LANE CLOSURE WORKSHEET

DATE: **January 12, 2015**

FINANCIAL PROJECT ID: ***NA*** FEDERAL AID PROJECT NO: ***NA***

COUNTY: ***Lake*** DESIGNER: ***FB***

NO. OF EXISTING LANES: ***3*** LOCATION: ***US 27 - EB***

SCOPE OF WORK: ***Widening of CR 466A with improvement to US 27 intersection.***

Calculate the peak hour traffic volume (V):

V = ATC ***11489*** X P/D ***0.080*** X D ***1.00*** X PSCF ***1.14*** X RTF ***1.00*** = ***1043***

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 ***12*** LC ***0*** WZL ***400*** G/C ***0.65***

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 ***3600*** X OF ***0.86*** X WZF ***1.00*** = ***3096***

RC (Signalized) = RC (Open Road) ***3096*** X G/C ***0.65*** = ***2012***

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

$$\text{Open Road } \% = \frac{\text{RC (Open Road) } 3096}{(\text{ATC } 11489 \times \text{D } 1.00 \times \text{PSCF } 1.14 \times \text{RTF } 1)} = 23.64\ \%$$

Signalized % = Open Road % ***23.64*** X G/C ***0.65*** = ***15.36 %***

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	66	0.6	795	6.9
1 - 2	21	0.2	808	7.0
2 - 3	25	0.2	759	6.6
3 - 4	34	0.3	780	6.8
4 - 5	70	0.6	856	7.5
5 - 6	155	1.3	915	8.0
6 - 7	433	3.8	636	5.5
7 - 8	796	6.9	421	3.7
8 - 9	814	7.1	324	2.8
9 - 10	742	6.5	290	2.5
10 - 11	710	6.2	196	1.7
11 - 12	740	6.4	103	0.9
			TOTAL 11,489	100

P/D = 0.080

COUNT DATE:

July 10, 2013

Designer:

FB

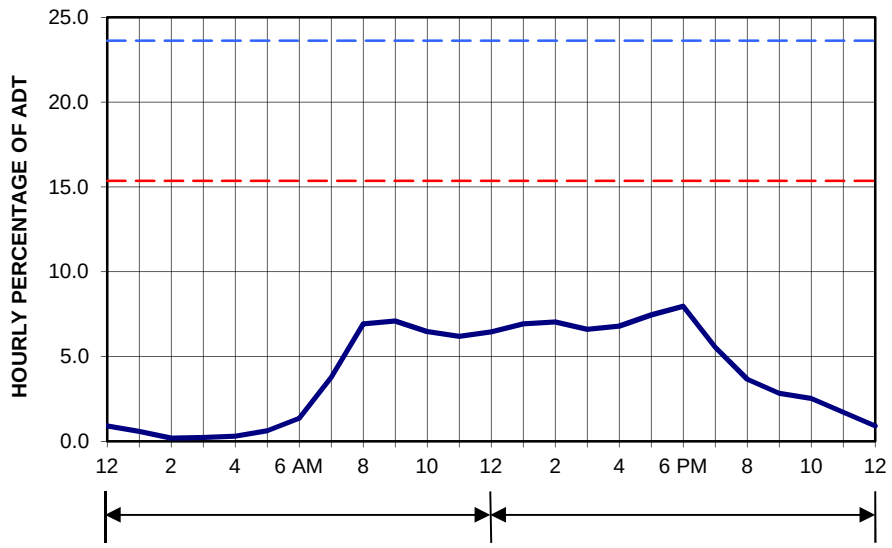
Financial Project ID No.:

NA

Location:

US 27 - EB

HOURLY VARIATION OF DAILY TRAFFIC



- CONCLUSION -

ROUND TO THE NEAREST 1/2 HOUR CONSERVATIVELY

OPEN ROAD LANE CLOSURE

12:00 PM to 12:00 PM

SIGNALIZED LANE CLOSURE

12:00 PM to 12:00 PM

LANE CLOSURE WORKSHEET

DATE: **January 12, 2015**

FINANCIAL PROJECT ID: ***NA*** FEDERAL AID PROJECT NO: ***NA***

COUNTY: ***Lake*** DESIGNER: ***FB***

NO. OF EXISTING LANES: ***3*** LOCATION: ***US 27 - WB***

SCOPE OF WORK: ***Widening of CR 466A with improvement to US 27 intersection.***

Calculate the peak hour traffic volume (V):

V = ATC ***21932*** X P/D ***0.080*** X D ***1.00*** X PSCF ***1.14*** X RTF ***1.00*** = ***1989***

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 ***12*** LC ***0*** WZL ***400*** G/C ***0.65***

