

# ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

US 169 & CSAH 12-121 (Hayden Lake Rd) File Name : US 169 & CSAH 12-121 (Hayden Lake Rd)\_2021  
 City: Champlin Site Code : 1735718  
 data by: Spack Solutions Start Date : 11/3/2021  
 TURN MOVEMENT COUNT Page No : 1

Groups Printed- Cars - Trucks

Start Time	US 169 Southbound					CSAH 12 (Hayden Lake Rd) Westbound					US 169 Northbound					CSAH 121 (Hayden Lake Rd) 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	
06:00 AM	3	339	4	0	346	3	4	4	0	11	5	97	3	0	105	8	10	38	0	56	518
06:15 AM	5	409	3	0	417	4	3	4	0	11	12	142	4	0	158	2	7	52	0	61	647
06:30 AM	3	433	17	0	453	5	11	2	0	18	15	207	5	0	227	14	13	54	0	81	779
06:45 AM	4	415	14	0	433	9	7	4	0	20	12	167	1	0	180	12	24	65	0	101	734
Total	15	1596	38	0	1649	21	25	14	0	60	44	613	13	0	670	36	54	209	0	299	2678
07:00 AM	1	431	9	0	441	8	8	3	0	19	13	187	4	0	204	8	32	86	0	126	790
07:15 AM	6	534	17	0	557	6	14	5	0	25	12	195	3	0	210	10	60	93	0	163	955
07:30 AM	8	477	21	0	506	10	31	4	0	45	18	209	2	0	229	17	27	82	0	126	906
07:45 AM	10	436	16	0	462	4	30	7	0	41	25	227	2	0	254	11	39	77	0	127	884
Total	25	1878	63	0	1966	28	83	19	0	130	68	818	11	0	897	46	158	338	0	542	3535
08:00 AM	3	410	14	0	427	7	12	5	0	24	17	212	4	0	233	11	20	64	0	95	779
08:15 AM	7	401	18	0	426	6	17	5	0	28	21	188	4	0	213	9	19	48	0	76	743
08:30 AM	10	362	15	0	387	5	8	1	0	14	14	202	4	0	220	12	18	54	0	84	705
08:45 AM	10	334	15	0	359	5	10	5	0	20	18	174	1	0	193	17	23	43	0	83	655
Total	30	1507	62	0	1599	23	47	16	0	86	70	776	13	0	859	49	80	209	0	338	2882
09:00 AM	3	303	15	0	321	8	13	5	0	26	18	171	5	0	194	13	21	48	0	82	623
09:15 AM	9	301	7	0	317	7	20	2	0	29	19	171	1	0	191	21	13	50	0	84	621
09:30 AM	3	319	16	0	338	3	10	7	0	20	15	245	1	0	261	17	15	45	0	77	696
09:45 AM	11	262	16	0	289	10	11	3	0	24	11	225	7	0	243	11	10	31	0	52	608
Total	26	1185	54	0	1265	28	54	17	0	99	63	812	14	0	889	62	59	174	0	295	2548
10:00 AM	4	248	19	0	271	4	14	9	0	27	17	189	6	0	212	13	14	32	0	59	569
10:15 AM	9	244	16	0	269	5	19	1	0	25	19	186	1	0	206	18	13	33	0	64	564
10:30 AM	6	265	17	0	288	6	8	2	0	16	16	216	2	0	234	15	10	24	0	49	587
10:45 AM	9	226	13	1	249	3	10	7	1	21	27	201	6	0	234	12	10	35	0	57	561
Total	28	983	65	1	1077	18	51	19	1	89	79	792	15	0	886	58	47	124	0	229	2281
11:00 AM	6	265	9	0	280	4	11	10	0	25	22	213	7	0	242	13	12	32	0	57	604
11:15 AM	7	241	17	0	265	4	18	8	0	30	24	180	5	0	209	26	15	35	0	76	580
11:30 AM	7	288	28	0	323	5	19	4	0	28	30	226	2	0	258	24	10	22	0	56	665
11:45 AM	8	233	22	0	263	4	22	13	0	39	33	250	8	0	291	20	15	39	0	74	667
Total	28	1027	76	0	1131	17	70	35	0	122	109	869	22	0	1000	83	52	128	0	263	2516
12:00 PM	10	231	24	0	265	2	17	8	0	27	25	212	8	0	245	22	19	48	0	89	626
12:15 PM	6	270	20	0	296	6	19	3	0	28	30	218	8	0	256	15	21	31	0	67	647
12:30 PM	8	264	18	0	290	2	13	3	0	18	28	223	8	1	260	32	10	42	0	84	652
12:45 PM	7	259	20	0	286	5	22	17	0	44	25	223	3	1	252	15	9	33	0	57	639
Total	31	1024	82	0	1137	15	71	31	0	117	108	876	27	2	1013	84	59	154	0	297	2564
01:00 PM	7	216	24	0	247	7	19	4	0	30	39	254	5	0	298	20	12	38	0	70	645
01:15 PM	3	279	21	0	303	7	16	9	0	32	22	275	8	0	305	17	14	37	0	68	708
01:30 PM	6	221	22	0	249	2	22	9	0	33	22	258	4	0	284	21	19	44	0	84	650
01:45 PM	8	234	18	0	260	5	15	7	0	27	32	288	1	0	321	24	24	37	0	85	693
Total	24	950	85	0	1059	21	72	29	0	122	115	1075	18	0	1208	82	69	156	0	307	2696
02:00 PM	2	270	16	0	288	8	29	6	0	43	27	305	3	0	335	20	19	34	0	73	739
02:15 PM	11	279	18	0	308	6	24	9	0	39	37	347	6	0	390	22	17	27	0	66	803
02:30 PM	6	228	11	0	245	9	64	9	0	82	32	348	3	0	383	22	21	50	0	93	803
02:45 PM	6	284	15	1	306	6	36	9	1	52	41	342	12	0	395	12	33	38	0	83	836
Total	25	1061	60	1	1147	29	153	33	1	216	137	1342	24	0	1503	76	90	149	0	315	3181
03:00 PM	8	240	29	0	277	5	29	9	0	43	49	367	3	0	419	14	19	44	0	77	816

