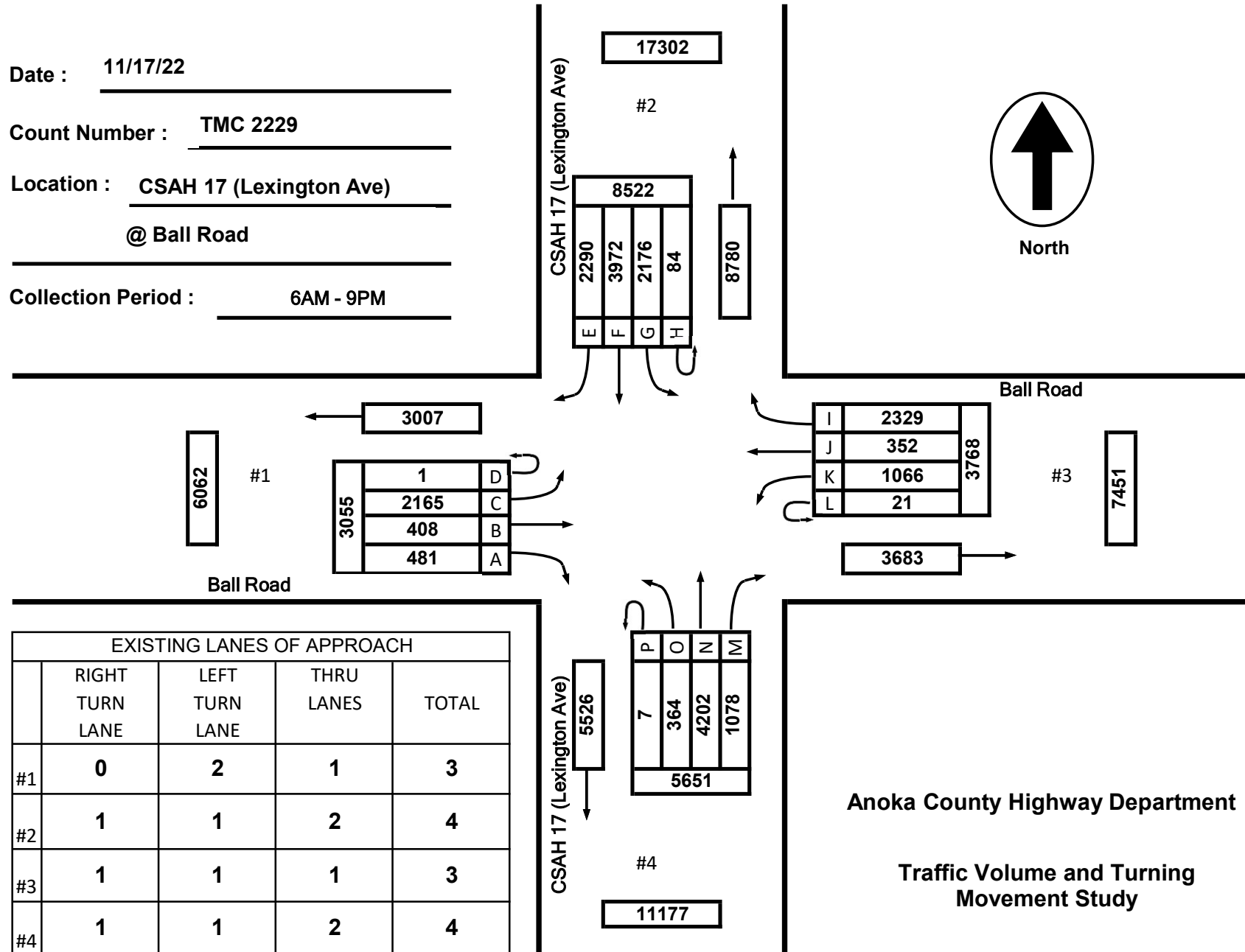


Date : 11/17/22

Count Number : TMC 2229

Location : CSAH 17 (Lexington Ave)
@ Ball Road

Collection Period : 6AM - 9PM



EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	0	2	1	3
#2	1	1	2	4
#3	1	1	1	3
#4	1	1	2	4

Anoka County Highway Department

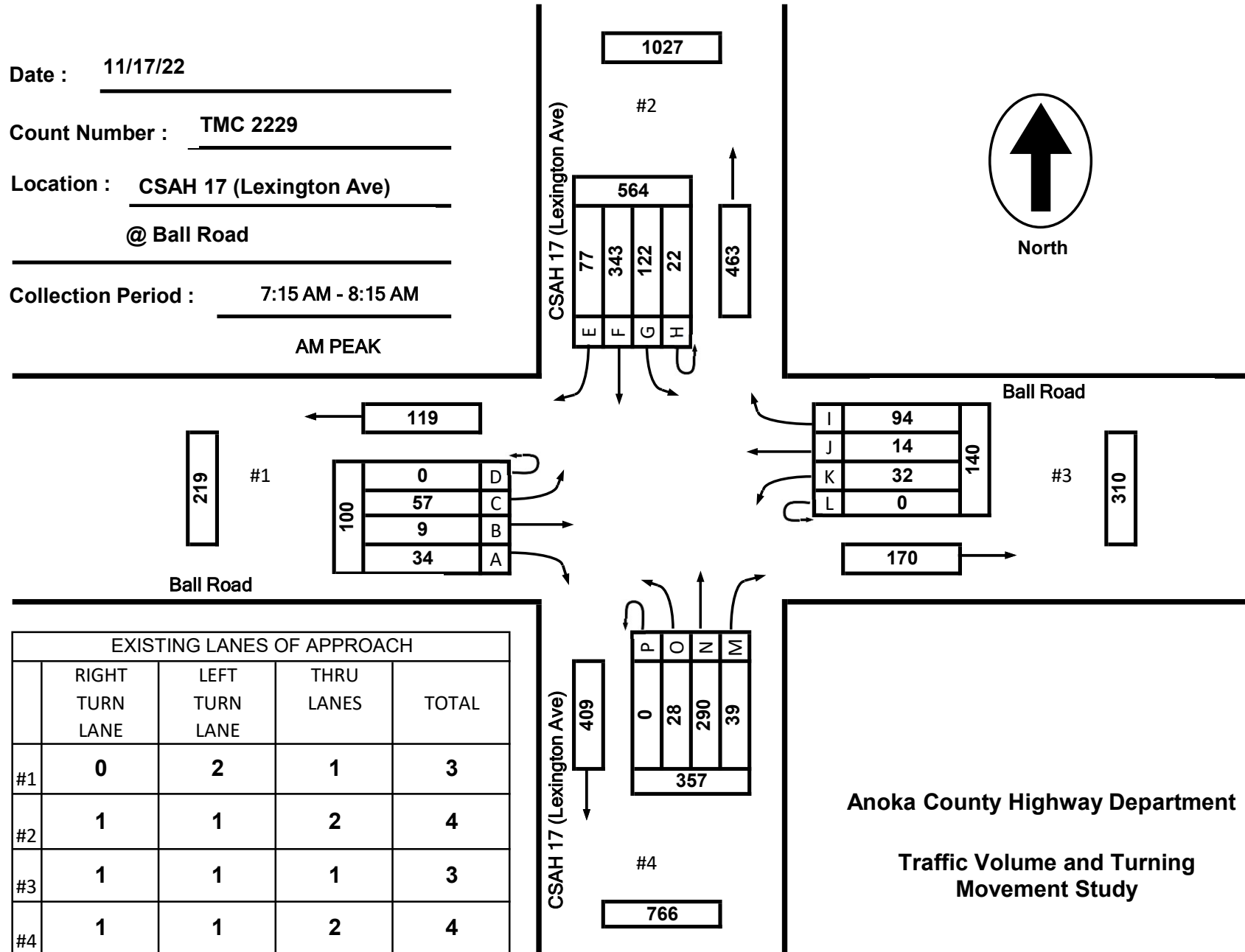
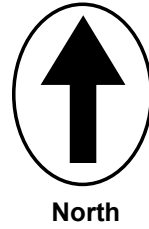
Traffic Volume and Turning Movement Study