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 ***3600*** X OF ***0.86*** X WZF ***1.00*** = ***3096***

RC (Signalized) = RC (Open Road) ***3096*** X G/C ***0.65*** = ***2012***

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

$$\text{Open Road } \% = \frac{\text{RC (Open Road) } 3096}{(\text{ATC } 21932 \times \text{D } 1.00 \times \text{PSCF } 1.14 \times \text{RTF } 1)} = 12.38\ \%$$

Signalized % = Open Road % ***12.38*** X G/C ***0.65*** = ***8.05 %***

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	135	0.6	1617	7.4
1 - 2	99	0.5	1524	6.9
2 - 3	63	0.3	1499	6.8
3 - 4	79	0.4	1553	7.1
4 - 5	109	0.5	1580	7.2
5 - 6	259	1.2	1745	8.0
6 - 7	636	2.9	1223	5.6
7 - 8	1223	5.6	1052	4.8
8 - 9	1345	6.1	758	3.5
9 - 10	1351	6.2	539	2.5
10 - 11	1487	6.8	363	1.7
11 - 12	1469	6.7	224	1.0
			TOTAL 21,932	100

P/D = 0.080

COUNT DATE:

July 10, 2013

Designer:

FB

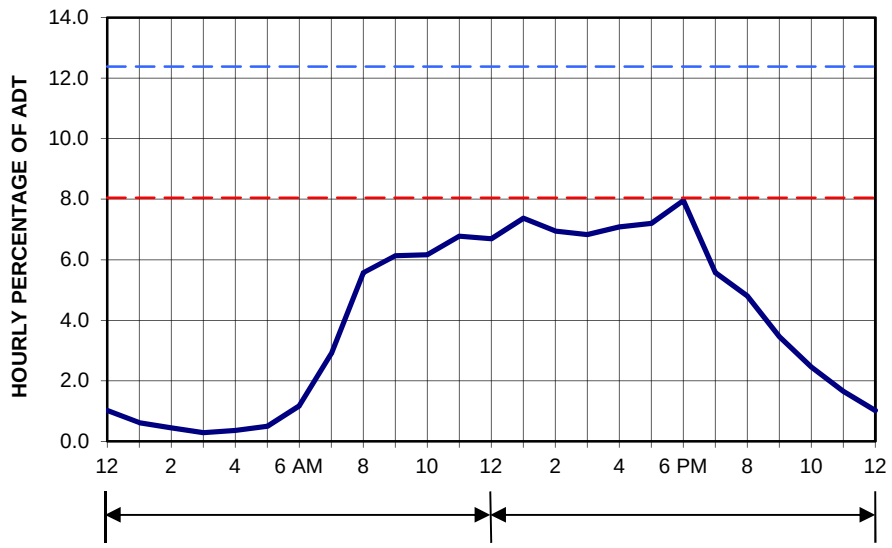
Financial Project ID No.:

NA

Location:

US 27 - WB

HOURLY VARIATION OF DAILY TRAFFIC



- CONCLUSION -

ROUND TO THE NEAREST 1/2 HOUR CONSERVATIVELY

OPEN ROAD LANE CLOSURE

12:00 PM to 12:00 PM

SIGNALIZED LANE CLOSURE

12:00 PM to 12:00 PM

COUNTY: 11
STATION: 5097
DESCRIPTION: ON SR-500 (US-441), 0.17 MI. SE OF US-27 (UV)
START DATE: 07/10/2013
START TIME: 1445

	DIRECTION: E					DIRECTION: W					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	23	22	7	14	66	49	33	27	26	135	201
0100	5	10	2	4	21	27	28	27	17	99	120
0200	7	7	6	5	25	14	19	22	8	63	88
0300	8	7	8	11	34	18	20	23	18	79	113
0400	11	14	18	27	70	22	29	24	34	109	179
0500	24	28	31	72	155	38	54	72	95	259	414
0600	69	94	135	135	433	96	132	211	197	636	1069
0700	138	206	189	263	796	210	310	327	376	1223	2019
0800	188	225	190	211	814	310	350	328	357	1345	2159
0900	183	215	174	170	742	326	342	344	339	1351	2093
1000	157	188	167	198	710	339	374	376	398	1487	2197
1100	183	159	202	196	740	358	362	366	383	1469	2209
1200	163	204	221	207	795	400	391	420	406	1617	2412
1300	227	194	199	188	808	388	362	376	398	1524	2332
1400	210	178	190	181	759	380	366	361	392	1499	2258
1500	188	186	217	189	780	390	388	375	400	1553	2333
1600	192	219	235	210	856	394	411	366	409	1580	2436
1700	239	260	232	184	915	515	477	399	354	1745	2660
1800	174	177	166	119	636	359	292	303	269	1223	1859
1900	136	90	103	92	421	298	292	228	234	1052	1473
2000	83	79	84	78	324	184	193	197	184	758	1082
2100	87	85	50	68	290	160	139	130	110	539	829
2200	63	58	35	40	196	113	98	80	72	363	559
2300	29	26	27	21	103	64	51	57	52	224	327
24-HOUR TOTALS:					11489					21932	33421

