

ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

MN 51 (Snelling Ave) & CSAH 23 (CR C)
 City: Roseville
 data by: Alliant Engineering, Inc.
 TURN MOVEMENT COUNT

File Name : MN 51 (Snelling Ave) & CSAH 23 (CR C)_2021
 Site Code : 1735345
 Start Date : 11/3/2021
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	MN 51 (Snelling Ave) Southbound					CSAH 23 (CR C) Westbound					MN 51 (Snelling Ave) Northbound					CSAH 23 (CR C) Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
12:00 AM	0	9	0	0	9	0	1	0	0	1	1	18	1	0	20	1	4	4	0	9	39
12:15 AM	1	8	0	0	9	0	1	0	0	1	0	11	4	0	15	0	3	1	0	4	29
12:30 AM	0	4	0	0	4	0	1	0	0	1	0	13	2	0	15	0	4	22	0	26	46
12:45 AM	0	3	0	0	3	1	0	2	0	3	1	4	2	0	7	2	3	6	0	11	24
Total	1	24	0	0	25	1	3	2	0	6	2	46	9	0	57	3	14	33	0	50	138
01:00 AM	1	2	0	0	3	0	1	0	0	1	0	9	2	0	11	0	0	12	1	13	28
01:15 AM	0	7	0	0	7	0	2	1	0	3	2	4	2	0	8	0	1	12	0	13	31
01:30 AM	0	1	0	0	1	1	1	0	0	2	2	7	1	0	10	1	2	3	0	6	19
01:45 AM	0	4	1	0	5	1	1	0	0	2	2	4	1	0	7	0	2	2	0	4	18
Total	1	14	1	0	16	2	5	1	0	8	6	24	6	0	36	1	5	29	1	36	96
02:00 AM	0	4	0	0	4	0	1	0	0	1	3	8	0	0	11	1	3	2	0	6	22
02:15 AM	0	1	0	0	1	1	1	0	0	2	1	7	1	0	9	0	3	2	0	5	17
02:30 AM	0	6	1	0	7	0	1	0	0	1	0	5	1	0	6	0	1	3	0	4	18
02:45 AM	0	3	0	0	3	1	0	0	0	1	1	5	0	0	6	2	1	2	0	5	15
Total	0	14	1	0	15	2	3	0	0	5	5	25	2	0	32	3	8	9	0	20	72
03:00 AM	1	2	0	0	3	0	0	1	0	1	1	7	1	0	9	0	0	0	0	0	13
03:15 AM	0	3	1	0	4	1	1	0	0	2	2	1	1	0	4	1	0	0	0	1	11
03:30 AM	0	7	0	0	7	0	0	0	0	0	2	3	0	0	5	0	2	2	0	4	16
03:45 AM	0	8	2	0	10	0	2	0	0	2	5	2	0	0	7	0	0	2	0	2	21
Total	1	20	3	0	24	1	3	1	0	5	10	13	2	0	25	1	2	4	0	7	61
04:00 AM	0	7	2	0	9	0	1	0	0	1	15	9	1	0	25	0	0	2	0	2	37
04:15 AM	1	10	0	0	11	0	0	1	0	1	20	6	0	0	26	0	1	0	0	1	39
04:30 AM	0	8	3	0	11	0	5	1	0	6	16	8	1	0	25	0	1	6	1	8	50
04:45 AM	2	22	5	0	29	1	6	1	0	8	7	13	1	0	21	2	2	2	0	6	64
Total	3	47	10	0	60	1	12	3	0	16	58	36	3	0	97	2	4	10	1	17	190
05:00 AM	1	33	1	0	35	0	3	0	0	3	11	11	1	2	25	0	1	1	0	2	65
05:15 AM	3	26	4	0	33	3	11	0	0	14	22	26	1	0	49	0	2	8	0	10	106
05:30 AM	2	48	4	0	54	6	12	1	0	19	19	31	2	1	53	4	4	7	0	15	141
05:45 AM	2	65	4	0	71	4	14	5	0	23	20	38	2	1	61	2	6	9	0	17	172
Total	8	172	13	0	193	13	40	6	0	59	72	106	6	4	188	6	13	25	0	44	484
06:00 AM	5	72	6	0	83	4	12	1	0	17	23	32	7	0	62	3	3	9	0	15	177
06:15 AM	5	107	8	0	120	8	23	1	0	32	41	38	9	1	89	1	9	17	0	27	268
06:30 AM	5	114	11	0	130	7	22	2	0	31	56	56	10	0	122	6	5	10	0	21	304
06:45 AM	9	161	18	0	188	13	26	0	0	39	75	66	16	0	157	4	10	21	0	35	419
Total	24	454	43	0	521	32	83	4	0	119	195	192	42	1	430	14	27	57	0	98	1168
07:00 AM	6	154	25	0	185	11	27	0	0	38	30	50	22	0	102	8	7	27	0	42	367
07:15 AM	11	176	18	0	205	17	50	2	0	69	41	66	13	0	120	8	16	23	0	47	441
07:30 AM	14	189	22	0	225	20	32	3	0	55	54	118	26	0	198	10	23	33	0	66	544
07:45 AM	17	181	20	0	218	30	55	5	0	90	77	122	20	1	220	8	29	29	0	66	594
Total	48	700	85	0	833	78	164	10	0	252	202	356	81	1	640	34	75	112	0	221	1946
08:00 AM	13	187	29	0	229	23	67	8	0	98	43	120	19	0	182	14	22	28	1	65	574
08:15 AM	11	162	30	0	203	19	57	6	0	82	50	114	26	1	191	7	18	31	1	57	533
08:30 AM	15	200	23	0	238	22	69	4	0	95	64	99	32	0	195	11	22	31	0	64	592
08:45 AM	10	170	22	0	202	23	56	5	0	84	59	120	22	0	201	11	41	49	0	101	588
Total	49	719	104	0	872	87	249	23	0	359	216	453	99	1	769	43	103	139	2	287	2287
09:00 AM	18	129	16	0	163	23	52	5	0	80	46	100	18	0	164	8	37	52	0	97	504