Date : 11/17/22

Count Number : TMC 2229

Location : CSAH 17 (Lexington Ave)
@ Ball Road

Collection Period : 7:15 AM - 8:15 AM
AM PEAK



EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	0	2	1	3
#2	1	1	2	4
#3	1	1	1	3
#4	1	1	2	4

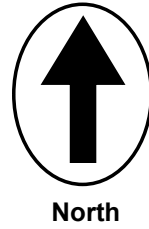
Anoka County Highway Department
Traffic Volume and Turning Movement Study

Date : 11/17/22

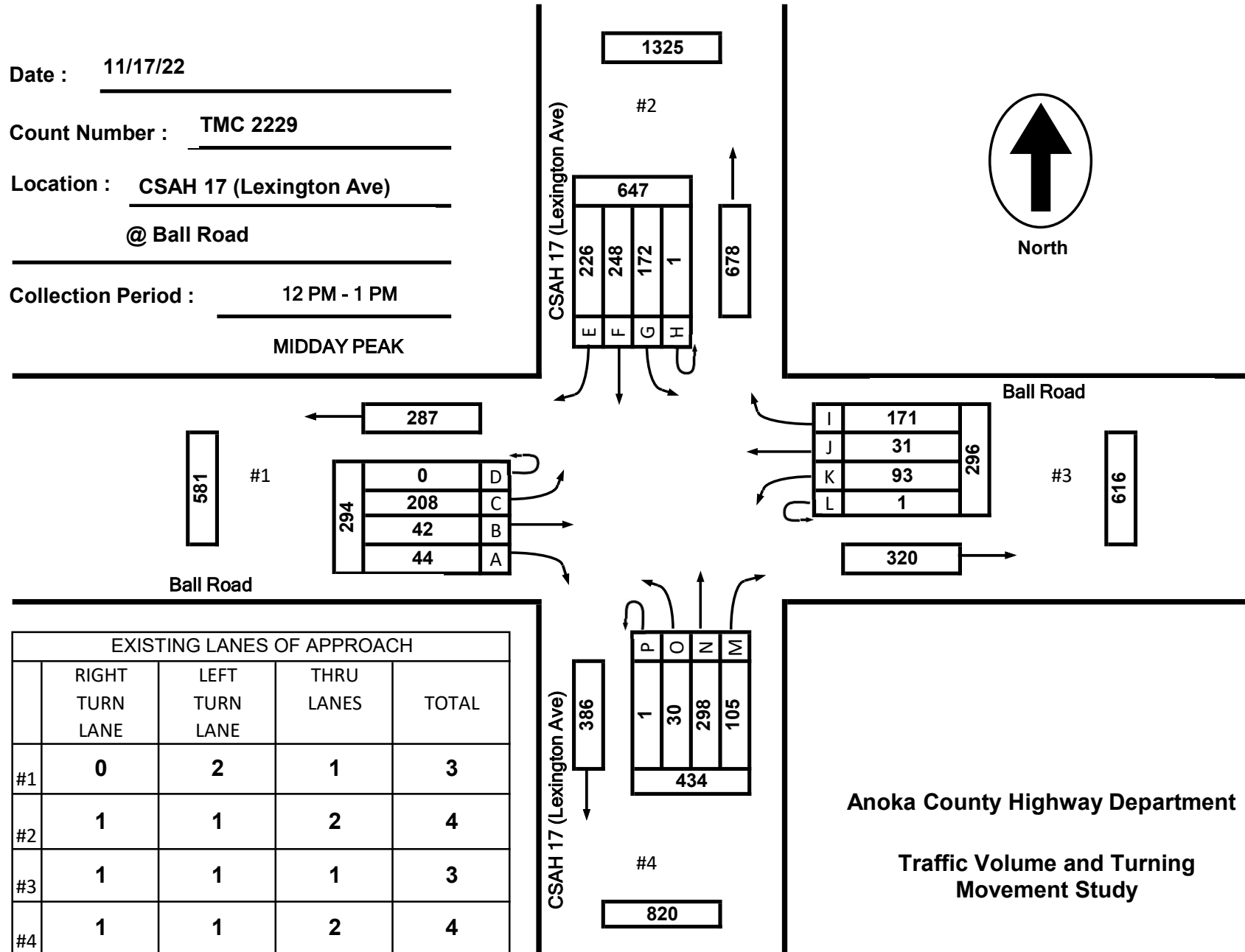
Count Number : TMC 2229

Location : CSAH 17 (Lexington Ave)
@ Ball Road

Collection Period : 12 PM - 1 PM
MIDDAY PEAK



North



EXISTING LANES OF APPROACH

	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	0	2	1	3
#2	1	1	2	4
#3	1	1	1	3
#4	1	1	2	4

Anoka County Highway Department

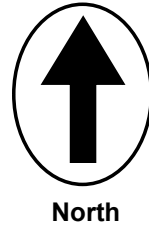
Traffic Volume and Turning Movement Study