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 City: Champlin Site Code : 1735718  
 data by: Spack Solutions Start Date : 11/3/2021  
 TURN MOVEMENT COUNT Page No : 2

Groups Printed- Cars - Trucks

Start Time	US 169 Southbound					CSAH 12 (Hayden Lake Rd) Westbound					US 169 Northbound					CSAH 121 (Hayden Lake Rd) 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	
03:15 PM	11	289	17	0	317	3	37	10	0	50	33	397	3	0	433	20	35	53	0	108	908
03:30 PM	14	318	21	0	353	6	33	5	0	44	43	402	10	2	457	31	35	37	0	103	957
03:45 PM	14	278	21	0	313	8	40	6	0	54	54	397	7	0	458	28	29	53	0	110	935
Total	47	1125	88	0	1260	22	139	30	0	191	179	1563	23	2	1767	93	118	187	0	398	3616
04:00 PM	11	248	28	0	287	7	69	7	0	83	42	384	4	0	430	27	36	38	0	101	901
04:15 PM	10	291	21	0	322	6	51	11	0	68	51	410	4	0	465	36	26	40	0	102	957
04:30 PM	9	288	39	0	336	9	70	12	0	91	41	355	10	0	406	20	16	53	0	89	922
04:45 PM	13	307	26	0	346	14	69	5	0	88	48	381	8	0	437	40	30	50	0	120	991
Total	43	1134	114	0	1291	36	259	35	0	330	182	1530	26	0	1738	123	108	181	0	412	3771
05:00 PM	6	309	28	0	343	3	59	12	0	74	40	344	5	0	389	30	31	39	0	100	906
05:15 PM	9	280	20	0	309	6	54	7	0	67	44	344	4	0	392	32	24	50	0	106	874
05:30 PM	8	283	21	1	313	8	44	13	0	65	45	347	3	0	395	30	32	52	0	114	887
05:45 PM	10	216	30	0	256	7	52	6	0	65	54	328	10	0	392	28	28	58	0	114	827
Total	33	1088	99	1	1221	24	209	38	0	271	183	1363	22	0	1568	120	115	199	0	434	3494
06:00 PM	14	251	19	0	284	6	46	10	0	62	46	311	6	0	363	37	28	63	0	128	837
06:15 PM	6	240	10	0	256	5	28	13	0	46	48	278	8	0	334	23	26	59	0	108	744
06:30 PM	6	213	6	0	225	10	29	4	0	43	46	269	12	0	327	16	21	40	0	77	672
06:45 PM	10	221	15	0	246	8	20	12	0	40	42	250	6	0	298	23	30	29	0	82	666
Total	36	925	50	0	1011	29	123	39	0	191	182	1108	32	0	1322	99	105	191	0	395	2919
Grand Total	391	15483	936	3	16813	311	1356	355	2	2024	1519	13537	260	4	15320	1011	1114	2399	0	4524	38681
Apprch %	2.3	92.1	5.6	0		15.4	67	17.5	0.1		9.9	88.4	1.7	0		22.3	24.6	53	0		
Total %	1	40	2.4	0	43.5	0.8	3.5	0.9	0	5.2	3.9	35	0.7	0	39.6	2.6	2.9	6.2	0	11.7	
Cars	383	14853	910	3	16149	302	1328	350	2	1982	1467	12909	244	4	14624	988	1091	2353	0	4432	37187
% Cars	98	95.9	97.2	100	96.1	97.1	97.9	98.6	100	97.9	96.6	95.4	93.8	100	95.5	97.7	97.9	98.1	0	98	96.1
Trucks	8	630	26	0	664	9	28	5	0	42	52	628	16	0	696	23	23	46	0	92	1494
% Trucks	2	4.1	2.8	0	3.9	2.9	2.1	1.4	0	2.1	3.4	4.6	6.2	0	4.5	2.3	2.1	1.9	0	2	3.9

