LANE CLOSURE WORKSHEET

DATE: **December 7, 2023**

FINANCIAL PROJECT ID: ***449656-1-52-01*** FEDERAL AID PROJECT NO: ***TBD***

COUNTY: ***Okeechobee*** DESIGNER: ***Allie Stanley, PE***

NO. OF EXISTING LANES: ***4*** LOCATION: ***US 441 at 28th St, Northbound Direction***

SCOPE OF WORK: ***US 441***

Calculate the peak hour traffic volume (V):

V = ATC ***4936*** X P/D ***0.076*** X D ***1.00*** X PSCF ***1.18*** X RTF ***1.00*** = ***443***

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:

TLW ***10*** LC ***2*** WZL ***1200*** G/C ***0.55***

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.

RC (Open Road) = C ***1800*** X OF ***0.83*** X WZF ***1.00*** = ***1494***

RC (Signalized) = RC (Open Road) ***1494*** X G/C ***0.55*** = ***822***

If V ≤ RC, there is no restriction on Lane Closure
If V > RC, calculate the hourly percentage of ADT at which Lane Closure will be permitted

$$\text{Open Road } \% = \frac{\text{RC (Open Road) } 1494}{(\text{ATC } 4936 \times \text{D } 1 \times \text{PSCF } 1.18 \times \text{RTF } 1)} = 25.65\ \%$$

Signalized % = Open Road % ***25.65*** X G/C ***0.55*** = ***14.11 %***

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 RTF< 1.00, briefly describe alternate route:

LANE CLOSURES

24 HOUR COUNTS

	AM Hourly Volume	ATC %	PM Hourly Volume	ATC %
12 - 1	17	0.3	375	7.6
1 - 2	18	0.4	341	6.9
2 - 3	18	0.4	327	6.6
3 - 4	13	0.3	311	6.3
4 - 5	41	0.8	332	6.7
5 - 6	104	2.1	336	6.8
6 - 7	198	4.0	251	5.1
7 - 8	335	6.8	198	4.0
8 - 9	368	7.5	157	3.2
9 - 10	327	6.6	105	2.1
10 - 11	351	7.1	59	1.2
11 - 12	324	6.6	30	0.6
TOTAL			4,936	100

P/D = 0.076

COUNT DATE:

August 16, 2022

Designer:

Allie Stanley, PE

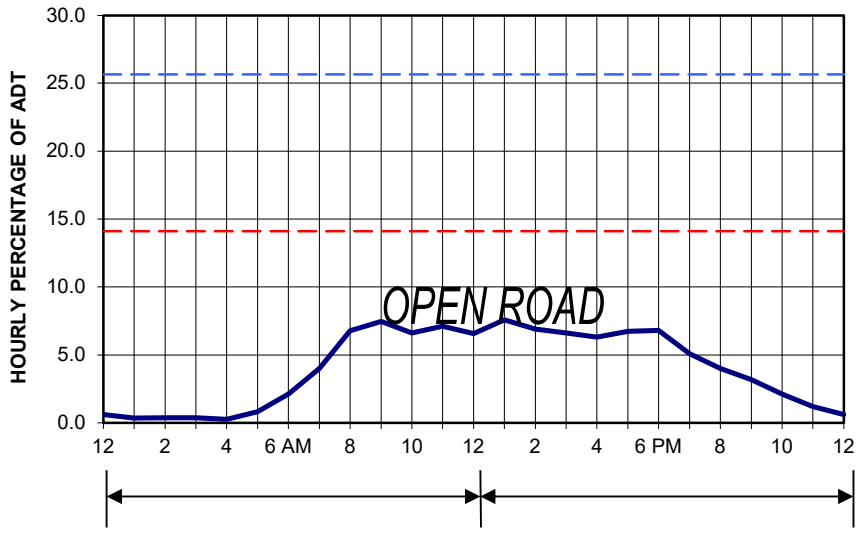
Financial Project ID No.:

449656-1-52-01

Location:

US 441 at 28th St, Northbound Direction

HOURLY VARIATION OF DAILY TRAFFIC



- CONCLUSION -

ROUND TO THE NEAREST 1/2 HOUR CONSERVATIVELY

OPEN ROAD LANE CLOSURE

NO RESTRICTIONS

SIGNALIZED LANE CLOSURE

N/A

LANE CLOSURE WORKSHEET

DATE: **December 7, 2023**

FINANCIAL PROJECT ID: ***449656-1-52-01*** FEDERAL AID PROJECT NO: ***TBD***

COUNTY: ***Okeechobee*** DESIGNER: ***Allie Stanley, PE***

NO. OF EXISTING LANES: ***4*** LOCATION: ***US 441 at 28th St, Southbound Direction***

SCOPE OF WORK: ***US 441***

Calculate the peak hour traffic volume (V):

V = ATC ***5630*** X P/D ***0.083*** X D ***1.00*** X PSCF ***1.18*** X RTF ***1.00*** = ***550***

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:

TLW ***10*** LC ***2*** WZL ***1200*** G/C ***0.55***

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.

RC (Open Road) = C ***1800*** X OF ***0.83*** X WZF ***1.00*** = ***1494***

RC (Signalized) = RC (Open Road) ***1494*** X G/C ***0.55*** = ***822***

If V ≤ RC, there is no restriction on Lane Closure
If V > RC, calculate the hourly percentage of ADT at which Lane Closure will be permitted

$$\text{Open Road } \% = \frac{\text{RC (Open Road) } 1494}{(\text{ATC } 5630 \times \text{D } 1 \times \text{PSCF } 1.18 \times \text{RTF } 1)} = 22.49\ \%$$

Signalized % = Open Road % ***22.49*** X G/C ***0.55*** = ***12.37 %***

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 RTF< 1.00, briefly describe alternate route:

LANE CLOSURES

24 HOUR COUNTS

	AM Hourly Volume	ATC %	PM Hourly Volume	ATC %
12 - 1	19	0.3	405	7.2
1 - 2	19	0.3	379	6.7
2 - 3	13	0.2	424	7.5
3 - 4	17	0.3	425	7.5
4 - 5	39	0.7	452	8.0
5 - 6	100	1.8	466	8.3
6 - 7	171	3.0	310	5.5
7 - 8	253	4.5	278	4.9
8 - 9	323	5.7	189	3.4
9 - 10	332	5.9	147	2.6
10 - 11	344	6.1	82	1.5
11 - 12	382	6.8	61	1.1
			TOTAL 5,630	100

P/D = 0.083

COUNT DATE:

August 16, 2022

Designer:

Allie Stanley, PE

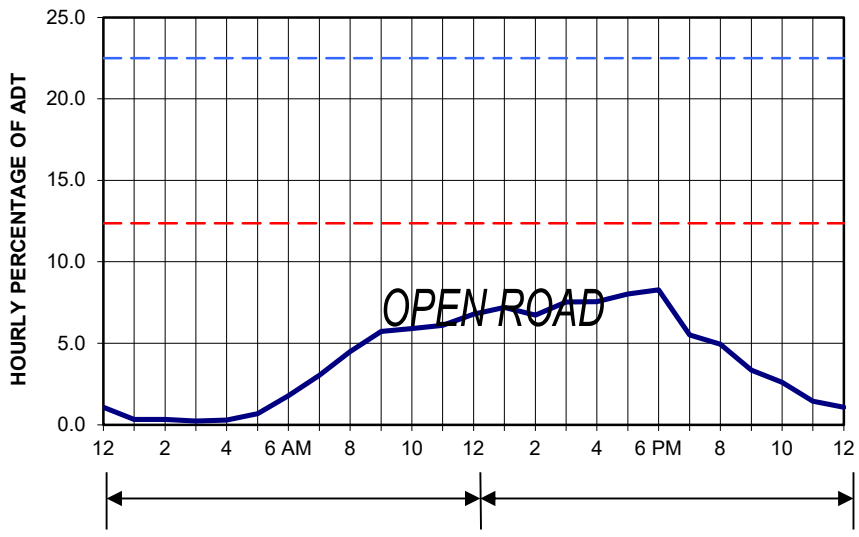
Financial Project ID No.:

449656-1-52-01

Location:

US 441 at 28th St, Southbound Direction

HOURLY VARIATION OF DAILY TRAFFIC



- CONCLUSION -

ROUND TO THE NEAREST 1/2 HOUR CONSERVATIVELY

OPEN ROAD LANE CLOSURE

NO RESTRICTIONS

SIGNALIZED LANE CLOSURE

N/A

LANE CLOSURE WORKSHEET

DATE: **December 7, 2023**

FINANCIAL PROJECT ID: ***449656-1-52-01*** FEDERAL AID PROJECT NO: ***TBD***

COUNTY: ***Okeechobee*** DESIGNER: ***Allie Stanley, PE***

NO. OF EXISTING LANES: ***2*** LOCATION: ***28th St***

SCOPE OF WORK: ***US 441 at 28th St***

Calculate the peak hour traffic volume (V):

V = ATC ***6189*** X P/D ***0.083*** X D ***1.00*** X PSCF ***1.07*** X RTF ***0.90*** = ***494***

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, 0-Lane =

Factors restricting Capacity:

TLW ***10*** LC ***2*** WZL ***1200*** G/C ***0.55***

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.

RC (Open Road) = C ***1400*** X OF ***0.83*** X WZF ***0.92*** = ***1071***

RC (Signalized) = RC (Open Road) ***1071*** X G/C ***0.55*** = ***589***

If V ≤ RC, there is no restriction on Lane Closure
If V > RC, calculate the hourly percentage of ADT at which Lane Closure will be permitted

$$\text{Open Road } \% = \frac{\text{RC (Open Road) } 1071}{(\text{ATC } 6189 \times \text{D } 1 \times \text{PSCF } 1.07 \times \text{RTF } 0.9)} = 17.96\ \%$$

Signalized % = Open Road % ***17.96*** X G/C ***0.55*** = ***9.88 %***

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 RTF< 1.00, briefly describe alternate route:

LANE CLOSURES

24 HOUR COUNTS

	AM Hourly Volume	ATC %	PM Hourly Volume	ATC %
12 - 1	22	0.4	417	6.7
1 - 2	13	0.2	438	7.1
2 - 3	10	0.2	432	7.0
3 - 4	14	0.2	461	7.4
4 - 5	37	0.6	448	7.2
5 - 6	114	1.8	513	8.3
6 - 7	249	4.0	411	6.6
7 - 8	371	6.0	298	4.8
8 - 9	360	5.8	185	3.0
9 - 10	348	5.6	123	2.0
10 - 11	360	5.8	74	1.2
11 - 12	450	7.3	41	0.7
			TOTAL 6,189	100

P/D = 0.083

COUNT DATE:

November 2, 2022

Designer:

Allie Stanley, PE

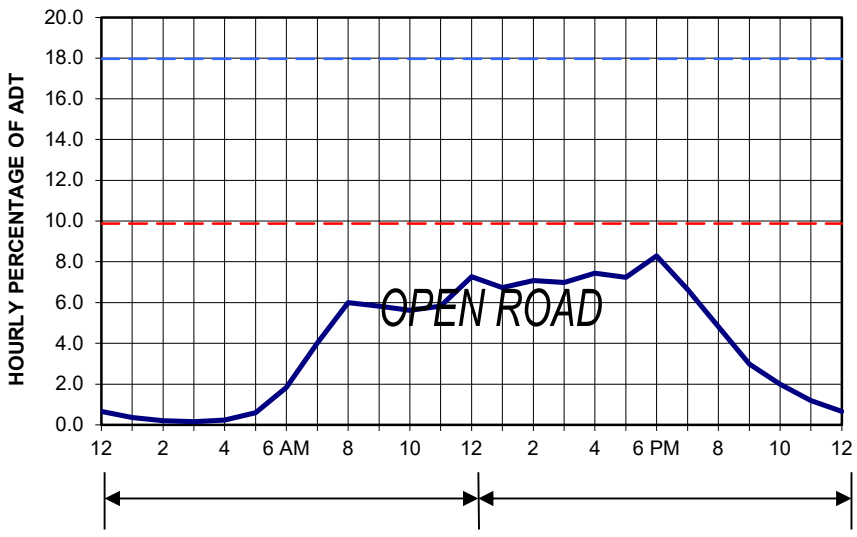
Financial Project ID No.:

449656-1-52-01

Location:

28th St

HOURLY VARIATION OF DAILY TRAFFIC



- CONCLUSION -

ROUND TO THE NEAREST 1/2 HOUR CONSERVATIVELY

OPEN ROAD LANE CLOSURE

NO RESTRICTIONS

SIGNALIZED LANE CLOSURE

NO RESTRICTIONS