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File Name : MN 51 (Snelling Ave) & CSAH 23 (CR C)_2021
 Site Code : 1735345
 Start Date : 11/3/2021
 Page No : 2

Groups Printed- Cars - Trucks

Start Time	MN 51 (Snelling Ave) Southbound					CSAH 23 (CR C) Westbound					MN 51 (Snelling Ave) Northbound					CSAH 23 (CR C) Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
09:15 AM	20	148	26	0	194	22	62	0	0	84	44	68	13	1	126	8	38	43	0	89	493
09:30 AM	11	133	21	0	165	30	77	2	0	109	59	63	22	0	144	8	49	41	0	98	516
09:45 AM	12	150	23	0	185	21	60	1	0	82	61	97	20	1	179	8	47	43	0	98	544
Total	61	560	86	0	707	96	251	8	0	355	210	328	73	2	613	32	171	179	0	382	2057
10:00 AM	8	135	18	0	161	20	53	3	0	76	52	89	17	0	158	15	38	70	1	124	519
10:15 AM	11	154	23	0	188	23	59	2	0	84	68	80	26	0	174	15	38	68	1	122	568
10:30 AM	13	126	19	0	158	26	52	4	0	82	83	82	23	1	189	12	46	62	2	122	551
10:45 AM	11	144	21	0	176	31	59	3	0	93	91	111	16	1	219	9	48	54	0	111	599
Total	43	559	81	0	683	100	223	12	0	335	294	362	82	2	740	51	170	254	4	479	2237
11:00 AM	10	157	12	0	179	36	58	6	0	100	67	102	26	0	195	13	56	74	0	143	617
11:15 AM	16	160	24	0	200	25	65	5	0	95	69	109	31	0	209	16	61	89	0	166	670
11:30 AM	9	157	19	0	185	36	56	3	0	95	89	100	27	0	216	19	62	77	0	158	654
11:45 AM	14	148	19	0	181	47	67	3	0	117	77	120	44	1	242	22	54	66	0	142	682
Total	49	622	74	0	745	144	246	17	0	407	302	431	128	1	862	70	233	306	0	609	2623
12:00 PM	13	148	24	0	185	31	61	10	0	102	88	133	35	0	256	22	60	75	0	157	700
12:15 PM	12	149	30	0	191	41	68	8	0	117	67	124	40	1	232	19	56	80	0	155	695
12:30 PM	10	178	19	0	207	38	62	8	0	108	79	135	36	0	250	21	56	88	0	165	730
12:45 PM	10	173	20	0	203	34	66	6	0	106	94	141	28	1	264	28	66	71	1	166	739
Total	45	648	93	0	786	144	257	32	0	433	328	533	139	2	1002	90	238	314	1	643	2864
01:00 PM	18	148	26	0	192	44	83	7	0	134	88	128	29	0	245	23	63	90	0	176	747
01:15 PM	8	124	21	0	153	33	65	9	0	107	90	123	24	0	237	21	71	66	0	158	655
01:30 PM	11	157	19	0	187	27	72	10	0	109	75	127	29	0	231	25	57	71	0	153	680
