APPENDIX C
TRAFFIC COUNT DATA

Appendix C Contents

Traffic Count Data

Average Daily Traffic:

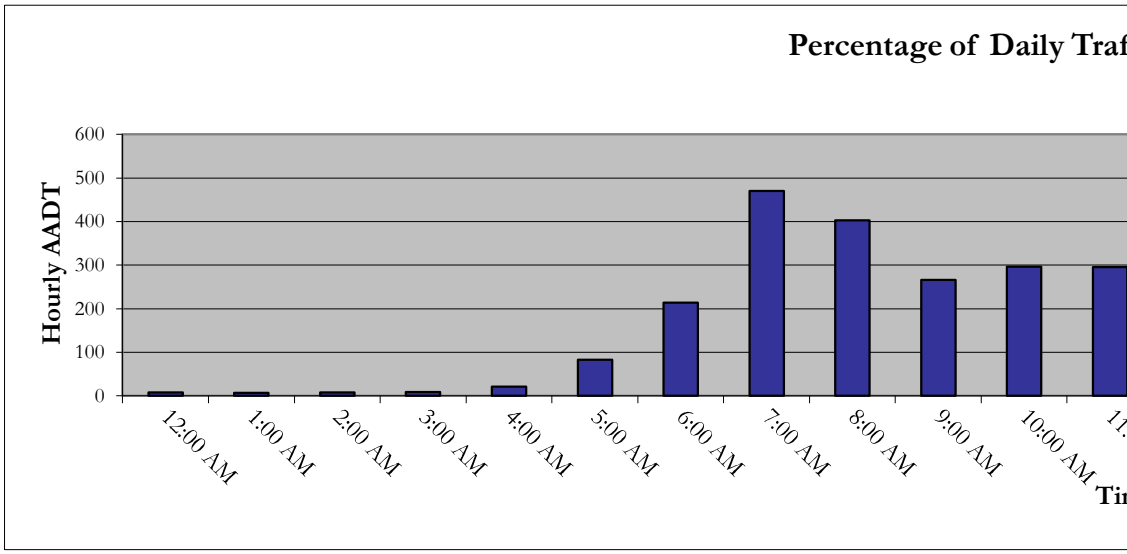
VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	2/8/2024	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	2/4/2024 Sunday		2/5/2024 Monday		2/6/2024 Tuesday		2/7/2024 Wednesday		2/8/2024 Thursday	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0:00									4	4
1:00									7	0
2:00									2	6
3:00									2	7
4:00									0	21
5:00									10	73
6:00									43	171
7:00									64	406
8:00									140	263
9:00									100	166
10:00									157	140
11:00									129	167
12:00									175	146
13:00									164	137
14:00									190	167
15:00									279	186
16:00									271	203
17:00									330	177
18:00									214	152
19:00									166	56
20:00									121	42
21:00									82	22
22:00									30	14
23:00									11	5
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,691**	**2,731**

Percentage of Daily Traf



NT SUMMARY

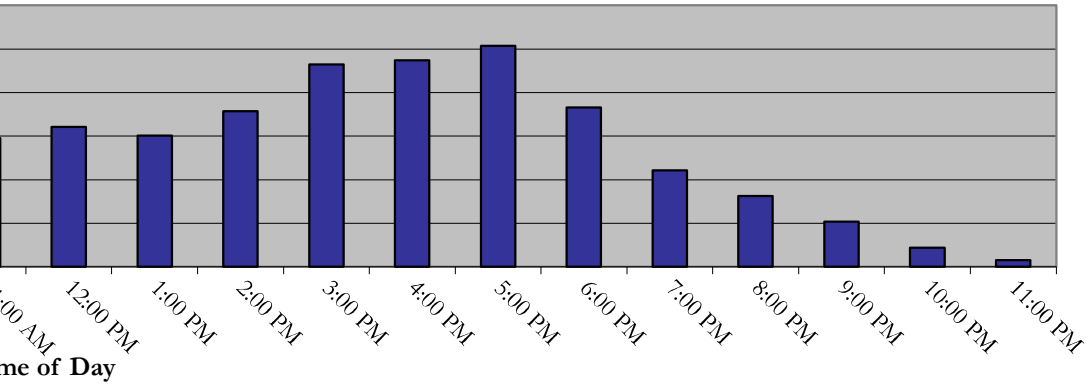
ocation: Rimrock Rd & 62ND ST West (North Leg) - North Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 1.010

	2/9/2024 Friday		2/10/2024 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	NB	SB	NB	SB	NB	SB	ADT	NB	SB	ADT
					4	4	8	0.1%	0.1%	0.1%
					7	0	7	0.3%	0.0%	0.1%
					2	6	8	0.1%	0.2%	0.1%
					2	7	9	0.1%	0.3%	0.2%
					0	21	21	0.0%	0.8%	0.4%
					10	73	83	0.4%	2.7%	1.5%
					43	171	214	1.6%	6.3%	3.9%
					64	406	470	2.4%	14.9%	8.7%
					140	263	403	5.2%	9.6%	7.4%
					100	166	266	3.7%	6.1%	4.9%
					157	140	297	5.8%	5.1%	5.5%
					129	167	296	4.8%	6.1%	5.5%
					175	146	321	6.5%	5.3%	5.9%
					164	137	301	6.1%	5.0%	5.6%
					190	167	357	7.1%	6.1%	6.6%
					279	186	465	10.4%	6.8%	8.6%
					271	203	474	10.1%	7.4%	8.7%
					330	177	507	12.3%	6.5%	9.4%
					214	152	366	8.0%	5.6%	6.8%
					166	56	222	6.2%	2.1%	4.1%
					121	42	163	4.5%	1.5%	3.0%
					82	22	104	3.0%	0.8%	1.9%
					30	14	44	1.1%	0.5%	0.8%
					11	5	16	0.4%	0.2%	0.3%
	0	**0**	**0**	**0**	**2,691**	**2,731**	**5,422**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour

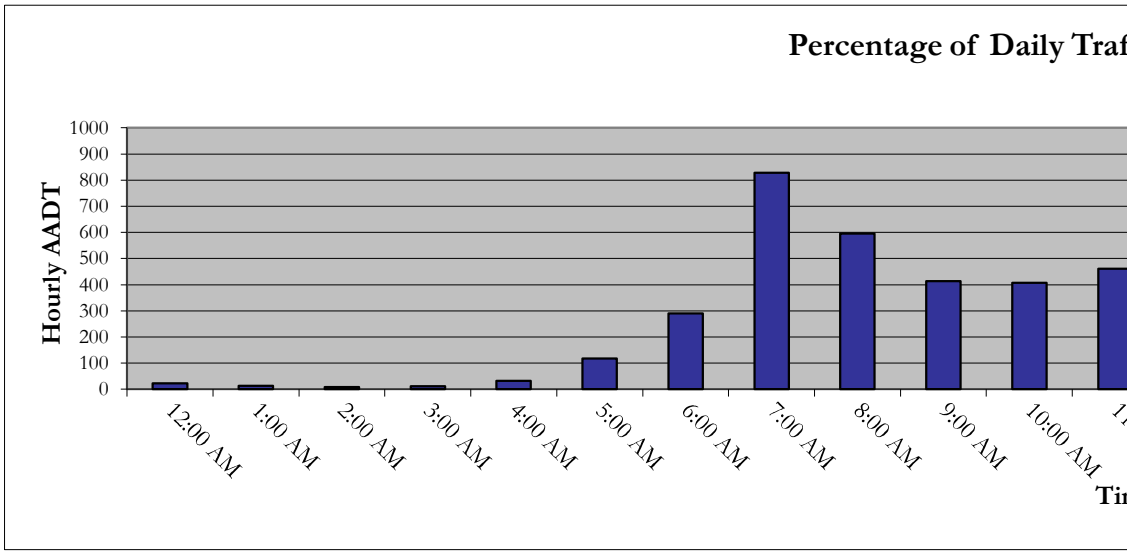


VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	5/16/2023	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	5/14/2023 Sunday		5/15/2023 Monday		5/16/2023 Tuesday		5/17/2023 Wednesday		5/18/2023 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00					8	15				
1:00					4	10				
2:00					5	4				
3:00					8	4				
4:00					18	14				
5:00					74	43				
6:00					170	120				
7:00					512	317				
8:00					341	255				
9:00					234	179				
10:00					210	197				
11:00					245	216				
12:00					258	249				
13:00					237	239				
14:00					254	304				
15:00					422	423				
16:00					434	507				
17:00					477	434				
18:00					318	314				
19:00					151	223				
20:00					106	196				
21:00					61	91				
22:00					34	77				
23:00					14	22				
TOTAL	0	0	0	0	4,595	4,453	0	0	0	0



NT SUMMARY

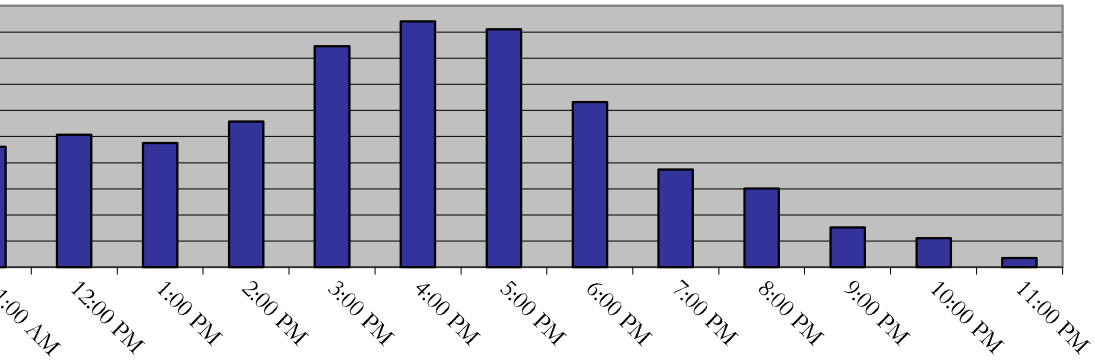
ocation: Grand Avenue & 56TH ST West - East Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 0.970

	5/19/2023 Friday		5/20/2023 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					8	15	23	0.2%	0.3%	0.3%
					4	10	14	0.1%	0.2%	0.2%
					5	4	9	0.1%	0.1%	0.1%
					8	4	12	0.2%	0.1%	0.1%
					18	14	32	0.4%	0.3%	0.4%
					74	43	117	1.6%	1.0%	1.3%
					170	120	290	3.7%	2.7%	3.2%
					512	317	829	11.1%	7.1%	9.2%
					341	255	596	7.4%	5.7%	6.6%
					234	179	413	5.1%	4.0%	4.6%
					210	197	407	4.6%	4.4%	4.5%
					245	216	461	5.3%	4.9%	5.1%
					258	249	507	5.6%	5.6%	5.6%
					237	239	476	5.2%	5.4%	5.3%
					254	304	558	5.5%	6.8%	6.2%
					422	423	845	9.2%	9.5%	9.3%
					434	507	941	9.4%	11.4%	10.4%
					477	434	911	10.4%	9.7%	10.1%
					318	314	632	6.9%	7.1%	7.0%
					151	223	374	3.3%	5.0%	4.1%
					106	196	302	2.3%	4.4%	3.3%
					61	91	152	1.3%	2.0%	1.7%
					34	77	111	0.7%	1.7%	1.2%
					14	22	36	0.3%	0.5%	0.4%
	0	**0**	**0**	**0**	**4,595**	**4,453**	**9,048**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



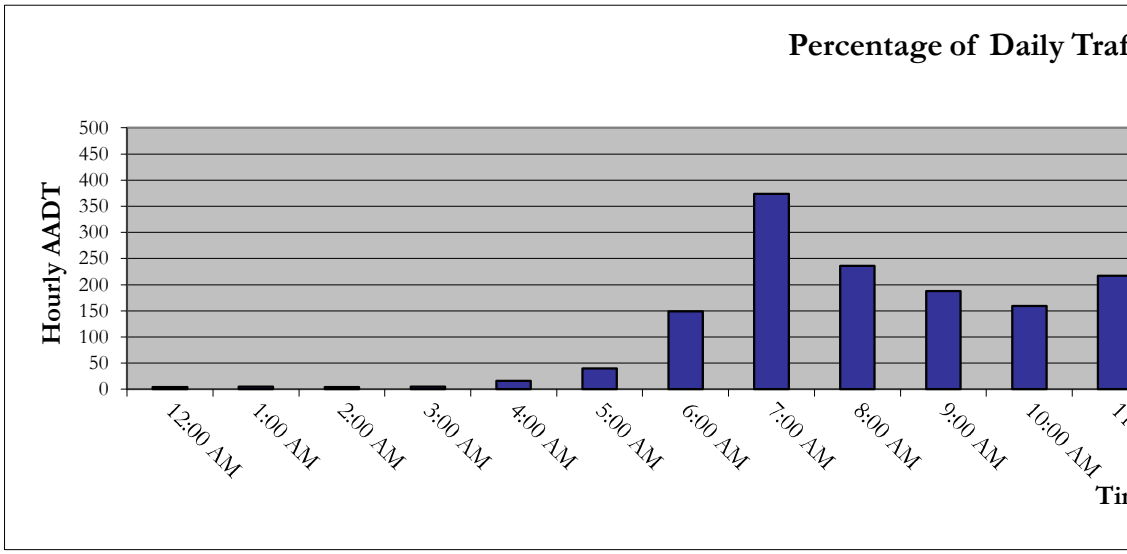
me of Day

VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	1/9/2024	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	1/9/2024 Sunday		1/10/2024 Monday		1/11/2024 Tuesday		1/12/2024 Wednesday		1/13/2024 Thursday	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0:00					1	3				
1:00					4	1				
2:00					2	2				
3:00					4	1				
4:00					10	6				
5:00					22	18				
6:00					74	75				
7:00					165	209				
8:00					126	110				
9:00					88	100				
10:00					86	73				
11:00					115	102				
12:00					98	95				
13:00					106	93				
14:00					144	138				
15:00					250	179				
16:00					189	194				
17:00					214	176				
18:00					133	101				
19:00					96	77				
20:00					77	43				
21:00					30	17				
22:00					11	16				
23:00					6	9				
TOTAL	**0**	**0**	**0**	**0**	**2,051**	**1,838**	**0**	**0**	**0**	**0**



NT SUMMARY

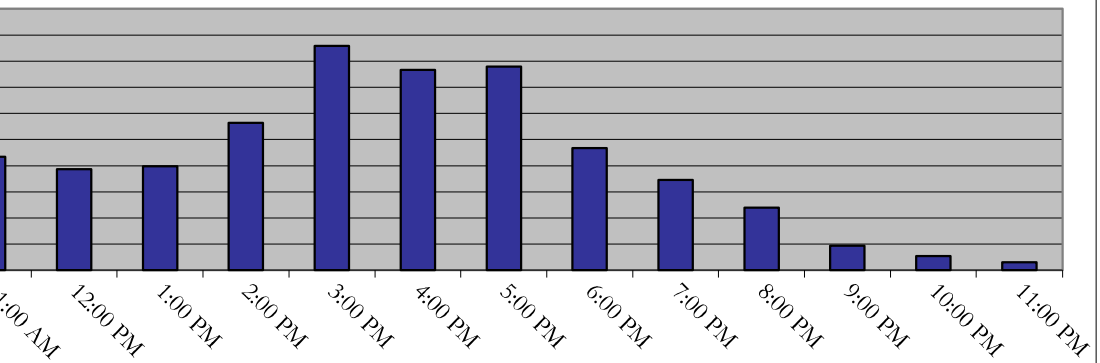
ocation: Rimrock Rd & 54TH ST West - South Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 1.040

	1/14/2024 Friday		1/15/2024 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	NB	SB	NB	SB	NB	SB	ADT	NB	SB	ADT
					1	3	4	0.0%	0.2%	0.1%
					4	1	5	0.2%	0.1%	0.1%
					2	2	4	0.1%	0.1%	0.1%
					4	1	5	0.2%	0.1%	0.1%
					10	6	16	0.5%	0.3%	0.4%
					22	18	40	1.1%	1.0%	1.0%
					74	75	149	3.6%	4.1%	3.8%
					165	209	374	8.0%	11.4%	9.6%
					126	110	236	6.1%	6.0%	6.1%
					88	100	188	4.3%	5.4%	4.8%
					86	73	159	4.2%	4.0%	4.1%
					115	102	217	5.6%	5.5%	5.6%
					98	95	193	4.8%	5.2%	5.0%
					106	93	199	5.2%	5.1%	5.1%
					144	138	282	7.0%	7.5%	7.3%
					250	179	429	12.2%	9.7%	11.0%
					189	194	383	9.2%	10.6%	9.8%
					214	176	390	10.4%	9.6%	10.0%
					133	101	234	6.5%	5.5%	6.0%
					96	77	173	4.7%	4.2%	4.4%
					77	43	120	3.8%	2.3%	3.1%
					30	17	47	1.5%	0.9%	1.2%
					11	16	27	0.5%	0.9%	0.7%
					6	9	15	0.3%	0.5%	0.4%
	0	**0**	**0**	**0**	**2,051**	**1,838**	**3,889**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



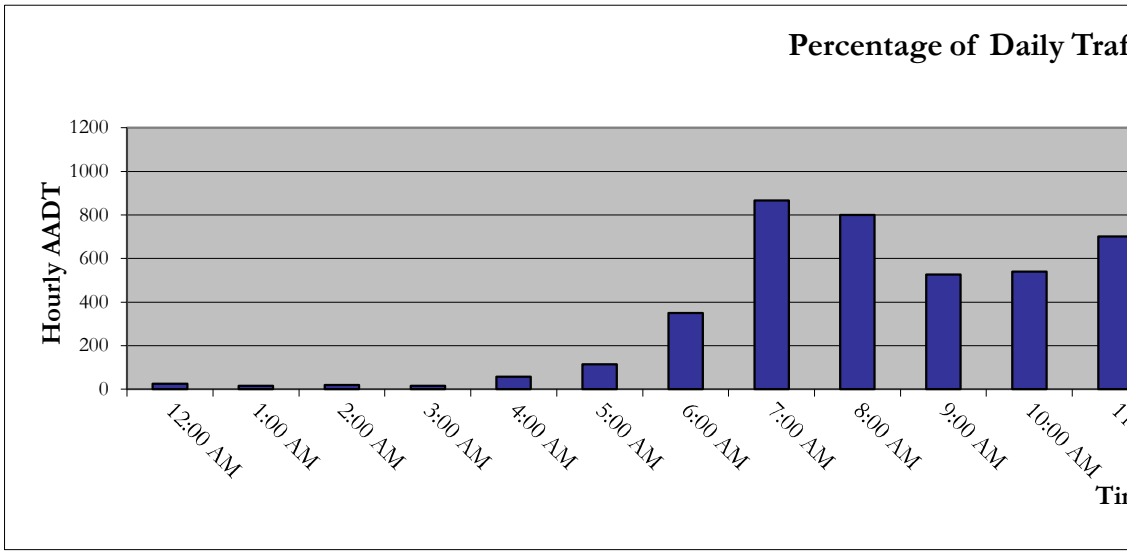
me of Day

VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	1/9/2024	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	1/7/2024 Sunday		1/8/2024 Monday		1/9/2024 Tuesday		1/10/2024 Wednesday		1/11/2024 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00					8	18				
1:00					7	9				
2:00					8	11				
3:00					10	6				
4:00					41	17				
5:00					83	32				
6:00					256	94				
7:00					633	234				
8:00					436	365				
9:00					307	220				
10:00					281	260				
11:00					340	361				
12:00					330	371				
13:00					283	327				
14:00					357	406				
15:00					400	566				
16:00					350	558				
17:00					361	672				
18:00					266	365				
19:00					157	308				
20:00					96	208				
21:00					43	77				
22:00					41	44				
23:00					15	22				
TOTAL	**0**	**0**	**0**	**0**	**5,109**	**5,551**	**0**	**0**	**0**	**0**



NT SUMMARY

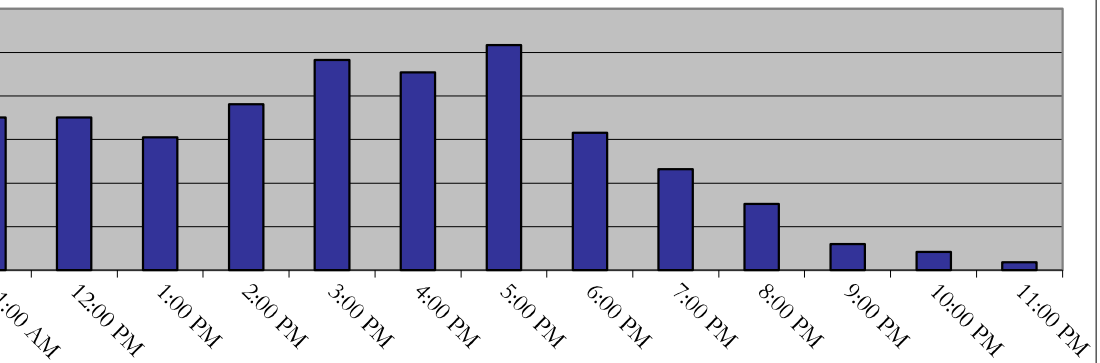
ocation: Grand Avenue & 48TH ST West - East Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 1.040

	1/12/2024 Friday		1/13/2024 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					8	18	26	0.2%	0.3%	0.2%
					7	9	16	0.1%	0.2%	0.2%
					8	11	19	0.2%	0.2%	0.2%
					10	6	16	0.2%	0.1%	0.2%
					41	17	58	0.8%	0.3%	0.5%
					83	32	115	1.6%	0.6%	1.1%
					256	94	350	5.0%	1.7%	3.3%
					633	234	867	12.4%	4.2%	8.1%
					436	365	801	8.5%	6.6%	7.5%
					307	220	527	6.0%	4.0%	4.9%
					281	260	541	5.5%	4.7%	5.1%
					340	361	701	6.7%	6.5%	6.6%
					330	371	701	6.5%	6.7%	6.6%
					283	327	610	5.5%	5.9%	5.7%
					357	406	763	7.0%	7.3%	7.2%
					400	566	966	7.8%	10.2%	9.1%
					350	558	908	6.9%	10.1%	8.5%
					361	672	1033	7.1%	12.1%	9.7%
					266	365	631	5.2%	6.6%	5.9%
					157	308	465	3.1%	5.5%	4.4%
					96	208	304	1.9%	3.7%	2.9%
					43	77	120	0.8%	1.4%	1.1%
					41	44	85	0.8%	0.8%	0.8%
					15	22	37	0.3%	0.4%	0.3%
	0	**0**	**0**	**0**	**5,109**	**5,551**	**10,660**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