Date : 11/17/22

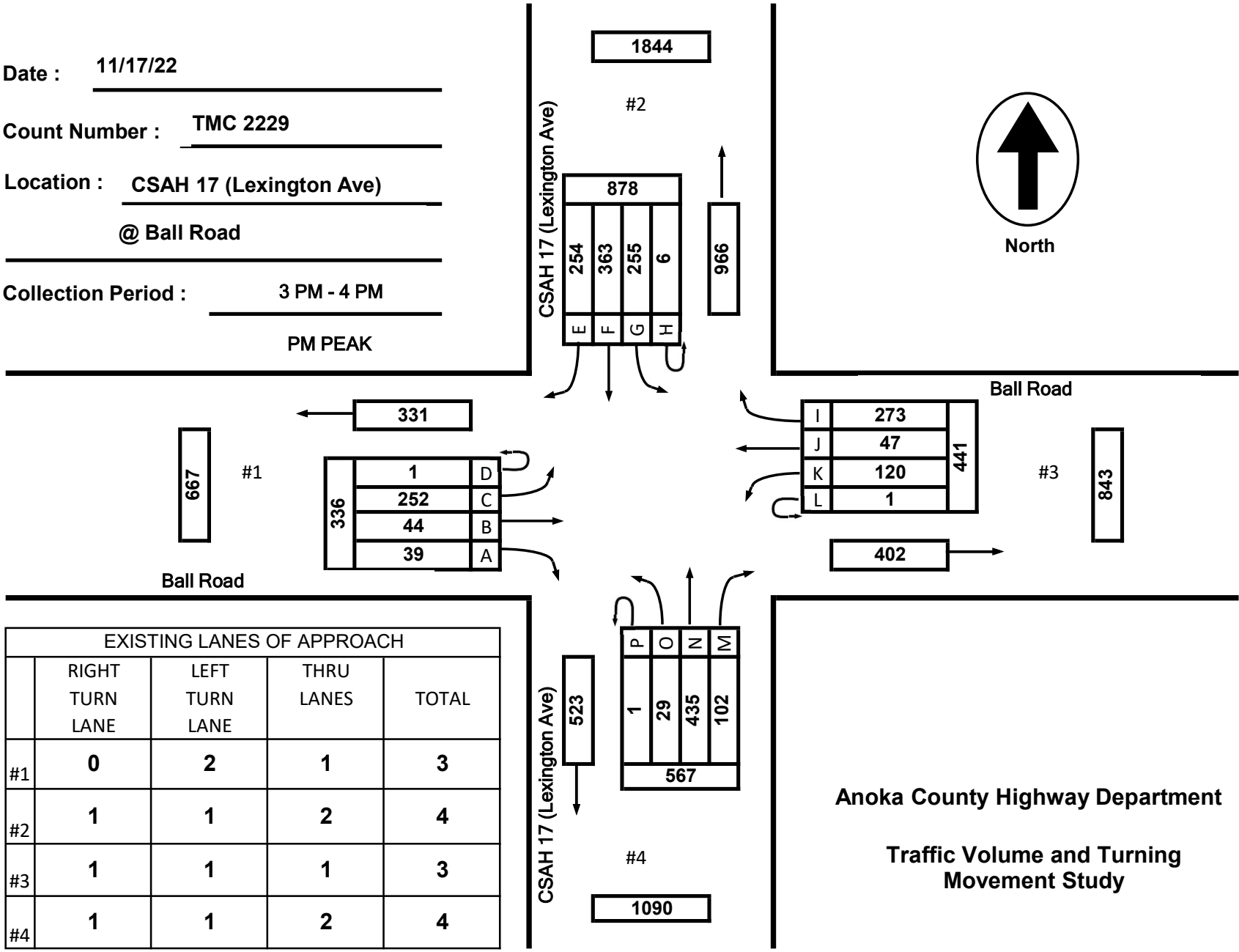
Count Number : TMC 2229

Location : CSAH 17 (Lexington Ave)
@ Ball Road

Collection Period : 3 PM - 4 PM
PM PEAK



North



EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	0	2	1	3
#2	1	1	2	4
#3	1	1	1	3
#4	1	1	2	4

Anoka County Highway Department
 Traffic Volume and Turning Movement Study



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

Weather: Cold & Cloudy
 CountCam 2
 Study Conducted by: Kevin

File Name : TMC 2229-t
 Site Code :
 Start Date : 11/17/2022
 Page No : 1

Groups Printed- Cars + - Trucks

Start Time	CSAH 17 (Lexington Ave) Southbound						Ball Road Westbound						CSAH 17 (Lexington Ave) Northbound						Ball Road Eastbound						Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total			
06:00	13	14	17	0	0	44	15	1	1	0	0	17	2	28	5	0	0	35	2	2	14	0	0	18	0	114	114
06:15	17	32	13	1	0	63	13	1	0	0	0	14	3	37	6	0	0	46	8	2	16	0	0	26	0	149	149
06:30	18	55	23	1	0	97	16	4	3	0	0	23	2	46	11	0	0	59	8	2	15	0	0	25	0	204	204
06:45	18	62	29	1	0	110	24	3	0	0	0	27	8	57	6	0	0	71	2	2	22	0	0	26	0	234	234
Total	66	163	82	3	0	314	68	9	4	0	0	81	15	168	28	0	0	211	20	8	67	0	0	95	0	701	701
07:00	14	64	22	2	0	102	30	4	4	1	0	39	6	64	6	0	0	76	5	2	14	0	0	21	0	238	238
07:15	14	85	16	6	0	121	22	4	10	0	0	36	5	55	4	0	0	64	6	1	12	0	0	19	0	240	240
07:30	25	97	41	5	0	168	23	5	4	0	0	32	10	78	8	0	0	96	9	3	12	0	0	24	0	320	320
07:45	24	101	35	7	0	167	22	2	9	0	0	33	14	90	12	0	0	116	10	3	17	0	1	30	1	346	347
Total	77	347	114	20	0	558	97	15	27	1	0	140	35	287	30	0	0	352	30	9	55	0	1	94	1	1144	1145
08:00	14	60	30	4	0	108	27	3	9	0	0	39	10	67	4	0	0	81	9	2	16	0	0	27	0	255	255
08:15	18	55	20	4	0	97	26	1	9	1	0	37	5	51	8	0	0	64	4	4	22	0	0	30	0	228	228
08:30	25	53	32	6	0	116	22	6	5	0	0	33	7	71	8	0	0	86	5	2	32	0	0	39	0	274	274
08:45	20	55	13	2	0	90	21	5	13	1	0	40	11	58	7	0	0	76	4	2	19	0	0	25	0	231	231
Total	77	223	95	16	0	411	96	15	36	2	0	149	33	247	27	0	0	307	22	10	89	0	0	121	0	988	988
09:00	27	57	24	1	0	109	31	11	6	0	0	48	12	72	6	0	0	90	6	3	22	0	0	31	0	278	278
09:15	30	65	23	2	0	120	21	8	10	1	0	40	23	66	6	0	0	95	6	4	22	0	0	32	0	287	287
09:30	42	46	24	1	0	113	30	6	15	1	0	52	16	54	5	0	0	75	6	10	19	0	1	35	1	275	276
09:45	47	63	32	0	1	142	19	8	10	1	0	38	22	50	6	0	0	78	13	7	28	0	0	48	1	306	307
Total	146	231	103	4	1	484	101	33	41	3	0	178	73	242	23	0	0	338	31	24	91	0	1	146	2	1146	1148
10:00	35	55	11	1	0	102	28	3	18	1	0	50	21	51	12	1	0	85	10	9	36	0	0	55	0	292	292
10:15	45	46	34	0	0	125	38	4	18	0	0	60	15	59	6	0	0	80	11	5	33	0	0	49	0	314	314
10:30	38	63	30	0	0	131	31	4	13	1	0	49	23	68	9	0	0	100	7	3	45	0	0	55	0	335	335
10:45	50	42	34	0	0	126	34	7	16	0	0	57	28	59	3	0	0	90	10	8	38	0	0	56	0	329	329
Total	168	206	109	1	0	484	131	18	65	2	0	216	87	237	30	1	0	355	38	25	152	0	0	215	0	1270	1270
11:00	42	65	45	0	1	152	35	5	26	0	0	66	26	68	4	0	0	98	6	4	39	0	0	49	1	365	366
11:15	54	63	32	0	0	149	47	9	20	1	0	77	17	68	7	1	0	93	10	12	40	0	0	62	0	381	381
11:30	46	56	46	1	0	149	43	11	18	0	0	72	26	77	9	0	0	112	7	9	31	0	0	47	0	380	380
11:45	50	81	51	0	0	182	38	10	21	0	0	69	24	78	7	0	0	109	12	10	35	0	0	57	0	417	417
Total	192	265	174	1	1	632	163	35	85	1	0	284	93	291	27	1	0	412	35	35	145	0	0	215	1	1543	1544