01:45 PM	20	170	33	0	223	33	59	3	0	95	92	151	24	0	267	14	67	63	0	144	729
Total	57	599	99	0	755	137	279	29	0	445	345	529	106	0	980	83	258	290	0	631	2811
02:00 PM	7	175	18	0	200	36	62	5	0	103	111	132	21	0	264	33	64	83	1	181	748
02:15 PM	14	159	20	0	193	29	62	10	0	101	96	162	29	0	287	27	62	81	0	170	751
02:30 PM	13	161	18	0	192	25	66	10	1	102	65	173	21	0	259	26	87	97	0	210	763
02:45 PM	20	180	20	0	220	35	57	7	0	99	89	142	27	0	258	33	72	76	0	181	758
Total	54	675	76	0	805	125	247	32	1	405	361	609	98	0	1068	119	285	337	1	742	3020
03:00 PM	8	155	10	0	173	23	78	9	0	110	101	180	28	0	309	30	81	110	0	221	813
03:15 PM	16	183	21	0	220	39	73	6	0	118	65	175	21	2	263	33	88	76	0	197	798
03:30 PM	11	174	14	0	199	29	51	6	0	86	98	225	33	0	356	39	86	78	1	204	845
03:45 PM	5	205	20	0	230	36	66	12	1	115	77	244	28	0	349	33	102	86	0	221	915
Total	40	717	65	0	822	127	268	33	1	429	341	824	110	2	1277	135	357	350	1	843	3371
04:00 PM	18	210	18	0	246	37	51	8	0	96	89	235	30	0	354	39	94	101	0	234	930
04:15 PM	10	204	22	0	236	45	72	5	0	122	74	217	27	0	318	34	120	81	0	235	911
04:30 PM	25	187	27	0	239	31	59	12	0	102	65	197	30	0	292	42	112	95	2	251	884
04:45 PM	23	223	24	0	270	40	73	12	0	125	82	217	40	0	339	46	108	81	0	235	969
Total	76	824	91	0	991	153	255	37	0	445	310	866	127	0	1303	161	434	358	2	955	3694
05:00 PM	23	183	25	0	231	39	91	15	0	145	78	175	39	0	292	38	119	109	1	267	935
05:15 PM	25	244	22	0	291	21	57	5	0	83	89	215	48	0	352	37	109	91	2	239	965
05:30 PM	10	204	25	0	239	48	55	8	0	111	64	164	29	1	258	36	107	105	0	248	856
05:45 PM	25	221	24	0	270	34	52	3	0	89	70	170	41	0	281	26	64	72	0	162	802
Total	83	852	96	0	1031	142	255	31	0	428	301	724	157	1	1183	137	399	377	3	916	3558
06:00 PM	16	162	22	0	200	26	41	6	0	73	77	187	37	0	301	21	62	85	0	168	742
06:15 PM	16	203	14	0	233	39	51	7	0	97	62	164	28	0	254	27	64	74	0	165	749
06:30 PM	9	193	9	0	211	30	51	5	0	86	67	164	29	0	260	13	61	57	0	131	688
06:45 PM	11	178	14	0	203	29	37	4	0	70	69	157	31	0	257	10	57	51	0	118	648
Total	52	736	59	0	847	124	180	22	0	326	275	672	125	0	1072	71	244	267	0	582	2827