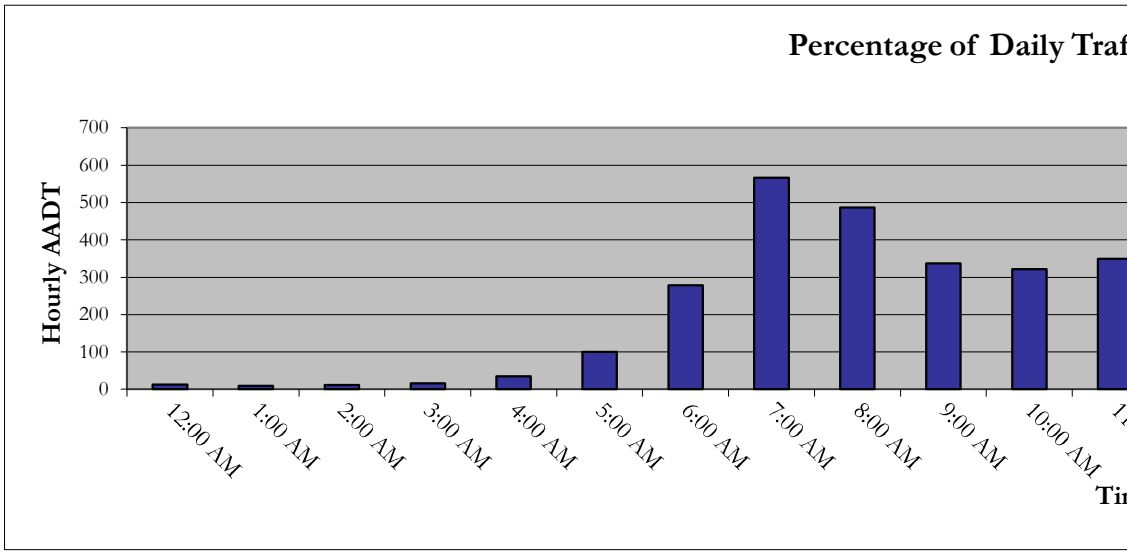
me of Day

VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	2/8/2024	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	2/4/2024 Sunday		2/5/2024 Monday		2/6/2024 Tuesday		2/7/2024 Wednesday		2/8/2024 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00									6	7
1:00									2	7
2:00									6	5
3:00									11	5
4:00									30	5
5:00									87	13
6:00									215	63
7:00									469	98
8:00									304	183
9:00									206	131
10:00									165	157
11:00									185	164
12:00									186	190
13:00									166	206
14:00									199	231
15:00									227	340
16:00									240	339
17:00									204	364
18:00									170	236
19:00									73	174
20:00									56	168
21:00									34	107
22:00									19	36
23:00									10	19
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,270**	**3,248**



NT SUMMARY

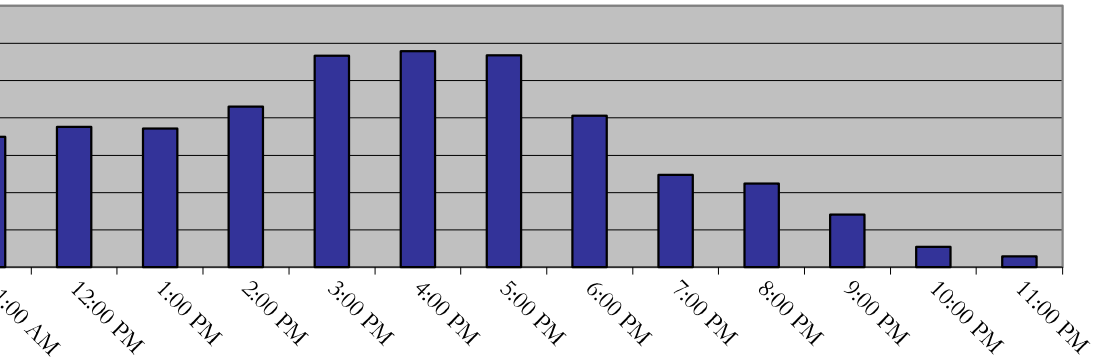
ocation: Rimrock Rd & 62ND ST West (East Leg) - East Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 1.010

	2/9/2024 Friday		2/10/2024 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					6	7	13	0.2%	0.2%	0.2%
					2	7	9	0.1%	0.2%	0.1%
					6	5	11	0.2%	0.2%	0.2%
					11	5	16	0.3%	0.2%	0.2%
					30	5	35	0.9%	0.2%	0.5%
					87	13	100	2.7%	0.4%	1.5%
					215	63	278	6.6%	1.9%	4.3%
					469	98	567	14.3%	3.0%	8.7%
					304	183	487	9.3%	5.6%	7.5%
					206	131	337	6.3%	4.0%	5.2%
					165	157	322	5.0%	4.8%	4.9%
					185	164	349	5.7%	5.0%	5.4%
					186	190	376	5.7%	5.8%	5.8%
					166	206	372	5.1%	6.3%	5.7%
					199	231	430	6.1%	7.1%	6.6%
					227	340	567	6.9%	10.5%	8.7%
					240	339	579	7.3%	10.4%	8.9%
					204	364	568	6.2%	11.2%	8.7%
					170	236	406	5.2%	7.3%	6.2%
					73	174	247	2.2%	5.4%	3.8%
					56	168	224	1.7%	5.2%	3.4%
					34	107	141	1.0%	3.3%	2.2%
					19	36	55	0.6%	1.1%	0.8%
					10	19	29	0.3%	0.6%	0.4%
3	**0**	**0**	**0**	**0**	**3,270**	**3,248**	**6,518**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



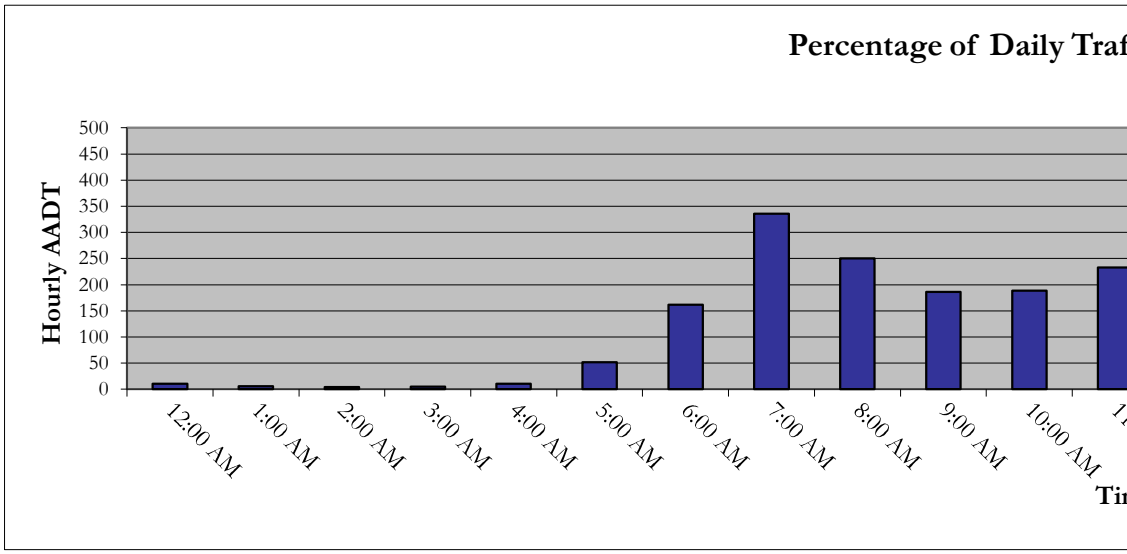
me of Day

VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	9/12/2023	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	9/10/2023 Sunday		9/11/2023 Monday		9/12/2023 Tuesday		9/13/2023 Wednesday		9/14/2023 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00					5	6				
1:00					4	2				
2:00					2	2				
3:00					4	1				
4:00					8	3				
5:00					38	14				
6:00					119	43				
7:00					240	96				
8:00					171	79				
9:00					98	88				
10:00					93	96				
11:00					117	116				
12:00					119	130				
13:00					95	111				
14:00					94	137				
15:00					128	226				
16:00					156	254				
17:00					145	287				
18:00					136	123				
19:00					88	99				
20:00					21	77				
21:00					8	31				
22:00					11	19				
23:00					9	15				
TOTAL	**0**	**0**	**0**	**0**	**1,909**	**2,055**	**0**	**0**	**0**	**0**



NT SUMMARY

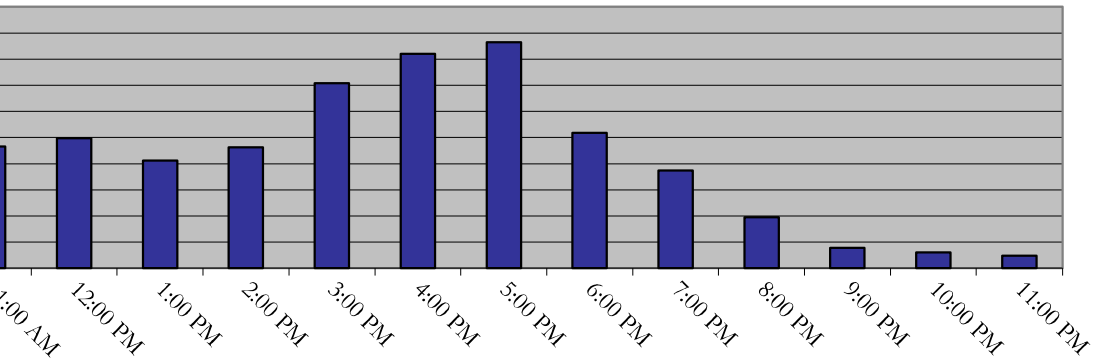
ocation: Hesper Rd & 48TH ST West - West Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 0.950

	9/15/2023 Friday		9/16/2023 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					5	6	11	0.3%	0.3%	0.3%
					4	2	6	0.2%	0.1%	0.2%
					2	2	4	0.1%	0.1%	0.1%
					4	1	5	0.2%	0.0%	0.1%
					8	3	11	0.4%	0.1%	0.3%
					38	14	52	2.0%	0.7%	1.3%
					119	43	162	6.2%	2.1%	4.1%
					240	96	336	12.6%	4.7%	8.5%
					171	79	250	9.0%	3.8%	6.3%
					98	88	186	5.1%	4.3%	4.7%
					93	96	189	4.9%	4.7%	4.8%
					117	116	233	6.1%	5.6%	5.9%
					119	130	249	6.2%	6.3%	6.3%
					95	111	206	5.0%	5.4%	5.2%
					94	137	231	4.9%	6.7%	5.8%
					128	226	354	6.7%	11.0%	8.9%
					156	254	410	8.2%	12.4%	10.3%
					145	287	432	7.6%	14.0%	10.9%
					136	123	259	7.1%	6.0%	6.5%
					88	99	187	4.6%	4.8%	4.7%
					21	77	98	1.1%	3.7%	2.5%
					8	31	39	0.4%	1.5%	1.0%
					11	19	30	0.6%	0.9%	0.8%
					9	15	24	0.5%	0.7%	0.6%
	0	**0**	**0**	**0**	**1,909**	**2,055**	**3,964**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



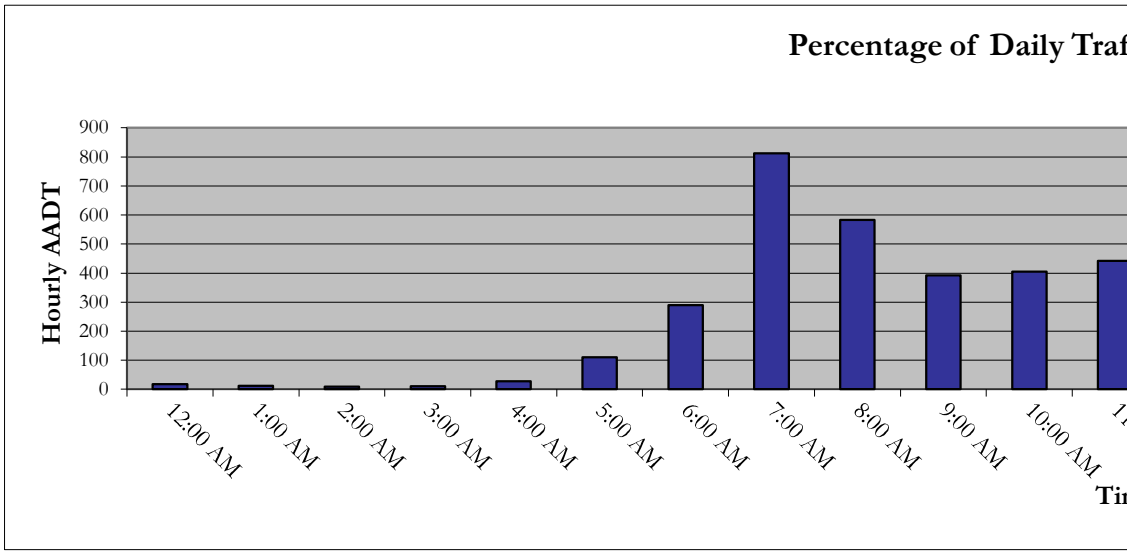
me of Day

VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	5/16/2023	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	5/14/2023 Sunday		5/15/2023 Monday		5/16/2023 Tuesday		5/17/2023 Wednesday		5/18/2023 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00					8	10				
1:00					3	9				
2:00					5	4				
3:00					8	3				
4:00					19	9				
5:00					74	36				
6:00					201	89				
7:00					554	258				
8:00					347	236				
9:00					229	163				
10:00					218	187				
11:00					239	203				
12:00					241	259				
13:00					214	235				
14:00					243	281				
15:00					372	371				
16:00					371	391				
17:00					362	434				
18:00					223	324				
19:00					146	228				
20:00					87	196				
21:00					55	101				
22:00					30	73				
23:00					12	22				
TOTAL	**0**	**0**	**0**	**0**	**4,261**	**4,122**	**0**	**0**	**0**	**0**



NT SUMMARY

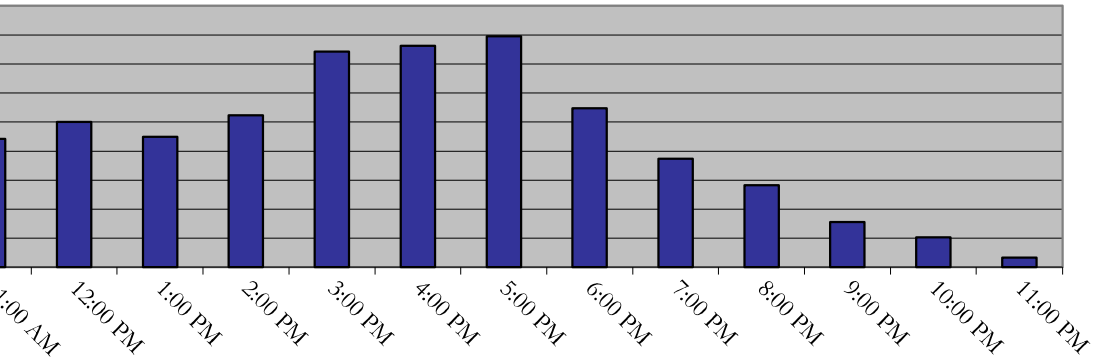
ocation: Grand Avenue & 56TH ST West - West Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 0.970

	5/19/2023 Friday		5/20/2023 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					8	10	18	0.2%	0.2%	0.2%
					3	9	12	0.1%	0.2%	0.1%
					5	4	9	0.1%	0.1%	0.1%
					8	3	11	0.2%	0.1%	0.1%
					19	9	28	0.4%	0.2%	0.3%
					74	36	110	1.7%	0.9%	1.3%
					201	89	290	4.7%	2.2%	3.5%
					554	258	812	13.0%	6.3%	9.7%
					347	236	583	8.1%	5.7%	7.0%
					229	163	392	5.4%	4.0%	4.7%
					218	187	405	5.1%	4.5%	4.8%
					239	203	442	5.6%	4.9%	5.3%
					241	259	500	5.7%	6.3%	6.0%
					214	235	449	5.0%	5.7%	5.4%
					243	281	524	5.7%	6.8%	6.3%
					372	371	743	8.7%	9.0%	8.9%
					371	391	762	8.7%	9.5%	9.1%
					362	434	796	8.5%	10.5%	9.5%
					223	324	547	5.2%	7.9%	6.5%
					146	228	374	3.4%	5.5%	4.5%
					87	196	283	2.0%	4.8%	3.4%
					55	101	156	1.3%	2.5%	1.9%
					30	73	103	0.7%	1.8%	1.2%
					12	22	34	0.3%	0.5%	0.4%
	0	**0**	**0**	**0**	**4,261**	**4,122**	**8,383**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



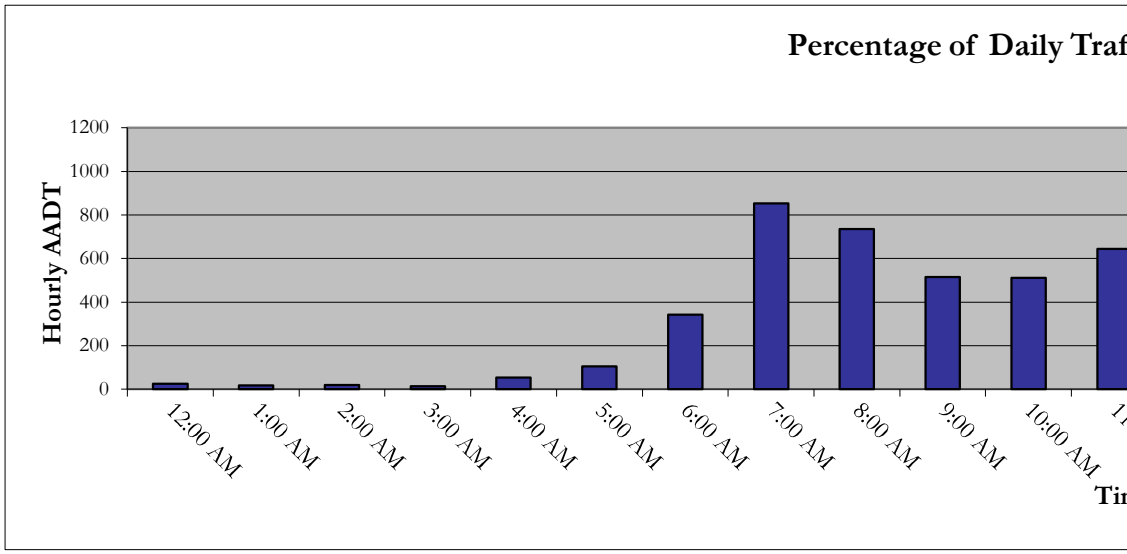
me of Day

VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count Lo
Agency/Company:	Sanderson Stewart	
Dates Performed:	1/9/2024	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	1/7/2024 Sunday		1/8/2024 Monday		1/9/2024 Tuesday		1/10/2024 Wednesday		1/11/2024 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00					9	16				
1:00					9	9				
2:00					8	11				
3:00					9	5				
4:00					37	17				
5:00					75	30				
6:00					251	92				
7:00					635	219				
8:00					478	257				
9:00					281	234				
10:00					272	240				
11:00					316	329				
12:00					332	368				
13:00					289	319				
14:00					366	373				
15:00					391	525				
16:00					332	538				
17:00					371	657				
18:00					249	360				
19:00					171	292				
20:00					92	199				
21:00					43	79				
22:00					38	40				
23:00					12	26				
TOTAL	**0**	**0**	**0**	**0**	**5,066**	**5,235**	**0**	**0**	**0**	**0**



NT SUMMARY

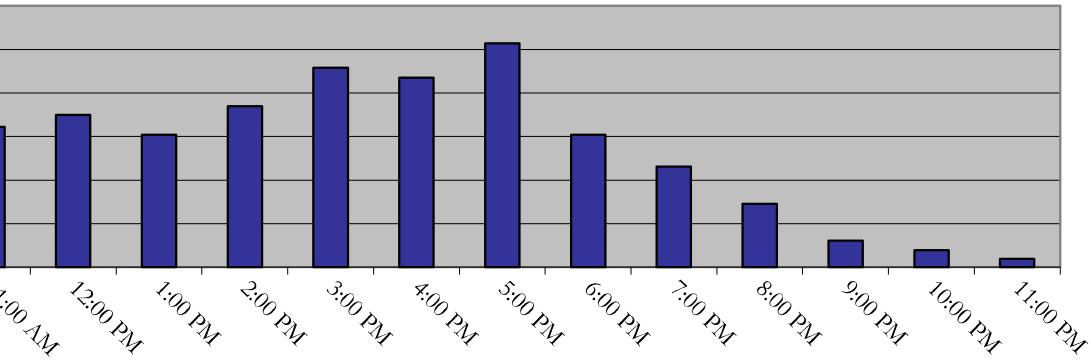
ocation: Grand Avenue & 48TH ST West - West Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 1.040

	1/12/2024 Friday		1/13/2024 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					9	16	25	0.2%	0.3%	0.2%
					9	9	18	0.2%	0.2%	0.2%
					8	11	19	0.2%	0.2%	0.2%
					9	5	14	0.2%	0.1%	0.1%
					37	17	54	0.7%	0.3%	0.5%
					75	30	105	1.5%	0.6%	1.0%
					251	92	343	5.0%	1.8%	3.3%
					635	219	854	12.5%	4.2%	8.3%
					478	257	735	9.4%	4.9%	7.1%
					281	234	515	5.5%	4.5%	5.0%
					272	240	512	5.4%	4.6%	5.0%
					316	329	645	6.2%	6.3%	6.3%
					332	368	700	6.6%	7.0%	6.8%
					289	319	608	5.7%	6.1%	5.9%
					366	373	739	7.2%	7.1%	7.2%
					391	525	916	7.7%	10.0%	8.9%
					332	538	870	6.6%	10.3%	8.4%
					371	657	1028	7.3%	12.6%	10.0%
					249	360	609	4.9%	6.9%	5.9%
					171	292	463	3.4%	5.6%	4.5%
					92	199	291	1.8%	3.8%	2.8%
					43	79	122	0.8%	1.5%	1.2%
					38	40	78	0.8%	0.8%	0.8%
					12	26	38	0.2%	0.5%	0.4%
	0	**0**	**0**	**0**	**5,066**	**5,235**	**10,301**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