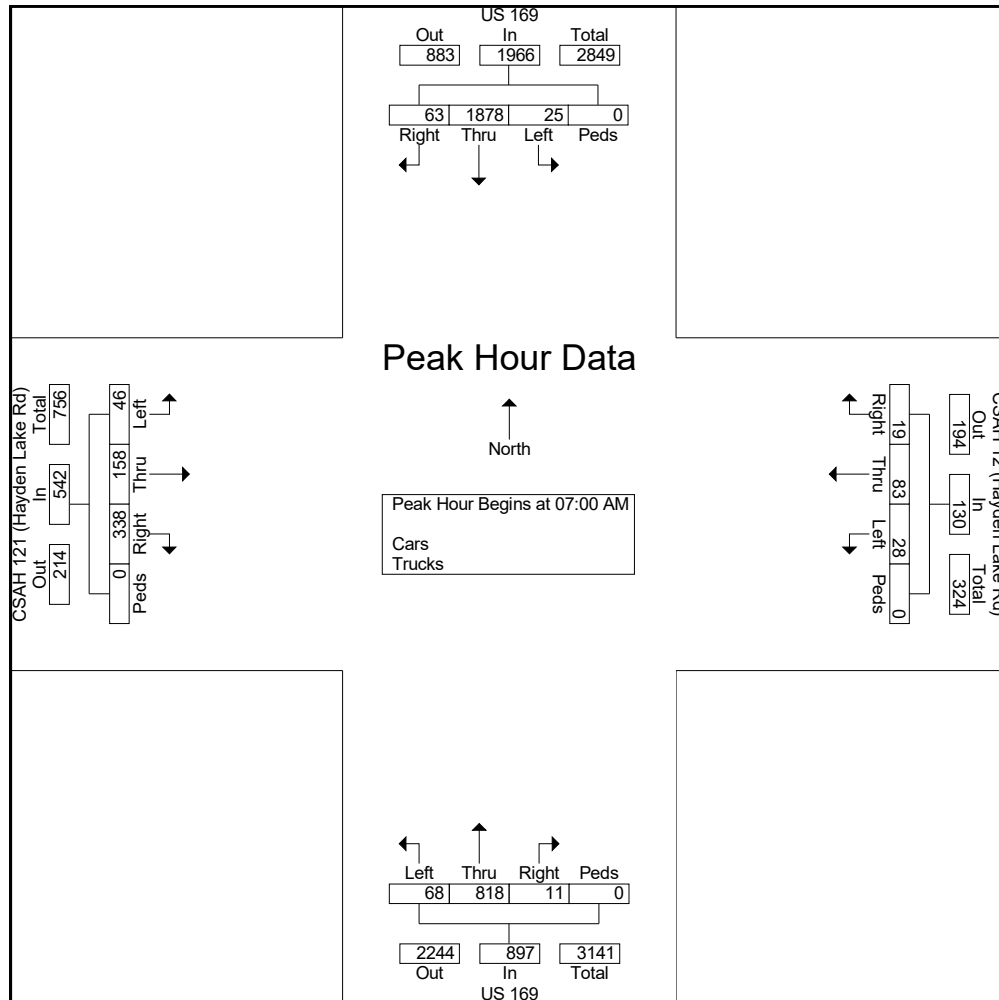
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 TURN MOVEMENT COUNT

