure or refusal of the licensee to submit to reasonable investigations or inspections by the license division of the city or city representative, bureau of services for child care, health or city building officials would be grounds for immediate suspension of a license and will result in a possible revocation as set up in section 10.01.19.

(3) On confirmation of the operation of an unlicensed operator of a facility, the license division staff shall investigate and attempt to license the operator of the facility or prosecute the violation.

(b) *Investigation.* Whenever the license division staff has reason to believe that a child care facility is operating without a license, not conforming to the conditions of its license and/or is in violation of county, state or federal laws or regulations governing child care facilities, or that any situation may exist that may jeopardize the welfare of the children cared for at the child care facility, an investigation and/or inspection may be conducted. City representatives shall have the authority to inspect the premises where the violation or dangerous condition is alleged to occur and to conduct such other investigations as are necessary and as listed in this section. The licensee or applicant shall cooperate with the persons conducting the investigation by providing access to the building, records and staff of the facility.

(c) *Suspension and revocation.*

(1) The failure or refusal of any licensee to comply with any provisions of this chapter, other applicable provisions of this Code or state law, shall be sufficient cause for the suspension, revocation or discipline of such licensee as provided in section 10.01.19.

(2) Should someone during the time a person holds a license be convicted of a crime as provided in section 10.03.01, the child care business license holder must report the conviction within 72 hours to the license division. Failure to notify the license division would be grounds for a license suspension and possible revocation as provided in section 10.01.19.

(Prior Code, § 3.04.07)

Sec. 10.03.08. Advertising.

It is unlawful to publicly advertise in any manner a child care facility without first having obtained an appropriate child care license as provided in this chapter. All advertising by a licensee of a facility must specify the type of facility for which it is licensed, and must not mislead the public regarding regular programs and services offered by the licensee.

(Prior Code, § 3.04.08)

Sec. 10.03.09. Penalty for violation.

Any person violating any of the provisions of this chapter or the regulations adopted hereunder shall be guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not more than $1,000.00, or by imprisonment in the county jail for a term of not more than six months, or by any combination of such fine and imprisonment.

(Prior Code, § 3.04.09)

CHAPTER 4. SPECIALTY BUSINESS LICENSE REGULATIONS

ARTICLE 1. GENERALLY

Sec. 10.04.01. Purpose and scope.

(a) This chapter establishes the minimum procedural requirements for the city to issue a specialty business license, provides a basis to regulate entities which conduct these types of business in the city, and shall be known as the special business license regulations. This chapter regulates those activities which are found by the city to require a higher demand of city services.

(b) The provisions of this chapter apply to all specialty businesses in the city. Nothing in this chapter shall be deemed or construed to exempt any organization from complying with the provisions of any other ordinance.

(c) No applicant for a specialty license or permit has any right to such license or permit. Any license or permit issued pursuant to the provisions of this chapter is a revocable privilege, and no holder acquires any vested right therein.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.02. Regulation of specialty businesses.

(a) A specialty business is subject to regulations, and the license may be revoked for violation of the conditions of this chapter.

(b) In conformity with the policy of this chapter, the following persons are declared not qualified to hold a license under the provisions of this chapter:

(1) A person who has been convicted of a crime involving theft, fraud, dishonesty, receiving or possessing stolen property, any controlled substance violation whatsoever, or any sex offense;

(2) A person whose license, issued pursuant to the provisions of this chapter, or those ordinances or statutes of any other agency lawfully engaged in the licensing or regulation of the business has been revoked for cause.

(c) Subsections (b)(1) and (2) of this section are also grounds for denial of renewal of a business license.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.03. License required.

It is unlawful for any person within the city to engage in or conduct in any premises of the city, any specialty business without first obtaining a specialty business license.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.04. Application and setup fees.

(a) *Application fee.* Upon the filing of an application for a business license, the applicant shall pay a nonrefundable application fee and nonrefundable set up fee. The application fee is paid regardless of whether the business license application is approved and is paid at the time the application is submitted to the licensing department. The application fee is separate and distinct from the business license fee. The setup fee is paid upon approval of the business license and is separate from the business license fee.

(b) *Business license fee schedule.* Once a business license is approved, the business licensee shall pay a business license fee. The business license fee is separate and distinct from the application fee. This fee must be paid prior to the issuance of the license. The business license fees are based upon the classification of the business and/or the gross receipts of the business.

(1) The application, license, and renewal fees charged pursuant to this chapter shall be contained in the fee schedule.

(2) The license fee for a specialty business license is based on gross receipts plus the assigned base fee, as outlined on the license fee schedule.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.05. Background investigations (required).

(a) Every person submitting an application for a license pursuant to this section is subject to a background investigation to determine suitability for the license or permit. A Federal Bureau of Investigation (FBI) fingerprint-based inquiry must be conducted prior to the issuance of any license or work permit set forth in this chapter.

(b) Each principle owner or managing member of the business is required to obtain a background investigation pursuant to this chapter, at the time of application and every five years following.

(c) An applicant for any of the following business licenses or permits shall comply with the provisions of this section and any other FBI or law enforcement requirements necessary to obtain a FBI nationwide background check:

(d) No license or work card may be issued until it has been approved and all fees have been paid and the license or card has been approved.

(e) Background check of the applicant. The state department of public safety is hereby authorized to exchange such fingerprint data with the FBI for purposes of the background check. The criminal history will be provided to the license department for evaluation and will not be shared with any other city staff.

(f) Failure of an applicant for a business license or permit set forth in this section to submit to full fingerprinting or to provide information required by this section is grounds for denial of the application.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.06. Review and approval process.

(a) *License application process.*

(1) An application for license may be referred to the appropriate city department for review and investigation.

(2) The city license office shall review the recommendations of all the applicable departments and decide whether to approve or deny the license. The city license office thereafter shall either place the license application on a city council agenda for approval or notify the applicant of denial. The denial notice shall include the reason for such denial, in accordance with its decision. Any applicant that is denied a license shall be notified of the reason for the denial and the option of appealing the decision in accordance with the appeal procedures contained in this chapter;

(b) *Zoning and planning review.*

(1) Locations permitted for sexually oriented businesses are regulated by NRS chapter 201 and the city development code in title 32, restricting their close proximity to established facilities such as, but not limited to, religious assemblies, parks, schools and residential areas. Licensees shall comply with these regulations.

(2) Sexually oriented businesses are required to comply with the location restrictions as outlined in state statutes and the city development code in title 32.

(3) It is unlawful for any business required to be licensed pursuant to this chapter to be operated or conducted, either in full or part time, from a residential location.

(4) Prior to the issuance of any business license by the license department, the applicant must submit, on a form provided by the division, a request for required department signature inspections, to determine if the proposed business operation is in conformity with the requirements of the building, planning, public works, water, wastewater, fire and code enforcement departments and divisions. Upon submission of the business license application and request for required department signature inspections, the premises must be inspected by all designated departments and divisions.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.07. Duties of licensee.

(a) Every licensee is responsible for the acts of his employees, agents and servants committed while on the licensed premises and during the course of employment away from the licensed premises, and every licensee must accordingly use adequate care in the selection of his employees. In any licensing suspension, limitation or revocation proceedings, the fact that the licensee did not have actual knowledge of the events complained of is no defense, and every licensee hereunder accepts his license subject to said condition.

(b) Each licensee shall not knowingly fail to report or conceal from the council a full disclosure of the names of all persons having an interest in the ownership of, or having an equitable or beneficial right to the profits under a license in which he has an interest.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.08. Transfer of license.

No license issued under this chapter shall be transferred or assigned to another person or place of business.

(Ord. No. 2016-017, 11-16-2016)

Secs. 10.04.09—10.04.15. Reserved.

ARTICLE 2. AUTOPAWNS AND PAWNBROKERS

Sec. 10.04.16. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Autopawn means a pawnbroker who loans money on the security of any motor vehicle or other transportation device for which title or registration can be provided.

Motor vehicle, as defined by the current version of NRS 646.006, means any self-propelled vehicle that is used upon a highway, but not operated on rails, for the purpose of transporting persons or property. The term "motor vehicle" does not include electric personal assistive mobility devices.

Pawnbroker, as defined by the current version of NRS 646.010, means any person engaged, in whole or in part, in the business of loaning money on the security of pledges, deposits or other secured transactions in personal property, excluding autopawn.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.17. Records to be kept and transmitted.

(a) Every business licensed under this section shall maintain in the place of business a book or other permanent record in which must be legibly written in the English language, at the time of each purchase or receipt of property, a record thereof containing:

(1) The date and time of the transaction.

(2) The name or other identification of the person or employee conducting the transaction.

(3) The name, age, residence address and general description of the person with whom the transaction is had.

(b) A thorough description of the property pawned, purchased or received. Where applicable, descriptions must include, but not be limited to:

(1) General identification of the item, including type or category, material, size and weight;

(2) Brand, make and model name or number;

(3) Serial numbers, identifying marks, symbols or inscriptions, watch works numbers and owner-applied markings;

(4) Receipt numbers for the transaction, including pawn ticket numbers;

(5) The amount of money loaned, advanced or paid for the property;

(6) The person with whom a transaction is had, shall, at the time of the transaction, certify in writing that he has the legal right to pledge or sell the property; and

(7) The record and all goods received must at all times during the ordinary hours of business be open to the inspection of any peace officer.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.18. Reports of transactions.

Every pawn licensee in the city shall, before 12:00 noon of each and every day, furnish in duplicate to the chief of police a full, true and correct transcript of the record of all transactions had on the preceding day.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.19. Removal of pledged property.

It is unlawful for any licensee under this chapter, including any clerk, agent or employee of a pawnbroker to remove any property received in pledge from the place of business after receipt of the property has been reported to the chief of police, unless the property is:

(1) Redeemed by the owner; or

(2) Released to the custody of a peace officer in the manner set forth in NRS 646.047.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.20. Pawn tickets.

(a) Any autopawn broker or pawnbroker doing business in the city shall furnish to the pledgor a printed pawn ticket:

(1) Plainly numbered;

(2) Containing the name of the pledgor;

(3) A description of the article or thing pawned or received;

(4) Date of receipt;

(5) The amount loaned;

(6) The time for redemption;

(7) Amount to be paid on redemption; and

(8) Name of the pledgee.

(b) The printed pawn ticket shall be marked in such a manner that the amounts of principal and interest paid by the pledgor can be clearly designated.

(c) Each payment shall be entered upon the receipt and shall designate how much of the payment is being credited to principal and how much to interest, with dates of the payments shown thereon.

(d) The pawnbroker shall affix a tag to each article, or thing, upon which tag shall be inscribed a number of legible characters, the number shall correspond to the number on the pawn ticket.

(e) The number shall also be entered in the records required to be kept by this chapter.

(f) In the case of motor vehicles, the description must be marked model, color, year, and vehicle identification number of the particular vehicle.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.21. Property redemption.

All personal property including motor vehicles, placed in pawn, must be held for redemption by the pawnbroker for a least 90 days after the date of the pledge.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.22. Additional license required to use motor vehicle as collateral for loan.

Pursuant to NRS 268.0973, if the city requires a license to engage in business as a pawnbroker, it shall also require an additional license if the pawnbroker engages in autopawn.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.23. Storage of motor vehicles when pawned.

(a) Autopawn licensees shall provide and maintain at least one place of storage within the city limits, sufficient in size to handle the number of motor vehicles as outlined in the city development code in title 32.

(b) The vehicles shall be held at the place of storage for the same period of time that personal property must be held at the place of business and may only remove the motor vehicle under the same conditions that personal property may be removed. Motor vehicle storage shall be enclosed by a chain link fence or block wall. Gates or doors for access to the area shall be kept closed and locked when the premises are not open for business.

(c) A pawnbroker shall not charge more than $3.00 per day for the storage of a motor vehicle which is collateral for a loan.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.24. Liability insurance when motor vehicles are pawned.

Licensees engaged in autopawn shall possess and maintain garage keeper's liability insurance in the amount of $100,000.00, general (public) liability insurance in the amount of $100,000.00, and collision insurance in the amount of $15,000.00.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.25. Clear title required for pawning motor vehicle.

It is unlawful to pawn any motor vehicle on which there exists any lien, security interest or encumbrance of whatever nature or to pawn any motor vehicle if the person pawning said motor vehicle is not the legal owner thereof.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.26. License plates to be removed at time of motor vehicle pawn.

The license plates from any motor vehicle to be pawned must first be removed by or at the direction of the registered owner of the motor vehicle.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.27. Autopawn licensees to obtain dealer's license from the state when motor vehicles are pawned.

Autopawn licensees engaged in pawning motor vehicles must possess a dealer's license from the state department of motor vehicles and must fully comply with the requirements set forth in NRS 482.318.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.28. Unlawful acts.

Every pawn licensee, and every clerk, agent or employee of a licensee, is guilty of a misdemeanor if he violates any provision of this chapter, including, but not limited to:

(1) Fails to make an entry of any material matter in his book or record kept as provided for in this chapter.

(2) Makes any false entry in his book or record.

(3) Obliterates, destroys or removes from his place of business the book or record.

(4) Refuses to allow a prosecuting attorney or peace officer to inspect the book or record or any goods in his possession, during the ordinary hours of business.

(5) Reports any material matter falsely to the chief of police.

(6) Fails to report immediately to the chief of police the possession of any property which he may have good cause to believe has been lost or stolen together with the name of the owner, if known, and the date when and the name of the person from whom he received the property.

(7) Removes or allows property to be removed from his place of business, except upon redemption by the owner thereof, or by the provisions in NRS 646.047.

(8) Receives any property from any person under the age of 18 years, any common drunkard, any habitual user of controlled substances, any habitual criminal, any person in an intoxicated condition, any known thief or receiver of stolen property, or any known associate of a thief or receiver of stolen property, whether the person is acting in his own behalf or as the agent of another.

(9) Fails to hold personal property for redemption for at least 90 days after the date of pledge.

(10) Charge or receive interest at a rate higher than outlined in NRS for money loaned on the security of personal property, exclusive of an initial charge not to exceed $5.00.

(11) Pawn or purchase any merchandise from any person under 18 years of age, unless the person has title, free and clear, for the motor vehicle, or parts, to be purchased, except with the written consent or direction of the parent or guardian of such person. Said written permission shall be maintained as part of the records as specified in this chapter.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.29. Check cashing, payday loan services.

(a) Regulations for check cashing services and payday loans, as well as deferred deposit loans are outlined in NRS ch. 604A. These regulations include, but are not limited to, Regulation Z (Truth in Lending Act) and disclosure requirements.

(b) All businesses operating as check cashing service, payday loan or deferred deposit service are required to obtain and maintain a license from the state commissioner of financial institutions. A licensee who fails to renew his state license may be subject to revocation of their city business license under this chapter. The commissioner of financial institutions determines the approval or denial of the state application.

(c) City business licenses issued under this chapter are subject to all state and federal laws applicable to deferred deposit, check cashing and payday loan services.

(d) Check cashing services include any person or enterprise engaged in the business of cashing checks for a fee or service charge.

(e) Payday loan services include any person or enterprise engaged in the business of accepting a personal check drawn upon the account of the customer or other written authorization for electronic money transfer for a specified amount from the account of the customer, for a fee or service charge. Deferred deposit, a type of payday loan, includes transactions pursuant to a loan agreement where a customer tenders a check drawn upon his draft account and the deferred deposit business operator provides the customer with money equal to the face value of the check, less any fees charged for the transaction. The deferred deposit business operator agrees, for a period of time specified in the contract, not to cash the check or execute an electronic transfer of money for the amount specified in the written authorization.

(f) Licensees must comply with restrictions on location where licensee may conduct business as defined by the current version of NRS 604A.655. Licensees must comply with any restrictions outlined by Nevada Revised Statutes and the city development code in title 32.

(g) Exempt from this chapter (as defined by the current version of NRS 604A.250):

(1) Except as otherwise provided in the current version of NRS 604A.200, a person doing business pursuant to the authority of any law of this state or of the United States relating to banks, national banking associations, savings banks, trust companies, savings and loan associations, credit unions, mortgage brokers, mortgage bankers, thrift companies or insurance companies, including, without limitation, any affiliate or subsidiary of such a person regardless of whether the affiliate or subsidiary is a bank.

(2) A person who is primarily engaged in the retail sale of goods or services who:

a. As an incident to or independently of a retail sale or service, from time to time cashes checks for a fee or other consideration of not more than $2.00; and

b. Does not hold himself out as a check-cashing service.