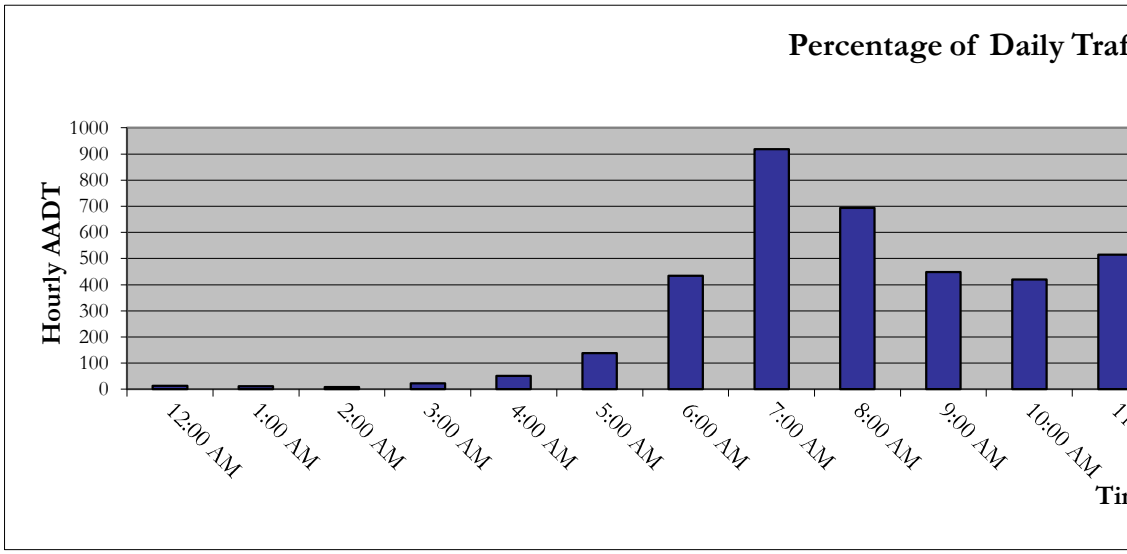
me of Day

VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	1/9/2024	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	1/9/2024 Sunday		1/10/2024 Monday		1/11/2024 Tuesday		1/12/2024 Wednesday		1/13/2024 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00					3	11				
1:00					7	5				
2:00					4	4				
3:00					18	5				
4:00					45	7				
5:00					109	29				
6:00					337	97				
7:00					714	204				
8:00					438	256				
9:00					246	202				
10:00					239	181				
11:00					272	243				
12:00					268	256				
13:00					257	249				
14:00					306	296				
15:00					343	445				
16:00					350	523				
17:00					345	546				
18:00					196	303				
19:00					109	259				
20:00					69	197				
21:00					43	107				
22:00					18	62				
23:00					12	30				
TOTAL	**0**	**0**	**0**	**0**	**4,748**	**4,517**	**0**	**0**	**0**	**0**



NT SUMMARY

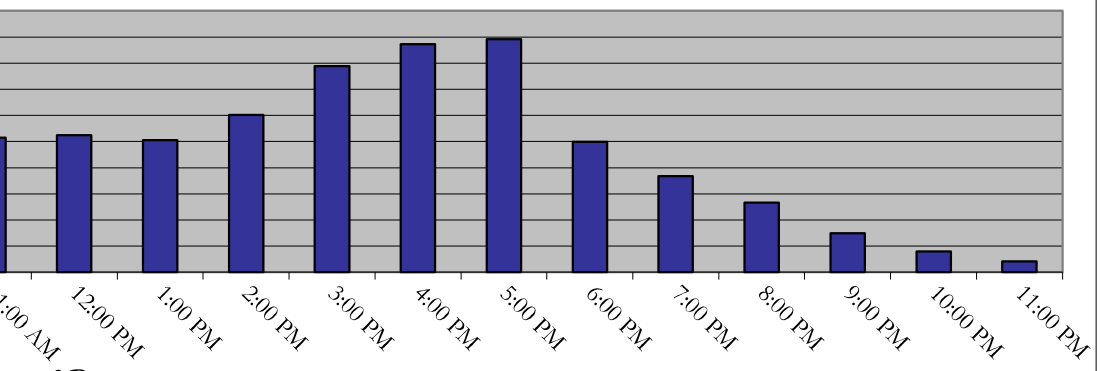
ocation: Rimrock Rd & 54TH ST West - East Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 1.040

	1/14/2024 Friday		1/15/2024 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					3	11	14	0.1%	0.2%	0.2%
					7	5	12	0.1%	0.1%	0.1%
					4	4	8	0.1%	0.1%	0.1%
					18	5	23	0.4%	0.1%	0.2%
					45	7	52	0.9%	0.2%	0.6%
					109	29	138	2.3%	0.6%	1.5%
					337	97	434	7.1%	2.1%	4.7%
					714	204	918	15.0%	4.5%	9.9%
					438	256	694	9.2%	5.7%	7.5%
					246	202	448	5.2%	4.5%	4.8%
					239	181	420	5.0%	4.0%	4.5%
					272	243	515	5.7%	5.4%	5.6%
					268	256	524	5.6%	5.7%	5.7%
					257	249	506	5.4%	5.5%	5.5%
					306	296	602	6.4%	6.6%	6.5%
					343	445	788	7.2%	9.9%	8.5%
					350	523	873	7.4%	11.6%	9.4%
					345	546	891	7.3%	12.1%	9.6%
					196	303	499	4.1%	6.7%	5.4%
					109	259	368	2.3%	5.7%	4.0%
					69	197	266	1.5%	4.4%	2.9%
					43	107	150	0.9%	2.4%	1.6%
					18	62	80	0.4%	1.4%	0.9%
					12	30	42	0.3%	0.7%	0.5%
	0	**0**	**0**	**0**	**4,748**	**4,517**	**9,265**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



me of Day

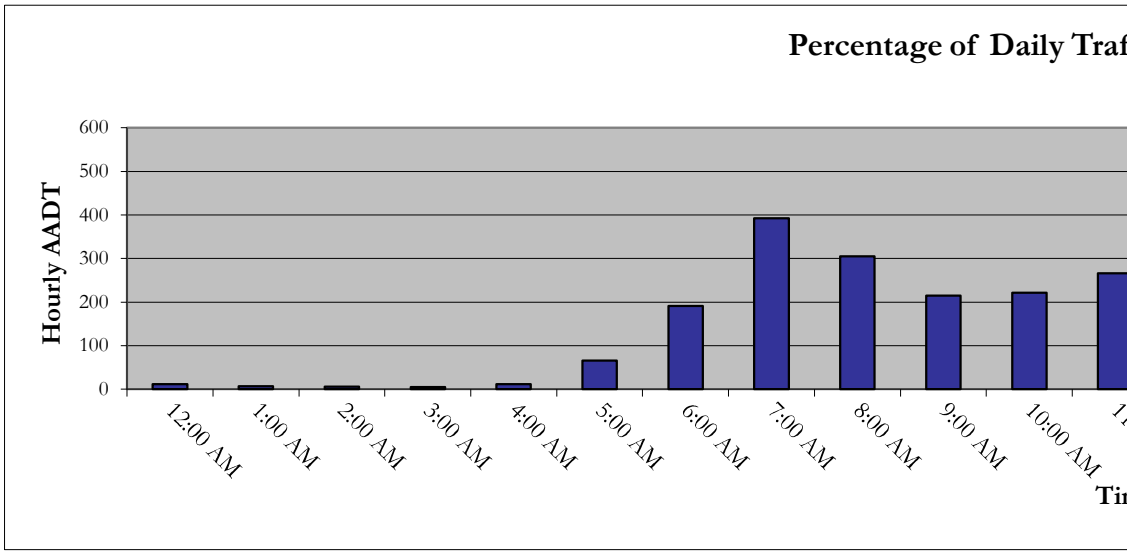
VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	9/12/2023	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	9/10/2023 Sunday		9/11/2023 Monday		9/12/2023 Tuesday		9/13/2023 Wednesday		9/14/2023 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00					5	7				
1:00					5	2				
2:00					4	2				
3:00					4	1				
4:00					8	4				
5:00					51	15				
6:00					144	47				
7:00					291	102				
8:00					209	96				
9:00					111	104				
10:00					107	115				
11:00					122	144				
12:00					144	164				
13:00					123	141				
14:00					118	157				
15:00					150	257				
16:00					193	285				
17:00					176	333				
18:00					147	140				
19:00					91	119				
20:00					22	95				
21:00					10	41				
22:00					10	25				
23:00					8	16				
TOTAL	**0**	**0**	**0**	**0**	**2,253**	**2,412**	**0**	**0**	**0**	**0**

Percentage of Daily Traf



NT SUMMARY

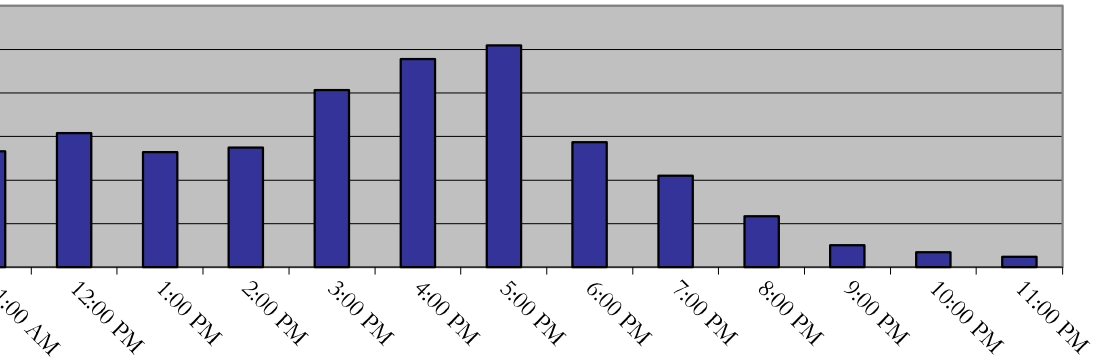
ocation: Hesper Rd & 48TH ST West - East Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 0.950

	9/15/2023 Friday		9/16/2023 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					5	7	12	0.2%	0.3%	0.3%
					5	2	7	0.2%	0.1%	0.2%
					4	2	6	0.2%	0.1%	0.1%
					4	1	5	0.2%	0.0%	0.1%
					8	4	12	0.4%	0.2%	0.3%
					51	15	66	2.3%	0.6%	1.4%
					144	47	191	6.4%	1.9%	4.1%
					291	102	393	12.9%	4.2%	8.4%
					209	96	305	9.3%	4.0%	6.5%
					111	104	215	4.9%	4.3%	4.6%
					107	115	222	4.7%	4.8%	4.8%
					122	144	266	5.4%	6.0%	5.7%
					144	164	308	6.4%	6.8%	6.6%
					123	141	264	5.5%	5.8%	5.7%
					118	157	275	5.2%	6.5%	5.9%
					150	257	407	6.7%	10.7%	8.7%
					193	285	478	8.6%	11.8%	10.2%
					176	333	509	7.8%	13.8%	10.9%
					147	140	287	6.5%	5.8%	6.2%
					91	119	210	4.0%	4.9%	4.5%
					22	95	117	1.0%	3.9%	2.5%
					10	41	51	0.4%	1.7%	1.1%
					10	25	35	0.4%	1.0%	0.8%
					8	16	24	0.4%	0.7%	0.5%
	0	**0**	**0**	**0**	**2,253**	**2,412**	**4,665**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



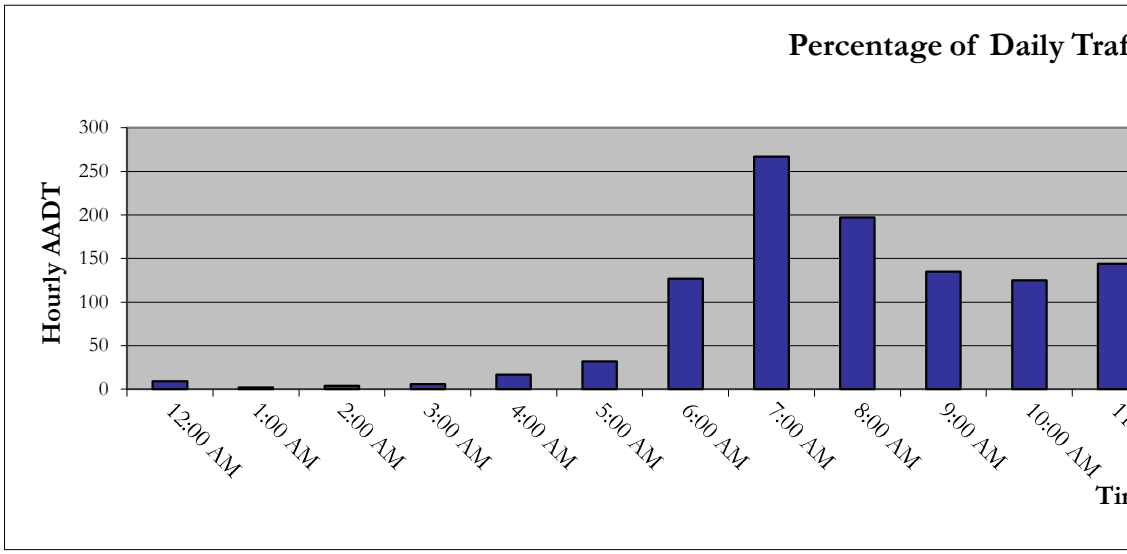
me of Day

VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	2/8/2024	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	2/4/2024 Sunday		2/5/2024 Monday		2/6/2024 Tuesday		2/7/2024 Wednesday		2/8/2024 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00									3	6
1:00									1	1
2:00									0	4
3:00									5	1
4:00									15	2
5:00									29	3
6:00									101	26
7:00									227	40
8:00									128	69
9:00									83	52
10:00									68	57
11:00									68	76
12:00									80	94
13:00									69	74
14:00									60	75
15:00									85	137
16:00									82	169
17:00									95	181
18:00									70	115
19:00									34	81
20:00									31	76
21:00									6	43
22:00									4	15
23:00									2	9
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,346**	**1,406**



NT SUMMARY

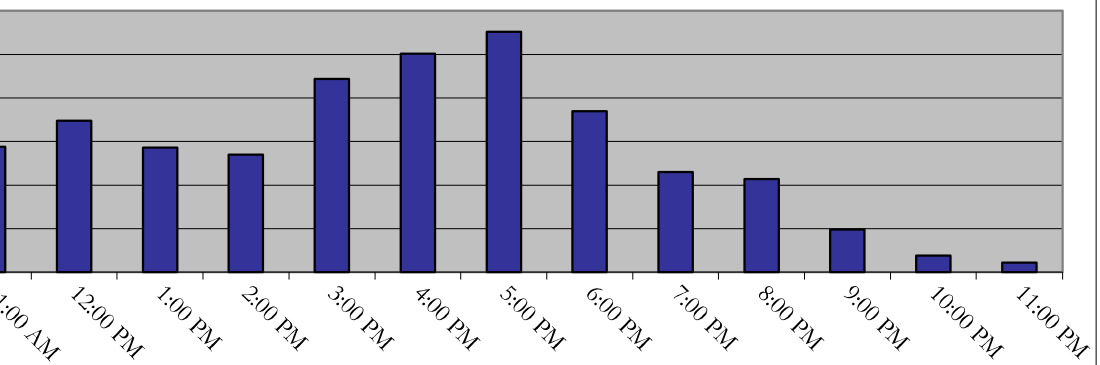
ocation: Rimrock Rd & 62ND ST West (South Leg) - West Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 1.010

	2/9/2024 Friday		2/10/2024 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					3	6	9	0.2%	0.4%	0.3%
					1	1	2	0.1%	0.1%	0.1%
					0	4	4	0.0%	0.3%	0.1%
					5	1	6	0.4%	0.1%	0.2%
					15	2	17	1.1%	0.1%	0.6%
					29	3	32	2.2%	0.2%	1.2%
					101	26	127	7.5%	1.8%	4.6%
					227	40	267	16.9%	2.8%	9.7%
					128	69	197	9.5%	4.9%	7.2%
					83	52	135	6.2%	3.7%	4.9%
					68	57	125	5.1%	4.1%	4.5%
					68	76	144	5.1%	5.4%	5.2%
					80	94	174	5.9%	6.7%	6.3%
					69	74	143	5.1%	5.3%	5.2%
					60	75	135	4.5%	5.3%	4.9%
					85	137	222	6.3%	9.7%	8.1%
					82	169	251	6.1%	12.0%	9.1%
					95	181	276	7.1%	12.9%	10.0%
					70	115	185	5.2%	8.2%	6.7%
					34	81	115	2.5%	5.8%	4.2%
					31	76	107	2.3%	5.4%	3.9%
					6	43	49	0.4%	3.1%	1.8%
					4	15	19	0.3%	1.1%	0.7%
					2	9	11	0.1%	0.6%	0.4%
	0	0	0	0	1,346	1,406	2,752	100.0%	100.0%	100.0%

ffic Volume Per Hour



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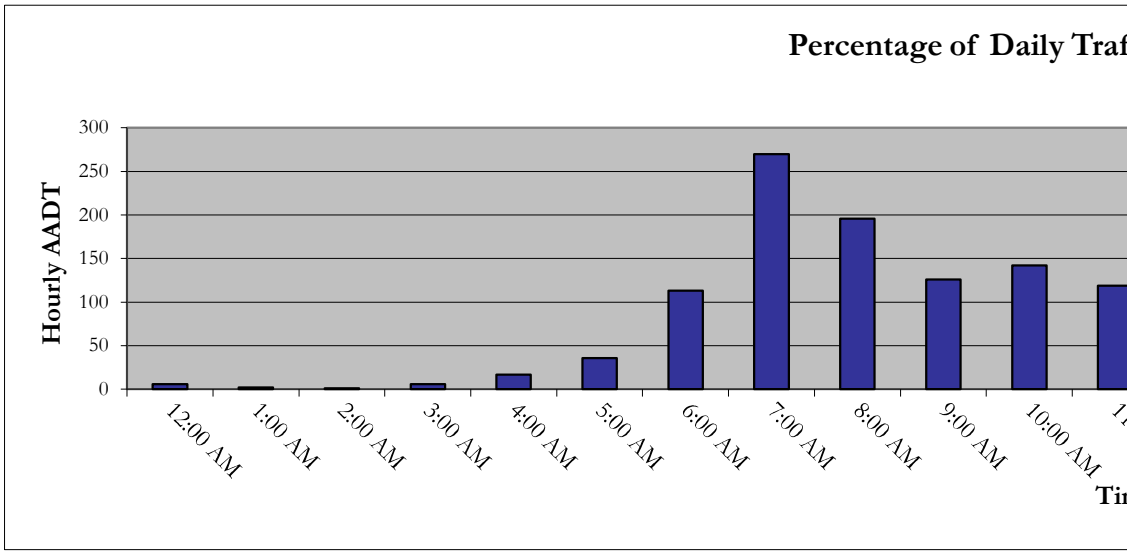
VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	2/8/2024	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	2/4/2024 Sunday		2/5/2024 Monday		2/6/2024 Tuesday		2/7/2024 Wednesday		2/8/2024 Thursday	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0:00									4	2
1:00									2	0
2:00									1	0
3:00									2	4
4:00									4	13
5:00									10	26
6:00									30	83
7:00									60	210
8:00									72	124
9:00									51	75
10:00									75	67
11:00									54	65
12:00									94	64
13:00									61	71
14:00									74	68
15:00									152	106
16:00									149	94
17:00									183	102
18:00									102	70
19:00									85	33
20:00									47	33
21:00									32	9
22:00									17	7
23:00									5	3
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,366**	**1,329**



NT SUMMARY

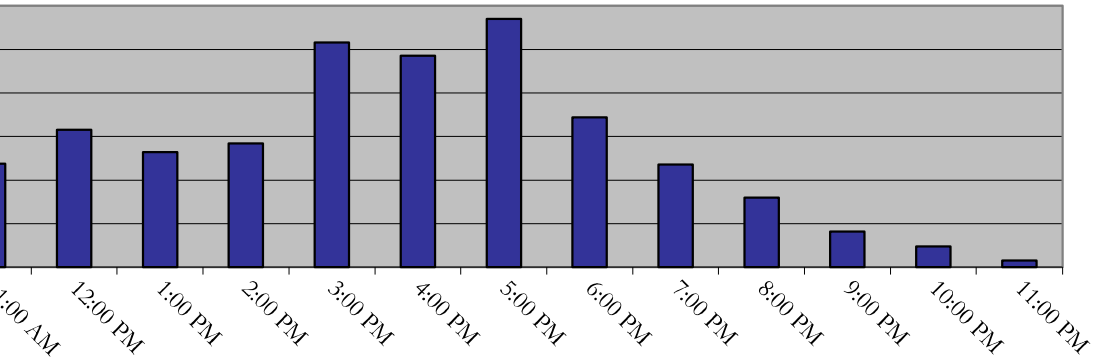
ocation: Rimrock Rd & 62ND ST West (South Leg) - South Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 1.010