File Name : US 169 & CSAH 12-121 (Hayden Lake Rd)\_2021  
 Site Code : 1735718  
 Start Date : 11/3/2021  
 Page No : 3

Start Time	US 169 Southbound					CSAH 12 (Hayden Lake Rd) Westbound					US 169 Northbound					CSAH 121 (Hayden Lake Rd) 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 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	1	431	9	0	441	8	8	3	0	19	13	187	4	0	204	8	32	86	0	126	790
07:15 AM	6	<b>534</b>	17	0	<b>557</b>	6	14	5	0	25	12	195	3	0	210	10	<b>60</b>	<b>93</b>	0	<b>163</b>	<b>955</b>
07:30 AM	8	477	21	0	506	<b>10</b>	<b>31</b>	4	0	<b>45</b>	18	209	2	0	229	<b>17</b>	27	82	0	126	906
07:45 AM	<b>10</b>	436	16	0	462	4	30	<b>7</b>	0	41	<b>25</b>	<b>227</b>	2	0	<b>254</b>	11	39	77	0	127	884
Total Volume	25	1878	63	0	1966	28	83	19	0	130	68	818	11	0	897	46	158	338	0	542	3535
% App. Total	1.3	95.5	3.2	0		21.5	63.8	14.6	0		7.6	91.2	1.2	0		8.5	29.2	62.4	0		
PHF	.625	.879	.750	.000	.882	.700	.669	.679	.000	.722	.680	.901	.688	.000	.883	.676	.658	.909	.000	.831	.925