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 TURN MOVEMENT COUNT

File Name : MN 51 (Snelling Ave) & CSAH 23 (CR C)_2021
 Site Code : 1735345
 Start Date : 11/3/2021
 Page No : 3

Groups Printed- Cars - Trucks

Start Time	MN 51 (Snelling Ave) Southbound					CSAH 23 (CR C) Westbound					MN 51 (Snelling Ave) Northbound					CSAH 23 (CR C) Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 PM	5	117	9	0	131	28	32	7	0	67	62	115	28	0	205	21	47	55	0	123	526
07:15 PM	8	96	14	0	118	27	28	7	0	62	39	112	30	0	181	10	32	64	1	107	468
07:30 PM	5	93	7	0	105	27	19	0	0	46	52	101	25	0	178	15	28	49	0	92	421
07:45 PM	3	82	8	0	93	25	31	5	0	61	38	103	18	0	159	15	25	42	0	82	395
Total	21	388	38	0	447	107	110	19	0	236	191	431	101	0	723	61	132	210	1	404	1810
08:00 PM	5	90	10	0	105	18	11	7	0	36	33	105	16	0	154	16	18	44	0	78	373
08:15 PM	10	84	8	0	102	20	32	9	0	61	27	95	14	0	136	11	20	38	3	72	371
08:30 PM	6	85	3	0	94	23	12	4	0	39	37	90	12	1	140	11	26	32	1	70	343
08:45 PM	2	60	9	0	71	17	15	3	0	35	28	78	13	0	119	5	11	25	1	42	267
Total	23	319	30	0	372	78	70	23	0	171	125	368	55	1	549	43	75	139	5	262	1354
09:00 PM	6	57	4	0	67	12	11	2	0	25	16	91	9	0	116	4	16	25	1	46	254
09:15 PM	3	62	3	0	68	10	11	5	0	26	19	80	9	0	108	6	18	20	0	44	246
09:30 PM	3	48	5	0	56	7	11	0	0	18	17	66	12	0	95	5	8	27	0	40	209
09:45 PM	8	37	7	0	52	10	6	1	0	17	18	61	7	1	87	5	9	18	0	32	188
Total	20	204	19	0	243	39	39	8	0	86	70	298	37	1	406	20	51	90	1	162	897
10:00 PM	1	66	6	0	73	11	11	2	0	24	11	55	9	0	75	7	15	16	1	39	211
10:15 PM	2	57	5	0	64	9	6	1	0	16	16	44	5	0	65	5	8	16	0	29	174
10:30 PM	3	31	5	0	39	8	2	2	0	12	5	33	6	0	44	4	4	10	0	18	113
10:45 PM	0	37	5	0	42	2	5	0	0	7	8	27	2	0	37	4	6	10	0	20	106
Total	6	191	21	0	218	30	24	5	0	59	40	159	22	0	221	20	33	52	1	106	604
11:00 PM	1	25	0	1	27	4	5	0	0	9	9	19	5	0	33	3	6	11	1	21	90
11:15 PM	1	24	1	0	26	2	0	1	0	3	6	25	2	0	33	1	3	12	0	16	78
11:30 PM	0	21	0	0	21	1	2	0	0	3	4	22	3	0	29	2	3	12	0	17	70
11:45 PM	0	11	1	0	12	0	5	1	0	6	5	12	2	0	19	0	1	1	0	2	39
Total	2	81	2	1	86	7	12	2	0	21	24	78	12	0	114	6	13	36	1	56	277
Grand Total	767	10139	1190	1	12097	1770	3278	360	2	5410	4283	8463	1622	19	14387	1206	3344	3977	25	8552	40446
Apprch %	6.3	83.8	9.8	0		32.7	60.6	6.7	0		29.8	58.8	11.3	0.1		14.1	39.1	46.5	0.3		
Total %	1.9	25.1	2.9	0	29.9	4.4	8.1	0.9	0	13.4	10.6	20.9	4	0	35.6	3	8.3	9.8	0.1	21.1	
Cars	746	9883	1137	0	11766	1744	3190	345	2	5281	4140	8262	1578	12	13992	1162	3262	3831	19	8274	39313
% Cars	97.3	97.5	95.5	0	97.3	98.5	97.3	95.8	100	97.6	96.7	97.6	97.3	63.2	97.3	96.4	97.5	96.3	76	96.7	97.2
Trucks	21	256	53	1	331	26	88	15	0	129	143	201	44	7	395	44	82	146	6	278	1133
% Trucks	2.7	2.5	4.5	100	2.7	1.5	2.7	4.2	0	2.4	3.3	2.4	2.7	36.8	2.7	3.6	2.5	3.7	24	3.3	2.8