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2229-t
 Site Code :
 Start Date : 11/17/2022
 Page No : 2

Weather: Cold & Cloudy
 CountCam 2
 Study Conducted by: Kevin

Groups Printed- Cars + - Trucks

Start Time	CSAH 17 (Lexington Ave) Southbound						Ball Road Westbound						CSAH 17 (Lexington Ave) Northbound						Ball Road Eastbound						Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total			
12:00	61	50	34	0	0	145	46	9	25	0	0	80	28	87	7	1	0	123	10	14	50	0	0	74	0	422	422
12:15	53	73	38	0	0	164	48	8	23	1	0	80	26	68	8	0	0	102	14	12	55	0	0	81	0	427	427
12:30	50	54	42	1	0	147	35	12	18	0	0	65	20	66	7	0	0	93	10	9	44	0	0	63	0	368	368
12:45	62	71	58	0	0	191	42	2	27	0	0	71	31	77	8	0	0	116	10	7	59	0	0	76	0	454	454
Total	226	248	172	1	0	647	171	31	93	1	0	296	105	298	30	1	0	434	44	42	208	0	0	294	0	1671	1671
13:00	42	60	44	2	0	148	51	4	28	1	0	84	20	57	7	0	1	84	10	7	46	0	0	63	1	379	380
13:15	40	60	38	0	0	138	47	9	25	1	0	82	25	62	5	0	0	92	12	10	44	0	0	66	0	378	378
13:30	44	73	45	3	0	165	41	3	25	0	0	69	23	69	7	0	0	99	9	11	49	0	0	69	0	402	402
13:45	60	64	44	0	0	168	44	4	30	1	0	79	29	55	9	0	0	93	4	9	58	0	0	71	0	411	411
Total	186	257	171	5	0	619	183	20	108	3	0	314	97	243	28	0	1	368	35	37	197	0	0	269	1	1570	1571
14:00	54	61	49	0	0	164	52	12	22	0	0	86	29	76	2	0	0	107	10	9	41	0	0	60	0	417	417
14:15	59	71	41	0	0	171	47	6	19	0	0	72	21	70	5	0	0	96	7	7	49	0	0	63	0	402	402
14:30	63	79	52	0	0	194	46	14	19	0	0	79	27	86	7	0	0	120	10	9	50	0	0	69	0	462	462
14:45	66	105	53	0	0	224	59	3	24	0	0	86	31	103	9	1	0	144	12	9	50	0	1	71	1	525	526
Total	242	316	195	0	0	753	204	35	84	0	0	323	108	335	23	1	0	467	39	34	190	0	1	263	1	1806	1807
15:00	60	84	61	1	0	206	101	12	32	0	0	145	30	88	7	0	0	125	9	6	69	0	0	84	0	560	560
15:15	70	97	79	1	1	247	47	10	35	1	0	93	21	108	10	0	0	139	11	16	60	0	0	87	1	566	567
15:30	57	96	48	2	0	203	64	9	32	0	0	105	30	114	5	1	0	150	7	8	56	1	1	72	1	530	531
15:45	67	86	67	2	0	222	61	16	21	0	0	98	21	125	7	0	0	153	12	14	67	0	0	93	0	566	566
Total	254	363	255	6	1	878	273	47	120	1	0	441	102	435	29	1	0	567	39	44	252	1	1	336	2	2222	2224
16:00	35	89	41	5	0	170	62	7	31	0	0	100	26	120	8	0	0	154	11	9	50	0	0	70	0	494	494
16:15	58	75	52	4	0	189	73	9	33	1	0	116	25	119	5	0	0	149	13	20	62	0	0	95	0	549	549
16:30	62	115	66	4	0	247	81	6	22	0	0	109	26	84	10	0	1	120	12	8	52	0	0	72	1	548	549
16:45	57	90	59	1	0	207	54	8	35	0	0	97	24	128	8	0	0	160	8	12	56	0	0	76	0	540	540
Total	212	369	218	14	0	813	270	30	121	1	0	422	101	451	31	0	1	583	44	49	220	0	0	313	1	2131	2132
17:00	49	97	56	4	0	206	64	9	24	0	0	97	28	123	6	0	0	157	9	6	64	0	0	79	0	539	539
17:15	55	85	42	4	0	186	59	6	29	0	0	94	28	115	6	0	0	149	8	10	43	0	0	61	0	490	490
17:30	56	75	40	2	0	173	45	7	31	0	0	83	14	94	9	0	0	117	11	10	47	0	0	68	0	441	441
17:45	43	76	41	0	0	160	55	6	32	0	0	93	16	76	2	0	0	94	10	9	40	0	0	59	0	406	406
Total	203	333	179	10	0	725	223	28	116	0	0	367	86	408	23	0	0	517	38	35	194	0	0	267	0	1876	1876
18:00	42	81	57	1	0	181	51	1	16	1	0	69	20	69	3	2	0	94	6	4	37	0	0	47	0	391	391
18:15	36	65	37	0	0	138	29	4	21	0	0	54	11	74	5	0	0	90	9	4	36	0	0	49	0	331	331
18:30	31	61	27	0	0	119	46	5	20	2	0	73	17	68	5	0	0	90	5	13	34	0	0	52	0	334	334