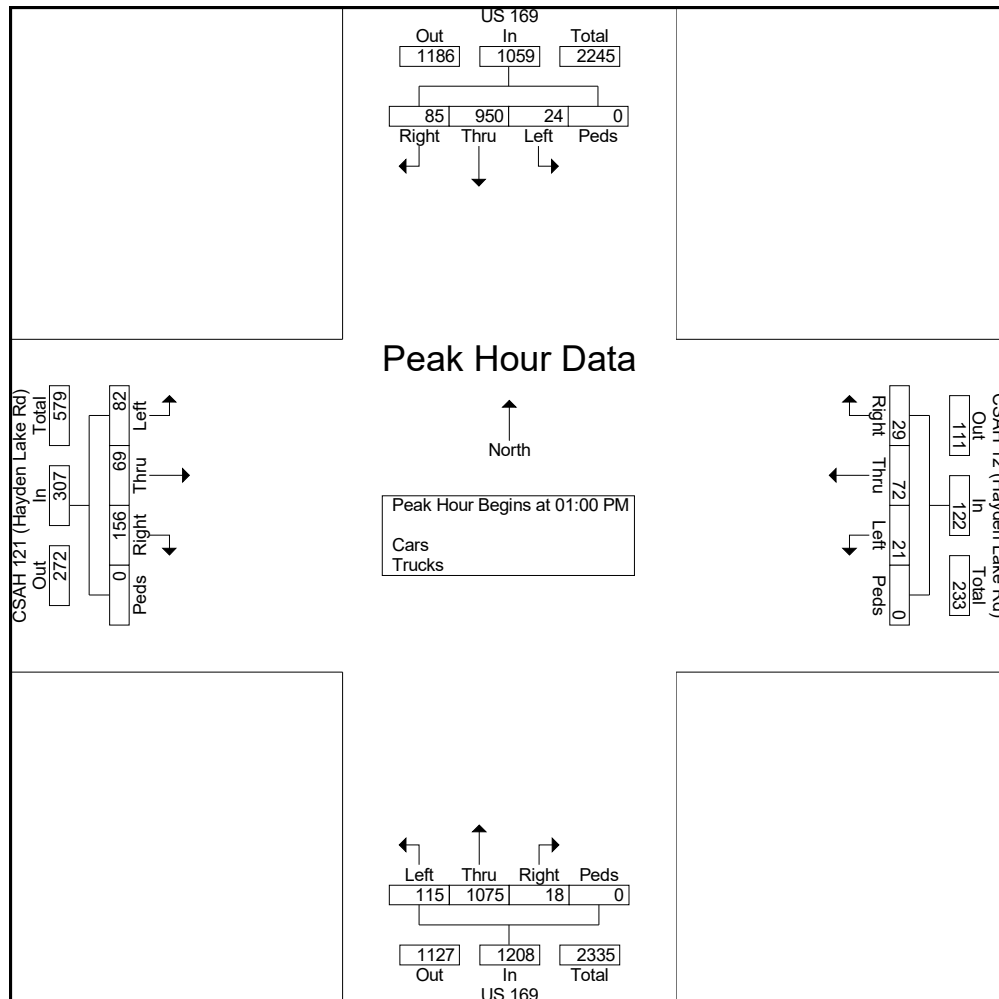
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File Name : US 169 & CSAH 12-121 (Hayden Lake Rd)\_2021  
 Site Code : 1735718  
 Start Date : 11/3/2021  
 Page No : 4

Start Time	US 169 Southbound					CSAH 12 (Hayden Lake Rd) Westbound					US 169 Northbound					CSAH 121 (Hayden Lake Rd) 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 01:00 PM																					
01:00 PM	7	216	24	0	247	7	19	4	0	30	39	254	5	0	298	20	12	38	0	70	645
01:15 PM	3	279	21	0	303	7	16	9	0	32	22	275	8	0	305	17	14	37	0	68	708
01:30 PM	6	221	22	0	249	2	22	9	0	33	22	258	4	0	284	21	19	44	0	84	650
01:45 PM	8	234	18	0	260	5	15	7	0	27	32	288	1	0	321	24	24	37	0	85	693
Total Volume	24	950	85	0	1059	21	72	29	0	122	115	1075	18	0	1208	82	69	156	0	307	2696
% App. Total	2.3	89.7	8	0		17.2	59	23.8	0		9.5	89	1.5	0		26.7	22.5	50.8	0		
PHF	.750	.851	.885	.000	.874	.750	.818	.806	.000	.924	.737	.933	.563	.000	.941	.854	.719	.886	.000	.903	.952



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File Name : US 169 & CSAH 12-121 (Hayden Lake Rd)\_2021  
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 Start Date : 11/3/2021  
 Page No : 5

Start Time	US 169 Southbound					CSAH 12 (Hayden Lake Rd) Westbound					US 169 Northbound					CSAH 121 (Hayden Lake Rd) 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 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	10	291	21	0	322	6	51	11	0	68	51	410	4	0	465	36	26	40	0	102	957
04:30 PM	9	288	39	0	336	9	70	12	0	91	41	355	10	0	406	20	16	53	0	89	922
04:45 PM	13	307	26	0	346	14	69	5	0	88	48	381	8	0	437	40	30	50	0	120	991
05:00 PM	6	309	28	0	343	3	59	12	0	74	40	344	5	0	389	30	31	39	0	100	906
Total Volume	38	1195	114	0	1347	32	249	40	0	321	180	1490	27	0	1697	126	103	182	0	411	3776
% App. Total	2.8	88.7	8.5	0		10	77.6	12.5	0		10.6	87.8	1.6	0		30.7	25.1	44.3	0		
PHF	.731	.967	.731	.000	.973	.571	.889	.833	.000	.882	.882	.909	.675	.000	.912	.788	.831	.858	.000	.856	.953