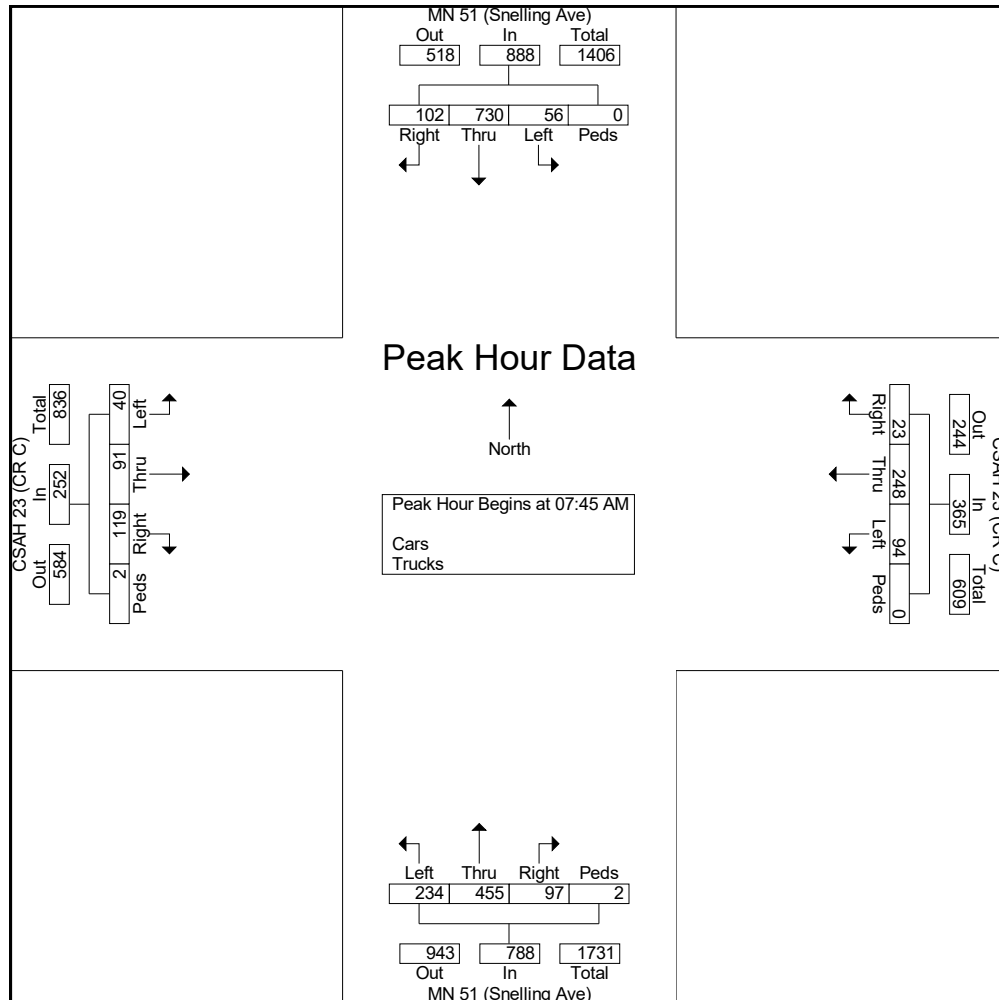
ALLIANT ENGINEERING, INC.