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2229-t
 Site Code :
 Start Date : 11/17/2022
 Page No : 3

Weather: Cold & Cloudy
 CountCam 2
 Study Conducted by: Kevin

Groups Printed- Cars + - Trucks

Start Time	CSAH 17 (Lexington Ave) Southbound						Ball Road Westbound						CSAH 17 (Lexington Ave) Northbound						Ball Road Eastbound						Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total			
18:45	27	74	34	0	0	135	33	8	9	0	0	50	15	53	3	0	0	71	4	9	34	0	0	47	0	303	303
Total	136	281	155	1	0	573	159	18	66	3	0	246	63	264	16	2	0	345	24	30	141	0	0	195	0	1359	1359
19:00	21	53	26	0	0	100	38	5	17	2	0	62	11	35	8	0	0	54	8	8	29	0	0	45	0	261	261
19:15	23	60	20	0	0	103	27	3	18	0	0	48	12	42	0	0	0	54	6	4	36	0	0	46	0	251	251
19:30	15	43	24	1	0	83	17	0	8	0	0	25	11	32	5	0	0	48	5	4	24	0	0	33	0	189	189
19:45	11	37	25	0	0	73	28	1	16	0	0	45	7	38	2	0	0	47	3	1	24	0	0	28	0	193	193
Total	70	193	95	1	0	359	110	9	59	2	0	180	41	147	15	0	0	203	22	17	113	0	0	152	0	894	894
20:00	11	46	16	1	0	74	28	2	14	1	0	45	11	41	4	0	0	56	9	3	12	0	1	24	1	199	200
20:15	11	44	14	0	0	69	20	4	11	0	0	35	10	30	0	0	0	40	5	2	18	0	0	25	0	169	169
20:30	7	43	16	0	0	66	19	0	11	0	0	30	5	44	0	0	0	49	4	1	12	0	0	17	0	162	162
20:45	6	44	13	0	0	63	13	3	5	0	0	21	13	34	0	0	0	47	2	3	9	0	1	14	1	145	146
Total	35	177	59	1	0	272	80	9	41	1	0	131	39	149	4	0	0	192	20	9	51	0	2	80	2	675	677
Grand Total	2290	3972	2176	84	3	8522	2329	352	1066	21	0	3768	1078	4202	364	7	2	5651	481	408	2165	1	6	3055	11	20996	21007
Apprch %	26.9	46.6	25.5	1			61.8	9.3	28.3	0.6			19.1	74.4	6.4	0.1			15.7	13.4	70.9	0			0.1	99.9	
Total %	10.9	18.9	10.4	0.4		40.6	11.1	1.7	5.1	0.1		17.9	5.1	20	1.7	0	26.9	2.3	1.9	10.3	0		14.6				
Cars +	2244	3895	2119	84		8345	2257	344	1050	20		3671	1053	4105	358	7	5525	472	404	2126	1		3009	0	0	20550	
% Cars +	98	98.1	97.4	100	100	97.9	96.9	97.7	98.5	95.2	0	97.4	97.7	97.7	98.4	100	97.7	98.1	99	98.2	100	100	98.3	0	0	97.8	
Trucks	46	77	57	0		180	72	8	16	1		97	25	97	6	0	128	9	4	39	0		52	0	0	457	
% Trucks	2	1.9	2.6	0	0	2.1	3.1	2.3	1.5	4.8	0	2.6	2.3	2.3	1.6	0	2.3	1.9	1	1.8	0	0	1.7	0	0	2.2	

Start Time	CSAH 17 (Lexington Ave) Southbound						Ball Road Westbound						CSAH 17 (Lexington Ave) Northbound						Ball Road Eastbound						Int. Total	
	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total		
Peak Hour Analysis From 06:00 to 09:45 - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:15																										
07:15	14	85	16	6		121	22	4	10	0		36	5	55	4	0		64	6	1	12	0		19	240	
07:30	25	97	41	5		168	23	5	4	0		32	10	78	8	0		96	9	3	12	0		24	320	
07:45	24	101	35	7		167	22	2	9	0		33	14	90	12	0		116	10	3	17	0		30	346	
08:00	14	60	30	4		108	27	3	9	0		39	10	67	4	0		81	9	2	16	0		27	255	
Total Volume	77	343	122	22		564	94	14	32	0		140	39	290	28	0		357	34	9	57	0		100	1161	
% App. Total	13.7	60.8	21.6	3.9			67.1	10	22.9	0			10.9	81.2	7.8	0			34	9	57	0				
PHF	.770	.849	.744	.786		.839	.870	.700	.800	.000		.897	.696	.806	.583	.000		.769	.850	.750	.838	.000		.833	.839	



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2229-t
 Site Code :
 Start Date : 11/17/2022
 Page No : 4

Weather: Cold & Cloudy
 CountCam 2
 Study Conducted by: Kevin

Start Time	CSAH 17 (Lexington Ave) Southbound					Ball Road Westbound					CSAH 17 (Lexington Ave) Northbound					Ball Road Eastbound					Int. Total
	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00																					
12:00	61	50	34	0	145	46	9	25	0	80	28	87	7	1	123	10	14	50	0	74	422
12:15	53	73	38	0	164	48	8	23	1	80	26	68	8	0	102	14	12	55	0	81	427
12:30	50	54	42	1	147	35	12	18	0	65	20	66	7	0	93	10	9	44	0	63	368
12:45	62	71	58	0	191	42	2	27	0	71	31	77	8	0	116	10	7	59	0	76	454
Total Volume	226	248	172	1	647	171	31	93	1	296	105	298	30	1	434	44	42	208	0	294	1671
% App. Total	34.9	38.3	26.6	0.2		57.8	10.5	31.4	0.3		24.2	68.7	6.9	0.2		15	14.3	70.7	0		
PHF	.911	.849	.741	.250	.847	.891	.646	.861	.250	.925	.847	.856	.938	.250	.882	.786	.750	.881	.000	.907	.920