(3) A person while performing any act authorized by a license issued pursuant to NRS ch. 671.

(4) A person who holds a non-restricted gaming license issued pursuant to NRS ch. 463 while performing any act in the course of that licensed operation.

(5) A person who is exclusively engaged in a check-cashing service relating to out-of-state checks.

(6) A corporation organized pursuant to the laws of the state that has been continuously and exclusively engaged in a check-cashing service in the state since July 1, 1973.

(7) A pawnbroker, unless the pawnbroker operates a check-cashing service, deferred deposit loan service, high-interest loan service or title loan service.

(8) A real estate investment trust, as defined in 26 USC 856.

(9) An employee benefit plan, as defined in 29 USC 1002(3), if the loan is made directly from money in the plan by the plan's trustee.

(10) An attorney at law rendering services in the performance of his duties as an attorney at law if the loan is secured by real property.

(11) A real estate broker rendering services in the performance of his duties as a real estate broker if the loan is secured by real property.

(12) Any firm or corporation:

a. Whose principal purpose or activity is lending money on real property which is secured by a mortgage;

b. Approved by the Federal National Mortgage Association as a seller or servicer; and

c. Approved by the Department of Housing and Urban Development and the Department of Veterans Affairs.

(13) A person who provides money for investment in loans secured by a lien on real property, on his own account.

(14) A seller of real property who offers credit secured by a mortgage of the property sold.

(15) A person who makes a refund anticipation loan, unless the person operates a check-cashing service, deferred deposit loan service, high-interest loan service or title loan service.

(Ord. No. 2016-017, 11-16-2016)

Secs. 10.04.30—10.04.35. Reserved.

ARTICLE 3. SECOND HAND DEALERS

Sec. 10.04.36. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Collectible means an object of personal property that has special value primarily because of its unique characteristics and the high level of demand for the object.

Drop-off center means a collection site where recyclable materials may be taken by persons and deposited into designated containers and may be subject to a franchise agreement.

Jewelry means merchandise customarily kept in retail (including estates) jewelry stores for sale, including, but not limited to, precious and semiprecious stones; watches; clocks; rings; bracelets; articles made in whole or in part of gold, silver, platinum or other precious or semiprecious metal and, in addition thereto, shall also include collectibles and art objects.

Recyclable materials is defined in the current version of NRS 444A.013 and includes solid waste that can be processed and returned to the economic mainstream in the form of raw materials or products, as determined by regulations adopted by the state environmental commission and the state division of health.

Secondhand dealer.

(1) The term "secondhand dealer" means any person who engages in or conducts the business of buying, selling or exchanging old gold, old silver, platinum or articles of platinum, silverware, and secondhand jewelry or other precious metals, stones or household electronic devices and appliances.

(2) The term "secondhand dealer" also includes all secondhand dealers who handle, or deal in secondhand motor vehicles or trailers for the purpose of dismantling, wrecking, disassembling and selling the dismantled, wrecked or disassembled parts or accessories and who possess the appropriate state department of motor vehicles dealers license. Establishments conducting the business of recyclables, or of a drop-off center, are included in this definition.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.37. Exemptions.

(a) The following are not required to get a license under this article, but are required to register with the city and will not be charged an annual license fee: all charitable organizations which are recognized as 501(c)3 are exempt from the provisions of this section.

(b) The following will not be subject to the background investigation process but will be required to register with the department and pay the applicable fees: all dealers of used books, clothing, musical instruments, sporting goods, or prerecorded media, household items such as furniture and linens; and the taking in of used items in on trade for store credit or the purchase of store merchandise from the requirement to obtain a secondhand dealers license.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.38. Licensing as pawnbroker required for certain transactions.

A secondhand dealer who, after purchasing property from a customer, enters into an agreement to allow the customer to buy back the property must be licensed as a pawnbroker.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.39. Purchase from minors and juveniles.

It is unlawful for any secondhand dealer, whether acting for himself as licensee, or whether by an employee or agent of the licensee, to purchase any secondhand merchandise as defined herein from any person under 18 years of age, unless the person has title, free and clear, for the motor vehicle, or parts, to be purchased, except with the written consent or direction of the parent or guardian of such person. Said written permission shall be maintained as part of the records as specified in this chapter.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.40 Records and reports to be kept and transmitted.

(a) Every business licensed under this chapter shall maintain in the place of business a book or other permanent record in which must be legibly written, in the English language, at the time of each purchase or receipt of property.

(b) Every second hand dealer licensee in the city shall, before 12:00 noon of each and every day, furnish in duplicate to the chief of police a full, true and correct transcript of the record of all transactions had on the preceding day.

(c) Each record shall contain:

(1) The date and time of the transaction.

(2) The name or other identification of the person or employee conducting the transaction.

(3) The name, age, residence address, driver's license number and general description of the person with whom the transaction is had.

(4) If the transaction involves household furniture, the license number of the vehicle delivering each purchase.

(5) In the case of watches, the description must contain the name of the maker and the number of the works or the case. In the case of jewelry, all letters and marks inscribed on the jewelry must be included in the description symbols or inscriptions, watch works numbers and owner-applied markings.

(6) The price paid.

(7) The record and all goods received must at all times during the ordinary hours of business be open to the inspection of any peace officer.

(d) The provisions of this section do not apply to any transaction which involves buying, selling or trading used books, clothing, periodicals, sound recordings, or coins which are not part of any jewelry.

(e) The records required to be kept per subsection (a) of this section are required to be kept and maintained on the premises for a minimum of three years from the date of original transaction.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.41 Licensee responsible for the acts of employees.

Every licensee shall be responsible for the acts of his employees committed during the course and scope of employment. In any license suspension, limitation or revocation proceedings, the fact that the licensee did not have actual knowledge of the events complained of shall be no defense, and every licensee hereunder accepts his license subject to said condition.

(Ord. No. 2016-017, 11-16-2016)

Secs. 10.04.42—10.04.45. Reserved.

ARTICLE 4. SEXUALLY ORIENTED BUSINESSES

Sec. 10.04.46. Definitions.

(a) The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this subsection, except where the context clearly indicates a different meaning:

Sexual conduct and specified anatomical areas means and includes the following: the fondling or other touching of human genitals, pubic region, buttocks, or male or female breasts; ultimate sex acts, normal or perverted, actual or simulated, including intercourse, oral copulation and sodomy; masturbation; flagellation or torture by or upon a person clad in undergarments, a mask or bizarre costume, or the condition of being fettered, bound or otherwise physically restrained on the part of the one so clothed.

Sexually oriented business.

(1) The term "sexually oriented business" means and includes, but is not limited to:

a. Adult bookstore, adult novelty business, or adult video store or a retail establishment having as a significant portion of its stock in trade in any one or more of the following:

1. Books, film, digital video discs, compact discs, video cassettes, slides, magazines and other periodicals or other written, oral or visual representations that are distinguished or characterized by an emphasis on depicting or describing sexual conduct or specified anatomical areas; or

2. Products known generally as, but not limited to, adult novelties and gifts, instruments, devices, accessories or paraphernalia, including items designed or marketed primarily for sadomasochistic activity, that are characterized by an emphasis for use during sexual conduct or with specified anatomical areas.

b. Adult club, a public or private establishment, which may charge admission for entrance, that regularly features nude or topless entertainers, bottomless entertainers, strippers, exotic dancers, or other live performances that are distinguished or characterized by the exposure of specified anatomical areas or that advertises, or holds out to the public that adult entertainment is provided or advertises or implies that sensual or sexual entertainment is provided, and that may operate in the manner of a tavern.

c. Adult motion picture theater, an enclosed building, or a portion thereof, used for presenting motion pictures, films, video cassette, compact disc or digital video disc recordings, slide photographs, or other motion or still pictures, that are distinguished or characterized by an emphasis on depicting or describing sexual conduct or specified anatomical areas.

d. Adult video arcade, any establishment, or any portion thereof, containing any manually operated, coin or slug operated, or electrically or electronically operated or controlled, still, motion picture, film, compact disc, digital video disc, or video cassette machines, projectors, players, or other image producing devices that are maintained to display images to one or more persons per machine or per viewing room at any one time, and where the images so displayed are distinguished or characterized by an emphasis on depicting or describing sexual conduct or specified anatomical areas.

e. Brothel, any orderly room, structure, or building where prostitution occurs.

f. Escort, any person who, for any form of consideration or gratuity, dates, socializes, visits, consorts with or accompanies, or offers to date, consort, socialize, visit or accompany another or others to or about social affairs, entertainment or places of amusement, or within any place of public or private resort or any business or commercial establishment or any private quarters.

g. Escort service, an individual or entity, which, for any form of consideration or gratuity, furnishes or offers to furnish escorts, or provides or offers to introduce patrons to escorts.

h. Prostitute, a male or female person who, for a fee, monetary consideration, or other thing of value, engages in sexual intercourse, oral genital contact or any touching of the sexual organs or other intimate parts of a person for the purpose of arousing or gratifying the sexual desire of another person.

i. Prostitution, engaging in sexual conduct with another person for a fee, monetary consideration or other value.

(2) The term "sexually oriented business" means any business, if permitted by the city development code in title 32, that offers services, materials, goods, or products which are characterized by an emphasis on matter depicting, describing, or relating to nude or semi-nude or sexual activities between persons or observation thereof, Turkish baths, nude or semi-nude modeling studios, businesses using nude or semi-nude models in offering lingerie or intimate apparel for sale, sexual catharsis centers, sexual encounter establishments, bondage or discipline parlors, escort bureaus and introductory services or other similar type businesses, any business which utilizes or encourages sexual arousal, sexual gratification or sexual stimulation of a customer or prospective customer in connection with the sale or offering for sale of services, goods or materials. These businesses include, but are not limited to, unlicensed massage (state massage license).

(3) This definition does not apply, nor shall it be interpreted to apply, to any business conducted, operated or employing licensed chiropractors, physicians, physical therapists, massage therapists, psychologists, social workers or marriage family counselors when performing functions under or pursuant to their respective licenses.

(4) These businesses include, but are not limited to, adult book stores, adult video stores, picture arcades showing adulating entertainment pictures, adult motion pictures, or other similar business.

Specified anatomical areas means human genitals, pubic region, buttocks, or male or female breasts.

Work card means the card issued by the chief of police to each employee and to each prostitute authorizing them to work at a licensed operation.

(b) It is unlawful for any business governed by this section to allow a person under the age of 18 years in or on the premises.

(c) Licenses issued pursuant to this section are subject to all applicable state laws, county codes, and city codes.

(d) The terms, conditions and policies of other applicable ordinances are intended to be applied in conjunction with the enforcement of all other ordinances of the city designed for the protection of the public health, safety, morals and welfare. The fact that such ordinances are not specifically referred to in this chapter shall in no manner preclude their application to secondhand dealer licensees.

(e) The terms, conditions and requirements of this chapter are in addition to those imposed under NRS chs. 268, 604A, 646, and 647.

Sec. 10.04.47. Alcohol sales or consumption at sexually oriented business.

Serving, selling, or otherwise providing alcoholic beverages at the following sexually oriented business is prohibited under this chapter:

(1) Adult bookstore, adult novelty business, or adult video store or a retail establishment.

(2) Adult motion picture theater.

(3) Adult video arcade.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.48. Licensee's agreement to conform to law.

Acceptance of a specialty license by a licensee constitutes an agreement on the part of such licensee to be bound by all of the regulations of the city as the same are now, or may hereafter be amended or promulgated. It is the sole responsibility of the licensee to keep himself informed of the content of all such rules and regulations, and ignorance therefor shall not excuse violations.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.49. Brothels.

(a) *Health examinations for prostitutes.* The licensed operation must comply with all state division of health requirements and state statutes with regard to medical and health examinations for prostitutes.

(b) *Exams required.*

(1) Every prostitute working at a licensed operation is required to have a weekly medical examination by a medical doctor licensed to practice medicine in the state or the doctor's duly qualified and supervised employee. Each medical examination must include testing to be submitted to a state licensed medical laboratory and must include:

a. Once each week, a culture to confirm the presence or absence of gonorrhea and testing to screen for the presence or absence of chlamydia;

b. Once every week, a licensed medical professional must perform an examination on each prostitute for lesions. If lesions are present on the individual, the health care professional must excuse the prostitute from work until the lesions have resolved and are no longer infectious with herpes simplex II virus;

c. Other medically required or approved tests deemed advisable by the examiner for determining whether the prostitute is afflicted with any infectious or contagious disease;

d. All medical examinations, pre-employment and post-employment, and tests must conform to the requirements of the state division of health, the NRS and the Nevada Administrative Code;

e. After performing an examination on a prostitute, the examining doctor may not issue a certificate if the person is found to be or suspected to be afflicted with a sexually transmitted infection or other contagious or infectious sexually transmitted disease (STD). The chief of police must be notified by the licensee of ineligibility of a prostitute to work; and

f. The cost of the required medical examination and tests must be paid by the prostitute directly to the medical providers.

(2) When a prostitute has completed the medical examination and tests required, the results of the tests must be forwarded to a state approved medical lab for review and approval.

(c) *Certification of work eligibility; approval and denial.*

(1) After the state medical lab completes the required review of the medical examination and tests, and forwards the certificate of clearance to the brothel's license holder, the brothel must retain those results for review by the chief of police and must certify to the chief of police that the prostitute is eligible for a work card. The chief of police must be notified by the licensee if the state medical lab does not issue a certificate of clearance. Each medical certificate of clearance must specify the date of the examination and may be valid for seven days from the date of the certificate. The cost of this review and certification must be paid by the prostitute.

(2) A person who has ever been denied a certificate by the state health department may not work as a prostitute in any licensed operation until that person has received and presented to the brothel a certificate of clearance from the state stating that the causes which resulted in the denial of the certificate have been cured and that the person is now free of a sexually transmitted infection or other contagious or infectious sexually transmitted disease (STD).

(d) *Seizure of work card.* Upon receiving information that a prostitute is afflicted with an infectious or contagious STD or has not obtained a current medical examination, or is no longer entitled to a work card, the chief of police must immediately seize any work card previously issued.

Sec. 10.04.50. Maximum number of brothels; maximum number of prostitutes; other license conditions or restrictions.

(a) The city council may place limits, restrictions, and/or conditions on the brothel business license, including, but not limited to:

(1) Limit the hours per day or per week that a licensed operation may be conducted;

(2) Limit the type, signing and size of building in which a licensed operation may be conducted; and

(3) Limit the number of prostitutes that work in an operation; maximum allowed at each brothel.

(b) The city council may impose restrictions pursuant to this section prior, during, or after issuance of license. The chief of police, fire chief, or any city department, county or state agency may make recommendations to city council to place conditions on the business license.

(c) The maximum number of brothels allowed in the city at one time is limited to three.

(d) The city council may impose additional temporary restrictions by resolution.

(Ord. No. 2016-017, 11-16-2016)

Sec. 10.04.51 Work card registration required.

(a) Any person working as an independent contractor or employed by a brothel is required to maintain a work card issued by the chief of police.

(b) A prostitute who has submitted an application to the chief of police but who has not yet received a medical clearance may remain on the premises of the brothel, segregated from any customer contact areas, for up to 48 hours as they complete the medical clearance and work card application process. It is the sole responsibility of the owner or general manager to ensure that all the prostitutes awaiting results and residing at the brothel do not engage in any type of sexual activity until the chief of police issues a work card.

(c) The chief of police may issue a revocable temporary work permit for up to 120 days after the applicant has submitted an application with proof of medical clearance and paid all required application fees.

(d) A work card may not be issued to anyone under 18 years of age.

(e) The chief of police or his designee will have the authority to deny or revoke the work card of a prostitute or any other employee who does not qualify under this chapter or who is found to be otherwise violating this Code or state statute.

(f) The work card may be issued for not more than 12 months and must be renewed annually.

(g) All work cards are site specific, and must be renewed each time an employee changes places of work.

(h) All employees of any brothel in the city must maintain a current work card with the operator of a licensed brothel and the licensee is required to maintain a work card for each employee. The work card must be kept on premises and available for inspection at all times. A prostitute may change place of work between two licensed operations under the same ownership by having brothel management notify the chief of police of the proposed change.

(i) A prostitute or bartender of a licensed operation may not possess more than one work card at any given time.

(Ord. No. 2016-017, 11-16-2016)

CHAPTER 5 LICENSING OF MARIJUANA ESTABLISHMENTS[1]

Sec. 10.05.01. Definitions.