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Start Time	MN 51 (Snelling Ave) Southbound					CSAH 23 (CR C) Westbound					MN 51 (Snelling Ave) Northbound					CSAH 23 (CR C) Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	17	181	20	0	218	30	55	5	0	90	77	122	20	1	220	8	29	29	0	66	594
08:00 AM	13	187	29	0	229	23	67	8	0	98	43	120	19	0	182	14	22	28	1	65	574
08:15 AM	11	162	30	0	203	19	57	6	0	82	50	114	26	1	191	7	18	31	1	57	533
08:30 AM	15	200	23	0	238	22	69	4	0	95	64	99	32	0	195	11	22	31	0	64	592
Total Volume	56	730	102	0	888	94	248	23	0	365	234	455	97	2	788	40	91	119	2	252	2293
% App. Total	6.3	82.2	11.5	0		25.8	67.9	6.3	0		29.7	57.7	12.3	0.3		15.9	36.1	47.2	0.8		
PHF	.824	.913	.850	.000	.933	.783	.899	.719	.000	.931	.760	.932	.758	.500	.895	.714	.784	.960	.500	.955	.965



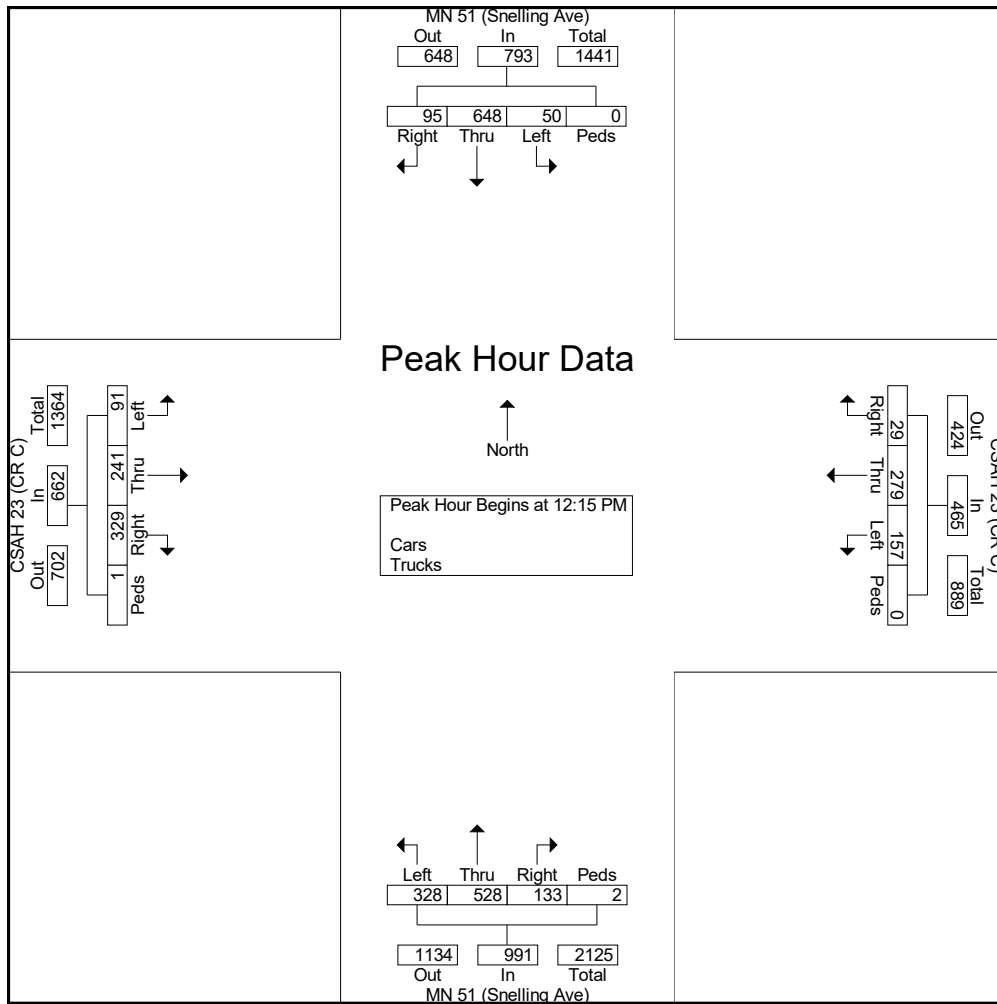
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Start Time	MN 51 (Snelling Ave) Southbound					CSAH 23 (CR C) Westbound					MN 51 (Snelling Ave) Northbound					CSAH 23 (CR C) Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:15 PM																					
12:15 PM	12	149	30	0	191	41	68	8	0	117	67	124	40	1	232	19	56	80	0	155	695
12:30 PM	10	178	19	0	207	38	62	8	0	108	79	135	36	0	250	21	56	88	0	165	730
12:45 PM	10	173	20	0	203	34	66	6	0	106	94	141	28	1	264	28	66	71	1	166	739
01:00 PM	18	148	26	0	192	44	83	7	0	134	88	128	29	0	245	23	63	90	0	176	747