	2/9/2024 Friday		2/10/2024 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	NB	SB	NB	SB	NB	SB	ADT	NB	SB	ADT
					4	2	6	0.3%	0.2%	0.2%
					2	0	2	0.1%	0.0%	0.1%
					1	0	1	0.1%	0.0%	0.0%
					2	4	6	0.1%	0.3%	0.2%
					4	13	17	0.3%	1.0%	0.6%
					10	26	36	0.7%	2.0%	1.3%
					30	83	113	2.2%	6.2%	4.2%
					60	210	270	4.4%	15.8%	10.0%
					72	124	196	5.3%	9.3%	7.3%
					51	75	126	3.7%	5.6%	4.7%
					75	67	142	5.5%	5.0%	5.3%
					54	65	119	4.0%	4.9%	4.4%
					94	64	158	6.9%	4.8%	5.9%
					61	71	132	4.5%	5.3%	4.9%
					74	68	142	5.4%	5.1%	5.3%
					152	106	258	11.1%	8.0%	9.6%
					149	94	243	10.9%	7.1%	9.0%
					183	102	285	13.4%	7.7%	10.6%
					102	70	172	7.5%	5.3%	6.4%
					85	33	118	6.2%	2.5%	4.4%
					47	33	80	3.4%	2.5%	3.0%
					32	9	41	2.3%	0.7%	1.5%
					17	7	24	1.2%	0.5%	0.9%
					5	3	8	0.4%	0.2%	0.3%
	0	0	0	0	1,366	1,329	2,695	100.0%	100.0%	100.0%

ffic Volume Per Hour



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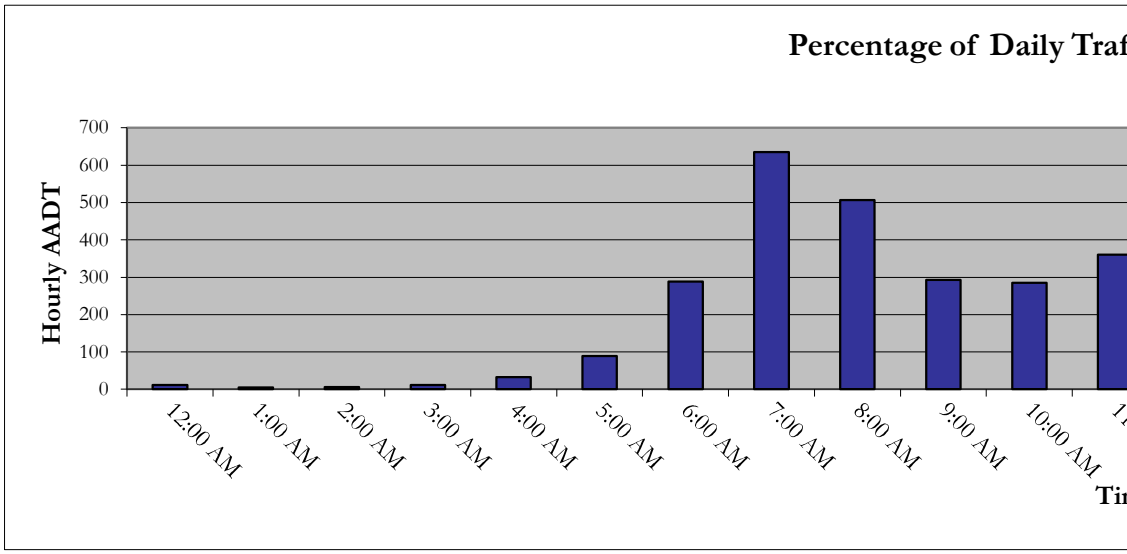
VOLUME COUN

General Information

Counted By:	Rafael Teixeira	Count L
Agency/Company:	Sanderson Stewart	
Dates Performed:	1/9/2024	Jurisdicti
Project Number:	23379	Street Cl
Project Description:	West Billings Neighborhood Plan	
		Seasonal

Hour Begin	1/9/2024 Sunday		1/10/2024 Monday		1/11/2024 Tuesday		1/12/2024 Wednesday		1/13/2024 Thursday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00					2	10				
1:00					3	2				
2:00					3	3				
3:00					11	1				
4:00					30	3				
5:00					77	12				
6:00					240	49				
7:00					535	100				
8:00					317	190				
9:00					171	122				
10:00					152	133				
11:00					189	172				
12:00					191	179				
13:00					176	183				
14:00					222	224				
15:00					193	324				
16:00					218	360				
17:00					206	413				
18:00					156	253				
19:00					82	194				
20:00					50	178				
21:00					19	75				
22:00					11	47				
23:00					9	22				
TOTAL	**0**	**0**	**0**	**0**	**3,263**	**3,249**	**0**	**0**	**0**	**0**



NT SUMMARY

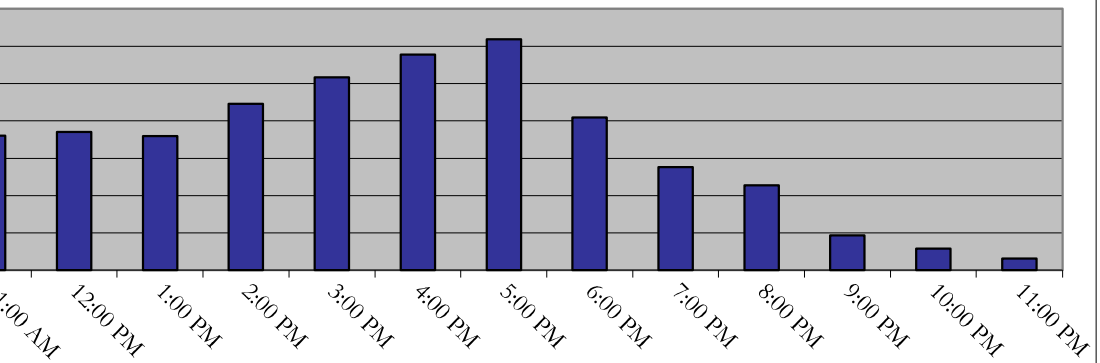
ocation: Rimrock Rd & 54TH ST West - West Leg

on: City of Billings, MT / MDT
assification: Principal Arterial

Count Factor: 1.040

	1/14/2024 Friday		1/15/2024 Saturday		Annual Average Daily Traffic (AADT)			Hourly Percentage of Total (%)		
	EB	WB	EB	WB	EB	WB	ADT	EB	WB	ADT
					2	10	12	0.1%	0.3%	0.2%
					3	2	5	0.1%	0.1%	0.1%
					3	3	6	0.1%	0.1%	0.1%
					11	1	12	0.3%	0.0%	0.2%
					30	3	33	0.9%	0.1%	0.5%
					77	12	89	2.4%	0.4%	1.4%
					240	49	289	7.4%	1.5%	4.4%
					535	100	635	16.4%	3.1%	9.8%
					317	190	507	9.7%	5.8%	7.8%
					171	122	293	5.2%	3.8%	4.5%
					152	133	285	4.7%	4.1%	4.4%
					189	172	361	5.8%	5.3%	5.5%
					191	179	370	5.9%	5.5%	5.7%
					176	183	359	5.4%	5.6%	5.5%
					222	224	446	6.8%	6.9%	6.8%
					193	324	517	5.9%	10.0%	7.9%
					218	360	578	6.7%	11.1%	8.9%
					206	413	619	6.3%	12.7%	9.5%
					156	253	409	4.8%	7.8%	6.3%
					82	194	276	2.5%	6.0%	4.2%
					50	178	228	1.5%	5.5%	3.5%
					19	75	94	0.6%	2.3%	1.4%
					11	47	58	0.3%	1.4%	0.9%
					9	22	31	0.3%	0.7%	0.5%
	0	**0**	**0**	**0**	**3,263**	**3,249**	**6,512**	**100.0%**	**100.0%**	**100.0%**

ffic Volume Per Hour



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COUNT LOCATIONS

Link	Location ID	Functional Class	Location On	Loc Al
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-351	56-4A-351	Minor Collector	CENTRAL AVE	W of 5
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-352	56-4A-352	Minor Collector	CENTRAL AVE	E of 5
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-353	56-4A-353	Minor Collector	56TH ST W	N of C
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-354	56-4A-354	Minor Collector	56TH ST W	S of C
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-355	56-4A-355	Minor Collector	62nd ST W	N of G
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-356	56-4A-356	Minor Arterial	Rimrock RD	62nd
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-357	56-4A-357	Minor Collector	GRAND AVE	E of 6
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-358	56-4A-358	Local	54th ST W	S of R
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-359	56-4A-359	Local	58TH ST W	N of K
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-360	56-4A-360	Minor Collector	56TH ST W	S of G
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-361	56-4A-361	Minor Collector	GRAND AVE	W of 5
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-362	56-4A-362	Local	HESPER RD	W of 5
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-363	56-4A-363	Minor Collector	56TH ST W	S of H
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-364	56-4A-364	Local	HESPER RD	E of 5
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-365	56-4A-365	Major Collector	ROUTE 532	E of 5
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-366	56-4A-366	Major Collector	ROUTE 532	btwn
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-367	56-4A-367	Local	64TH ST W	N of H
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-368	56-4A-368	Local	64TH ST W	N of M
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-369	56-4A-369	Local	64TH ST W	S of K
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-374	56-4A-374	Local	54TH ST W	N of G
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-375	56-4A-375	Local	54th ST W	N of R
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-376	56-4A-376	Minor Collector	GRAND AVE	E of 5
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-377	56-4A-377	Local	48TH ST W	N of C
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-378	56-4A-378	Local	48TH ST W	N of H
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-379	56-4A-379	Local	48TH ST W	N of M
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-380	56-4A-380	Local	48TH ST W	S of C
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-381	56-4A-381	Local	48TH ST W	S of G
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-382	56-4A-382	Local	48TH ST W	S of K
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-383	56-4A-383	Minor Collector	NIEBAUER RD	W of 4
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-384	56-4A-384	Major Collector	GRAND AVE	W of 4
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-389	56-4A-389	Minor Collector	56TH ST W	S of K
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-393	56-4A-393	Minor Collector	64th St W	S of G
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-394	56-4A-394	Minor Collector	64th St W	N of K
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-085	56-4A-085	Minor Collector	GRAND AVE	3.5 m
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-112	56-4A-112	Minor Arterial	Rimrock RD	E of 5
http://www.ms2soft.com/tcds/?loc=Mdt&mod=tcds&local_id=56-4A-342	56-4A-342	Local	Rimrock RD	W of 6
	56-4A-123	Local	NIEBAUER RD	SW of
	56-4A-122	Minor Arterial	SHILOH ROAD	at I-90

(-) -- 2022 Data was projected by MDT

ias	2022 AADT	2023 count 1	Count 1 date	2023 count 2	Count 2 date	2023 count 3	Count 3 date	Consider ?
56th AV	945	1582	8/14/2023	1602	8/15/2023			YES
6th Av	2273	3122	8/14/2023	3201	8/15/2023			YES
Central Av	2583	4300	8/14/2023	4063	8/15/2023			YES
entral Av	3293	3735	8/14/2023	3575	8/15/2023			YES
Grand Av	2848	2890	9/25/2023	2947	9/26/2023	2994	9/27/2023	YES
ST W	-2134							NO
2nd St W	5312							YES
imrock RD	3344							YES
it Ln	-420	510	4/24/2023	589	4/25/2023			NEW IN 2023
rand Ave	-4252	4413	4/24/2023	4512	4/25/2023			NEW IN 2023
56th St W	6335							YES
56th St W	-2022	3060	4/24/2023	3170	4/25/2023			NEW IN 2023
esper Rd	-2785							NO
6th St W	-2159							NO
6th St W	6038	11162	4/24/2023	11351	4/25/2023			YES
S64th St W & Ollie St	7011	7782	4/24/2023	7960	4/25/2023			YES
Nesper Rd	1944	2517	4/24/2023	2606	4/25/2023			YES
Neibauer Rd	-876							NO
ing Ave W	-1758							NO
Grand Ave	3977							YES
Limrock Av	3176							YES
4th St W	8810							YES
Central Ave	3029	4938	4/24/2023	5033	4/25/2023			YES
Nesper RD	2051	2377	4/24/2023	2363	4/25/2023			YES
Neibauer Rd	1146	1075	4/10/2023	920	4/11/2023			YES
entral Ave	4548	3546	4/10/2023	3677	4/11/2023			YES
rand Ave	4097							YES
ing Avve	2274							YES
48th St W	2418	3168	4/10/2023	3340	4/11/2023	3135	4/12/2023	YES
48th St W	14060	13400	4/10/2023	14556	4/11/2023			YES
ing AVE W	-3430							NO
rand Ave	-5081	5479	4/10/2023	5833	4/11/2023			NEW IN 2023
Ling Ave W	-3573	5325	4/10/2023	5096	4/11/2023			NEW IN 2023
i W of Shiloh Rd	2723	3823	8/14/2023	4072	8/15/2023			YES
4th	-11420							NO
62nd St W	-2413							NO
f Shiloh Rd	3076							YES
0 separation	-2158	3814	627/2023	4014	6/28/2023			NEW IN 2023

Bike and Pedestrian:

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

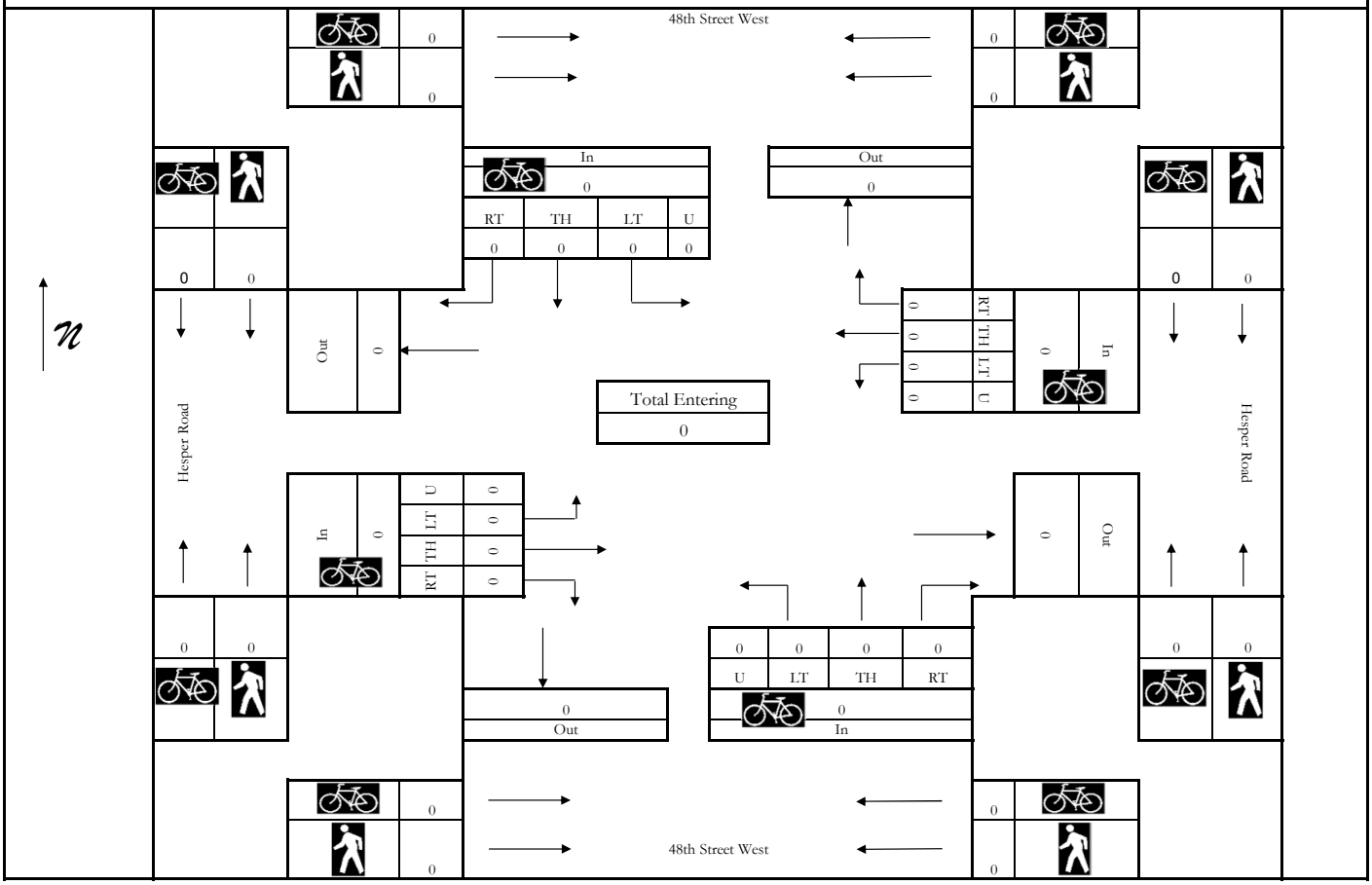
Counted By:	Rafael Teixeira	Intersection:	Hesper Road & 48th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48th Street West	East/West Street:	Hesper Road

Bikes in Roadway

	48th Street West Southbound					48th Street West Northbound					Hesper Road Eastbound					Hesper Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	48th Street West Southbound					48th Street West Northbound					Hesper Road Eastbound					Hesper Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

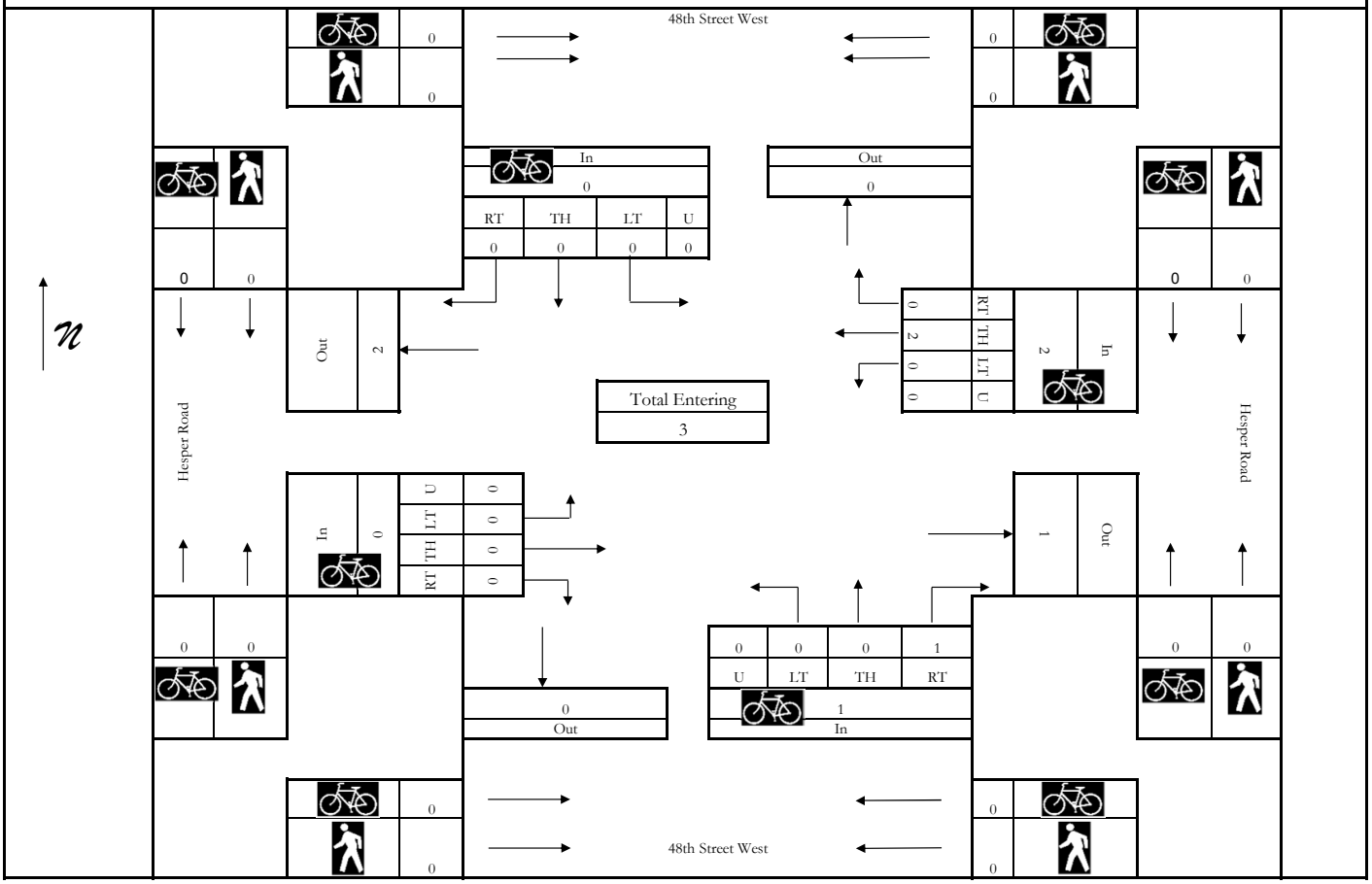
Counted By:	Rafael Teixeira	Intersection:	Hesper Road & 48th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48th Street West	East/West Street:	Hesper Road

Bikes in Roadway

	48th Street West Southbound					48th Street West Northbound					Hesper Road Eastbound					Hesper Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	3

Bikes & Pedestrians in Crosswalk

	48th Street West Southbound					48th Street West Northbound					Hesper Road Eastbound					Hesper Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

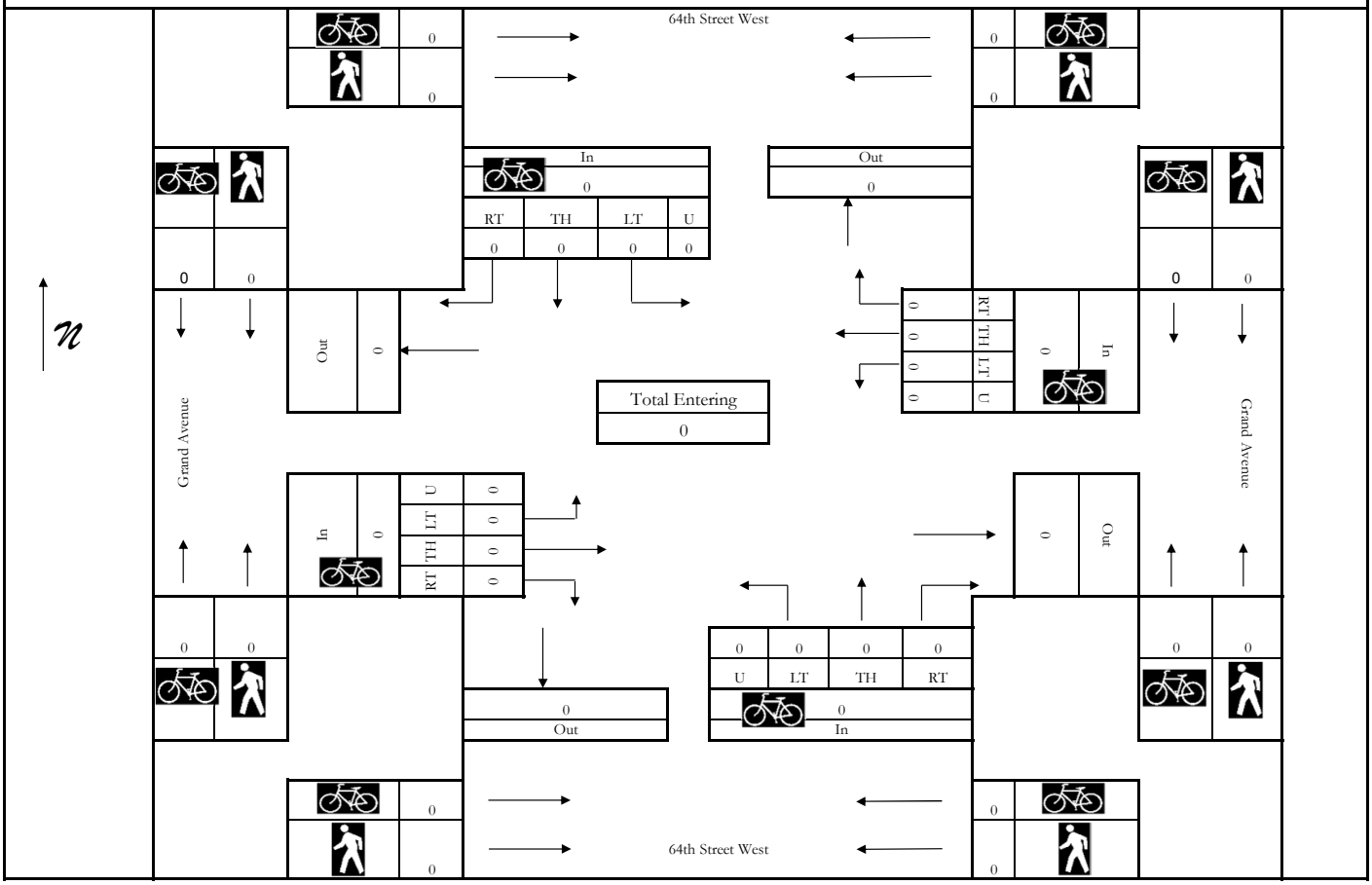
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 64th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 16, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64th Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	64th Street West Southbound					64th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	64th Street West Southbound					64th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