PEAK VOLUME INFORMATION

	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	745	866	845	1369	745	2230
P.M.	1630	944	1645	1800	1645	2741
DAILY	1630	944	1645	1800	1645	2741

GENERATED BY SPS 5.0.44P

2013 Peak Season Factor Category Report - Report Type: ALL
Category: 1100 LAKE COUNTYWIDE

Week	Dates	SF	MOCF: 0.95 PSCF
1	01/01/2013 - 01/05/2013	0.99	1.04
2	01/06/2013 - 01/12/2013	1.00	1.05
3	01/13/2013 - 01/19/2013	1.01	1.06
4	01/20/2013 - 01/26/2013	0.99	1.04
5	01/27/2013 - 02/02/2013	0.98	1.03
* 6	02/03/2013 - 02/09/2013	0.96	1.01
* 7	02/10/2013 - 02/16/2013	0.95	1.00
* 8	02/17/2013 - 02/23/2013	0.93	0.98
* 9	02/24/2013 - 03/02/2013	0.94	0.99
*10	03/03/2013 - 03/09/2013	0.94	0.99
*11	03/10/2013 - 03/16/2013	0.94	0.99
*12	03/17/2013 - 03/23/2013	0.95	1.00
*13	03/24/2013 - 03/30/2013	0.95	1.00
*14	03/31/2013 - 04/06/2013	0.95	1.00
*15	04/07/2013 - 04/13/2013	0.95	1.00
*16	04/14/2013 - 04/20/2013	0.96	1.01
*17	04/21/2013 - 04/27/2013	0.97	1.02
*18	04/28/2013 - 05/04/2013	0.98	1.03
19	05/05/2013 - 05/11/2013	0.99	1.04
20	05/12/2013 - 05/18/2013	1.00	1.05
21	05/19/2013 - 05/25/2013	1.01	1.06
22	05/26/2013 - 06/01/2013	1.02	1.07
23	06/02/2013 - 06/08/2013	1.03	1.08
24	06/09/2013 - 06/15/2013	1.04	1.09
25	06/16/2013 - 06/22/2013	1.05	1.11
26	06/23/2013 - 06/29/2013	1.06	1.12
27	06/30/2013 - 07/06/2013	1.07	1.13
28	07/07/2013 - 07/13/2013	1.08	1.14
29	07/14/2013 - 07/20/2013	1.09	1.15
30	07/21/2013 - 07/27/2013	1.08	1.14
31	07/28/2013 - 08/03/2013	1.07	1.13
32	08/04/2013 - 08/10/2013	1.06	1.12
33	08/11/2013 - 08/17/2013	1.05	1.11
34	08/18/2013 - 08/24/2013	1.05	1.11
35	08/25/2013 - 08/31/2013	1.04	1.09
36	09/01/2013 - 09/07/2013	1.04	1.09
37	09/08/2013 - 09/14/2013	1.04	1.09
38	09/15/2013 - 09/21/2013	1.04	1.09
39	09/22/2013 - 09/28/2013	1.03	1.08
40	09/29/2013 - 10/05/2013	1.02	1.07
41	10/06/2013 - 10/12/2013	1.00	1.05
42	10/13/2013 - 10/19/2013	0.99	1.04
43	10/20/2013 - 10/26/2013	1.00	1.05
44	10/27/2013 - 11/02/2013	1.00	1.05
45	11/03/2013 - 11/09/2013	1.00	1.05
46	11/10/2013 - 11/16/2013	1.00	1.05
47	11/17/2013 - 11/23/2013	1.01	1.06
48	11/24/2013 - 11/30/2013	1.00	1.05
49	12/01/2013 - 12/07/2013	1.00	1.05
50	12/08/2013 - 12/14/2013	0.99	1.04
51	12/15/2013 - 12/21/2013	0.99	1.04
52	12/22/2013 - 12/28/2013	1.00	1.05
53	12/29/2013 - 12/31/2013	1.01	1.06

* Peak Season