

LANE CLOSURE WORKSHEET

DATE: November 15, 2023

FINANCIAL PROJECT ID: 448938-1-52-01

FEDERAL AID PROJECT NO: 0000-000-A

COUNTY: Hendry

DESIGNER: Sarah Wright

NO. OF EXISTING LANES: 4

LOCATION: SB SR 25 (US 27) from Stitt Ranch to

SCOPE OF WORK: Mill and resurface, construct new guardrail, and minor cross slope correction.

Calculate the peak hour traffic volume (V):

$$V = \text{ATC } \underline{11753} \times \text{P/D } \underline{0.072} \times \text{D } \underline{1.00} \times \text{PSCF } \underline{0.94} \times \text{RTF } \underline{1.00} = \underline{794}$$

LANE CLOSURE CAPACITY TABLE

- Capacity (C) of an Existing 2-Lane – Converted to 2-Way, 1-Lane = 1400 VPH
- Capacity (C) of an Existing 4-Lane – Converted to 1-Way, 1-Lane = 1800 VPH
- Capacity (C) of an Existing 6-Lane – Converted to 1-Way, 2-Lane = 3600 VPH
- Capacity (C) of an Existing 8-Lane – Converted to 1-Way, 3-Lane = 5400 VPH
- User Defined Capacity (C) of Existing 2-Lane - Converted to 2-Way, 1-Lane =
- User Defined Capacity (C) of an Existing Multi-Lane - Converted to 1-Way, 1-Lane =

Factors restricting Capacity:

$$\text{TLW } \underline{11} \quad \text{LC } \underline{2} \quad \text{WZL } \underline{15840} \quad \text{G/C } \underline{0}$$

Calculate the Restricted Capacity (RC) at the Lane Closure Site by multiplying the appropriate 2L, 4L, or 6L Capacity (C) from the Table above by the Obstruction Factor (OF) and the Work Zone Factor (WZF). If the Lane Closure is through or within 600 ft. of a signalized intersection, multiply the RC by the G/C Ratio.

$$\text{RC (Open Road)} = C \underline{1800} \times \text{OF } \underline{0.9} \times \text{WZF } \underline{1.00} = \underline{1620}$$

$$\text{RC (Signalized)} = \text{RC (Open Road)} \underline{1620} \times \text{G/C } \underline{0} = \underline{0}$$

If $V \leq RC$, there is no restriction on Lane Closure

If $V > RC$, calculate the hourly percentage of ADT at which Lane Closure will be permitted

$$\text{Open Road \%} = \frac{\text{RC (Open Road)} \underline{1620}}{(\text{ATC } \underline{11753} \times \text{D } \underline{1} \times \text{PSCF } \underline{0.94} \times \text{RTF } \underline{1})} = \underline{14.66 \%}$$

$$\text{Signalized \%} = \text{Open Road \% } \underline{14.66} \times \text{G/C } \underline{0.00} = \underline{0.00 \%}$$

Plot 24 hour traffic to determine when Lane Closure permitted.

NOTE: For Existing 2-Lane Roadways, D = 1.00.

Work Zone Factor (WZF) applies only to 2-Lane Roadways.

For $\text{RTF} < 1.00$, briefly describe alternate route:

LANE CLOSURES

24 HOUR COUNTS

	AM		PM	
	Hourly Volume	ATC %	Hourly Volume	ATC %
12 - 1	73	0.6	716	6.1
1 - 2	62	0.5	766	6.5
2 - 3	56	0.5	722	6.1
3 - 4	78	0.7	781	6.6
4 - 5	147	1.3	845	7.2
5 - 6	401	3.4	814	6.9
6 - 7	585	5.0	707	6.0
7 - 8	738	6.3	567	4.8
8 - 9	617	5.2	452	3.8
9 - 10	612	5.2	295	2.5
10 - 11	695	5.9	178	1.5
11 - 12	664	5.6	182	1.5
TOTAL			11,753	100

COUNT DATE:

October 14, 2022

Designer:

Sarah Wright

Financial Project ID No.:

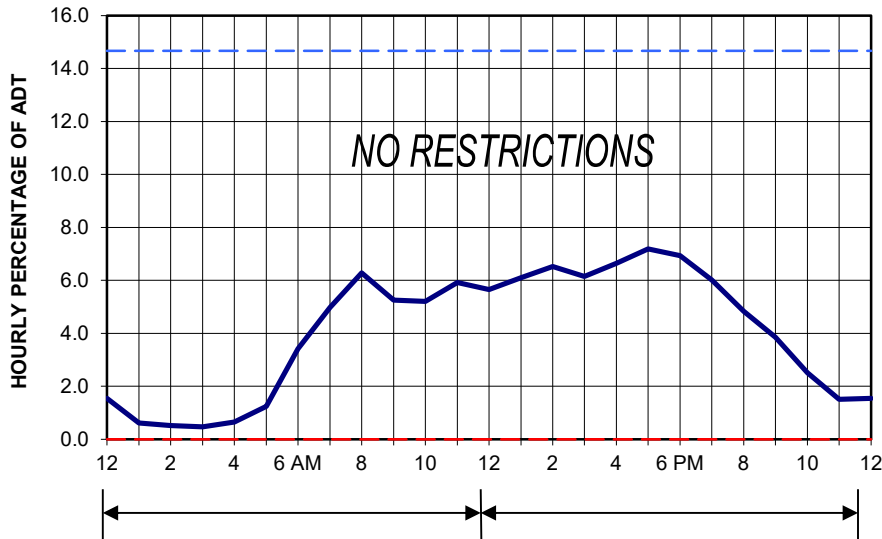
448938-1-52-01

Location:

SB SR 25 (US 27) from Stitt Ranch to Flaghole Rd

P/D = 0.072

HOURLY VARIATION OF DAILY TRAFFIC



- CONCLUSION -

ROUND TO THE NEAREST
1/2 HOUR
CONSERVATIVELY

OPEN ROAD LANE CLOSURE
0:00 M to 0:00 M

SIGNALIZED LANE CLOSURE
0:00 M to 0:00 M