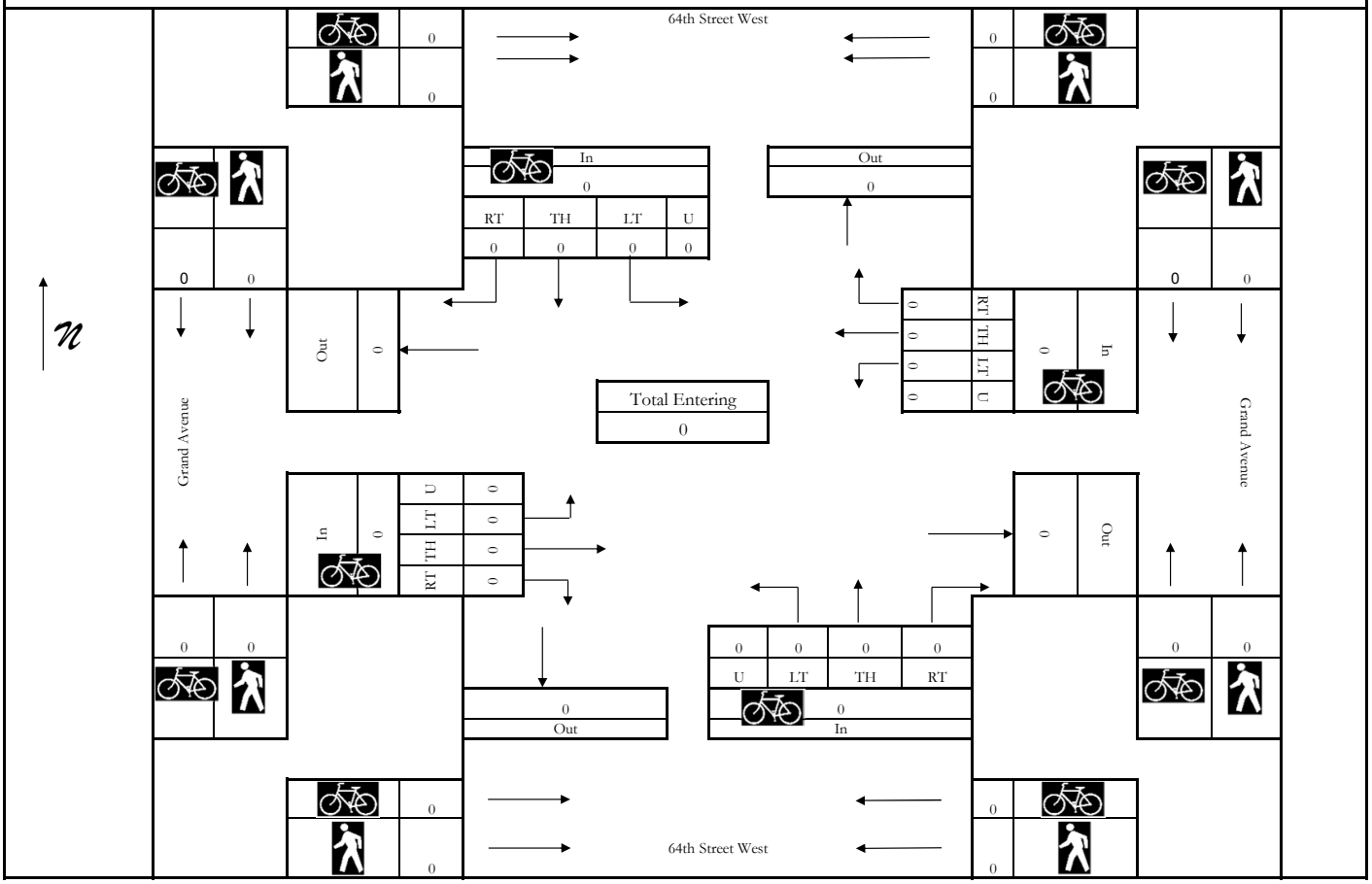
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 64th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 16, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64th Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	64th Street West Southbound					64th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	64th Street West Southbound					64th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

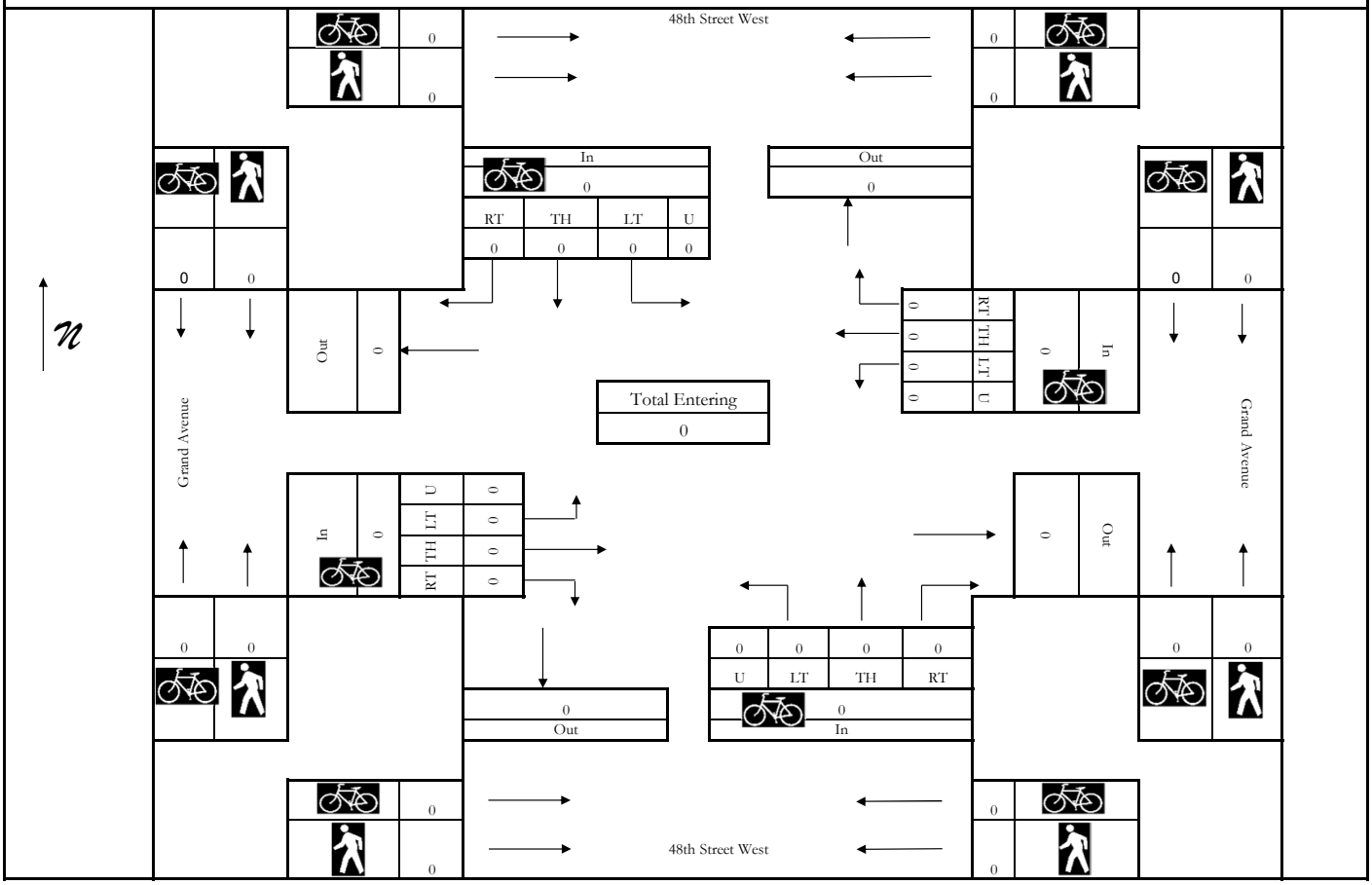
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 48th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48th Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	48th Street West Southbound					48th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	48th Street West Southbound					48th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

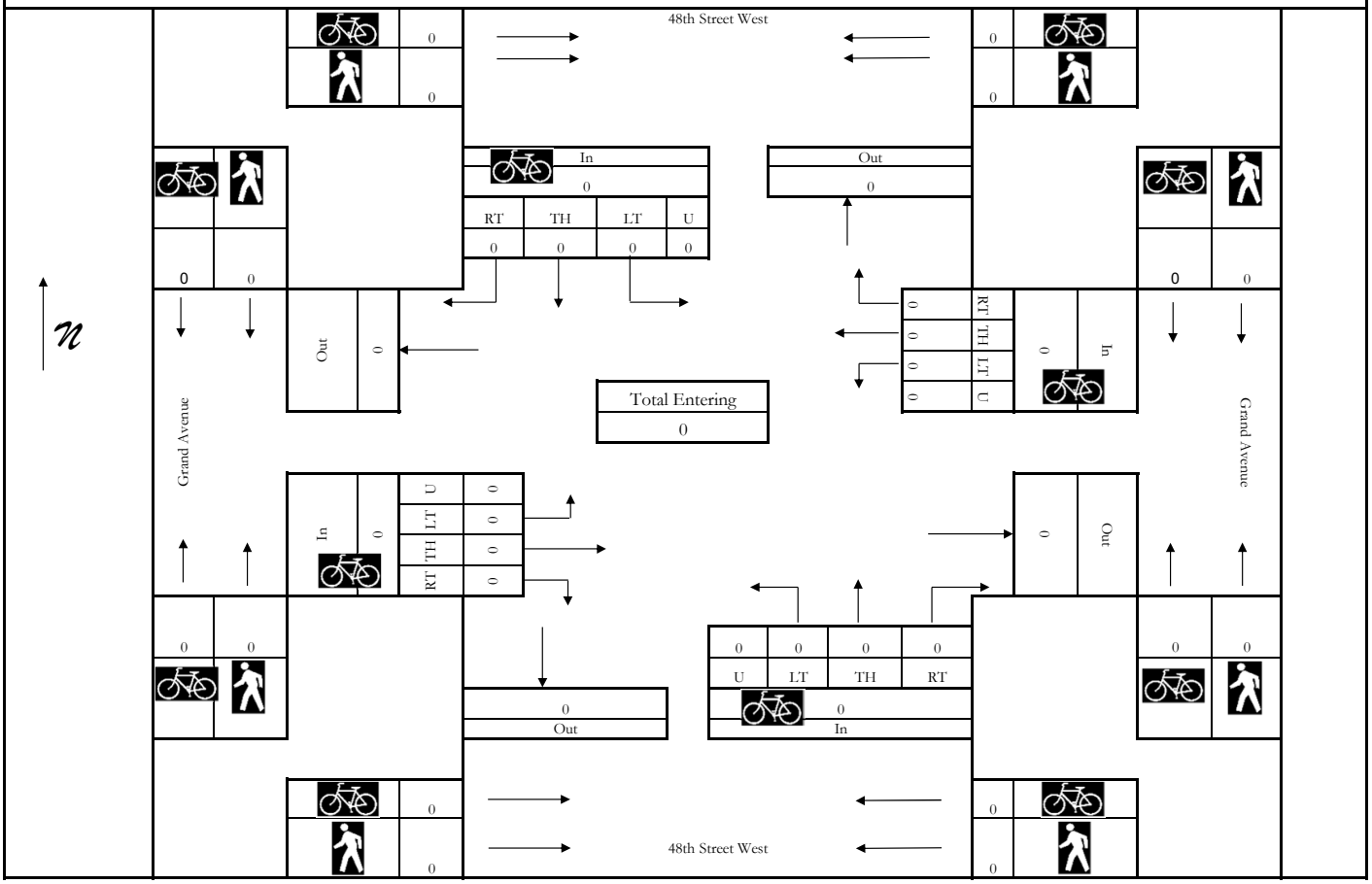
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 48th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48th Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	48th Street West Southbound					48th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	48th Street West Southbound					48th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

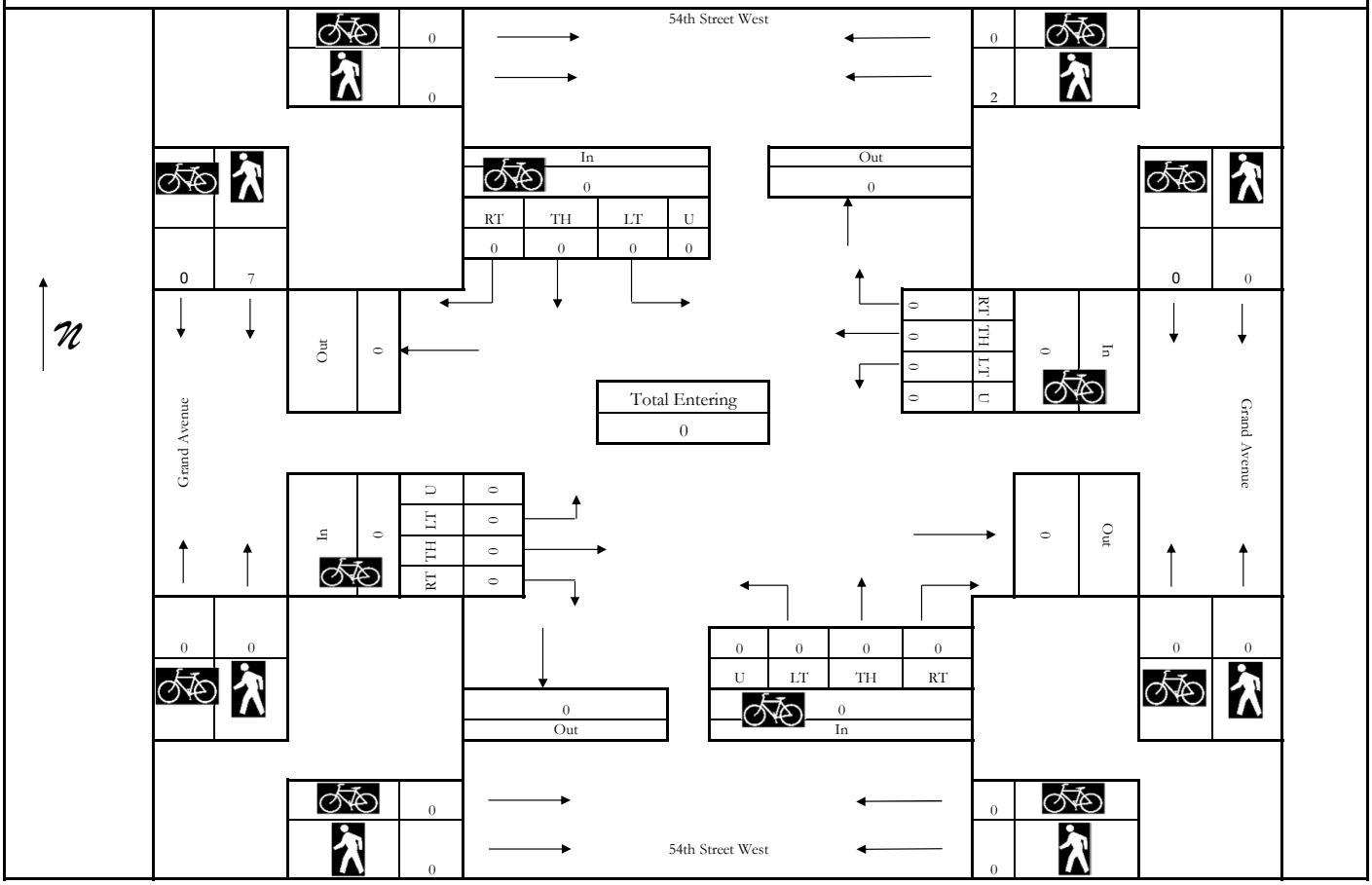
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 54th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54th Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	54th Street West Southbound					54th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	54th Street West Southbound					54th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
7:45 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	6	6	0	0	0	0	0	8
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	2	2	0	0	0	0	0	0	0	0	7	7	0	0	0	0	0	9



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

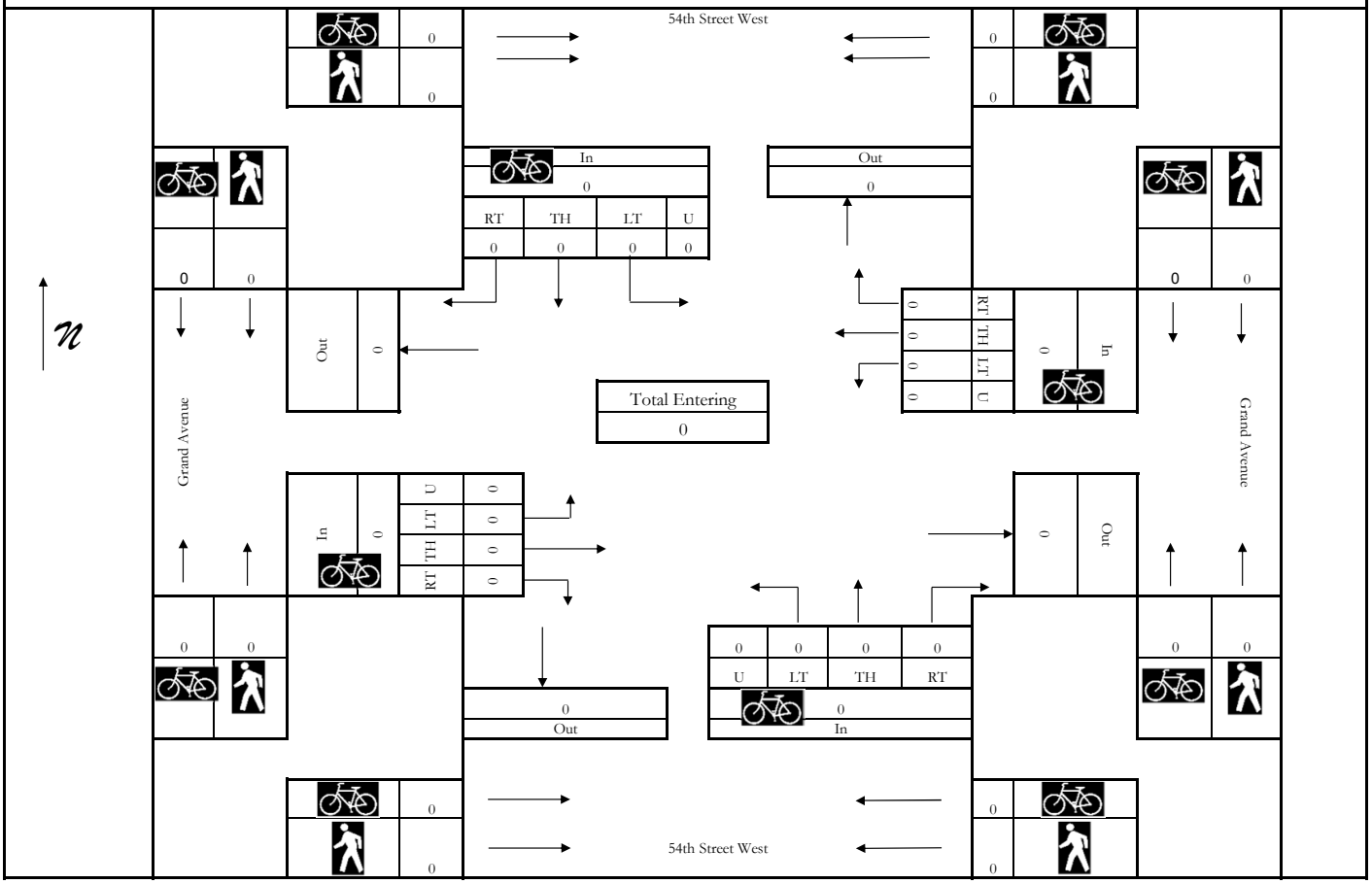
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 54th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54th Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	54th Street West Southbound					54th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	54th Street West Southbound					54th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