Total Volume	50	648	95	0	793	157	279	29	0	465	328	528	133	2	991	91	241	329	1	662	2911
% App. Total	6.3	81.7	12	0		33.8	60	6.2	0		33.1	53.3	13.4	0.2		13.7	36.4	49.7	0.2		
PHF	.694	.910	.792	.000	.958	.892	.840	.906	.000	.868	.872	.936	.831	.500	.938	.813	.913	.914	.250	.940	.974



ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

MN 51 (Snelling Ave) & CSAH 23 (CR C)
 City: Roseville
 data by: Alliant Engineering, Inc.
 TURN MOVEMENT COUNT

File Name : MN 51 (Snelling Ave) & CSAH 23 (CR C)_2021
 Site Code : 1735345
 Start Date : 11/3/2021
 Page No : 6

Start Time	MN 51 (Snelling Ave) Southbound					CSAH 23 (CR C) Westbound					MN 51 (Snelling Ave) Northbound					CSAH 23 (CR C) Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 02:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	25	187	27	0	239	31	59	12	0	102	65	197	30	0	292	42	112	95	2	251	884
04:45 PM	23	223	24	0	270	40	73	12	0	125	82	217	40	0	339	46	108	81	0	235	969
05:00 PM	23	183	25	0	231	39	91	15	0	145	78	175	39	0	292	38	119	109	1	267	935
05:15 PM	25	244	22	0	291	21	57	5	0	83	89	215	48	0	352	37	109	91	2	239	965
Total Volume	96	837	98	0	1031	131	280	44	0	455	314	804	157	0	1275	163	448	376	5	992	3753
% App. Total	9.3	81.2	9.5	0		28.8	61.5	9.7	0		24.6	63.1	12.3	0		16.4	45.2	37.9	0.5		
PHF	.960	.858	.907	.000	.886	.819	.769	.733	.000	.784	.882	.926	.818	.000	.906	.886	.941	.862	.625	.929	.968