As used in this chapter, unless the context requires otherwise, the words and terms defined in this section shall have the meanings ascribed to them in NRS 453A and NRS 453D.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.02. Policy declaration.

It is declared to be the policy of the city that all marijuana establishments operating in the city shall be licensed and controlled in order to protect the public health, safety, morals and good order and the general welfare of the inhabitants of the city. Any marijuana establishment licensed by the state as a medical marijuana establishment only under the authority of NRS 453A shall require a marijuana establishment license under the authority of this chapter. Any marijuana establishment licensed by the state as a marijuana establishment under the authority of this NRS 453D shall require a retail marijuana establishment license under the authority of this chapter, regardless of whether the marijuana establishment is concurrently licensed by the state as a medical marijuana facility under the authority of NRS 453A.

It is unlawful for any person, firm, association or corporation with or without a fixed place of business in the city, either as owner, employee or lessee, to establish, conduct or operate a retail marijuana business without first having obtained a license for a medical marijuana establishment. Failure to maintain a medical marijuana license will result in immediate revocation of any other marijuana licenses held.

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[1]Ord. No. 2019-001, adopted Jan. 6, 2019, amended ch. 5 in its entirety to read as herein set out. Former ch. 5 pertained to the same subject matter, and derived from Ord. No. 2017-012, adopted Sept. 20, 2017.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.03. Marijuana establishments licenses—Required.

(a) It is unlawful for any person, firm, association or corporation, with or without a fixed place of business in the city, either as owner, employee or lessee, without first having obtained a license, to engage in:

(1) The cultivation, testing, production of marijuana-infused products, distribution or dispensation of medical marijuana or marijuana-infused products without first obtaining a registration certificate from the state, business license and any other authorization to conduct business.

(b) The registration certificate and business license must be posted in a conspicuous place within the establishment.

(c) All employees of the firm, association or corporation must obtain and maintain their marijuana establishment agent registration card.

(d) Any state registration certificate must be maintained with the state or the city's business license will be revoked.

(e) If a person qualifies for one of the compassionate exceptions for self-cultivation, self-growing or self-production, that person will be required to register with the city for those activity(ies). The person must explain their specific exemption for self-cultivation, self-growing or self-production. The person will have to provide their registry identification card and the address where the medical marijuana is growing or being produced. The person must abide by NRS 453A.200 in relation to quantity to be exempt from prosecution.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.04. Individuals only to be licensed.

(a) A city license may be issued only to an individual person or persons who, as licensee or licensees, shall be held personally responsible for the orderly conduct of the business.

(b) If an applicant for a license is not the sole owner of the business to be conducted on the premises for which the license is sought, the application shall be accompanied by a verified statement of the owner or owners of the business appointing the applicant as the agent of the owner or owners and authorizing him to apply for the license and conduct the business.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.05. Marijuana establishment license—Application—Contents.

Any person desiring to establish, conduct or operate any marijuana establishment pursuant to NRS 453A shall submit a written and verified application for such license setting forth the following information:

(1) The name, age, sex and residence address, and the addresses of all residences for the preceding five years, of the applicant;

(2) A description of the premises to be licensed, stating the street and number and the portion of the premises to be occupied by the establishment for which the license is sought;

(3) The particular type of marijuana establishment that the applicant proposes to carry on, conduct or operate on the described premises;

(4) The name of the owner of the premises on which the licensed business is to be conducted, and the name of his authorized agent, if any;

(5) A statement that, if the license is granted, the applicant will conduct the marijuana establishment in accordance with the provisions of the laws of the state and the ordinances of the city applicable to the conduct of such business, and that the application is made upon the express condition that, if the license is granted, it shall be subject to revocation in accordance with the provisions of this chapter;

(6) Provide documentation that the applicant has received the necessary registration certificate from the state to operate a medical marijuana establishment;

(7) Provide a safety plan, including, but not limited to, storage of marijuana products; loading and unloading; passage of employees and customers; disposal of marijuana products; and hours of operation; and

(8) Provide a plan on the handling and storage of cash.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.06. Retail marijuana establishment license—Application—Contents.

Any person desiring to establish, conduct or operate any marijuana establishment pursuant to NRS 453D must have obtained a medical marijuana license and shall submit a written and verified application for such license setting forth the following information:

(1) The name, age, sex and residence address, and the addresses of all residences for the preceding five years, of the applicant;

(2) A description of the premises to be licensed, stating the street and number and the portion of the premises to be occupied by the establishment for which the license is sought;

(3) The particular type of marijuana establishment that the applicant proposes to carry on, conduct or operate on the described premises;

(4) The name of the owner of the premises on which the licensed business is to be conducted, and the name of his authorized agent, if any;

(5) A statement that, if the license is granted, the applicant will conduct the marijuana establishment in accordance with the provisions of the laws of the state and the ordinances of the city applicable to the conduct of such business, and that the application is made upon the express condition that, if the license is granted, it shall be subject to revocation in accordance with the provisions of this chapter;

(6) Provide documentation that the applicant has received the necessary registration certificate from the state to operate a medical marijuana establishment;

(7) Provide a safety plan, including, but not limited to, storage of marijuana products; loading and unloading; passage of employees and customers; disposal of marijuana products; and hours of operation; and

(8) Provide a plan on the handling and storage of cash.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.07. Filing application—Payment of fees.

Applicants for a marijuana establishment may only begin the licensing procedure by filing a license application after receiving the necessary land use and zoning approvals from the city for the operation of the marijuana establishment. Upon receiving the required land use entitlement approval, the applicant shall pay to the city the full amount of the annual fee applicable to the type of license for which application is made, and the license fee for the current quarter prorated to the end of said quarter. However, if the applicant has held a medical marijuana establishment license from the city for a period of less than one year, the initial fee shall be the license fee for the current quarter prorated to the end of said quarter.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.08. Medical marijuana establishments and retail marijuana establishments license—Expiration.

Each license issued under the provisions of this chapter shall expire effective on the date of the revocation of the Nevada registration certificate.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.09. Medical marijuana establishments and retail marijuana establishments license—Display.

Each license issued for any marijuana establishment shall be posted in a conspicuous place, in order that it may be readily inspected by any person.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.10. Operation of businesses by receivers, assignees for the benefit of creditors, guardians and personal representatives.

(a) If a receiver or assignee for the benefit of creditors is appointed for a licensed business, or if a receiver, assignee for the benefit of creditors or guardian of the property of a person holding a license is appointed during the time for which such license was granted, or if a person holding a license dies during the term for which a license was granted, the receiver, assignee, guardian, administrator or executor may continue to carry on the licensed business on the designated premises for the balance of the term for which the license was granted, with the same rights and subject to the same restrictions and liabilities as if he were the original holder of the license in compliance with NRS 453A, state law and city requirements.

(b) Before continuing such business, the receiver, assignee, guardian, administrator or executor shall file a written and verified statement with the city clerk, addressed to the council, setting forth the facts and circumstances under which he has succeeded to the rights of the original licensee, and his legal qualifications. The written statement must include documentation from the state that the state has approved the transfer of the operations of the marijuana establishment.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.11. Medical marijuana establishments and retail marijuana establishments license—Revocation—Grounds.

Any city license may be revoked by the council if it appears to the satisfaction of a majority of the members of the council that a licensee or an employee has:

(1) Lost their registration certification from the state;

(2) Been convicted, subsequent to issuance of the license, of an offense of such a nature that the licensee is no longer a suitable or qualified person to hold a license;

(3) Made any false material statement in an application for a license;

(4) Transferred, assigned or hypothecated a license;

(5) Failed to pay any license fee in advance; and/or

(6) Refused or neglected to comply with any of the provisions of this chapter.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.12. Medical marijuana establishments and retail marijuana establishments license—Revocation—Procedure.

(a) The council may, on its own motion or upon complaint under oath of any person, institute proceedings to revoke a license by mailing a complaint stating the alleged reason for such proceeding to the licensee at the address shown in his most recent application or supplemental application.

(b) The licensee shall, within five days of the date of such mailing, unless an extension of time is granted by the council, file with the clerk of the council a written and verified answer to the complaint.

(c) The council shall fix a day and time for a hearing at which the licensee shall be given an opportunity to be heard. If the licensee fails to file an answer within the time required or fails to appear at the place and time designated for the hearing, the council shall order the license revoked.

(d) The council shall, within ten days from the date of the hearing, enter its order revoking or refusing to revoke the license.

(e) There shall be no reopening, appeal or review of the proceedings before the council, except where it subsequently appears to the satisfaction of the council that the licensee's failure to answer or appear was due to matters beyond his control, and not to negligence.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.13. Medical marijuana establishments and retail marijuana establishments license—Issuance after revocation.

If any license is revoked under the provisions of this chapter, no license shall be granted to the licensee within two years of the date of such revocation and the former licensee must provide documentation from the state that the business has been issued a registration certificate to operate a medical marijuana establishment in the city.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.14. Medical marijuana establishments and retail marijuana establishments license—Revocation—False complaints.

It is unlawful for any person to cause any complaint to be filed with the council seeking the revocation of any license knowing such complaint to be unfounded in fact.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.15. Medical marijuana establishments and retail marijuana establishments license—Fee refund not allowed when ceases to operate.

If a licensee ceases to operate a licensed business or if the license is revoked, there shall be no refund of the license fee.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.16. Unlawful for operator to dispense medical marijuana to a minor.

It is unlawful for any person operating any licensed medical marijuana establishment to dispense marijuana or any marijuana products to any person under the age of 18 years without the custodial parent present per state laws and regulations.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.17. Unlawful for operator to dispense retail marijuana to a person under the age of 21.

It is unlawful for any person operating any licensed retail marijuana establishment to dispense marijuana or any marijuana products to any person under the age of 21 years.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.18. Duties of the chief of police.

The chief of police or their designee shall:

(1) Inspect or cause to be inspected each premise where marijuana is cultivated, produced, tested or dispensed;

(2) Verify the agent registration card of any employee of a marijuana establishment and report the results of his investigation to the council and the division, and recommend the allowance or disallowance of each application;

(3) All marijuana establishments are subject to the "Safety Plan and Operational Requirements" portion of the city business license application. Any medical marijuana licensee found not in compliance with the procedures outlined in the document is guilty of a misdemeanor and shall be punished as provided in section 1.04.01;

(4) Institute, through the proper authorities, proceedings, actions and prosecutions for the enforcement of the provisions of this chapter relating to penalties, liabilities and punishments for refusal or neglect to comply with the provisions of this chapter;

(5) Recommend to the council the revocation of any license if the licensee:

a. Has refused to comply with, or has violated, any of the provisions of this chapter;

b. Has been found guilty by a court of competent jurisdiction of a violation of any of the provisions of this chapter or of any law of the state regulating or pertaining to the conduct or operation of any medical marijuana establishment;

c. Has misrepresented a material fact in obtaining a license; and

d. Is no longer a suitable person to hold a license, having due consideration for the proper protection of the public health, safety, morals and good order, and the general welfare of the inhabitants of the city.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.19. Access of officials and officers to medical marijuana establishments and retail marijuana establishments premises.

(a) Every official and police officer of the city shall have access to every part of the premises for which a license is issued at any time when such establishment is open for the transaction of business and at all other reasonable times.

(b) The city shall enter and inspect at least annually, with [or] without notice, any building or premises of a medical marijuana establishment to ensure compliance with the standards of the Fernley Municipal Code.

(c) If the city determines that there are any deficiencies in the operation of a medical marijuana establishment, the city may suspend the medical marijuana establishment business license and require a written plan and schedule for the corrections.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.20. Annual license fees—Payment in advance—Exception.

Any marijuana establishment license fees shall be provided by resolution and shall be paid in advance, as follows:

(1) The portion of the license fees based on the establishment's quarterly gross receipts shall be payable not later than 30 calendar days after the end of each calendar quarter.

(2) Each establishment that is subject to this section shall, not later than 30 calendar days after the end of each calendar quarter, provide to the city a statement of the amount of revenue the company derived during that calendar quarter.

(3) A license fee not received or postmarked within 30 calendar days after the end of each calendar quarter shall be delinquent, and the licensee shall pay, in addition to the license fee, a penalty of two percent per month of the delinquent amount.

(Ord. No. 2019-001, 1-6-2019)

Sec. 10.05.21. Violation—Penalty.

Any person who violates any of the provisions of this chapter is guilty of a misdemeanor and shall be punished as provided in section 1.04.01 of this Code.

(Ord. No. 2019-001, 1-6-2019)

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Kim Swanson, City Clerk**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No:	Yes:	No:	n/a

ACTION REQUESTED: Resolution

AGENDA ITEM:

Discusison and Possible Action to adopt Resolution 26-011, updating the Business License Fee Schedule by adding a special event organizer and updating the special event licensing process.

AGENDA ITEM BRIEF:

Discussion and Possible Action to adopt Resolution 26-011 revising the Business License Fee Schedule by updating the special event licensing process.

RECOMMENDED MOTION:

I move to adopt Resolution 26-011 updating the Business License Fee Schedule by adding a special event organizer and updating the special event licensing process.

BUSINESS IMPACT (per NRS Chapter 237):

No the fee that are charged are not changing

See attached report for background, analysis, alternatives.

ALTERNATIVES:

The Council could choose not to adopt this resolution at this time.

BACKGROUND:

City Staff has been working to update the Special Event Permit Process. This change will help that process.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

n/a

FINANCIAL IMPLICATIONS:

n/a

ATTACHMENTS:

1. Resolution 26-011

CITY OF FERNLEY

RESOLUTION # 26-011

A RESOLUTION OF THE CITY OF FERNLEY MODIFYING
BUSINESS LICENSE FEE SCHEDULE

WHEREAS, the City of Fernley, a political subdivision of the State of Nevada, organized pursuant to the provisions of NRS Chapter 266; and,

WHEREAS, the City Council established business licenses fees on July 12, 2001, by Resolution #01-003; and,

WHEREAS, the City Council wishes to transfer to special event organizers the authority to register a vendor at a special event within the city and remove the city requirement for the vendor to register with the City; and,

WHEREAS, this resolution will require all vendors at special events to be licensed by the city or pay a $25.00 event fee to the event coordinator/organizer and,

NOW, THEREFORE, BE RESOLVED, that the updated language, listed in Exhibit "A", becomes effective May 20, 2026.

PASSED, APPROVED AND ADOPTED this 20th day of May 2026, by the following vote of the Council:

AYES: _____ NAYS: ____ ABSTENTIONS: _____ ABSENT: _____

FERNLEY CITY COUNCIL

By: _____

Neal E. McIntyre, Mayor

ATTEST:

_____

Kim Swanson, City Clerk

Resolution # 26-011
City of Fernley
BUSINESS LICENSE FEE SCHEDULE
Exhibit "A"
Effective May 20, 2026

Pursuant to Fernley Municipal Code, any business, commercial enterprise, trade, occupation, calling, profession, vocation, or activity engaged in, conducted, carried on by any person, his agent or employee in an attempt and with the intent to gain business for profit or having conducted business within the City of Fernley shall be required to obtain a business license and pay the following fees:

Application Fee

Every business shall pay the non-refundable application fee. $25.00

Reprint/Change of Information Fee $15.00

Late Fees

Fees are expected to be paid immediately upon application. Renewal fees are required to be paid prior to the license expiration date. Failure to pay these fees will result in late fees as follows:

1. A late fee of 25% will be assessed to the annual fee on the 30th day following the expiration date.
2. An additional late fee of 25% will be assessed to the delinquent license fee on the 60th day following the expiration date.

Background Investigation Fees are set by the authorized agency conducting the investigations.

Annual Gross Receipts Business License Fee Schedule:

Pursuant to Fernley Municipal Code, all businesses or individuals, with a physical address within the City of Fernley, who provides a service or sells physical products as an industrial, retail or commercial business office within City limits with the intent and in an attempt to gain business in the City of Fernley are subject to their annual business license fees being calculated using the gross receipts fee schedule. Marijuana establishments will use the fee schedule adopted in this resolution as determined by the type of establishment operated.

Contractors that use their home as their office shall pay business license fees according to gross receipts earned in Fernley only.

If your business is subject to Gross Receipts per Fernley Municipal Code your business license fees are as follows:

1. New businesses securing a license under the gross receipts fee schedule will pay license fees based on the first 12 months estimated gross receipts, in addition to the $25 application fee above.
2. For no additional fee, businesses whose annual license fees exceed $10,000 per fiscal year may request to pay license fees quarterly.