Peak Hour Analysis From 14:00 to 20:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 15:00																					
15:00	60	84	61	1	206	101	12	32	0	145	30	88	7	0	125	9	6	69	0	84	560
15:15	70	97	79	1	247	47	10	35	1	93	21	108	10	0	139	11	16	60	0	87	566
15:30	57	96	48	2	203	64	9	32	0	105	30	114	5	1	150	7	8	56	1	72	530
15:45	67	86	67	2	222	61	16	21	0	98	21	125	7	0	153	12	14	67	0	93	566
Total Volume	254	363	255	6	878	273	47	120	1	441	102	435	29	1	567	39	44	252	1	336	2222
% App. Total	28.9	41.3	29	0.7		61.9	10.7	27.2	0.2		18	76.7	5.1	0.2		11.6	13.1	75	0.3		
PHF	.907	.936	.807	.750	.889	.676	.734	.857	.250	.760	.850	.870	.725	.250	.926	.813	.688	.913	.250	.903	.981



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2229-t
 Site Code :
 Start Date : 11/17/2022
 Page No : 1

Weather: Cold & Cloudy
 CountCam 2
 Study Conducted by: Kevin

Groups Printed- Trucks

Start Time	CSAH 17 (Lexington Ave) Southbound					Ball Road Westbound					CSAH 17 (Lexington Ave) Northbound					Ball Road Eastbound					Int. Total
	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	
06:00	1	0	2	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0
06:15	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	3
06:30	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	5
06:45	1	2	0	0	3	1	0	0	0	1	1	0	0	0	1	0	0	2	0	2	7
Total	4	4	2	0	10	2	1	0	0	3	1	2	0	0	3	1	0	3	0	4	20
07:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:15	1	2	0	0	3	2	1	0	0	3	0	1	0	0	1	0	0	1	0	1	8
07:30	1	2	2	0	5	1	0	0	0	1	0	4	0	0	4	2	0	0	0	2	12
07:45	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	7
Total	4	7	2	0	13	3	1	0	0	4	0	6	0	0	6	2	0	3	0	5	28
08:00	2	1	2	0	5	0	1	1	0	2	0	2	0	0	2	0	0	0	0	0	9
08:15	1	3	0	0	4	1	0	1	0	2	0	6	1	0	7	0	1	0	0	1	14
08:30	1	4	2	0	7	3	0	1	0	4	0	2	0	0	2	0	0	2	0	2	15
08:45	0	2	2	0	4	2	0	1	0	3	2	2	0	0	4	0	0	1	0	1	12
Total	4	10	6	0	20	6	1	4	0	11	2	12	1	0	15	0	1	3	0	4	50
09:00	0	0	2	0	2	1	0	0	0	1	2	2	0	0	4	0	0	0	0	0	7
09:15	0	1	0	0	1	3	0	1	0	4	2	3	0	0	5	0	0	1	0	1	11
09:30	3	1	2	0	6	5	0	0	0	5	1	1	1	0	3	1	0	1	0	2	16
09:45	2	1	2	0	5	3	0	0	0	3	2	2	0	0	4	0	0	1	0	1	13
Total	5	3	6	0	14	12	0	1	0	13	7	8	1	0	16	1	0	3	0	4	47
10:00	1	0	0	0	1	3	0	0	0	3	2	1	0	0	3	1	0	2	0	3	10
10:15	0	2	5	0	7	2	0	1	0	3	0	2	0	0	2	0	0	0	0	0	12
10:30	0	1	2	0	3	2	0	0	0	2	0	3	0	0	3	0	0	2	0	2	10
10:45	2	0	2	0	4	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	8
Total	3	3	9	0	15	8	0	1	0	9	2	9	0	0	11	1	0	4	0	5	40
11:00	1	6	1	0	8	2	0	0	0	2	1	5	0	0	6	0	0	0	0	0	16
11:15	2	2	0	0	4	4	0	0	0	4	0	1	1	0	2	0	0	1	0	1	11
11:30	0	1	2	0	3	0	1	1	0	2	0	5	0	0	5	1	0	1	0	2	12
11:45	2	6	4	0	12	1	0	0	0	1	1	5	0	0	6	0	0	0	0	0	19
Total	5	15	7	0	27	7	1	1	0	9	2	16	1	0	19	1	0	2	0	3	58
12:00	0	2	2	0	4	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	9
12:15	0	4	2	0	6	2	0	0	0	2	2	2	0	0	4	0	0	0	0	0	12
12:30	3	0	2	0	5	5	0	0	0	5	0	2	0	0	2	0	0	0	0	0	12
12:45	2	2	1	0	5	3	0	0	0	3	0	2	0	0	2	0	0	1	0	1	11
Total	5	8	7	0	20	10	0	0	0	10	2	9	0	0	11	0	0	3	0	3	44
13:00	0	0	0	0	0	3	0	0	0	3	1	0	1	0	2	0	0	0	0	0	5
13:15	0	1	2	0	3	0	2	0	0	2	0	1	0	0	1	0	1	2	0	3	9
13:30	1	1	1	0	3	2	0	0	0	2	0	2	0	0	2	0	0	3	0	3	10
13:45	0	2	3	0	5	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	8
Total	1	4	6	0	11	6	2	0	0	8	1	5	1	0	7	0	1	5	0	6	32
14:00	1	3	1	0	5	3	0	2	0	5	2	1	0	0	3	0	0	1	0	1	14
14:15	1	0	0	0	1	3	0	1	0	4	1	1	0	0	2	1	0	0	0	1	8
14:30	0	1	1	0	2	1	0	0	0	1	0	1	0	0	1	0	0	1	0	1	5
14:45	3	3	1	0	7	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	9
Total	5	7	3	0	15	7	0	3	0	10	3	4	1	0	8	1	0	2	0	3	36
15:00	1	0	1	0	2	0	0	0	0	0	0	2	0	0	2	1	0	2	0	3	7



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2229-t
 Site Code :
 Start Date : 11/17/2022
 Page No : 2