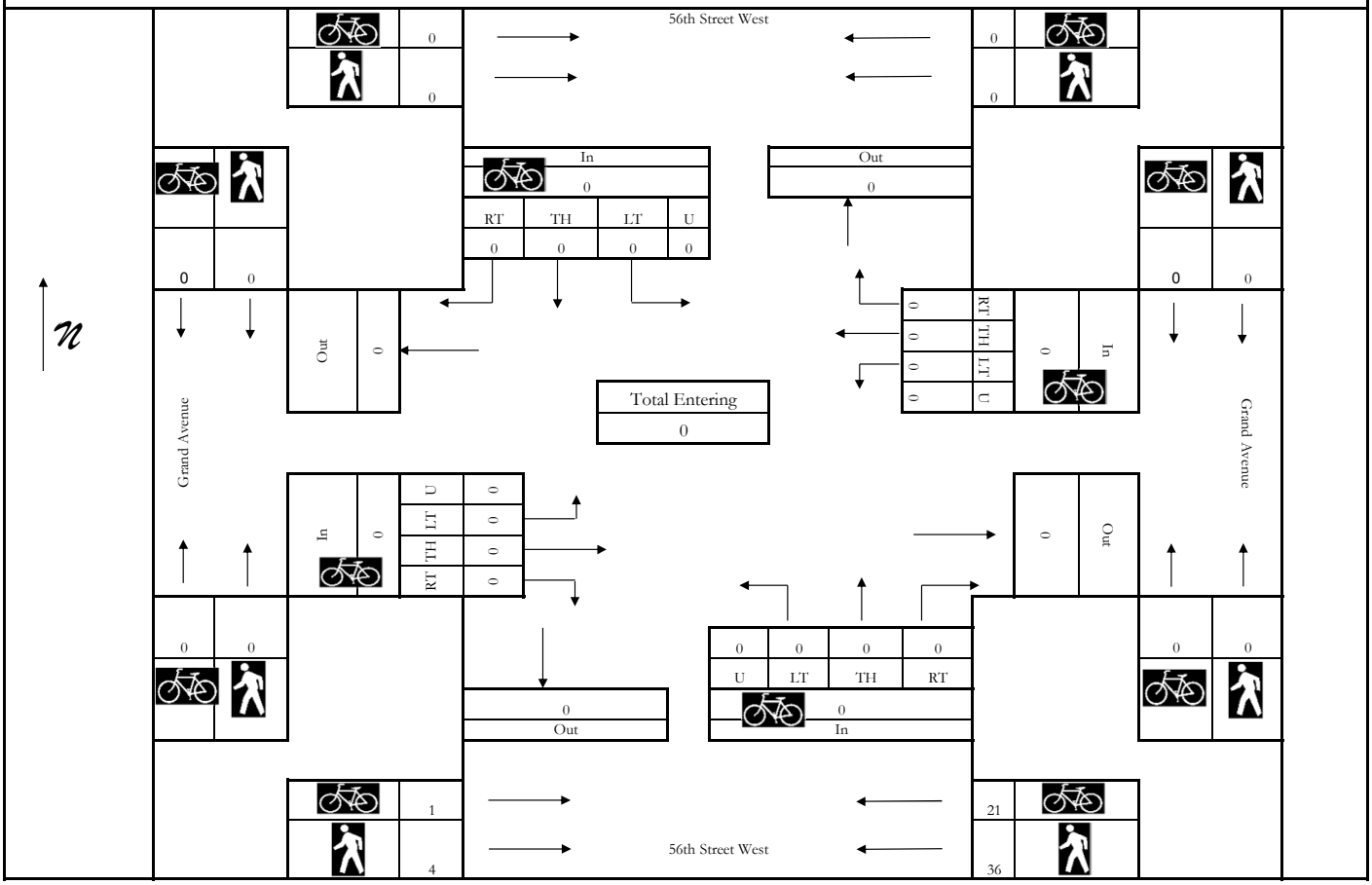
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 56th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, May 16, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56th Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	56th Street West Southbound					56th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	56th Street West Southbound					56th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	6
7:30 AM	0	0	0	0	0	2	11	0	4	17	0	0	0	0	0	0	0	0	0	0	17
7:45 AM	0	0	0	0	0	10	15	0	0	25	0	0	0	0	0	0	0	0	0	0	25
8:00 AM	0	0	0	0	0	9	4	1	0	14	0	0	0	0	0	0	0	0	0	0	14
Grand Total	0	0	0	0	0	21	36	1	4	62	0	0	0	0	0	0	0	0	0	0	62



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

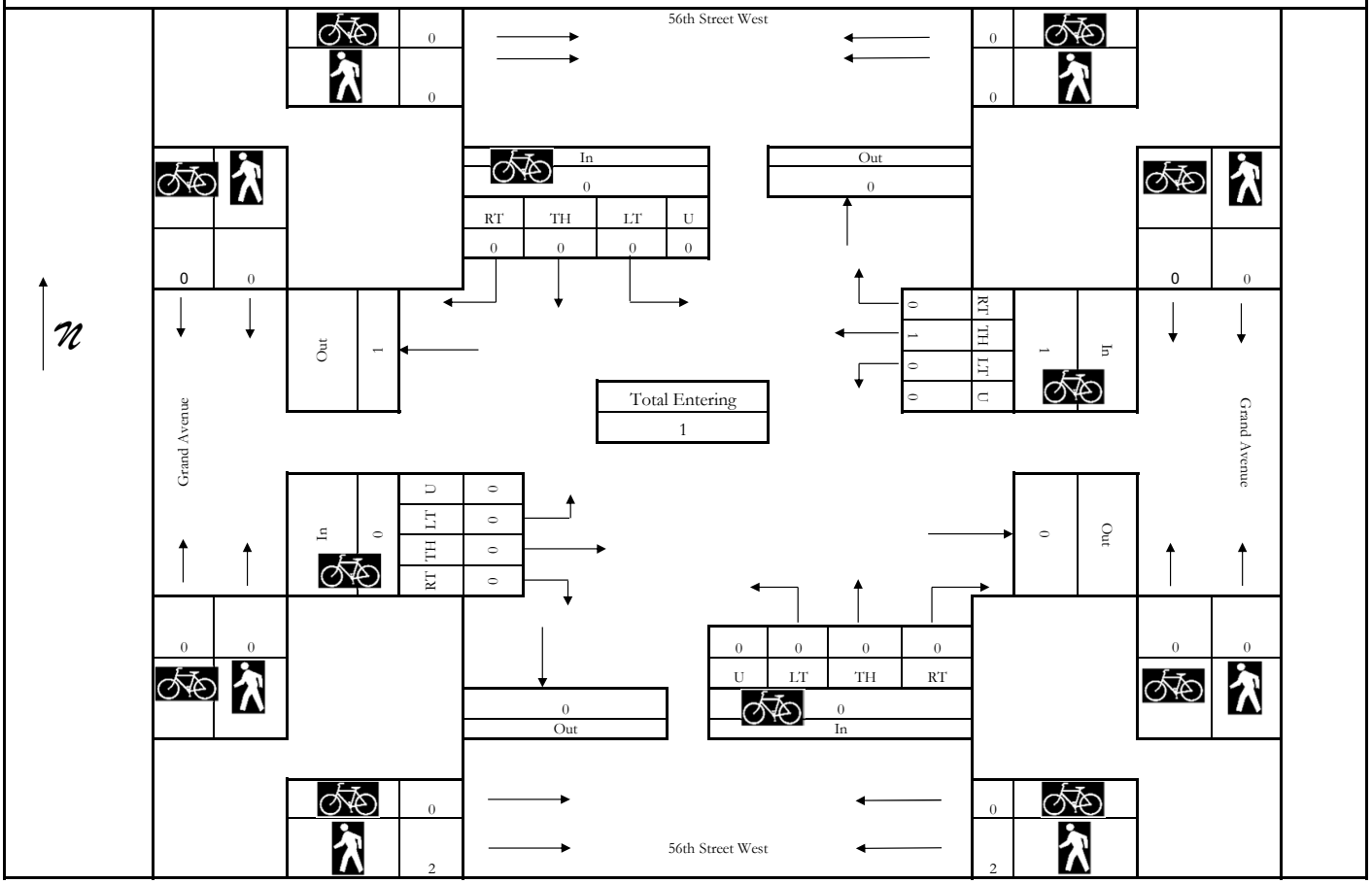
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 56th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, May 16, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56th Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	56th Street West Southbound					56th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1

Bikes & Pedestrians in Crosswalk

	56th Street West Southbound					56th Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	2	0	2	4	0	0	0	0	0	0	0	0	0	0	4
Grand Total	0	0	0	0	0	0	2	0	2	4	0	0	0	0	0	0	0	0	0	0	4



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

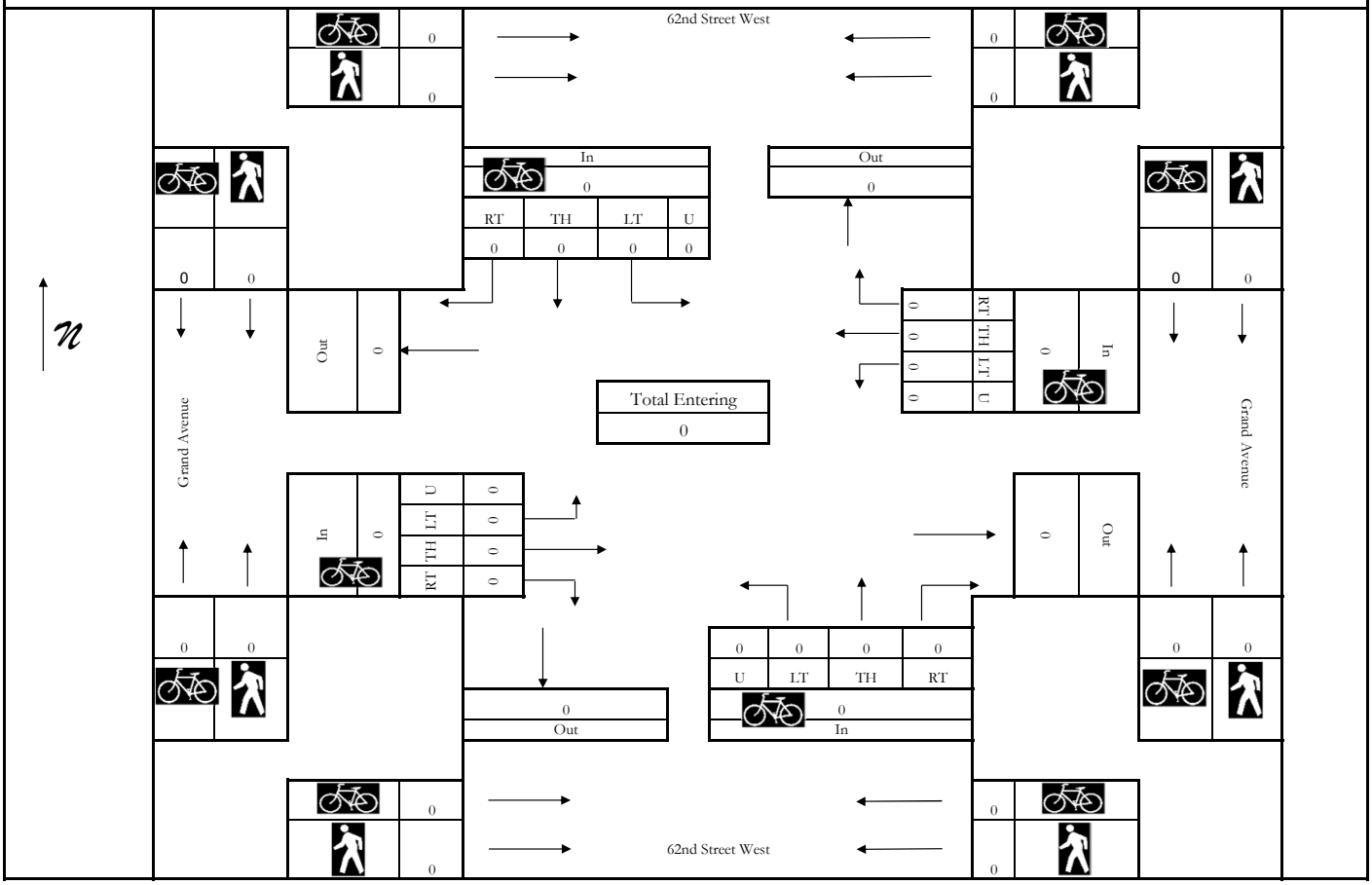
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 62nd Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	62nd Street West Southbound					62nd Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	62nd Street West Southbound					62nd Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

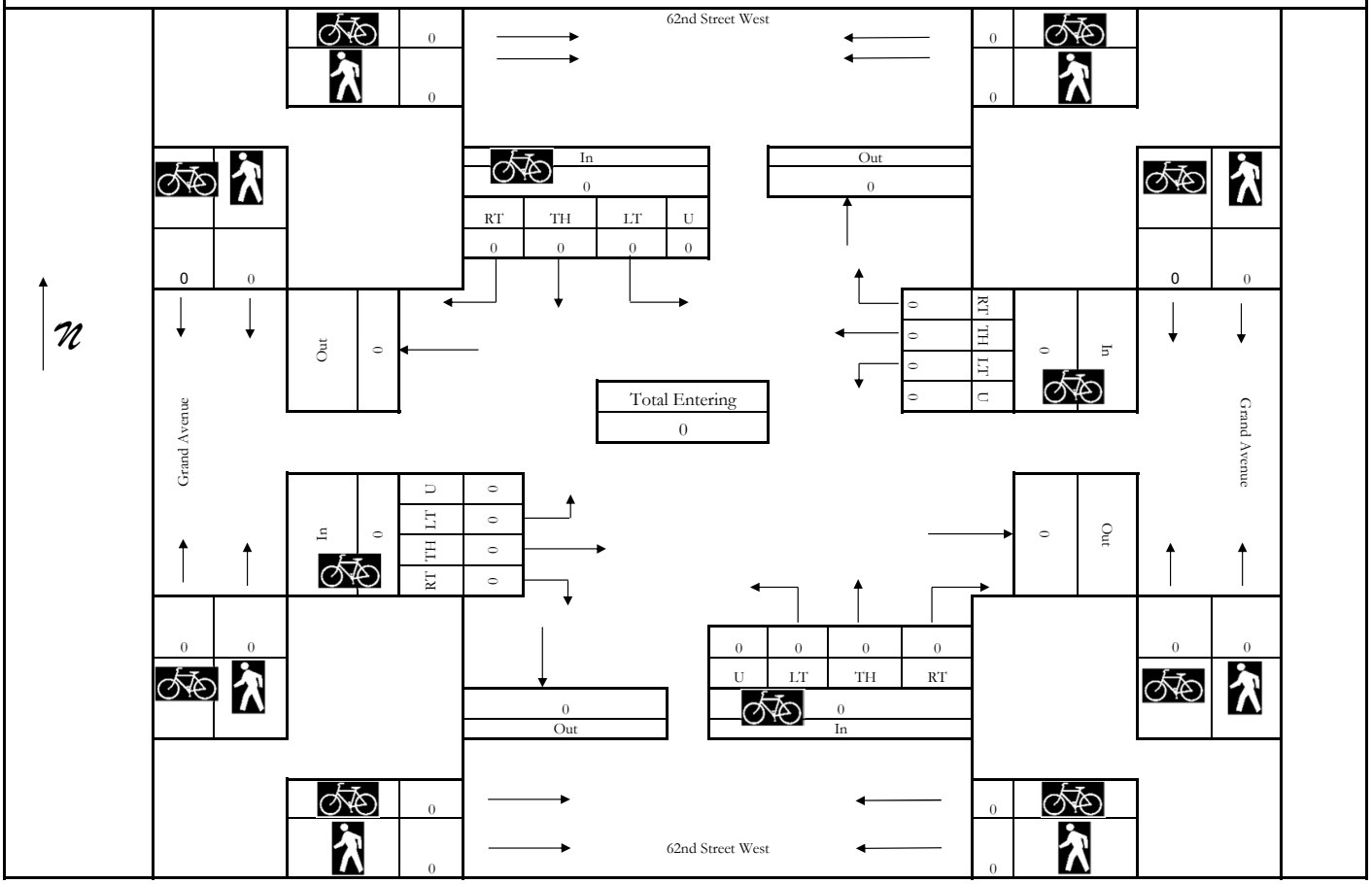
Counted By:	Rafael Teixeira	Intersection:	Grand Avenue & 62nd Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Grand Avenue

Bikes in Roadway

	62nd Street West Southbound					62nd Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	62nd Street West Southbound					62nd Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

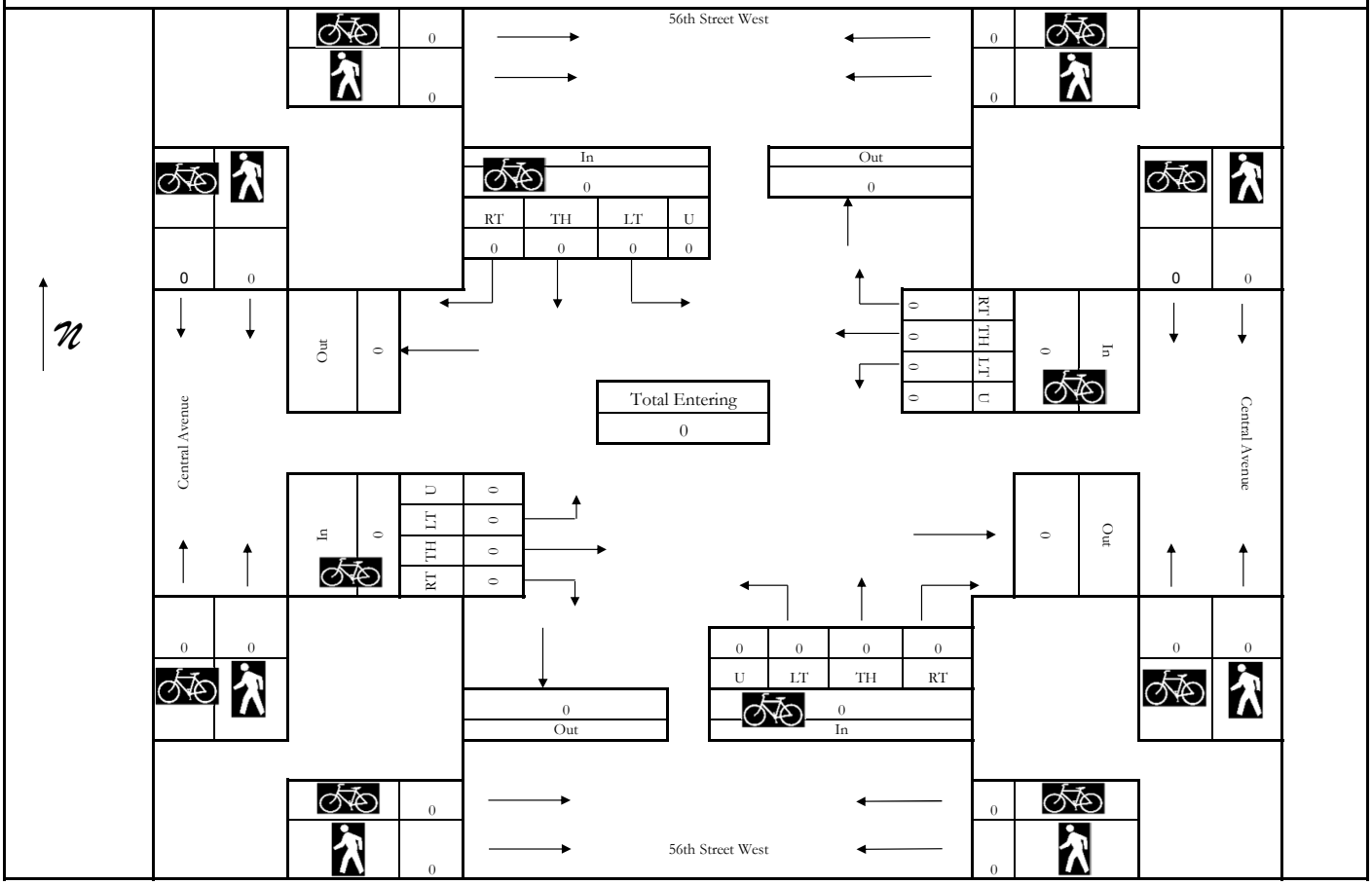
Counted By:	Rafael Teixeira	Intersection:	Central Avenue & 56th Street West
Agency/Company:	Sanbell		
Date Performed:	Thursday, January 11, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56th Street West	East/West Street:	Central Avenue

Bikes in Roadway

	56th Street West Southbound					56th Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	56th Street West Southbound					56th Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

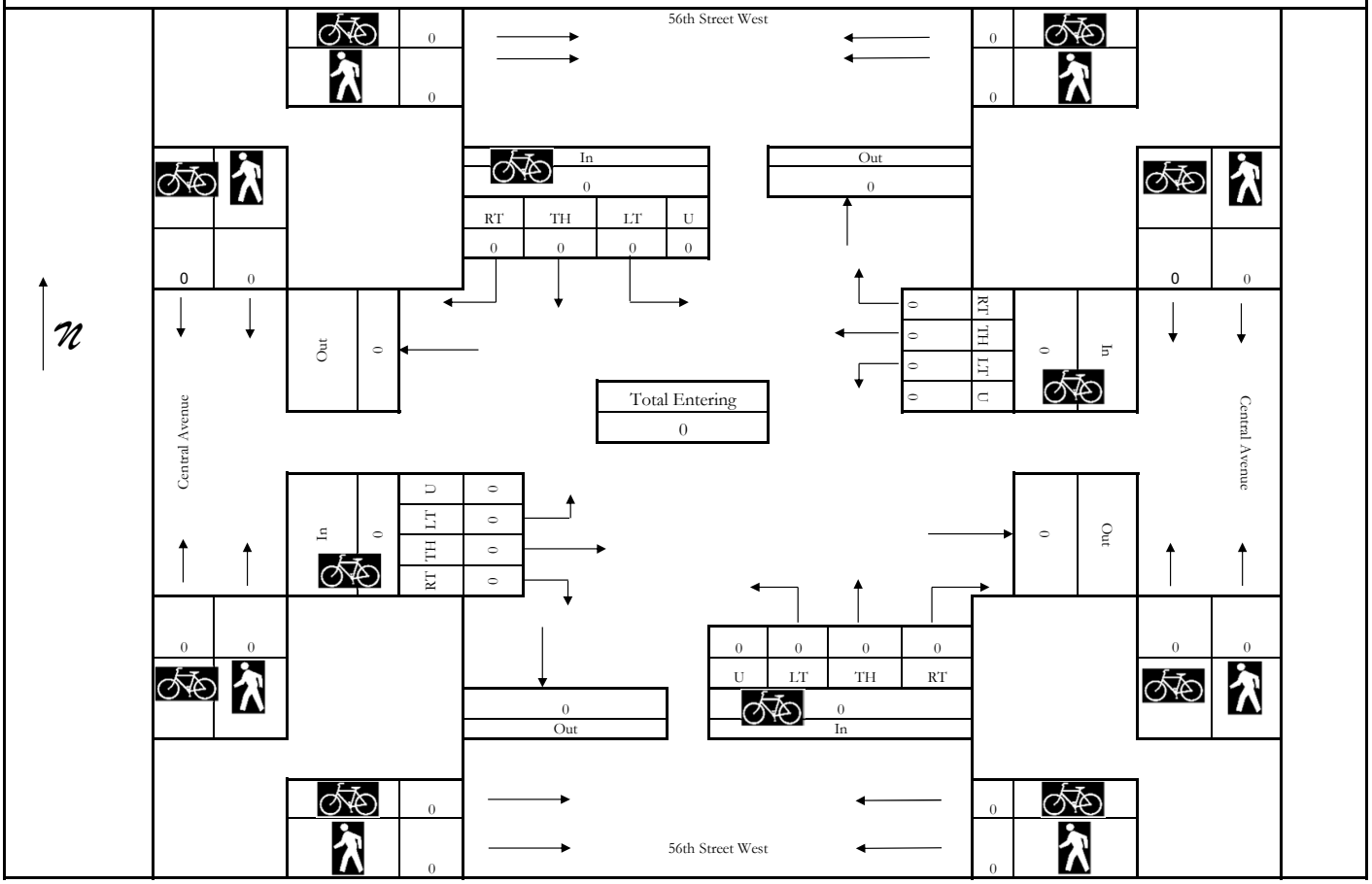
Counted By:	Rafael Teixeira	Intersection:	Central Avenue & 56th Street West
Agency/Company:	Sanbell		
Date Performed:	Thursday, January 11, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56th Street West	East/West Street:	Central Avenue