If total annual gross receipts are:	The fee is:
0 - $250,000	$100.00
$250,000 - $400,000	$275.00
Over $400,000	$300 + $1 for every $10,000

Annual Industrial, Warehouse, Manufacturing or Distribution Business License Fee schedule:

Business license fees are based on square footage of the building(s) used for the business operations based on the table below or gross receipt revenue, **whichever is greater**.

Proposed Square Foot Pricing:		
1 - 10,000	$	0.09
10,001 - 50,000	$	0.07
50,001 - 100,000	$	0.05
100,001 - 250,000	$	0.03
250,0001+	$	0.01

Businesses EXEMPT from Gross Receipts

The following businesses shall NOT be subject to the gross receipts fees listed above and shall be charged fees as follows. These fees are in addition to the application fee noted above:

Financial Institutions

Any business engaged in the banking business, savings, and loan, credit union or lending institution. This does not include short-term loans or paydays loans.

Annual Fee
$100.00
Plus $60 per one million dollars. (total average deposits per year or fraction thereof, per branch)

Home Occupation Business License

A person, excluding contractors, conducting business out of their residence and whose business compiles with the home occupation regulations of the City of Fernley Development Code

Annual Fee
$75.00

Manufactured/Mobile Home Parks

A parcel of land upon which two or more mobile or manufactured homes have been set for occupancy, not on individual parcels of land

Annual Fee – Include All Units	
Up to 10	$100.00

11 – 20	$200.00
21 – 50	$300.00
51-75	$400.00
76-100	$500.00
Each additional unit	$10.00/Unit

Out of Town Business

A person or business conducting sales or services within the City limits without a physical address in the City.

	Annual Fee
Up to 50 employees	$150.00
51 +	$250.00

Wholesaler/Distributor of Liquor

Wholesale licenses, which shall permit the maintenance of a wholesale liquor establishment within the city for sale to licensed retail liquor establishments or licensed wholesale, but not to consumers or general public.

	Annual Fee
As of January 2019	$300.00
As of January 2020	$400.00
As of January 2021	$500.00
As of January 2022	$600.00

Recreational Vehicle Park

A recreational vehicle park where travel trailers, pick-up campers, camping trailers, motor coach homes, converted trucks or buses, etc. can park temporarily.

Annual Fee
$200.00

Residential Rental Dwellings/Residential Landlord - Includes Multi-Family & Single Family Dwellings

Multi-Family Dwelling: A building or buildings which are occupied or which are arranged, designed, and intended to contain more than one dwelling unit, but not including hotels, motels, boarding houses or otherwise provided accessory dwellings. Includes but is not limited to, duplex, tri-plex, four-plex units, apartments, townhouses, and condominiums.

- Any person who owns less than 4 residential rental units is exempt from the business license requirement.

Single-Family Dwelling: A single detached building which is occupied by not more than one family, and which contains not more than one dwelling unit.

- Any person who owns less than 4 residential rental units is exempt from the business license requirement

Annual Fee
$100.00
$5.00 per unit

Solicitors, Peddlers, Temporary Merchants – Subject to background investigation

An individual, regardless of whether a resident of the City, traveling by foot, automobile, motor vehicle, or any other type of conveyance, from place to place, from house to house, from street to street, from door to door, attempting to take orders for goods or services or distributing, disseminating or gathering information for sale of goods, wares and merchandise, personal property of any nature whatsoever for future delivery, or for services to be furnished or performed in the future.

	Per individual
1-5 days	$30.00
6-15 days	$50.00
16-30 days	$65.00
31-90 days	$100.00
Annual license fee if the business has a physical location in the City	$75.00

Theater

Indoor or outdoor facility for showing motion pictures, videos, or for staging theatrical performances to an audience

Annual Fee
$ 200.00
+ $1.00 per seat

Traveling Show/Carnival:

Entertainers who go from place to place performing a variety of acts, wild animal routines and physical skills, games, and amusement rides or similar type conduct.

Per day
$100.00

Special Event Organizer

Special event organizers are the people who are responsible for the end-to-end planning, execution, and oversight of specific gatherings, including, but not limited to, community celebrations, craft fairs, parades, car shows, farmers markets, festivals, or fundraisers. Organizers will need a business license if they are not a W2 employee of the sponsoring organization.

Home Occupation	$ 75.00
Out of Town	$ 150.00

Specialty Business Licenses

Liquor License Fees: *Not subject to Gross Receipts*

Investigation Fee: as set by Lyon County Sheriff's Office

	Startup Fees:
Liquor	$1,000.00
Beer & Wine	$500.00
	Annual Fees:
Saloon/Bar Annual fee	$900.00
Retail/Package Goods Annual Fee	$800.00

Beer & Wine Annual Fee	$600.00
Liquor License Catering	$20.00

SPECIALITY LICENSES - Subject to Gross Receipts:

The following Specialty Businesses shall be charged according to the Annual Gross Receipts Fee Schedule above **plus** the annual fee listed for each business type in addition to the $25 application fee if applicable. Specialty Licenses shall also be subject to a background investigation and shall pay the required fees.

(A) ***Auto Pawn:***

A pawnbroker who loans money on the security of any vehicle or other transportation device

Annual Fee
$500.00
Plus, Gross Receipts

(B) ***Check Cashing Service/Payday Loan Service:***

Any person engaged in the business of chasing checks for a fee, service charge or other consideration.

Annual Fee
$200.00
Plus, Gross Receipts

(C) **Pawnbrokers:**

A person engaged in the business of loaning money on the security of pledges, deposits or other secured transactions in personal property

Annual Fee
$500.00
Plus, Gross Receipts

(D) ***Second Hand Dealer:***

Any person who engages in the business of buying, selling or exchanging goods that are previously owned or recycled.

Annual Fee
$200.00
Plus, Gross Receipts

(E) ***Sexually Oriented Businesses:***

Any business, if permitted by Fernley Development Code, that offers services, materials, goods, or products which are characterized by an emphasis on matter depicting, describing, or relating to nude or semi-nude persons or sexual activities between persons or observation thereof.

All businesses in this category will pay a onetime set up fee of: $4,000.00

I. ***Brothels*:**

Number of Rooms	Annual Fee
1-10	$ 48,000.00
11-20	$ 60,000.00

Plus, Gross Receipts

II. ***Entertainers/Independent Contractors*** Shall pay for a separate business license using the Annual Gross Receipts Fee Schedule.

III. ***Adult Movie Theaters:***

Annual Fee
$1,600.00
Plus, Gross Receipts

IV. ***Topless Bar:***

Annual Fee
$1,600.00
Plus, Gross Receipts

(F) ***Title Loan:***

Any person engaged in the business of securing a loan by either giving possession of the title to a vehicle legally owned by the customer to the licensee or any agent, affiliate or subsidiary of the licensee; or perfecting a security interest in the vehicle by having the name of the licensee or any agent, affiliate or subsidiary of the licensee noted on the title as a lienholder.

Annual Fee
$500.00
Plus, Gross Receipts

(G) ***Kennel -*** Not subject to a background investigation

A place of business where dogs, cats and other domestic (non-farm) animals for boarding, breeding, training grooming, treating, sale or other commercial purpose with the exception of veterinary clinics or pet shops, unless otherwise defined in the Fernley Development Code.

Annual Fee
$50.00
Plus, Gross Receipts

(H) **Mobile Vendor -** Not subject to a background investigation

Any person, including an employee or agent of another, who sells or offers to sell food, beverages, goods, services or merchandise from a motor vehicle, trailer or other mobile unit.

Annual Fee
$80.00
Plus, Gross Receipts
Over $30,000

Marijuana Establishments

License fees for marijuana establishments that hold only a state-issued license authorized by NRS 453A and NRS 453D shall be paid as follows:

Application fee: Each applicant for any marijuana establishment license as identified in this resolution shall pay to the city at the time of application for preliminary finding of sustainability for a marijuana establishment, a non-refundable application fee in the amount of $5,000.00

License fees for medical marijuana establishments

(A) **Medical marijuana independent testing laboratory**

Annual fee

Shall pay per the Gross Receipts Fee Schedule on page 2.

(B) **Medical marijuana cultivation facility**

Quarterly fee
3% of the establishment's gross receipts for the immediately preceding quarter

(C) **Medical marijuana facility**
For the production of edible marijuana products or marijuana-infused products

Quarterly fee
3% of the establishment's gross receipts for the immediately preceding quarter

(D) **Medical marijuana dispensary**

Quarterly fee
3% of the establishment's gross receipts for the immediately preceding quarter

(E) **Medical marijuana distributor**

Quarterly fee
3% of the establishment's gross receipts for the immediately preceding quarter

License fees for retail marijuana establishments.

(F) **Marijuana independent testing laboratory**

Annual fee
Shall pay per the Gross Receipts Fee Schedule on page 2.

(G) **Marijuana cultivation facility**

Quarterly fee
3% of the establishment's gross

receipts for the immediately preceding quarter

(H) **Marijuana facility**

For the production of edible marijuana products or marijuana-infused products	Quarterly fee 3% of the establishment's gross receipts for the immediately preceding quarter

(I) **Marijuana dispensary**

Quarterly fee
3% of the establishment's gross receipts for the immediately preceding quarter

(J) **Marijuana distributor**

Quarterly fee
3% of the establishment's gross receipts for the immediately preceding quarter

Public Utility Providing Service with the City Franchise Fees

Telecommunications Companies	5% of gross revenue
Electric Energy Providers	5% of gross revenue
Gas Providers	5% of gross revenue
Commercial Mobile Radio Services	5% of gross revenue

Beginning with the first $15 for each line of access for each of the utility's customers located within the City.

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Kim Swanson, City Clerk**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No: X	Yes:	No: X	n/a

ACTION REQUESTED: Resolution

AGENDA ITEM:

Possible Action to adopt Resolution 26-010, adding in-coming and out-going fax service to the City Services Fee Schedule.

AGENDA ITEM BRIEF:

Possible Action to adopt Resolution 26-010, adding in-coming and out-going fax service to the City Services Fee Schedule.

RECOMMENDED MOTION:

I MOVE TO APPROVE RESOLUTION 26-010 ADDING FAX SERVICES TO THE CITY SERVICE FEE SCHEDULE

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

City Council could choose not to offer fax services.

BACKGROUND:

The recent closure of The Office has led to a noticeable increase in customers requesting fax services. Many individuals and businesses who previously relied on that location for faxing services are now coming into City

Hall looking for this service. As a result, demand for fax-related assistance has grown significantly. We are requesting to add services for both incoming and outgoing faxes at $1.00 for the first page and $1.50 for each additional page. This uptick highlights the continued importance of fax services for customers who require secure and reliable document delivery.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

FINANCIAL IMPLICATIONS:

ATTACHMENTS:

1. City Services Fee Resolution 26-010

CITY OF FERNLEY

RESOLUTION #26-010

A Resolution of the City of Fernley relating to charging a fee for certain City services.

WHEREAS, the City of Fernley, a political subdivision of the State of Nevada, organized pursuant to the provision of NRS Chapter 266; and,

WHEREAS, the Fernley City Council desires a structured Fee Schedule; and

WHEREAS, Fernley City Council desires to charge a fee for incoming and outgoing fax services,

NOW, THEREFORE, BE RESOLVED, that the following Fee Schedule hereby replaces all previous Resolutions relating to City Service Fees, as adopted on this date.

Credit Card Fees	
Utility Customers only	$4.00 per transaction
General Service Transactions	4% of total transaction
Faxes (Incoming and outgoing)	$1.50 for the 1st page. $1.00 for each additional page
Labels	$.05 per label
Notary Fees	
Acknowledgement for first signature of each signer	$15.00
Each additional signature of each signer	$ 7.50
Administering oath or affirmation w/o signature	$ 7.50
Certified Copy	$ 7.50
Jurat, for each signature on the affidavit	$15.00

Passport Photos	$15.00 per person	
Returned Check Fee	$30.00	
Copies	Black & White	Color
8.5x11	$0.25	$0.35
8.5x14	$0.30	$0.40
11x17	$0.35	$0.40
Media		
Flash Drive	$5.00	
CD	$5.00	
Geographic Information System (GIS)	Cost will be determined and provided to customer before copies are made.	

PASSED, APPROVED AND ADOPTED on the 20th day of May 2026, by the following vote of the City Council:

AYES: _____ NAYS: _____ ABSTENTIONS: _____ ABSENT: _____

By: _____
Mayor Neal E. McIntyre

ATTEST:

_____
City Clerk Kim Swanson

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Trisha Livingston, Grants Administrator**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes: X	No:	Yes:	No: X	TBD if awarded.

ACTION REQUESTED: Resolution

AGENDA ITEM:

Discussion and possible action to adopt Resolution 26-008 authorizing the City Staff to submit an application to the U.S. Department of Transportation for a Safe Streets and Roads for All FY 2026 Implementation Grant for pedestrian safety improvements along the US 95A corridor in the vicinity of Fernley High School,

AGENDA ITEM BRIEF:

City staff is seeking approval to submit a federal SS4A Implementation Grant application for the design and construction of targeted pedestrian safety improvements along the US95A corridor, near Fernley High School. This corridor has been identified in multiple City planning documents as high-priority pedestrian safety concern, particularly for students attending Fernley High School. The grant application deadline is May 26, 2026.

RECOMMENDED MOTION:

I move to adopt Resolution 26-008 authorizing the City Staff to submit an application to the U.S. Department of Transportation for a Safe Streets and Roads for All FY 2026 Implementation Grant for pedestrian safety improvements along the US 95A corridor in the vicinity of Fernley High School.

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

The City Council may choose not to authorize the application, or may request additional information from staff.

BACKGROUND:

The City of Fernley is requesting City Council authorization to submit a federal SS4A FY 2026 Implementation Grant application to the U.S. Department of Transportation for pedestrian safety improvements along the US 95A corridor in the vicinity of Fernley High School. The US 95A corridor is a state-maintained NDOT facility that serves as the primary north-south arterial through Fernley, connecting the downtown core and commercial areas to Fernley High School, and linking the communities of Fernley, Silver Springs, and Yerington. Pedestrian safety deficiencies along this corridor have been documented in successive City planning documents dating back to the City's Safe Routes to School (SRTS) Plan, the 2020 Transportation Master Plan, and the City's 2026 Local Road Safety Plan. The SS4A Implementation Grant program, administered by the U.S. Department of Transportation, provides federal funding for the design and construction of infrastructure improvements that reduce traffic fatalities and serious injuries. Staff recommends Council adopt the resolution of authorization and support.

City staff have been working with Kimley-Horn on the City's 2026 Local Roads Safety Plan, where the project was identified. The US-95A corridor in the vicinity of Fernley High School is traversed daily by thousands of students, families, and residents. The City's SRTS Plan documented that parents' chief concerns regarding student active transportation include the speed and volume of traffic along adjacent school roads and inadequate safety measures at crosswalks, conditions directly present on US 95A. The proposed project will complete a design and implementation to 1) establish a school zone at the Fernley High School on US95A, install school zone flashers, and reduce the speed limit within this area during school hours and 2) install an enhanced pedestrian crossing at Royal Oaks. The project requires coordination with the Nevada Department of Transportation Traffic Operations and Fernley High School.

Upon Council adoption of the resolution, staff and Kimley-Horn, will finalize and submit the SS4A grant application by May 26, 2026. If the grant is awarded, staff will return to Council with a grant agreement and budget augmentation for approval prior to any obligation of funds, consistent with the City's Grants Management Policy and established grant administration procedures.

Grant awards will be announced no later than Dec. 18th, 2026. If awarded, the City will have 12 months to approve/sign the grant agreement.

Anticipated timeline:

- Council grant approval May 20, 2026
- Submit grant by May 26, 2026
- ~Nov/Dec 2026 award notice
- Dec 2026-June2027 negotiate grant agreement
- July 2027 begin design
- Spring 2028 begin construction
- Complete project fall 2028.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

Grant Management Policy
Section 24112(a)(2) of IIJA, Pub. L. 117-58

FINANCIAL IMPLICATIONS:

If awarded the City is required to cost share 20% of the total project cost. Cost share estimate is $600,000.

ATTACHMENTS:

1. draft Resolution 26-008 DOT FY2026 SS4A & backup docs

CITY OF FERNLEY
RESOLUTION #26-008

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FERNLEY, NEVADA, AUTHORIZING THE SUBMISSION OF AN APPLICATION TO THE UNITED STATE DEPARTMENT OF TRANSPORTATION FOR A SAFE STREETS AND ROADS FOR ALL FY 2026 GRANT FOR PEDESTRIAN SAFETY IMPROVEMENTS ALONG THE US-95A CORRIDOR IN THE VICINITY OF FERNLEY HIGH SCHOOL AND COMMITTING LOCAL MATCHING FUNDS.