Weather: Cold & Cloudy
 CountCam 2
 Study Conducted by: Kevin

Groups Printed- Trucks

Start Time	CSAH 17 (Lexington Ave) Southbound					Ball Road Westbound					CSAH 17 (Lexington Ave) Northbound					Ball Road Eastbound					Int. Total
	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	
15:15	1	1	2	0	4	3	0	0	1	4	1	4	0	0	5	0	0	1	0	1	14
15:30	2	4	0	0	6	1	1	2	0	4	1	5	0	0	6	0	0	1	0	1	17
15:45	1	1	0	0	2	1	0	1	0	2	0	4	0	0	4	0	0	0	0	0	8
Total	5	6	3	0	14	5	1	3	1	10	2	15	0	0	17	1	0	4	0	5	46
16:00	0	2	2	0	4	0	0	1	0	1	2	1	0	0	3	0	0	1	0	1	9
16:15	0	3	1	0	4	2	0	2	0	4	0	4	0	0	4	0	0	1	0	1	13
16:30	0	1	0	0	1	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	4
16:45	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	6	3	0	11	4	0	3	0	7	2	5	0	0	7	1	0	2	0	3	28
17:00	0	2	0	0	2	2	0	0	0	2	1	2	0	0	3	0	0	1	0	1	8
17:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	3
17:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	3
Total	0	3	0	0	3	2	1	0	0	3	1	5	0	0	6	0	1	2	0	3	15
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
19:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
19:15	1	1	2	0	4	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	6
19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	2	0	4	0	0	0	0	0	0	1	1	0	2	0	1	1	0	2	8
20:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Grand Total	46	77	57	0	180	72	8	16	1	97	25	97	6	0	128	9	4	39	0	52	457
Apprch %	25.6	42.8	31.7	0		74.2	8.2	16.5	1		19.5	75.8	4.7	0		17.3	7.7	75	0		
Total %	10.1	16.8	12.5	0	39.4	15.8	1.8	3.5	0.2	21.2	5.5	21.2	1.3	0	28	2	0.9	8.5	0	11.4	

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/17/2022

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 17 (Lexington Ave)

Number of Lanes : 2+

Total Approach Volume: 5,651

Southbound: CSAH 17 (Lexington Ave)

Number of Lanes :2+

Total Approach Volume: 8,522

Minor Street Approaches

Eastbound: Ball Road

Number of Lanes :2+

Total Approach Volume: 3,055

Westbound: Ball Road

Number of Lanes :2+

Total Approach Volume: 3,768

Warrant Summary (Urban Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes.....Satisfied

Warrant 1A - Minimum Vehicular Volume.....Satisfied

Required volumes reached for 10 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic.....Satisfied

Required volumes reached for 9 hours, 8 are needed

Warrant 1C - Combination of Warrants.....Satisfied

Required 1A volumes reached for 11 hours, 8 are needed

Required 1B volumes reached for 12 hours, 8 are needed

Warrant 2 - Four Hour Volumes.....Satisfied

Number of hours (8) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

Warrant 3A - Peak Hour Delay.....Satisfied

Number of one hour periods (45) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes.....Satisfied

Volumes exceed minimums for at least one hour period.

Warrant 4 - Pedestrian Volumes.....Not Evaluated

Warrant 5 - School Crossing.....Not Evaluated

Warrant 6 - Coordinated Signal System.....Not Evaluated

Warrant 7 - Crash Experience.....Not Evaluated

Warrant 8 - Roadway Network.....Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing.....Not Evaluated

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/17/2022

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

10 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **False**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **2 or more**

Volume Requirements

Veh/Hr Major = **600**

Veh/Hr Minor = **200**

Time	Major Road					Minor Road		Met?
	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	
	CSAH 17 (Lexington Ave)					Ball Road		
16:30 - 17:30	586	+	846	=	1432	288	397	Yes
14:30 - 15:30	528	+	871	=	1399	311	403	Yes
15:30 - 16:30	606	+	784	=	1390	330	419	Yes
11:30 - 12:30	446	+	640	=	1086	259	301	Yes
13:30 - 14:30	395	+	668	=	1063	263	306	Yes
17:30 - 18:30	395	+	652	=	1047	223	299	Yes
12:30 - 13:30	385	+	624	=	1009	268	302	Yes
10:30 - 11:30	381	+	558	=	939	222	249	Yes
09:30 - 10:30	318	+	482	=	800	187	200	Yes
18:30 - 19:30	269	+	457	=	726	190	233	Yes
07:15 - 08:15	357	+	564	=	921	100	140	No
07:00 - 08:00	352	+	558	=	910	94	140	No
07:30 - 08:30	357	+	540	=	897	111	141	No
07:45 - 08:45	347	+	488	=	835	126	142	No
09:00 - 10:00	338	+	484	=	822	146	178	No
09:15 - 10:15	333	+	477	=	810	170	180	No
06:45 - 07:45	307	+	501	=	808	90	134	No
08:30 - 09:30	347	+	435	=	782	127	161	No
08:45 - 09:45	336	+	432	=	768	123	180	No
08:15 - 09:15	316	+	412	=	728	125	158	No
08:00 - 09:00	307	+	411	=	718	121	149	No
06:30 - 07:30	270	+	430	=	700	91	125	No
06:15 - 07:15	252	+	372	=	624	98	103	No
06:00 - 07:00	211	+	314	=	525	95	81	No
19:30 - 20:30	191		299		490	110	150	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/17/2022

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

9 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **False**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **2 or more**

Volume Requirements

Veh/Hr Major = **900**

Veh/Hr Minor = **100**

Time	Major Road					Minor Road			Met?
	Major NB	+	Major SB	=	Total	Minor EB	Minor WB		
	CSAH 17 (Lexington Ave)					Ball Road			
15:15 - 16:15	596	+	842	=	1438	322	396	Yes	
16:15 - 17:15	586	+	849	=	1435	322	419	Yes	
14:15 - 15:15	485	+	795	=	1280	287	382	Yes	
17:15 - 18:15	454	+	700	=	1154	235	339	Yes	
11:15 - 12:15	437	+	625	=	1062	240	298	Yes	
12:15 - 13:15	395	+	650	=	1045	283	300	Yes	
13:15 - 14:15	391	+	635	=	1026	266	316	Yes	
07:00 - 08:00	352	+	558	=	910	94	140	Yes	
10:15 - 11:15	368	+	534	=	902	209	232	Yes	
09:45 - 10:45	343	+	500	=	843	207	197	No	
10:00 - 11:00	355	+	484	=	839	215	216	No	
09:00 - 10:00	338	+	484	=	822	146	178	No	
09:15 - 10:15	333	+	477	=	810	170	180	No	
06:45 - 07:45	307	+	501	=	808	90	134	No	
09:30 - 10:30	318	+	482	=	800	187	200	No	
18:15 - 19:15	305	+	492	=	797	193	239	No	
08:30 - 09:30	347	+	435	=	782	127	161	No	
08:45 - 09:45	336	+	432	=	768	123	180	No	
08:15 - 09:15	316	+	412	=	728	125	158	No	
18:30 - 19:30	269	+	457	=	726	190	233	No	
08:00 - 09:00	307	+	411	=	718	121	149	No	
06:30 - 07:30	270	+	430	=	700	91	125	No	
18:45 - 19:45	227	+	421	=	648	171	185	No	
06:15 - 07:15	252	+	372	=	624	98	103	No	
19:00 - 20:00	203		359		562	152	180	No	