Bikes in Roadway

	56th Street West Southbound					56th Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	56th Street West Southbound					56th Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

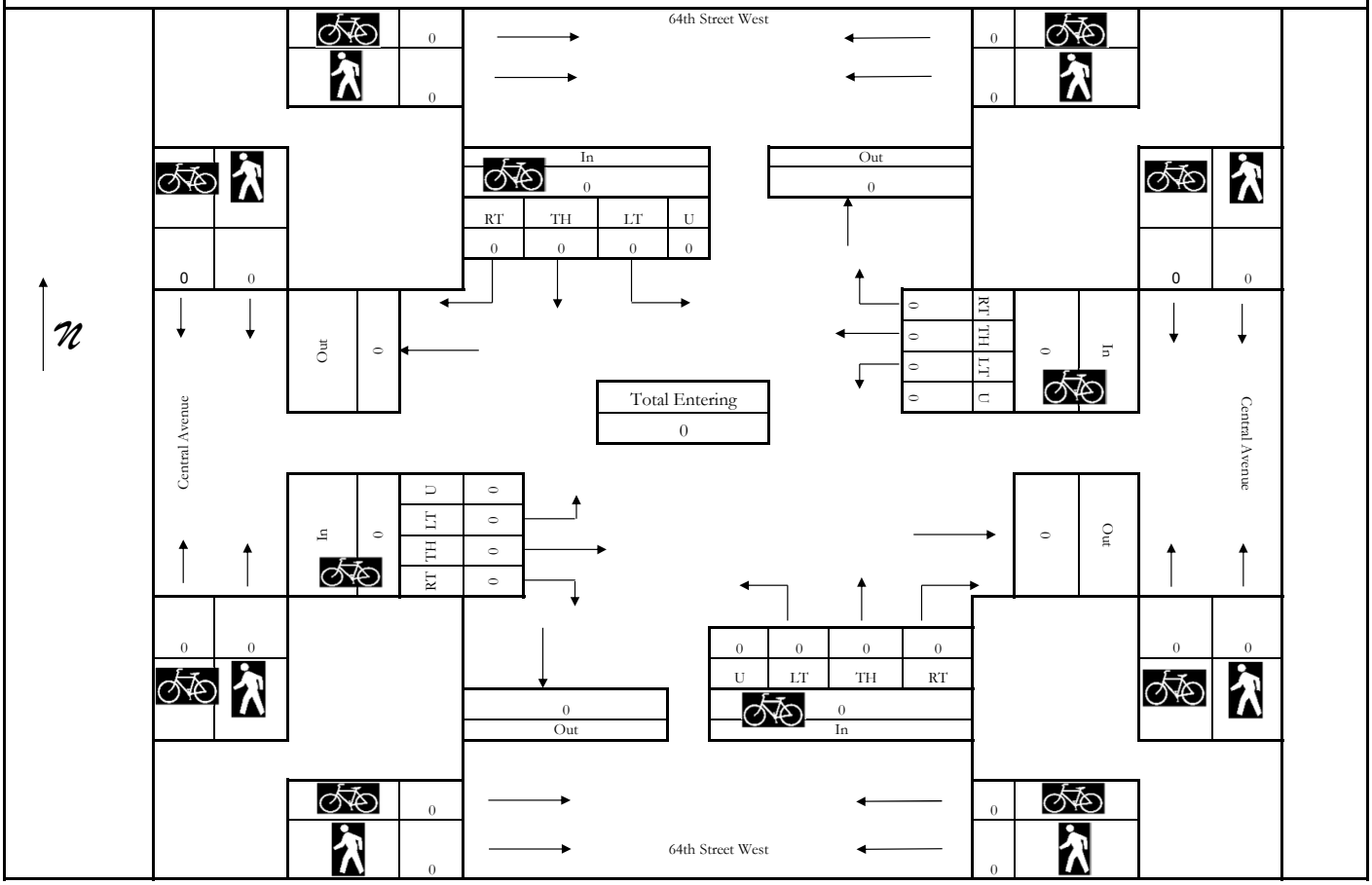
Counted By:	Rafael Teixeira	Intersection:	Central Avenue & 64th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64th Street West	East/West Street:	Central Avenue

Bikes in Roadway

	64th Street West Southbound					64th Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	64th Street West Southbound					64th Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

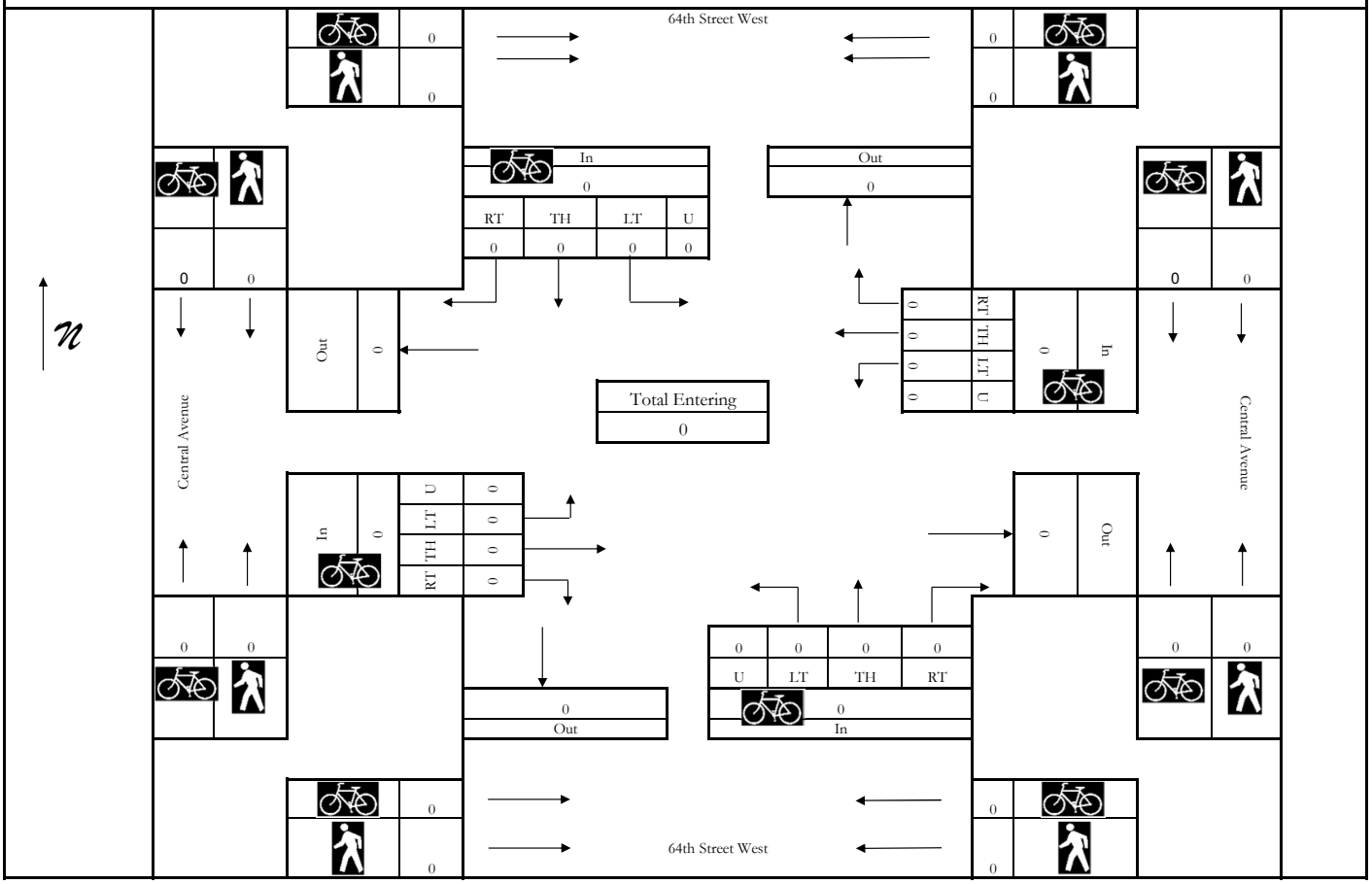
Counted By:	Rafael Teixeira	Intersection:	Central Avenue & 64th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64th Street West	East/West Street:	Central Avenue

Bikes in Roadway

	64th Street West Southbound					64th Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	64th Street West Southbound					64th Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

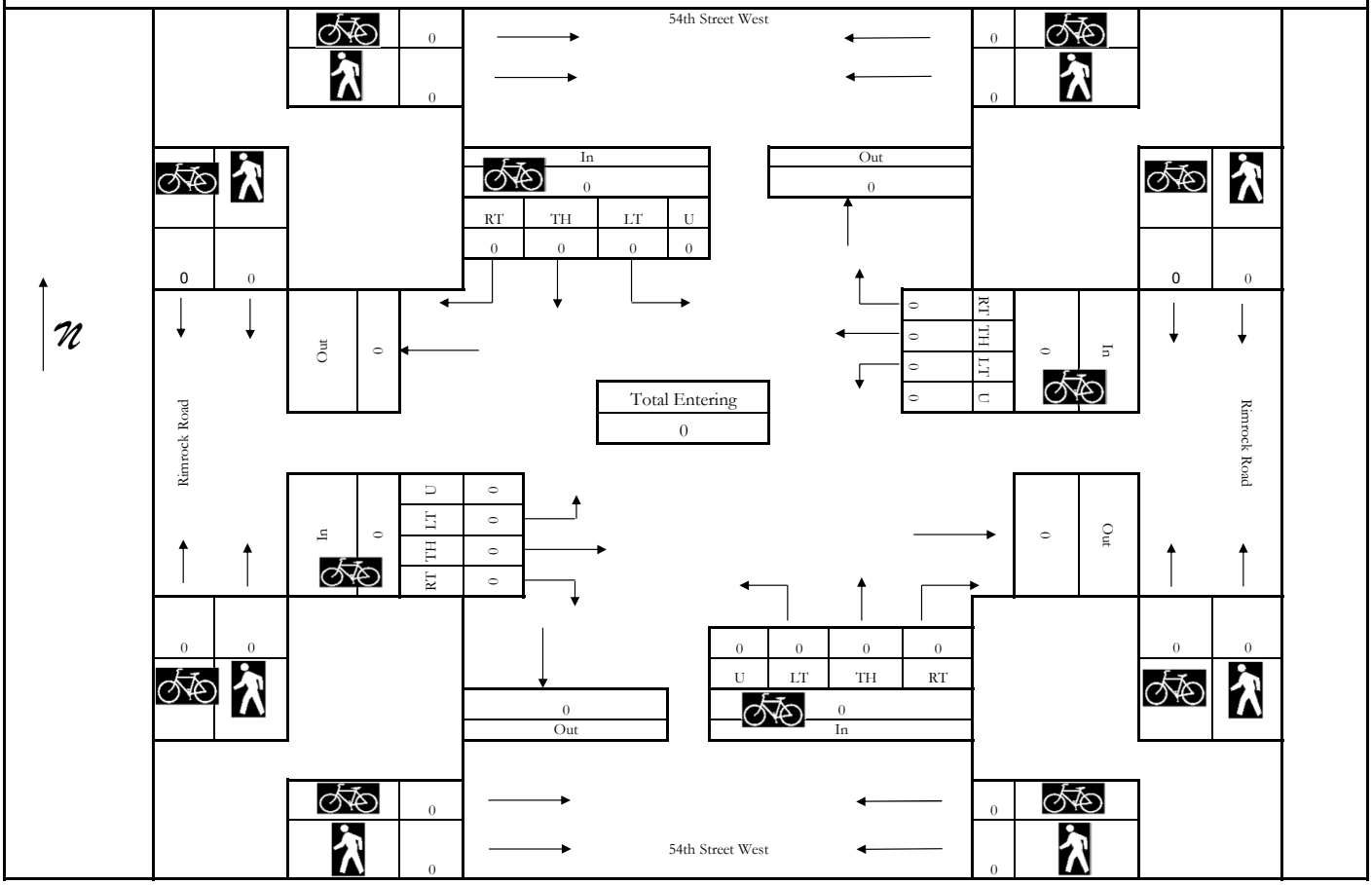
Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 54th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54th Street West	East/West Street:	Rimrock Road

Bikes in Roadway

	54th Street West Southbound					54th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	54th Street West Southbound					54th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

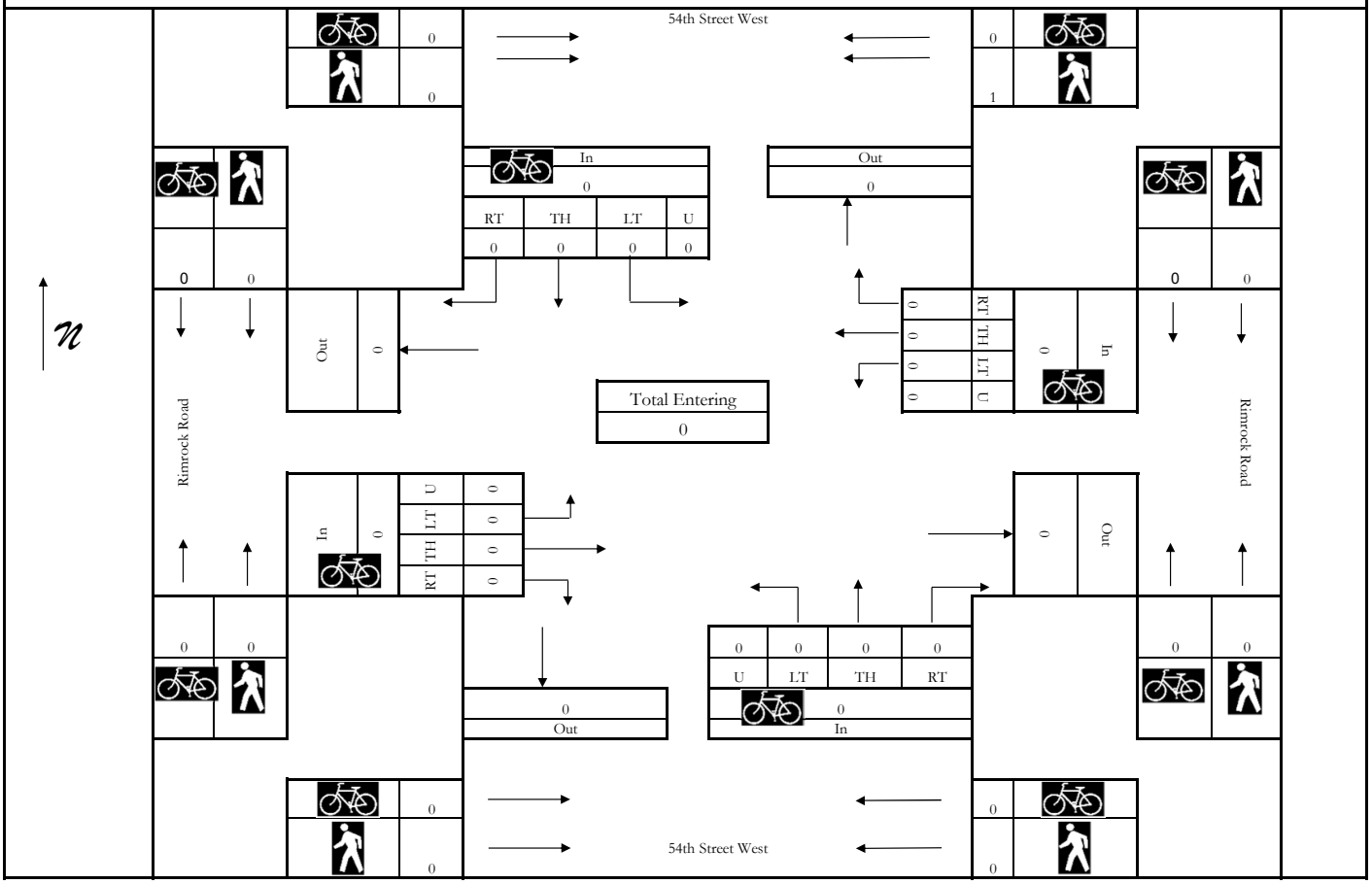
Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 54th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54th Street West	East/West Street:	Rimrock Road

Bikes in Roadway

	54th Street West Southbound					54th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	54th Street West Southbound					54th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

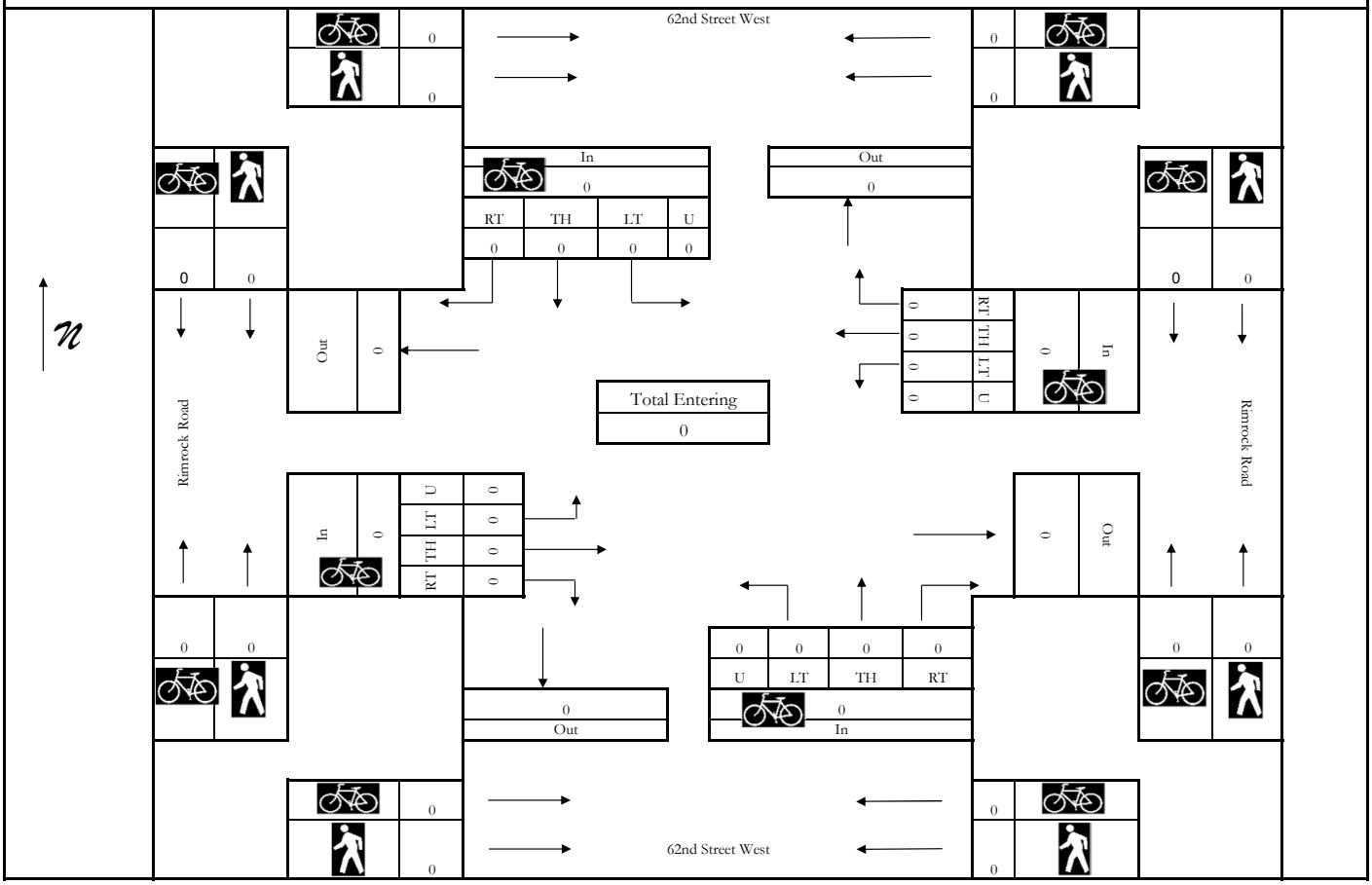
Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 62nd Street West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Rimrock Road