WHEREAS, the City of Fernley is a political subdivision of the State of Nevada, organized pursuant to the provisions of NRS Chapter 266; and

WHEREAS, the City Council of the City of Fernley has, as a matter of policy and practice, directed staff to pursue local, state, and federal grant opportunities to fund transportation safety improvements that benefit the residents of Fernley; and

WHEREAS, the United States Department of Transportation administers the Safe Streets and Roads for All grant program, which provides federal funding to local and regional agencies for the purpose of preventing roadway fatalities and serious injuries through the planning, design, and construction of safety improvements on public roads; and

WHEREAS, the Alt. US Highway 95A (US-95A) corridor within the City of Fernley is a state-maintained highway facility that serves as a primary arterial roadway connecting the City's downtown core to Fernley and Fernley High School, and is used daily by thousands of students, families, and residents;.

WHEREAS, the US-95A corridor in the vicinity of Fernley High School has been identified in multiple City planning documents as a high-priority pedestrian safety concern, with documented crash concentrations, limited pedestrian crossing infrastructure, and high traffic volumes presenting unacceptable risk to students and community members traveling to and from Fernley High School; and

WHEREAS, the City Council finds that the submission of an SS4A FY 2026 Implementation Grant application for pedestrian safety improvements along the US-95A corridor in the vicinity of Fernley High School is in the best interest of the public health, safety, and welfare of the residents of the City of Fernley;

WHEREAS, the City Council desires to commit local matching funds as required by the SS4A program and to authorize the Mayor to execute all documents necessary to support and effectuate the grant application;

NOW THEREFORE BE IT RESOLVED that the City Council hereby commits to provide the local matching funds required by the SS4A program for the Project, in an amount to be determined consistent with program requirements, and directs the City Treasurer/Finance Director to include appropriate appropriations for said local match in the City's budget for the applicable fiscal year.

PASSED, APPROVED AND ADOPTED this _____ day of May 20, 2026, by the following vote of the council:

AYES: _____ NAYS: ___ ABSTENTIONS: _____ ABSENT: _____

FERNLEY CITY COUNCIL

By:_____
Neal E. McIntyre, Mayor

ATTEST:

_____
Kim Swanson, City Clerk

Grant Name: DOT FY 2026 Safe Streets and Roads for All Funding

CFDA #: 20.939

1) Purpose of Grant/Problem Being Solved. How does this grant tie to strategic goals?:

The proposed project will complete a design and implementation to 1) establish a school zone at the Fernley High School on US95A, install school zone flashers, and reduce the speed limit within this area during school hours and 2) install an enhanced pedestrian crossing at Royal Oaks. The project requires coordination with the Nevada Department of Transportation Traffic Operations.

The City of Fernley's 2021-2026 Strategic Plan has seven goals organized into four focus areas: Livable Community, Connected and Engaged, Progress through Partnerships, and Robust Municipal Services. The proposed project for the SS4A aligns with multiple goals:

- Goal 1 Alignment: Establishing a school zone and reducing speed limits is a direct infrastructure and public safety improvement on the roadway network.
- Goal 5 Alignment: The project requires coordination with NDOT Traffic Operations, directly reflecting the "Progress through Partnership" focus area.
- Goal 6 Alignment: Protecting children in school zones is a core community expectation and public safety service.

The project also aligns with the City's Safe Routes to School Plan and the City's 2020 Transportation Master Plan:

- The City's Safe Routes to School Plan identified the lack of flashing speed limit controls along certain school corridors as a key barrier to student safety, noting that "flashing speed controls are much more effective at slowing traffic."
- The City's 2020 Transportation Master Plan referenced the SRTS Plan's short-term action items, including the need to "determine specific engineering solutions to reduce traffic speed and raise student crossing safety."

The project is also consistent with the City's 2026 Local Road Safety Plan, which emphasizes speed management strategies tailored to roadway context and user activity in order to reduce crash risk. By addressing vehicle speeds in the Fernley High School area, the project supports the Plan's goal of improving safety for students, families, and other roadway users.

2) Would receiving this grant benefit the community, society, economic development and/or public well-being? Y N ☐

Community members have raised the school zone speed issue on US 95A repeatedly at City Council meetings, noting that the speed limit is 55 mph in a school zone area near Fernley High School and that children are unsafely crossing the highway. A separate public comment from 2022 also flagged the 55 mph speed limit on 95A near the canal bridge as a hazard in the school zone area. Increasing traffic and pedestrian safety near the only high school in the City of Fernley may

attract and encourage development in the area, as safe infrastructure supports business attraction and retention.

3) Who/What does the project impact?

The Fernley High School students and their families are the primary beneficiaries and will be positively impacted by the project, Fernley High School workforce including bus drivers, the nearby subdivisions (Southwest Meadows, Sage Ranch, Seneca Falls, The Meadow, Sierra Vista, Heritage, and Tuscany Villas), and workforce commuters and visitors. Southwest Meadows is the most directly impacted subdivision, as it is located at the intersection of US 95A and Royal Oaks Drive, precisely where the enhanced pedestrian crossing is proposed.

Sage Ranch and the Sage Street Development are also impacted. The Transportation Master Plan specifically identifies the Sage Street neighborhood as a "dead-end" development bounded by the Truckee Canal to the north and US 95A to the east, accessible only via Sage Street. Students from this neighborhood must cross US 95A to reach Fernley High School, making the school zone and pedestrian crossing improvements directly life-safety relevant for this community.

4) Are matching funds required? (Y) N If yes, are they included in the budget? (Y) N

A 20% match of the total project costs is required.

Project cost estimate $3,500,000 x 20% = $600,000

5) Is an in-kind match required? (Y) N $600,000

The match can be in-kind or cash to meet the local match requirements. Any in-kind contribution used to fulfill the cost-share requirements must follow the 2 CFR 200, be performed within the period of performance, and are eligible activities and costs. The City will provide a cash match for the project in the FY2028 budget.

6) Will additional staffing be required to manage this grant/project or will additional staff be required to run a project/facility after completion? Y (N) $

None anticipated. The engineering department will manage the project and the grant administration will work with the engineering team to ensure grant compliance.

7) Will any other type of resource be required?

None other than the match.

8) Are there any future costs associated with this project? (Y) N

Future O&M costs are anticipated future costs:

- Replacement signal and pedestrian crossing equipment costs.
- Routine maintenance and inspection costs.
- Emergency repair costs
- Signal timing updates
- School Zone sign maintenance

Because the project is located on US 95A, an NDOT-maintained roadway, the City will need to maintain a formal agreement with NDOT regarding ongoing maintenance responsibilities post-construction. The City's existing traffic signal maintenance records confirm that signals within NDOT right-of-way are subject to NDOT jurisdiction, and the City currently maintains a contracted maintenance program for those signals.

9) What is the expected timeline for the completion of the project?

The project can be completed 24 months after the notice to proceed from the DOT.

10) Are easements required? (Y) N

US 95A is a state-maintained highway, meaning the ROW is owned and controlled by NDOT, not the City of Fernley. Any improvements within the US 95A corridor, including school zone signage, flashing signs, and a pedestrian crossing beacon, require a formal NDOT Encroachment Permit or ROW Agreement.

Also, the enhanced pedestrian crossing at Royal Oaks Drive and the school zone flashing signs will require electrical connections for the beacon system, a public utility easement will be required.

11) Will there be soil or other environmental studies involved? Y (N)

For projects of this scale (school zone signage, speed limit reduction, pedestrian crossing beacon), the most likely NEPA pathway is a Categorical Exclusion (CE), which is the streamlined review used for projects that do not individually or cumulatively have a significant environmental effect. The environmental review will be included in the grant ask as well as a geotechnical report.

12) Are there any foreseen geographical issues? Y (N)

The project area is in an already disturbed NDOT ROW, staff does not anticipate any geographical issues; however, that will be weeded out with a geotechnical study.

13) Are there any potential risks associated with the project? Y (N)

Potential risks include delays obtaining all permits, easements, NEPA clearance, and complete the design/bid/build within the SS4A timeline requirements. All projects must be completed within 5 years of grant agreement execution. This risk is low if the engineering department is fully staffed.

14) If the answers to 4-13 are NO, STOP here.

15) Discuss current costs involved prior to project commencement:

Other than staff time developing the grant application, no other direct financial costs are anticipated. However, the safety concern has been raised repeatedly by Fernley residents. Both, Fernley Intermediate School and Fernley High School students who live on the south side of the Truckee-Carson Irrigation District (TCID) Canal must navigate this corridor on foot, bicycle or vehicle.

16) Discuss any future costs involved with the project after completion (including through the life of the project):

Future costs, as described above in question #8, include O&M, including emergency repair, and the cost of implementing the project.

Description	Cost Estimate
1. Project cost estimate	$3,500,000
2. Annual O&M	$6,000

17) Current annual costs to the City prior to commencement of the project and annual costs to the City after project completion:

Curren annual costs to City PRIOR to commencement to project: $0

Annual Costs to the City AFTER project completion: $6,000

18) Discuss the benefits should the project be funded (revenues, savings, transportation, productivity, efficiency, or other benefits):

The proposed SS4A project serve not just the current student population, but a rapidly expanding residential community that is geographically constrained to use US 95A as its primary connection to Fernley High School and the city's commercial core.

- Safe pedestrian and school zone infrastructure near Fernley High School supports the quality-of-life conditions that attract and retain residents and businesses alike.
- Fernley's infrastructure investments as a key driver of business attraction, particularly in the Manufacturing and Transportation & Warehousing sectors.
- The south Fernley future development area, east of US 95A, south of the TCID Canal, and the southwest Fernley future development area, west of US 95A, south of the canal, are both identified as major future growth areas. As these

areas develop, the number of students and pedestrians crossing US 95A at Royal Oaks Drive and future subdivision roadways will increase substantially.

19) Discuss what may happen if the project is not funded?

Staff will continue to look for and seek Council approval to apply for other grant funds. City ~~staff and NDOT will work together to complete smaller safety activities around the high~~ school along US95A or phase out the project.

20) Discuss any long-term impacts of the project that may outweigh the benefits:

There are no negative impacts to this project.

21) Are there any new Revenues that will be generated from the project?

None.

22) Rate the feasibility of the grant/project with 1 being a very low level of feasibility and provide a conclusion as to why this grant application should be approved or denied:

1 2 (3) 4 5

The City has been working close with Kimley-Horn and NDOT with the Local Roads Safety Plan and the Safe Streets and Roads for All grant application. Its staff's opinion Fernley has a moderate chance of grant approval. The City benefits from multiple SS4A funding priority factors, it is a rural community, has no prior SS4A funding, has documented safety problems on a state highway near a school, council has pledged to no fatalities, and has a strong existing planning foundation.

BACKGROUND:

The City of Fernley is requesting City Council authorization to submit a federal SS4A FY 2026 Implementation Grant application to the U.S. Department of Transportation for pedestrian safety improvements along the US 95A corridor in the vicinity of Fernley High School. The US 95A corridor is a state-maintained NDOT facility that serves as the primary north-south arterial through Fernley, connecting the downtown core and commercial areas to Fernley High School, and linking the communities of Fernley, Silver Springs, and Yerington. Pedestrian safety deficiencies along this corridor have been documented in successive City planning documents dating back to the City's Safe Routes to School (SRTS) Plan, the 2020 Transportation Master Plan, and the City's 2026 Local Road Safety Plan. The SS4A Implementation Grant program, administered by the U.S. Department of Transportation, provides federal funding for the design and construction of infrastructure improvements that reduce traffic fatalities and serious injuries. Staff recommends Council adopt the resolution of authorization and support.

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design and implementation to 1) establish a school zone at the Fernley High School on US95A, install school zone flashers, and reduce the speed limit within this area during school hours and 2) install an enhanced pedestrian crossing at Royal Oaks. The project requires coordination with the Nevada Department of Transportation Traffic Operations and Fernley High School.

Upon Council adoption of the resolution, staff and Kimley-Horn, will finalize and submit the SS4A grant application by May 26, 2026. If the grant is awarded, staff will return to Council with a grant agreement and budget augmentation for approval prior to any obligation of funds, consistent with the City's Grants Management Policy and established grant administration procedures.

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Anticipated timeline:
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- Complete project fall 2028.

LEGAL IMPLICATIONS:
Grant Management Policy
Section 24112(a)(2) of IIJA, Pub. L. 117-58

FINANCIAL IMPLICATIONS:

If awarded the City is required to cost share 20% of the total project cost. Cost share estimate is $600,000.

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**Trisha Livingston, Grants Administrator**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes: X	No:	Yes:	No: X	TBD if awarded.

ACTION REQUESTED: Motion

AGENDA ITEM:

(Discussion and Possible Action) Application for assistance from Urban Design and Preservation Division Design-Preservation Rapid Assistance Teams (D-PRAT) for the site plan of the Out of Town Park.

AGENDA ITEM BRIEF:

City staff recommends applying for D-PRAT assistance in developing an adoptable Out of Town Park site plan to include a sports complex and rodeo grounds improvement. D-PRAT provides free planning assistance to local governments and community-based organizations that need support to address specific problems or challenges. The grant application deadline is May 15, 2026.

RECOMMENDED MOTION:

I move to approve the submittal of an application to the Urban Design and Preservation Division, Design-Preservation Rapid Assistance Team for the Out of Town Park project.

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

I move to deny the submittal of an application to the Urban Design and Preservation Division, Design-Preservation Rapid Assistance Team.

BACKGROUND:

D-PRAT provides free planning assistance to local governments and community-based organizations that need planning support to address specific problems or challenges. The organization brings a team of 8-12 planners to lead workshops and community engagement sessions with City staff and stakeholders. D-PRAT works with the chosen organization to organize the workshops over the summer, leading up to a fall in-person workshop. If selected, the City would be responsible for promoting the workshop, coordinating the workshop facility, coordinating and engaging stakeholder participation, providing a light breakfast and lunch for the workshop attendees, providing transportation for the D-PRAT volunteer group via City vehicles, and contributing $5,000 to the group for travel (flights & room).

The attached application is asking the D-PRAT volunteer group to assist the City in developing a site plan for the Out of Town Park, including a sports complex and rodeo grounds improvement that is financially sustainable, is ADA-compliant, provides trail connectivity, and meets the needs of the community.

The application is attached for review.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

N/A

FINANCIAL IMPLICATIONS:

The financial impact to the City will be staff working with the planning consultants on the project and approximately $5,250 for sponsorship and food.

ATTACHMENTS:

1. D-PRAT_Application_Form_2026_- FINAL - COF

Urban Design and Preservation Division
Design-Preservation Rapid Assistance Teams (D-PRAT)

2026 Application for Assistance

What is the program?

The American Planning Association's Urban Design and Preservation Division's Design & Preservation Rapid Assistance Team (D-PRAT) is a pro-bono program to support under-resourced communities and organizations in their efforts to collaboratively plan for the future of Urban Design and Preservation. The primary goal of the program is to make urban design and preservation planning resources available to communities that would otherwise not have access to these services or planning expertise.

Communities interested in applying for project assistance should review the following program information and submit the application to the D-PRAT Coordinator by Friday, May 15th.

The D-PRAT team will provide ***free*** planning assistance to local governments and community-based organizations that need planning support to address specific problems or challenges. A sampling of the types of planning the program could address include neighborhood visioning, streetscape re-design, design guidelines, urban design framework, adaptive reuse concepts, Main Street revitalization, and/or historic resource protection. *Other ideas are welcome.*

D-PRAT will offer support through an intensive 3-day planning workshop, during which experts from around the country will engage community members to understand the local planning, preservation, and design constraints and opportunities, and help develop possible solutions. Each D-PRAT workshop will generally take several months to organize and complete, both before and after the onsite planning workshop.

You can find examples from previous D-PRAT programs here.

Program Details

1. **Identify the problem and sponsoring organization.** Applicant reviews evaluation criteria and completes the attached application form and submits to the D-PRAT Coordinator by Friday, May 15th, 2026.
2. **Project selection.** Urban Design & Preservation Division D-PRAT volunteers will review applications to determine if the proposed idea is feasible and if there are adequate volunteer resources (see selection criteria below). A Division member may contact you with additional questions or to discuss ways to shape the project to meet the program guidelines. Applicants should be notified of selection within few weeks of application.
3. **Meet with the D-PRAT workshop team.** Once a project is selected, the D-PRAT leader will

assemble a team of planning volunteers who have the skills needed to devise and carry out the workshop and work through problem solving with community members.