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/17/2022

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

11 hours meet 1A minimums.
12 hours meet 1B minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **False**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **2 or more**

Volume Requirements

Warrant 1A 1B
Veh/Hr Major = **480 720**

Veh/Hr Minor = **160 80**

Major Road CSAH 17 (Lexington Ave)

Minor Road Ball Road

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:30 - 17:30	586	+	846	=	1432	288	397	Yes
14:30 - 15:30	528	+	871	=	1399	311	403	Yes
15:30 - 16:30	606	+	784	=	1390	330	419	Yes
11:30 - 12:30	446	+	640	=	1086	259	301	Yes
13:30 - 14:30	395	+	668	=	1063	263	306	Yes
17:30 - 18:30	395	+	652	=	1047	223	299	Yes
12:30 - 13:30	385	+	624	=	1009	268	302	Yes
10:30 - 11:30	381	+	558	=	939	222	249	Yes
09:30 - 10:30	318	+	482	=	800	187	200	Yes
08:30 - 09:30	347	+	435	=	782	127	161	Yes
18:30 - 19:30	269	+	457	=	726	190	233	Yes
07:15 - 08:15	357	+	564	=	921	100	140	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
14:45 - 15:45	558	+	880	=	1438	314	429	Yes
15:45 - 16:45	576	+	828	=	1404	330	423	Yes
16:45 - 17:45	583	+	772	=	1355	284	371	Yes
13:45 - 14:45	416	+	697	=	1113	263	316	Yes
11:45 - 12:45	427	+	638	=	1065	275	294	Yes
12:45 - 13:45	391	+	642	=	1033	274	306	Yes
10:45 - 11:45	393	+	576	=	969	214	272	Yes
17:45 - 18:45	368	+	598	=	966	207	289	Yes
09:45 - 10:45	343	+	500	=	843	207	197	Yes
07:45 - 08:45	347	+	488	=	835	126	142	Yes
06:45 - 07:45	307	+	501	=	808	90	134	Yes
08:45 - 09:45	336	+	432	=	768	123	180	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/17/2022

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

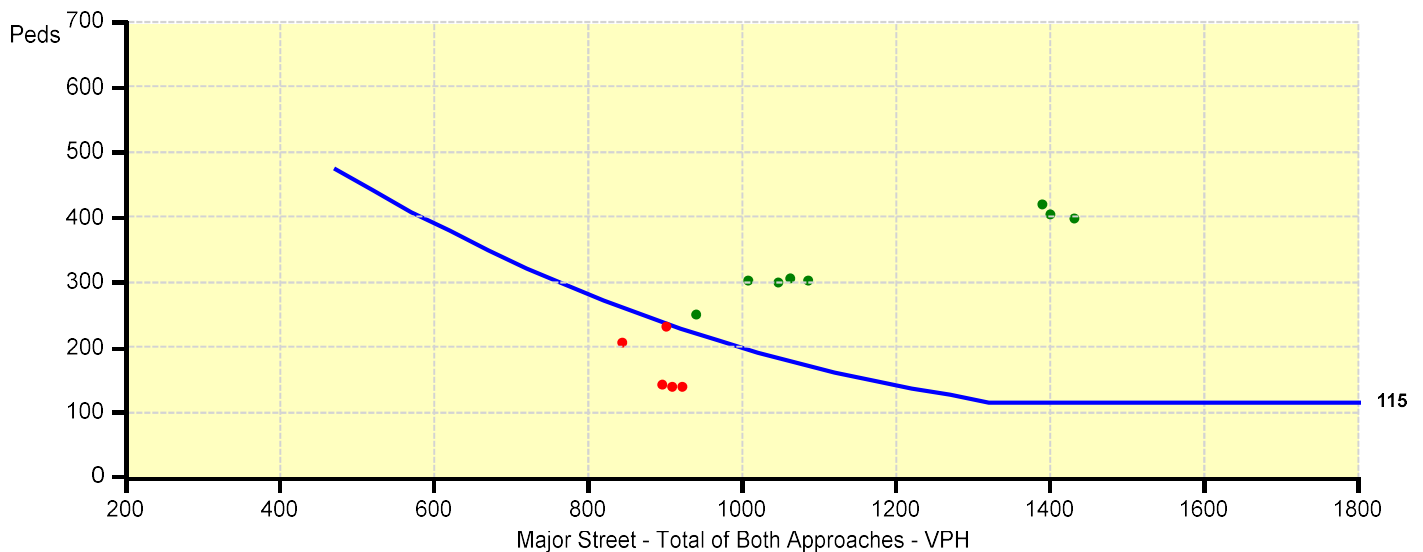
Summary

8 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **False**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **2 or more**

Time	Major Road CSAH 17 (Lexington Ave)					Minor Road Ball Road		Met?
	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	
16:30 - 17:30	586	+	846	=	1432	288	397	Yes
14:30 - 15:30	528	+	871	=	1399	311	403	Yes
15:30 - 16:30	606	+	784	=	1390	330	419	Yes
11:30 - 12:30	446	+	640	=	1086	259	301	Yes
13:30 - 14:30	395	+	668	=	1063	263	306	Yes
17:30 - 18:30	395	+	652	=	1047	223	299	Yes
12:30 - 13:30	385	+	624	=	1009	268	302	Yes
10:30 - 11:30	381	+	558	=	939	222	249	Yes
07:15 - 08:15	357	+	564	=	921	100	140	No
07:00 - 08:00	352	+	558	=	910	94	140	No
10:15 - 11:15	368	+	534	=	902	209	232	No
07:30 - 08:30	357	+	540	=	897	111	141	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/17/2022

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

Summary

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **False**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **2 or more**

Time	Major Road CSAH 17 (Lexington Ave)					Minor Road Ball Road		Met?
	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	
15:00 - 16:00	567	+	878	=	1445	336	441	Yes
15:15 - 16:15	596	+	842	=	1438	322	396	Yes
14:45 - 15:45	558	+	880	=	1438	314	429	Yes
16:15 - 17:15	586	+	849	=	1435	322	419	Yes
16:30 - 17:30	586	+	846	=	1432	288	397	Yes
15:45 - 16:45	576	+	828	=	1404	330	423	Yes
14:30 - 15:30	528	+	871	=	1399	311	403	Yes
16:00 - 17:00	583	+	813	=	1396	313	422	Yes
15:30 - 16:30	606	+	784	=	1390	330	419	Yes
16:45 - 17:45	583	+	772	=	1355	284	371	Yes
14:15 - 15:15	485	+	795	=	1280	287	382	Yes
17:00 - 18:00	517		725		1242	267	367	Yes