4. **Develop the project.** Once assembled, the D-PRAT team will begin developing the project more completely and setting up the project in partnership with the host community. D-PRAT volunteers will meet with the host community (virtually) to further refine the problem statement, the host's commitments to the program, and to plan the workshop and associated public engagement. The team leader will draft an agreement for the host community that summarizes the goals and expected outcomes of the workshop. With assistance from the host community, the team will also gather background information and materials to prepare base maps for the workshop.
5. **Schedule and organize the workshop.** Once a date is picked the host will reserve the workspace, arrange for catering and supplies and, most importantly, organize and prepare community members to participate in the workshop. The team will draft the workshop agenda and assist with promotional materials. The three-day in-person workshop will happen in September or October.
6. **Hold 2- to 3-day planning workshop.** The D-PRAT team and host will engage community members and stakeholders, develop recommendations, and a step-by-step strategy for moving forward. While the actual agenda will depend upon the community and the problems to be solved, a general outline of activities may include group brainstorming, pop up engagement, youth engagement, site visits, walking and/or driving tours, small group work sessions, charettes, and/or a public open house.
7. **Implementation.** At the workshop the D-PRAT team will craft a slide presentation with recommendations and strategies for the defined problem statement. While feasibility and recommendations cannot be known ahead of time, the host communities enter the process with a commitment to pursue solutions to their community problem and continue the implementation of any recommendations or strategies. D-PRAT team members will be on-call to offer advice during implementation.
8. **Workshop Follow-up and Idea Book Drafting**. Following the in-person workshop, the teams will continue to work virtually to refine and finalize the ideas and designs conceived in the workshop. A final work product will be delivered to the host municipality around the end of the year.

Selection Criteria

The D-PRAT program offers a considerable amount of work and expertise, but projects must be focused enough to accomplish the objectives. The timing must also be right. Is the community ready to address the issues or goals of the project? How will the D-PRAT build on previous efforts? Does your community have the ability and time to commit to implement solutions? What do you intend to change because of the program's recommendations?

Applications will be reviewed for how well they address the following program guidelines:

- **Suitability for a D-PRAT workshop**: The project/concept put forward in the application is distinct and identifiable, and there is a reasonable expectation that the applicant is

prepared to consider D-PRAT recommendations and take action to address the planning issues.

- **Commitment to community-based planning**. Applicant can demonstrate a willingness to conduct an open and public planning process. The host community will coordinate and promote multiple equitable and inclusive engagement opportunities such as a public open house and youth engagement workshop at a local school.
- **Alignment with planning objectives**. A project must primarily relate to the practice of and body of knowledge that constitutes the field of urban/regional planning and intended to meet the D-PRAT objectives outlined herein. The project needs to be aligned with the principles, goals, and aspirations of the American Planning Association, Urban Design and Preservation Division of the APA, and the American Institute of Certified Planners.
- **Capacity to carry out the workshop**. The applicant has adequate staff and volunteer support to coordinate the logistics of the workshop and can describe the extent they are prepared to help with the workshop, public engagement, site visits, lodging, catering, and/or travel expenses.
- **Ability to provide local financial or in-kind support.** While D-PRAT is a pro-bono program, the host community is encouraged to contribute to the success of the workshop where feasible. Contributions may include assistance with lodging, meals, meeting space, local transportation, or other workshop-related expenses. The level of support will vary by community and is not expected to be substantial, but a demonstrated willingness to partner in supporting the effort is viewed favorably in the selection process.

Program Contact

The short form attached is designed to give Urban Design and Preservation Division more information about your need for the assistance provided by the D-PRAT program. Be sure to answer each question clearly and with as much detail as possible. If you have questions or need assistance with completing the application, please contact Shannon Cilento, AICP, D-PRAT Coordinator, at sncilento@gmail.com.

Application Form

Section 1: Sponsoring Organization

Applicant: The official name and contact information for the organization making the application. The primary contact should be the person who will be the main coordinating contact with the D-PRAT team.	
Sponsoring Organization	City of Fernley
Primary contact	Trisha Livingston
Title	Grant Administrator
Mailing Address	595 Silver Lace Blvd
City	Fernley
State	NV
Zip Code	89408
Telephone Number	775-784-9851
Website	www.cityoffernleyorg
Email	tlivingston@cityoffernley.org
Other applicant contact(s), as applicable	Lydia Altick, AICP, Acting City Manager

Section 2: Planning Needs

Provide a brief description of your need for planning assistance. Discuss the specific issue you would like support with and briefly explain why it is important to the community. Remember that the D-PRAT program offers a limited time assistance and therefore the described planning need should be scaled to the program's timeline (see above).
The 2017 Parks Master Plan (PMP) was adopted unanimously by the City Council on September 20, 2017, yet most of its large and costly recommendations remain unexecuted. The importance of finally acting on this plan spans six major dimensions: quality of life, population growth, community identity, public health and safety, economic development, and fiscal sustainability. Fernley's population has more than doubled since incorporation in 2001, and is projected to grow to approximately 40,000 residents by 2040. This growth directly intensifies the need for parks execution:park acreage is already deficient. At the time of the PMP, Fernley had only 4.1 acres of developed parkland per 1,000 residents, well below the National Recreation and Park Association recommended minimum of 6.25 to 10.5 acres per 1,000 population. Additional park land needed by 2040 is enormous. The PMP identified the creation of a sports complex at Out of Town Park (OTP) and the relocation/improvement of the Rodeo Grounds as major goals. Nearly nine years later, neither project has been executed, because the City could not fully develop the sports complex without first relocating the rodeo, and it could not relocate the rodeo without massive capital investment, so neither project moved forward. In addition, the City has been directing its limited capital resources toward other urgent priorities, leaving the sports complex and rodeo grounds unfunded. The Out of Town Park Improvement Project - Design is budgeted for FY2028-29 at $250,000. This means the sports complex design work is still years away, let alone construction.

Section 3: Desired Assistance

What type of assistance are you most interested in receiving (e.g. site planning, streetscape design, public realm enhancements, historic preservation, neighborhood revitalization?). As a reminder, this list is not exhaustive, but your request needs to be specific enough to be successful.
Our designed assistance request is to help the City develop a site plan for the Out of Town Park including a sports complex and rodeo grounds improvement that is financially sustainable, is ADA-compliant, provides trail connectivity, and meets the needs of the community.

What are your goals or desired outcomes for a 2- to 3-Day workshop?
A 2-day community and stakeholder workshop focused on Out of Town Park (OTP) — encompassing both the sports complex and rodeo grounds — would be a critical step toward breaking the nearly decade-long planning deadlock that has prevented execution of the Parks Master Plan's (PMP) most significant recommendations. The workshop should accomplish six major outcomes: (1) validate and update the 2017 PMP's existing conditions data; (2) resolve the interdependency between the sports complex and rodeo grounds through stakeholder consensus; (3) produce a preferred conceptual site plan; (4) establish a phased implementation and funding strategy; (5) build community ownership and political will; and (6) create an actionable implementation roadmap with cost estimates. The 2026 State of the City address confirmed that parks and sports fields remain among the community's most passionate concerns, with the Mayor acknowledging that "it has been difficult to maintain our parks, in particular our fields, to accommodate the growth we have seen."

Section 4: Commitment

Describe the support within your community for a D-PRAT workshop (e.g., Council/Board support, adopted resolution, stakeholder support, etc.). Please also tell us about who is responsible for planning in your community and how or if they would be involved in this effort.
Sports leagues and field use are already strained. As of the 2025 Strategic Planning Work Session, the City acknowledged that population growth "increases the use of city parks and open space" and that growth "impacts the number of sports leagues and after-hours field reservations that city staff supports." The 2026 State of the City address confirmed the crisis. Mayor/leadership stated: "Improving and expanding our parks has been a concern and ongoing topic with the community. It has been difficult to maintain our parks, in particular our fields, to accommodate the growth we have seen in our own population and the growing popularity of softball, soccer, baseball, football, and all the tournaments they have out there."

Briefly describe the skills and availability of the primary contact for this project.

D-PRAT projects are a collaborative effort. The primary contact person is a vital component to every project. The contact is responsible for many aspects of a project, including tasks such as: conducting outreach to ensure community participation, participating in coordinating phone calls with the D-PRAT team, organizing stakeholders for the workshop, securing locations and other local logistics, providing maps and other background materials, and other needs of the project.

The Grant Administrator will be the primary contact person. In addition, the Acting City Manager and the Community Development Program Manager will assist in moving the project along. The Grant Administrator has experience in coordinating a small and large projects through completion including community needs assessments, strategic plans, and public facility designs. The Community Development Program Manager is the lead in City-wide communication and is well versed in community outreach and outward communication. The Acting City Manager will be the tie to the City Council. She has led the City for over three years and understands the community, stakeholders, and leadership.

Are you willing and able to organize and publicize a D-PRAT workshop within the next 6 months? Describe how you inclusively engage your stakeholders including property owners, employers, residents, and/or community advocates.

The City of Fernley is willing and able to organize and publicize a D-PRAT workshop within the next six months. The City has plenty of avenues to extend the invitation to stakeholders to take a meaningful part in attending a D-PRAT workshop, including: City published newsletter, reader board, City website, City social media pages, local non-profit events/meetings, local civic group events/meetings, and word of mouth. The City staff are very connected to the community and it's stakeholders and leaders. The City can secure workshop facilities that are ADA compliant.

The Urban Design and Preservation Division may have financial assistance available to offset travel costs for volunteers and/or expenses related to hosting the community workshop. Assistance is based on available budget and demonstrated need of the sponsoring organization and community. *If you would like to request financial assistance, please explain your community's financial need to reduce and/or waive workshop costs.*

The Urban Design and Preservation Division seeks to prioritize help for communities with limited resources. Financial assistance does not constitute a project selection criterion. This information will be used for budget-planning purposes.

The City of Fernley will commit to funding $5,000 in volunteer travel costs.

Is your community able to contribute with some level of financial support? For example, provide lunch for all volunteers during the in-person workshop, provide discounted lodging, provide local transportation for site visits, etc.? If so, please describe.
The City will provide a light breakfast, lunch, and water for the in-person workshop. The City can also coordinate local transportation for the site visits. The City will reserve a meeting room for the volunteers to work in addition to the workshop facility.

Section 5: Partnerships

For each D-PRAT program, we work alongside relevant regional partners in addition to the sponsoring organization. For example, in North Miami (FL) the Miami-Dade County Office of Sustainability and Historic Preservation Division provided staff support; and in Enfield (CT) the Connecticut Council of Regional Governments (CRCOG) dedicated staff to the workshop and project. These can be agency partners or even non-profits, in Milan (MO) we worked with Missouri Main Street and in Center (CO) with Downtown Colorado, Inc. Identify local, regional or state planning or preservation entities or advocates which may participate with the D-PRAT team.
The City of Fernley relevant regional parnters include the Western Nevada Development District, Governor's Office of Economic Development (Nevada Main Street), and Northern Nevada Development District; all of whom will be invited to take part in the workshops.

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No:	Yes:	No:	

ACTION REQUESTED:

AGENDA ITEM:

Presentation by Brandi Jensen on the City of Fernley 25th Anniversary July 1st Celebration

AGENDA ITEM BRIEF:

RECOMMENDED MOTION:

BUSINESS IMPACT (per NRS Chapter 237):

See attached report for background, analysis, alternatives.

ALTERNATIVES:

BACKGROUND:

RELEVANT LAWS, STATUTES, AND REGULATIONS:

FINANCIAL IMPLICATIONS:

ATTACHMENTS:
None

CITY OF FERNLEY

City Council
AGENDA REPORT

Meeting Date: May 20, 2026

REPORT TO:	Mayor and City Council
REPORT FROM:	**April Homme, Jessica Murdock**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes: X	No:	Yes:X	No:	100-412-650

ACTION REQUESTED: Motion
Consent

AGENDA ITEM:

(Discussion and Possible Action) to approve the commemorative 25th Anniversary statue and artwork to be temporarily installed at the Main Street Art Park for the July 1st 25th Anniversary unveiling ceremony, with future relocation to the roundabout site upon approval of the roundabout improvement plan.

AGENDA ITEM BRIEF:

Staff recommends Council to approve the commemorative 25th Anniversary statue and artwork to be temporarily installed at the Main Street Art Park for the July 1st 25th Anniversary unveiling ceremony, with future relocation to the roundabout site upon approval of the roundabout improvement plan.

In February 2026, a Call to Artists was announced and distributed with a submission deadline of March 2, 2026. The City received two applications: one from artist Vezun and one from artist Luis Varela Rico. Both artists came highly recommended by the Nevada Arts Council.

The Call to Artists specifically outlined the City's vision for a Vaquero-themed bronze statue incorporating native animals and plants surrounding the sculpture. Submissions were received on March 2, 2026, and reviewed by the Mayor and the 25th Anniversary Committee. After review, it was determined that neither proposal fully aligned with the project scope and vision; therefore, the proposals were not brought forward to Council for consideration.

Due to existing time constraints, staff expanded its search efforts by researching bronze sculpture companies and additional artists, while also reaching out to local artists including Twisted Steel and Dennis Gibbons.

RECOMMENDED MOTION:

"I move to approve the commemorative 25th Anniversary statue and artwork to be temporarily installed at the Main Street Art Park for the July 1st 25th Anniversary unveiling ceremony, with future relocation to the roundabout site upon approval of the roundabout improvement plan."

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

Council may ask for more information.

BACKGROUND:

April 3, 2025: the City Council reviewed the tentative FY2025–26 General Fund Budget, discussed, and approved the allocation of $100,000 within the Mayor and City Council budget for the City's 25th Anniversary Celebration. During the meeting, the Council requested several budget modifications. Revised budget changes were presented to Council on May 8, 2025; however, the approved $100,000 allocation for the 25th Anniversary Celebration remained unchanged.

May 28, 2025: City Council formally approved the FY2025–26 budget, including the $100,000 appropriation for the 25th Anniversary Celebration.

Following budget approval, a 25th Anniversary Committee was formed, consisting of residents, business owners, City staff, and one Council member. Jessica Murdock, City of Fernley Development Services Coordinator, was assigned as the staff liaison and committee chair. Several meetings were subsequently held to discuss event logistics and project planning.

September 24, 2025: The first public meeting was conducted to engage community members in the planning process. Discussion centered around events and activities for the July 1 through July 3 celebration, including the concept of a commemorative bronze statue or 3D sculpture with an established project budget of $50,000.

February 2, 2026: Call to Artists was distributed seeking proposals for the commemorative sculpture project.

March 2, 2026: Two submissions were received by the deadline.

March 3, 2026: The submissions were reviewed; however, it was determined that neither proposal fully aligned with the project scope and overall vision. As a result, the proposals were not brought forward to the Council for consideration.

March 4, 2026: Staff expanded outreach efforts to additional artists, including bronze sculptors, steel sculptors, and metal artists. Through this process, staff determined that the average cost of a single bronze sculpture ranged from approximately $60,000 to $80,000, which exceeded the predetermined $50,000 project budget.

March 21, 2026: David Spellberg, owner of Art of Bronze, confirmed he could produce a life-sized bronze wild horse statue for approximately $21,000. Staff subsequently began coordinating with Twisted Steel to fabricate additional project elements, including a surrounding steel rock base (60" x 96" platform), an eagle with an open

wingspan, a bighorn sheep, three to four stainless steel “F” letters, and a cowboy hat, for an estimated cost of $17,000. The combined project estimate totaled approximately $38,000.

March 30, 2026, through April 13, 2026: Renderings were received and reviewed in preparation for Council consideration.

May 06, 2026: City Council heard the Presentation by Design Workshop on design concepts for landscape and aesthetic enhancements to the Fernley Roundabout. The concept included the Statue. Council approved to move forward with the preferred design concept moving forward and to work closely with NDOT throughout the process.

The remaining project budget would allow for the purchase and installation of an American flag estimated at $2,700, as well as a potential concrete pad estimated between $6,000 and $11,000, bringing the overall projected project cost to approximately $50,000. Staff will continue working with local contractors to explore potential donated labor and/or concrete pad contributions to further reduce project costs.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

There are none

FINANCIAL IMPLICATIONS:

Budgeted in FY25/26 25th Anniversary Fund

ATTACHMENTS:

1. Art of Bronze Fernley-Wild Country-3-26
2. Twisted Steel_Fernley Monument Deposit
3. Submissions not considered

Art of Bronze

569 Constitution Ave., Ste. D Camarillo, CA 93012
MAIL: 278 Rancho Rd. Thousand Oaks, CA 91362
(805) 908-5355 phone

Date: 03/31/26

PURCHASER:	April Homme	COMPANY NAME:	City of Fernley
HOME ADDRESS:		OFFICE ADDRESS:	595 Silver Lace Blvd.
CITY, STATE, ZIP:		CITY, STATE, ZIP:	Fernley, NV 89408
CELL PHONE:		OFFICE PHONE:	775.784.9858
EMAIL:	ahomme@cityoffernley.org	EMAIL:	

QUANTITY	TITLE		PRICE
1	**"Wild Country"**	Gallery $	27,000.00
	Bronze sculpture of rearing horse	Less Discount $	-8,500.00
	on bronze base.	**A.OB. Special Price $**	**18,500.00**
	Appx. 113" H. Item #ABH021	Stainless steel work	**1,100.00**

Special Requirements/ Additional Notes:

Art of Bronze (A.O.B.) will weld a stainless-steel pipe into each horse's leg cavity and brace the pipe to the underside of the bronze base. **A.O.B.** will await instructions from city regarding the welding brackets so sculpture can be permanently secured. Upon **deposit** of **$10,500.00**, **A.O.B.** will begin the casting process. The **final balance** of **$10,500.00** will be due when the sculpture is ready to ship.

Client will pay **$1,400** for all shipping charges. **Client** will pay an additional **$1,100** for all stainless-steel mounting brackets and piping into the cavity of horses' legs. **A.O.B.** will make every effort to have the sculpture delivered by 6/30/26.

DELIVER TO:	Main Street Art Park	SUBTOTAL:	**19,600.00**
ADDRESS:	610 E. Main St.	SALES TAX: **OUT OF STATE**	**0.00**
	Fernley, NV 89408	CRATING & SHIPPING:	**1,400.00**
PHONE #:		GRAND TOTAL:	**21,000.00**
CONTACT:		DEPOSIT: DUE TO START CASTING	**10,500.00**
		FINAL BALANCE: **DUE READY TO SHIP**	**10,500.00**

David Spellerberg, President

ART OF BRONZE, INC.

PURCHASER'S SIGNATURE

I believe everything is well aligned regarding the sculpture I will be providing. The upper platform that will support the sculpture will be slightly larger than the **80" x 50" bronze base**, and I do not feel the platform size will appear too large or overpower the statue.

For installation, I will weld **four stainless steel plates** to the outer edge of the bronze base. Each plate will be approximately **6" x 3"** and will include a **1" pre-drilled hole**. The plates and anchor bolts will be visible from the exterior, but given the sculpture's height and viewing distance, this should not be visually distracting.

This method will allow the sculpture to be securely anchored while still providing the flexibility to relocate it in the future if needed.

At this time, I am still planning for the sculpture to be completed and delivered **prior to July 1**.

Please let me know if you have any questions or if you would like me to provide any additional details.

Best regards,

Respectfully,

David L. Spellerberg

President

Art of Bronze, Inc.

569 Constitution Ave.

Camarillo, CA 93012

(805) 908-5355

Twisted Steel

1125 Wild Cherry Dr
Fernley,NV 89408

Invoice

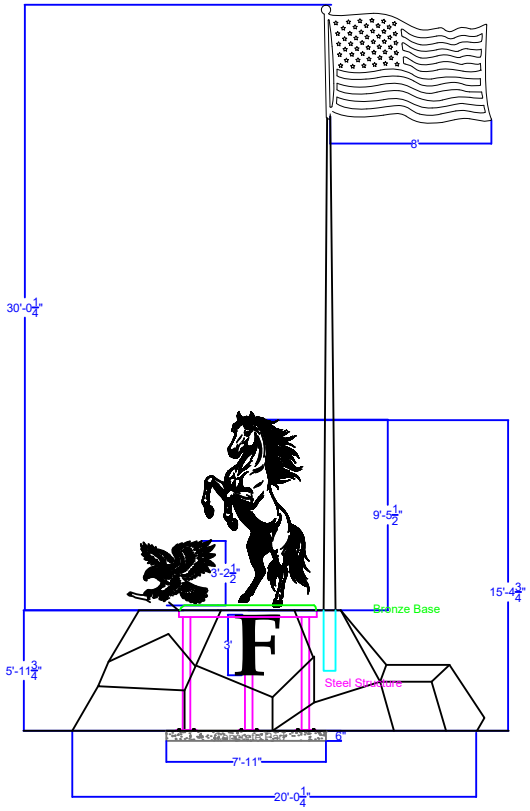
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4/28/2026	1320

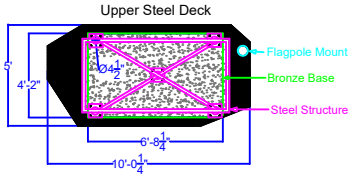
Bill To
City of Fernley City Manager's Office 595 Silver Lace Blvd. Fernley, NV 89408

P.O. No.	Terms	Project

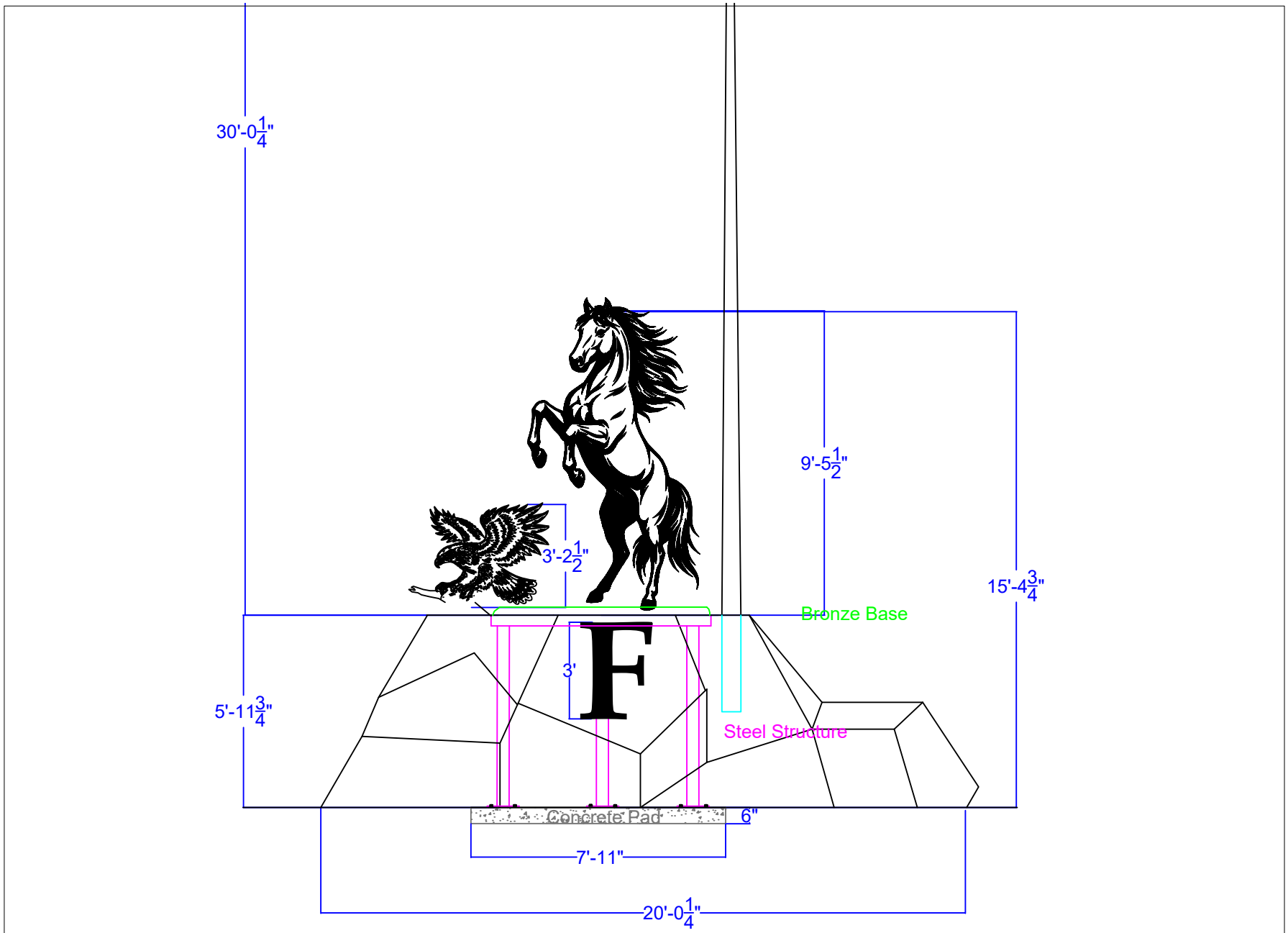
Quantity	Description	Rate	Amount
	50% Deposit for Steel base, Bighorn Sheep and Eagle art project	7,500.00	7,500.00

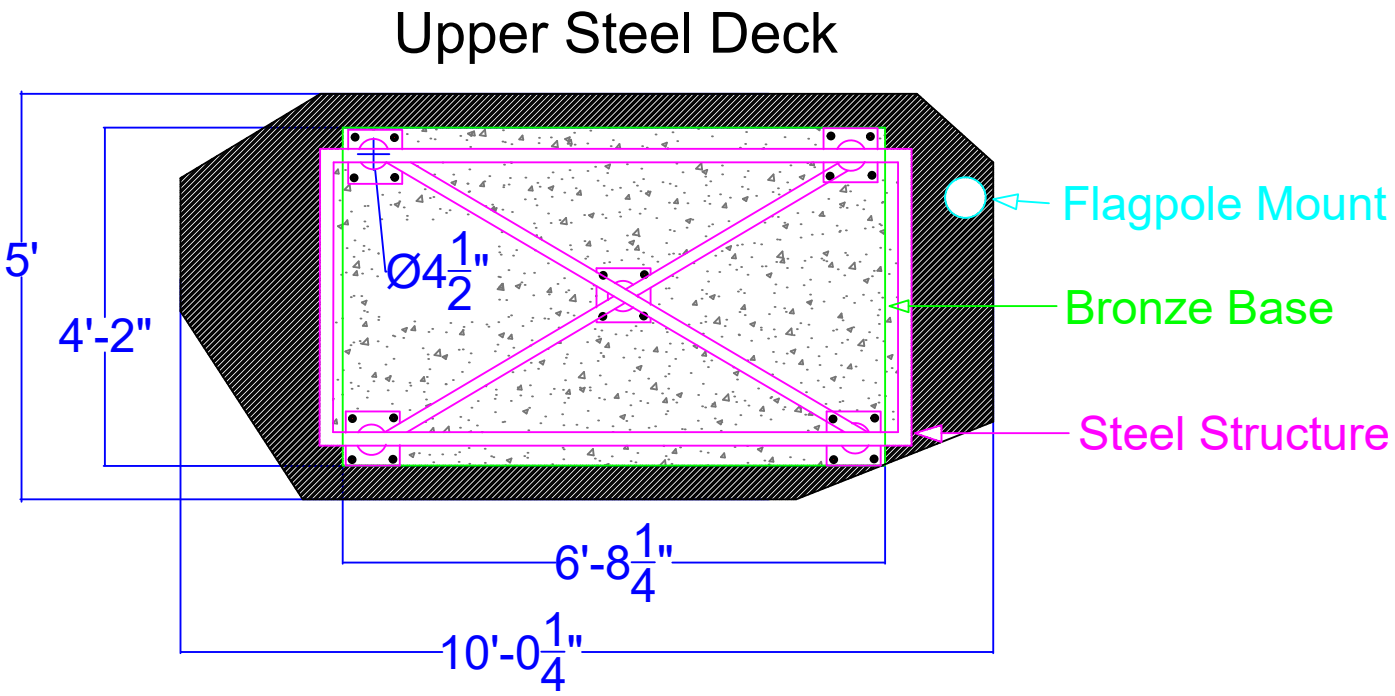
Total $7,500.00


6"
30'-0 1/4"
9'-5 1/2"
3'-2 1/2"
15'-4 3/4"
Bronze Base
5'-11 3/4"
3'
F
Steel Structure
6"
7'-11"
20'-0 1/4"

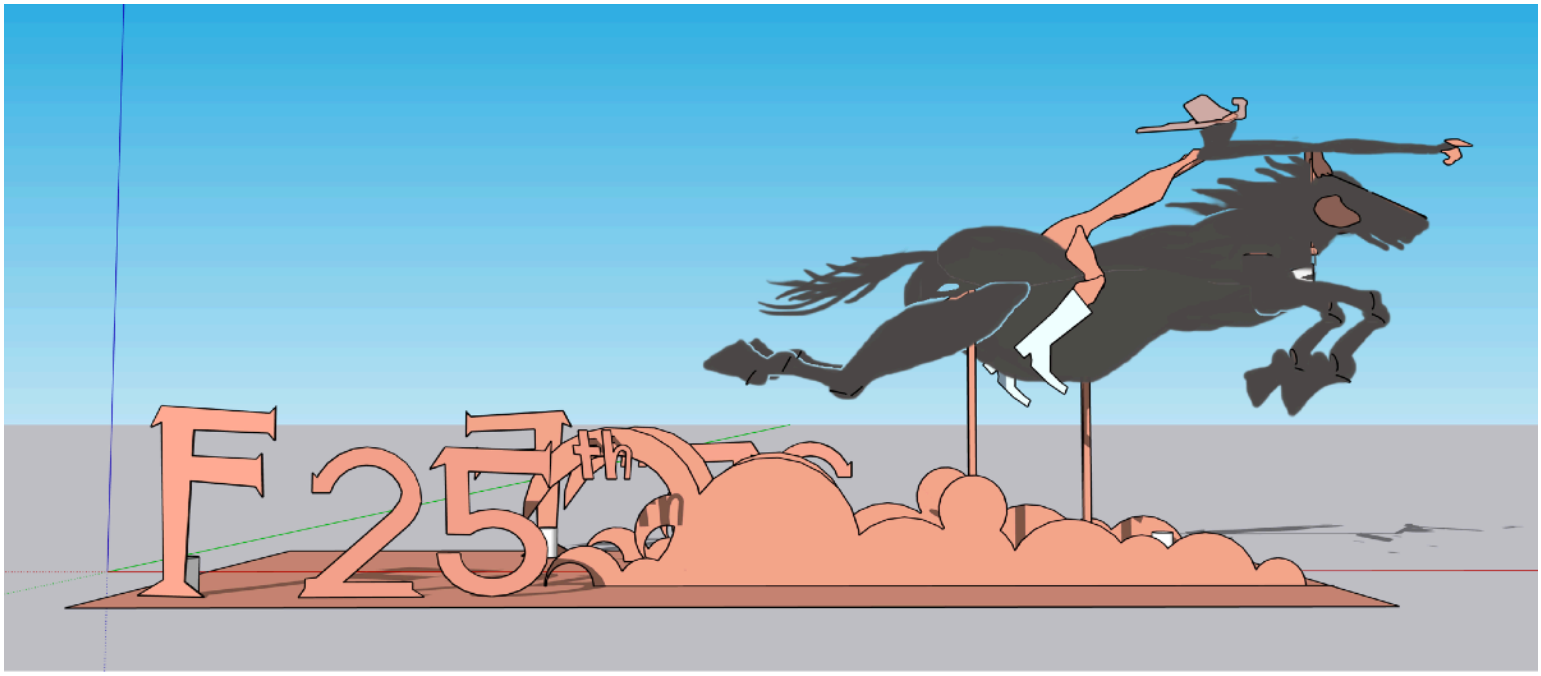

Upper Steel Deck
5'
4'-2"
Ø4 1/2"
Flagpole Mount
Bronze Base
Steel Structure
6'-8 1/4"
10'-0 1/4"

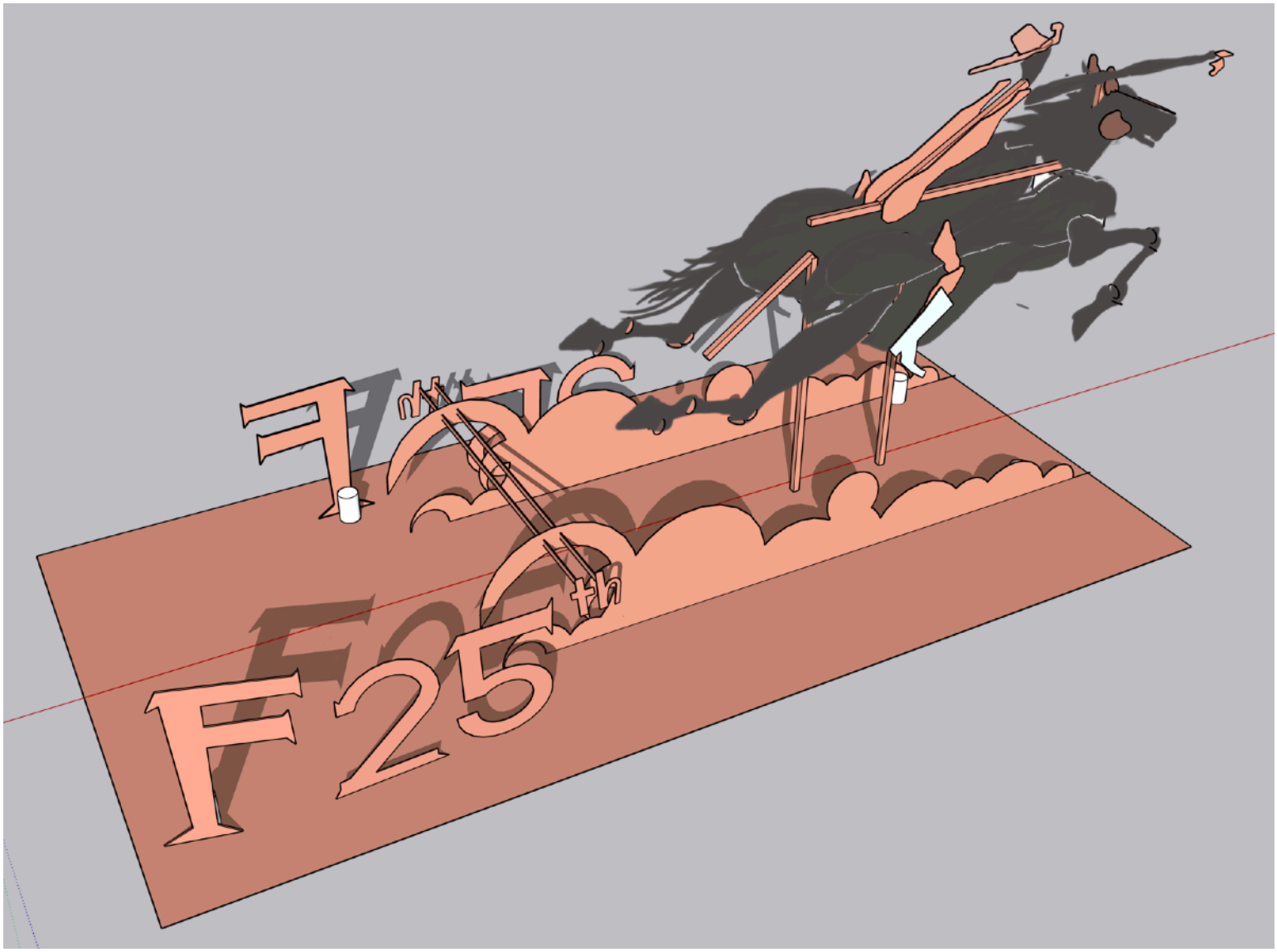
Top View

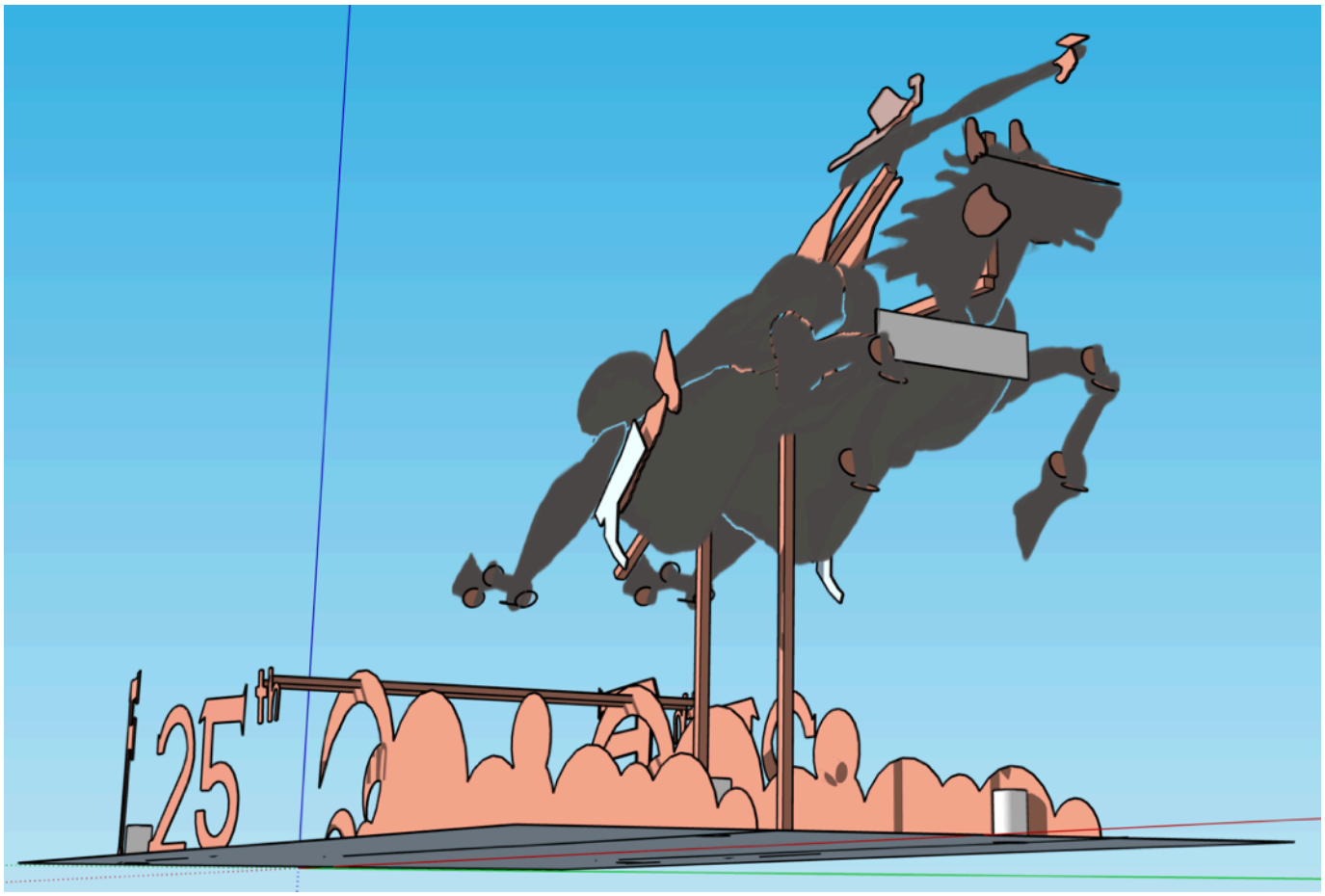

30'-0 1/4"
9'-5 1/2"
3'-2 1/2"
15'-4 3/4"
Bronze Base
3'
F
5'-11 3/4"
Steel Structure
Concrete Pad
6"
7'-11"
20'-0 1/4"

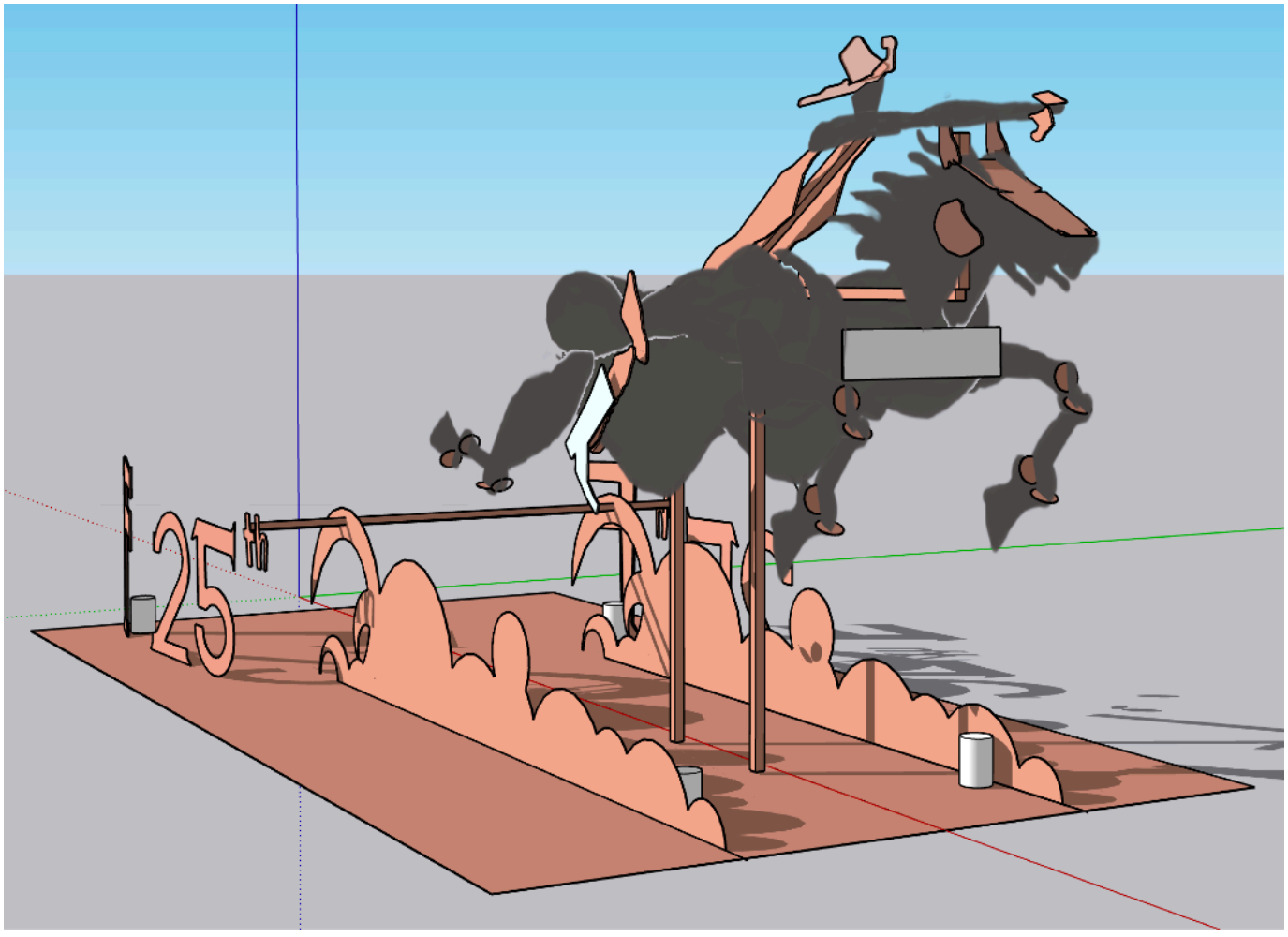

Upper Steel Deck
5'
4'-2"
Ø4 1/2"
Flagpole Mount
Bronze Base
Steel Structure
6'-8 1/4"
10'-0 1/4"

Top View


F25th


F25th

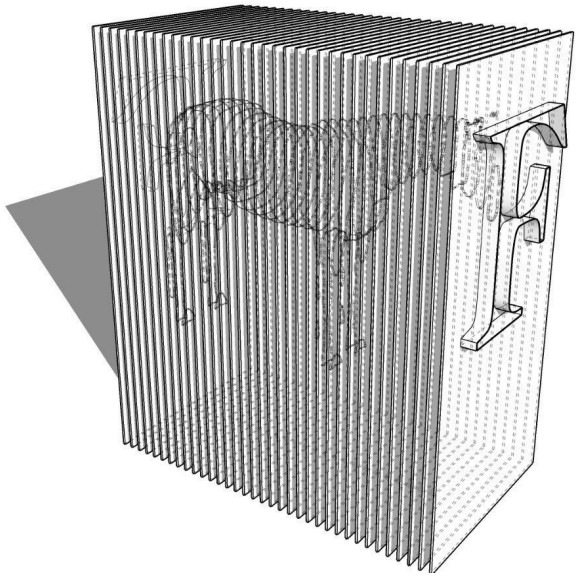

25th


25th

LVR Design, LLC
Email Address: luisvarelarico@gmail.com
Phone: (702) 275-3697 Artist: Luis Varela-Rico

Fernley Quarter Century Horse

View A: The view below shows an X-Ray view of the sculpture.



Video Link: https://youtu.be/2t-bvLNzme8

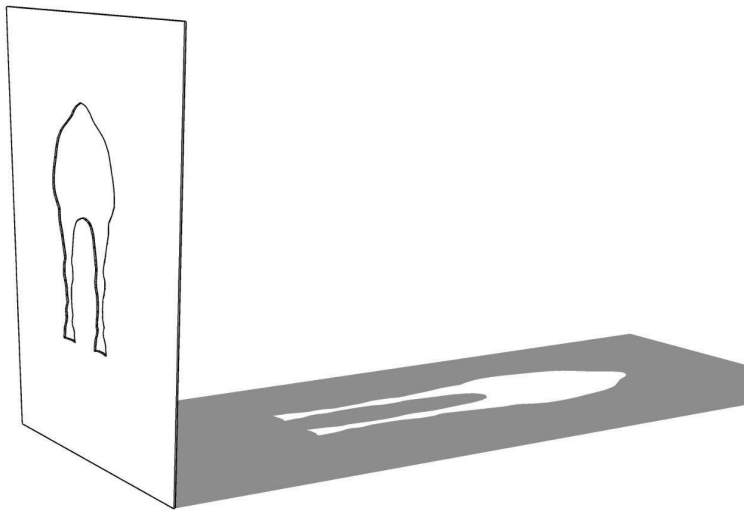
Size: 9' x 5' x 10'

LVR Design, LLC
Email Address: luisvarelarico@gmail.com
Phone: (702) 275-3697 Artist: Luis Varela-Rico

Fernley Quarter Century Horse

View B: The view below shows one segment of the sculpture. The Quarter Century Stallion is composed of irregular, cut shapes placed at precise measurements laid out in an rectangular array.

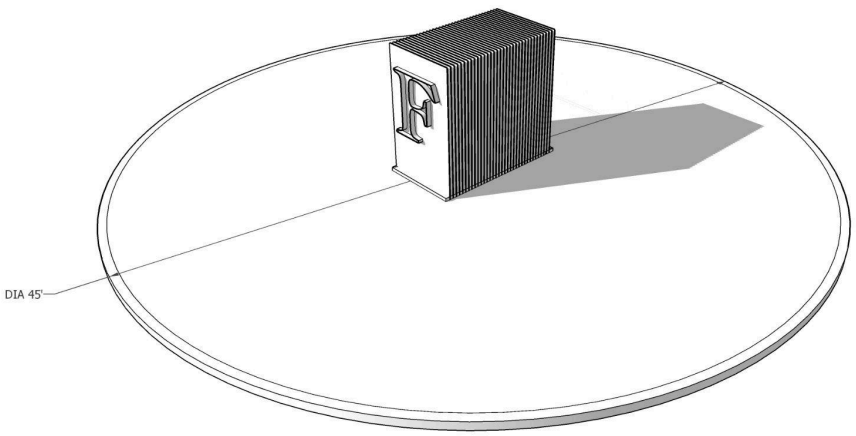
The sculpture appears and disappears depending on the viewer's positioning among the metal slices that make up the segmented horse.



LVR Design, LLC
Email Address: luisvarelarico@gmail.com
Phone: (702) 275-3697 Artist: Luis Varela-Rico

Fernley Quarter Century Horse

View C: Traffic Circle View



LVR Design, LLC
Email Address: luisvarelarico@gmail.com
Phone: (702) 275-3697 Artist: Luis Varela-Rico

Fernley Quarter Century Horse

View D: The view below shows a still view of the sculpture. The Quarter Century Stallion is composed of irregular, cut shapes placed at precise measurements laid out in an rectangular array.

The sculpture appears and disappears depending on the viewer's positioning among the metal slices that make up the segmented horse.