Bikes in Roadway

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

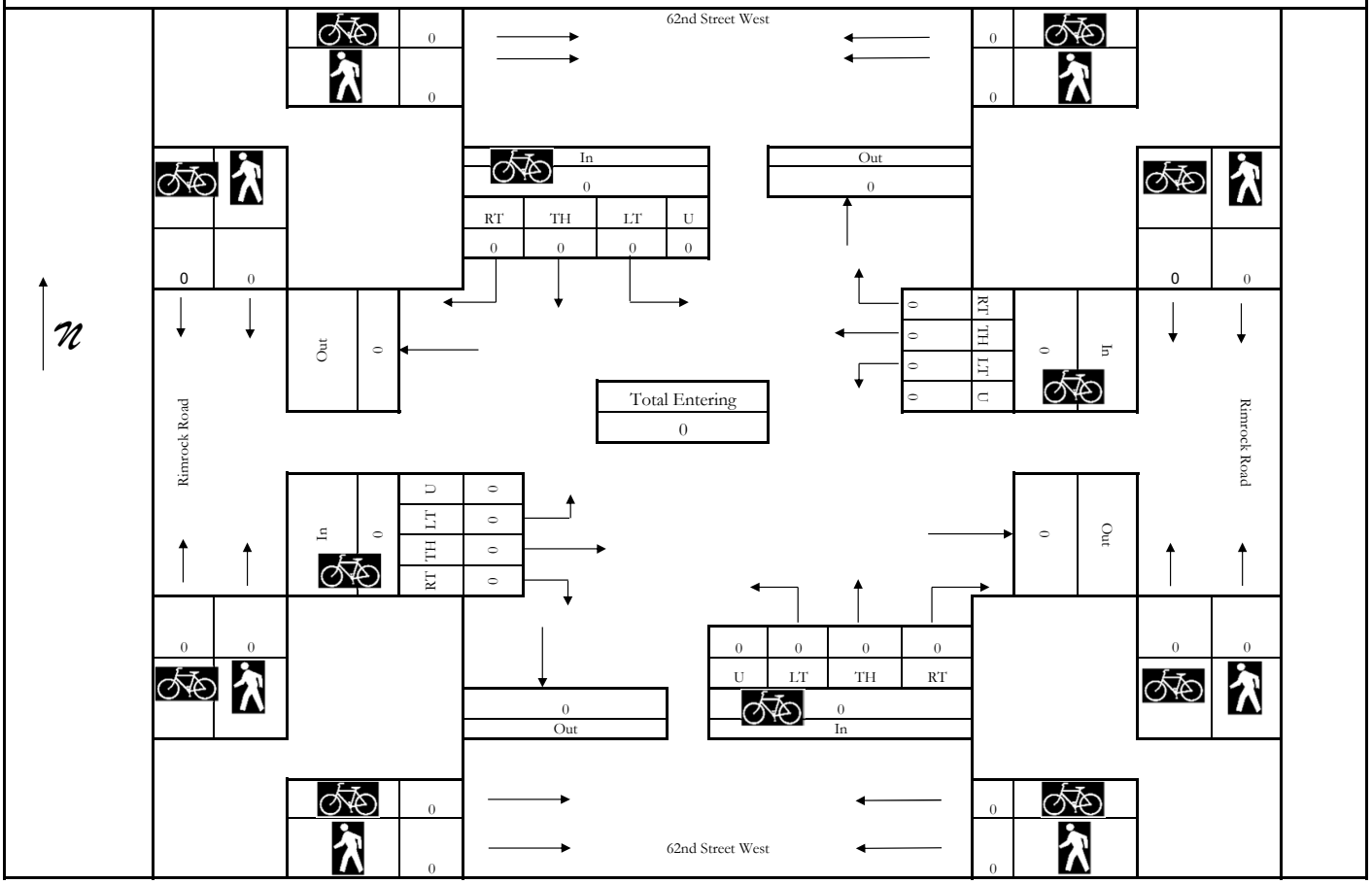
Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 62nd Street West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Rimrock Road

Bikes in Roadway

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

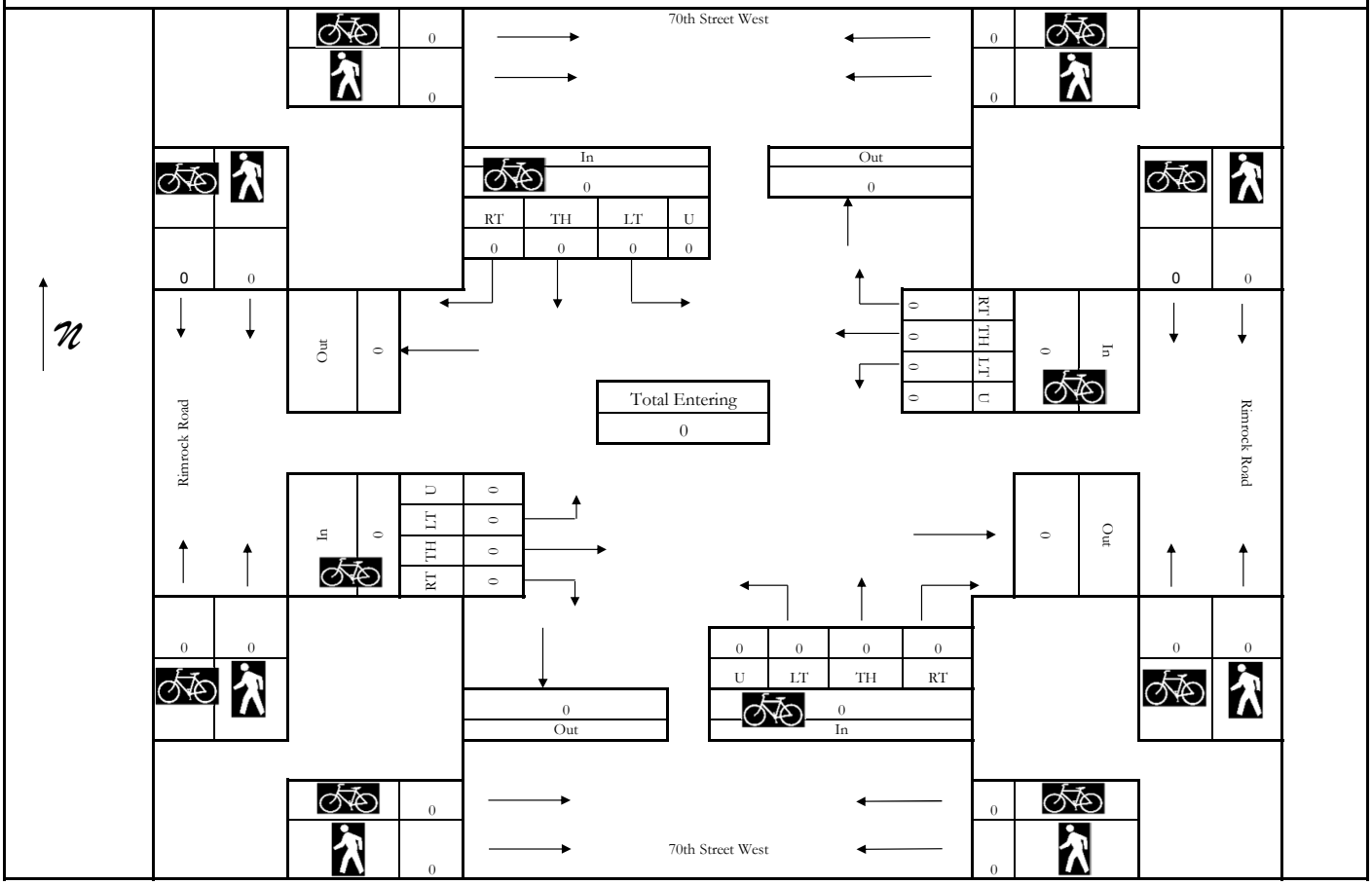
Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 70th Street West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	70th Street West	East/West Street:	Rimrock Road

Bikes in Roadway

	70th Street West Southbound					70th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	70th Street West Southbound					70th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

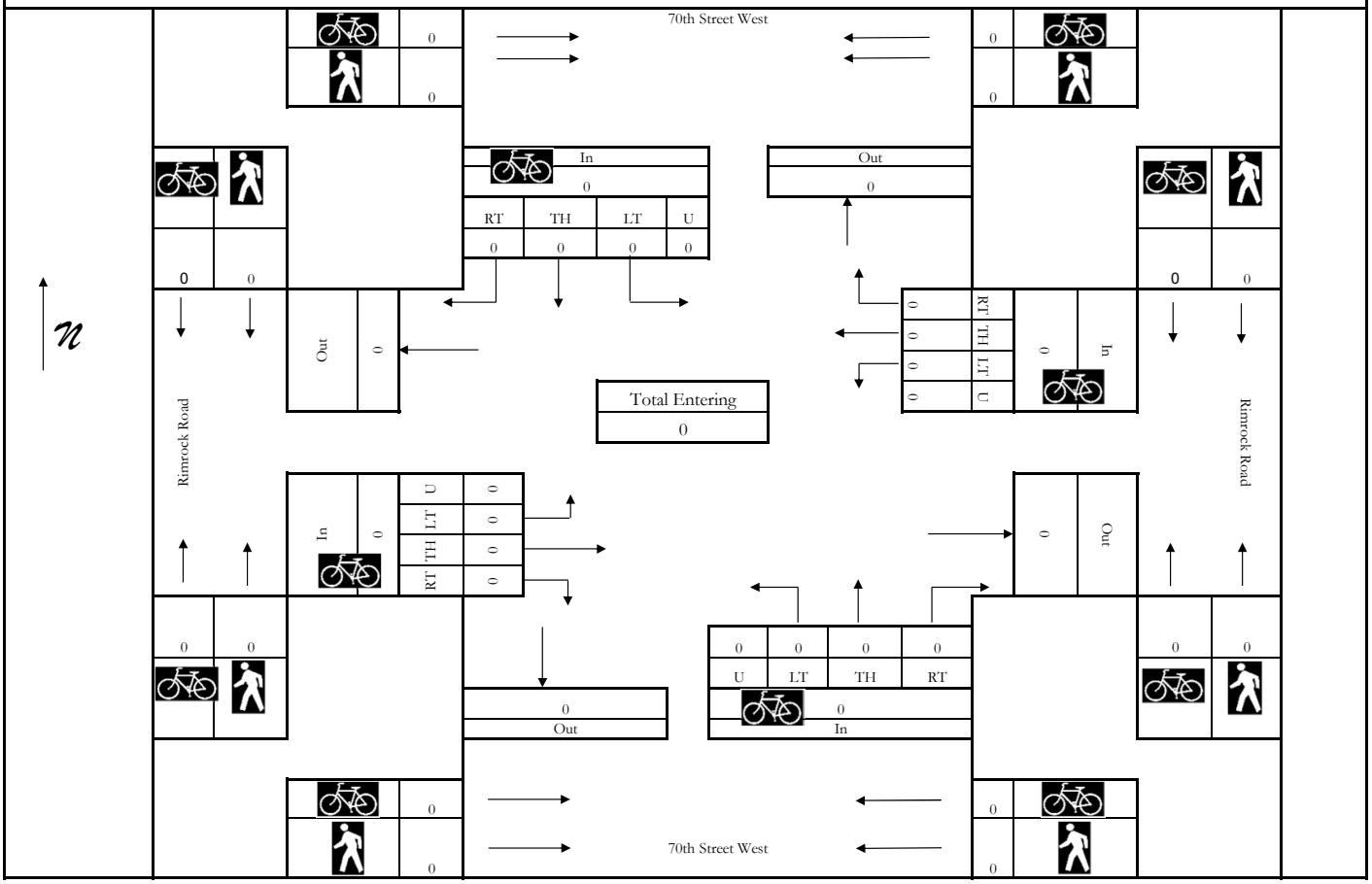
Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 70th Street West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	70th Street West	East/West Street:	Rimrock Road

Bikes in Roadway

	70th Street West Southbound					70th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	70th Street West Southbound					70th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

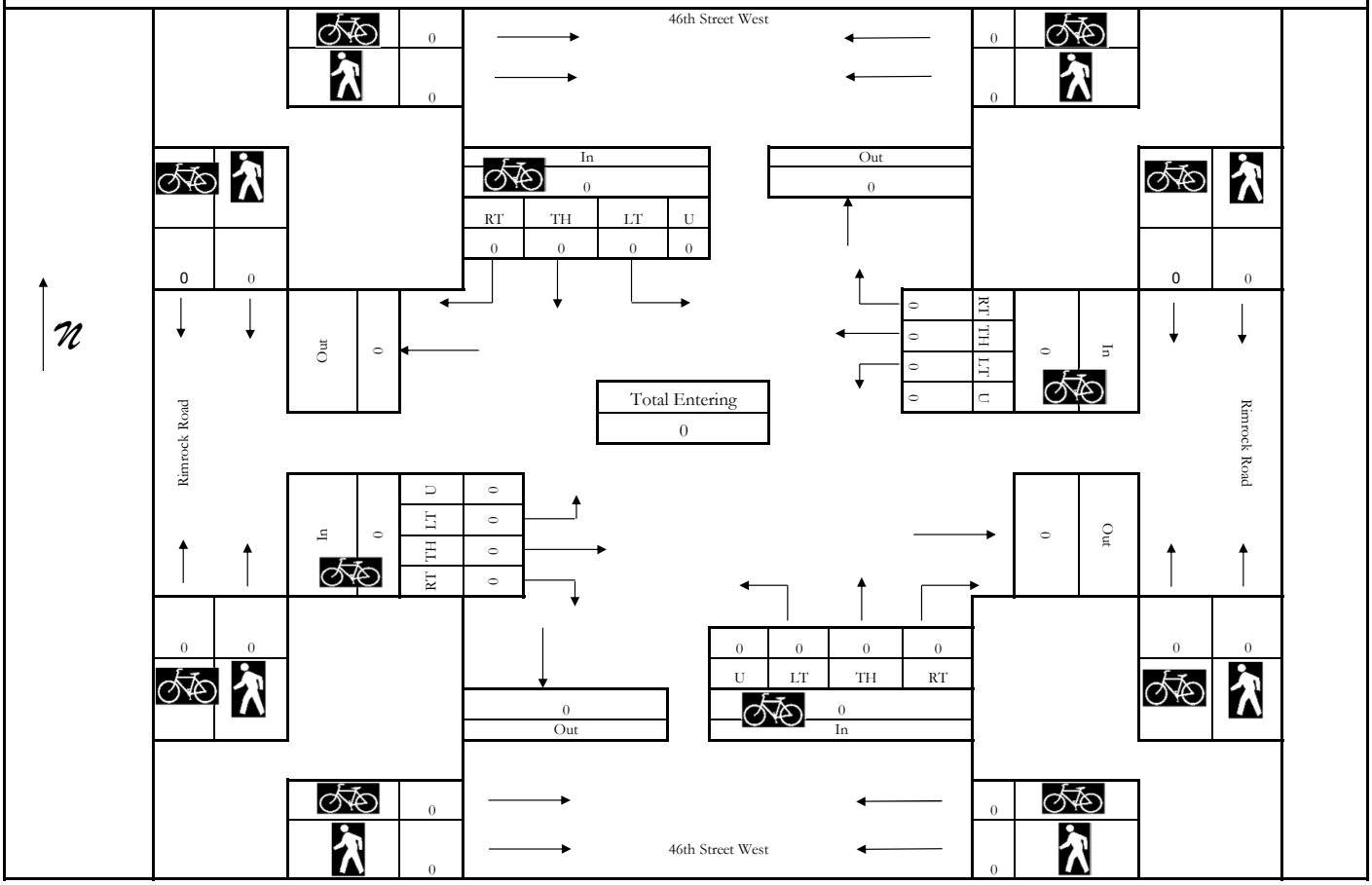
Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 46th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	46th Street West	East/West Street:	Rimrock Road

Bikes in Roadway

	46th Street West Southbound					46th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	46th Street West Southbound					46th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

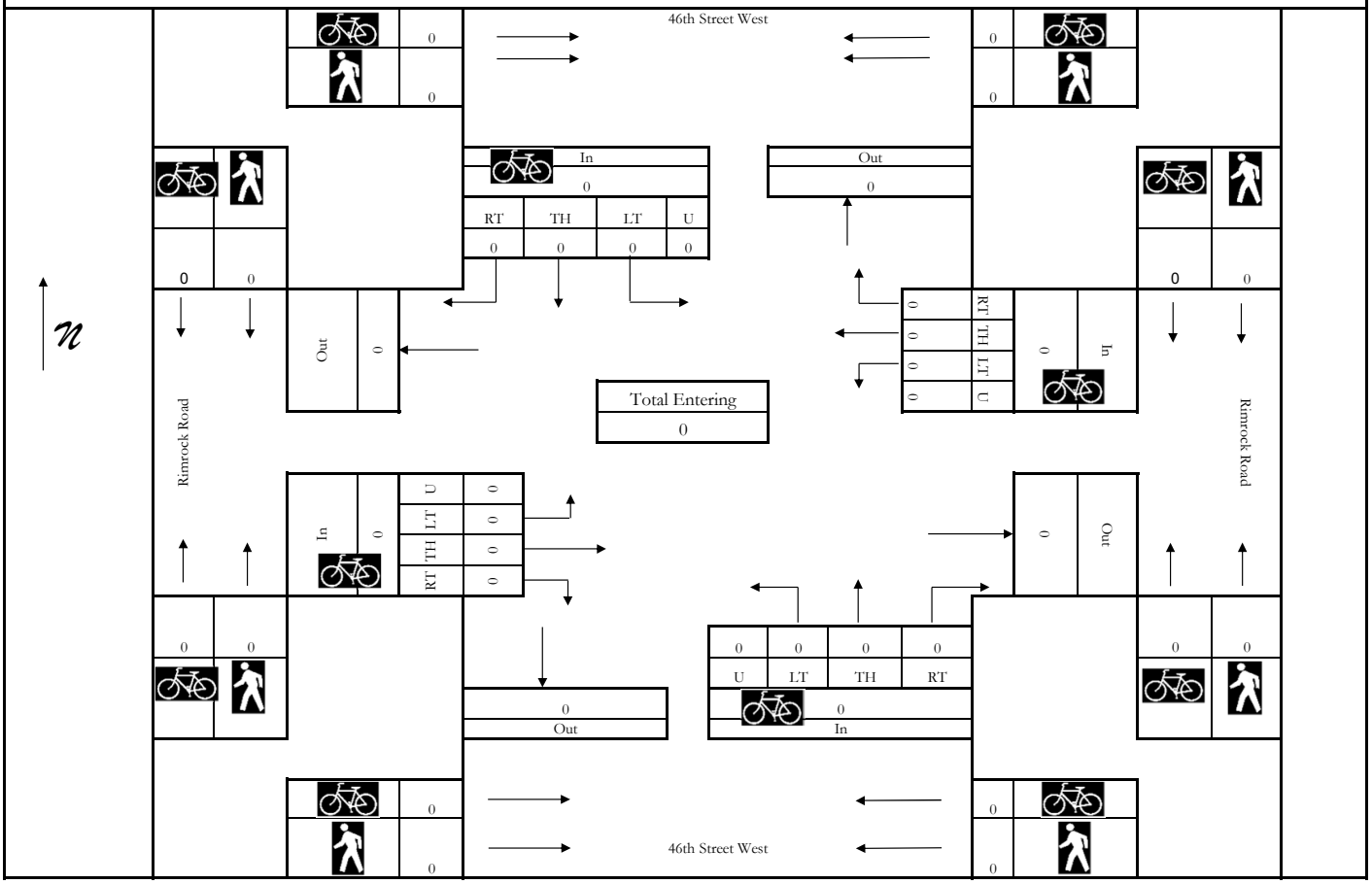
Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 46th Street West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	46th Street West	East/West Street:	Rimrock Road

Bikes in Roadway

	46th Street West Southbound					46th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bikes & Pedestrians in Crosswalk

	46th Street West Southbound					46th Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	CW Bike	CW Ped	CCW Bike	CCW Ped	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



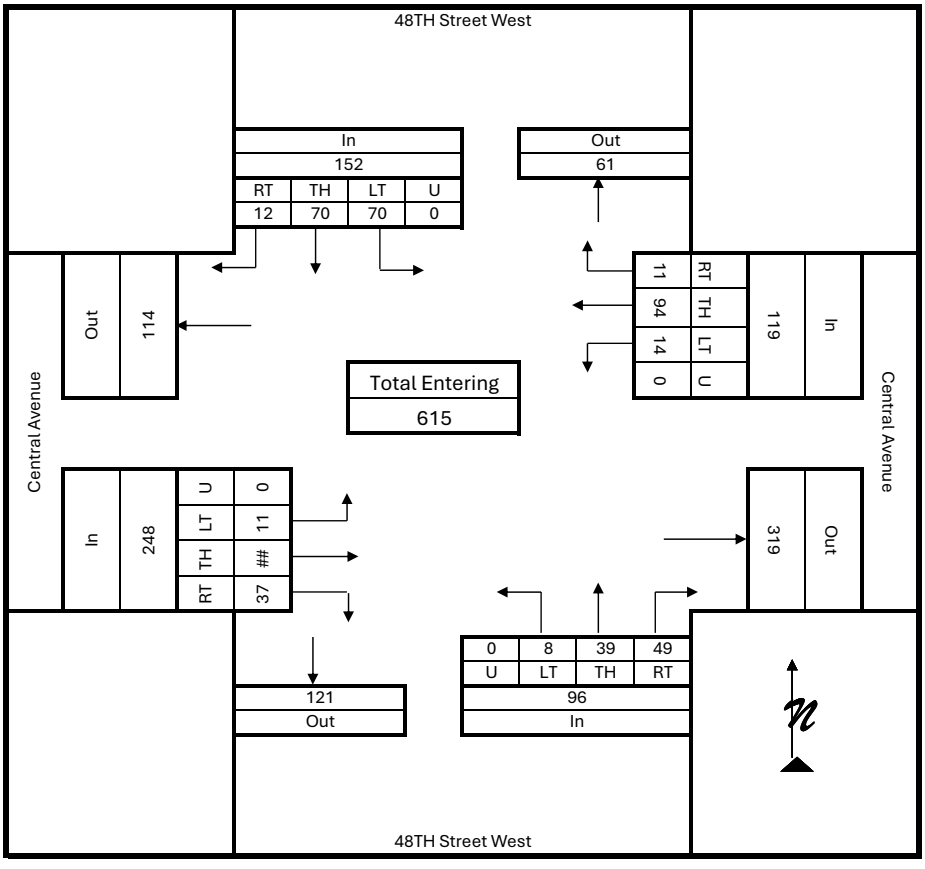
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Central Ave & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, August 8, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	Central Avenue

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		
7:15 AM	2	13	18	0	33	12	7	2	0	21	10	49	7	0	66	2	27	2	0	31	151
7:30 AM	3	13	19	0	35	18	9	2	0	29	5	61	1	0	67	3	26	2	0	31	162
7:45 AM	3	25	21	0	49	9	10	1	0	20	12	47	1	0	60	3	24	5	0	32	161
8:00 AM	4	19	12	0	35	10	13	3	0	26	10	43	2	0	55	3	17	5	0	25	141
Grand Total	12	70	70	0	152	49	39	8	0	96	37	200	11	0	248	11	94	14	0	119	615
Medium Truck %	0.0	0.0	0.0	0.0	0.0	2.0	5.1	12.5	0.0	4.2	2.7	0.5	0.0	0.0	0.8	18.2	2.1	0.0	0.0	3.4	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.8	
Total Truck %	0.0	0.0	0.0	0.0	0.0	2.0	5.1	12.5	0.0	4.2	2.7	0.5	0.0	0.0	0.8	18.2	3.2	0.0	0.0	4.2	
Total %	2.0	11.4	11.4	0.0	24.7	8.0	6.3	1.3	0.0	15.6	6.0	32.5	1.8	0.0	40.3	1.8	15.3	2.3	0.0	19.3	100.0
PHF	1.00	1.00	1.00			0.83	0.83	0.83			0.93	0.93	0.93			0.95	0.95	0.95			0.95



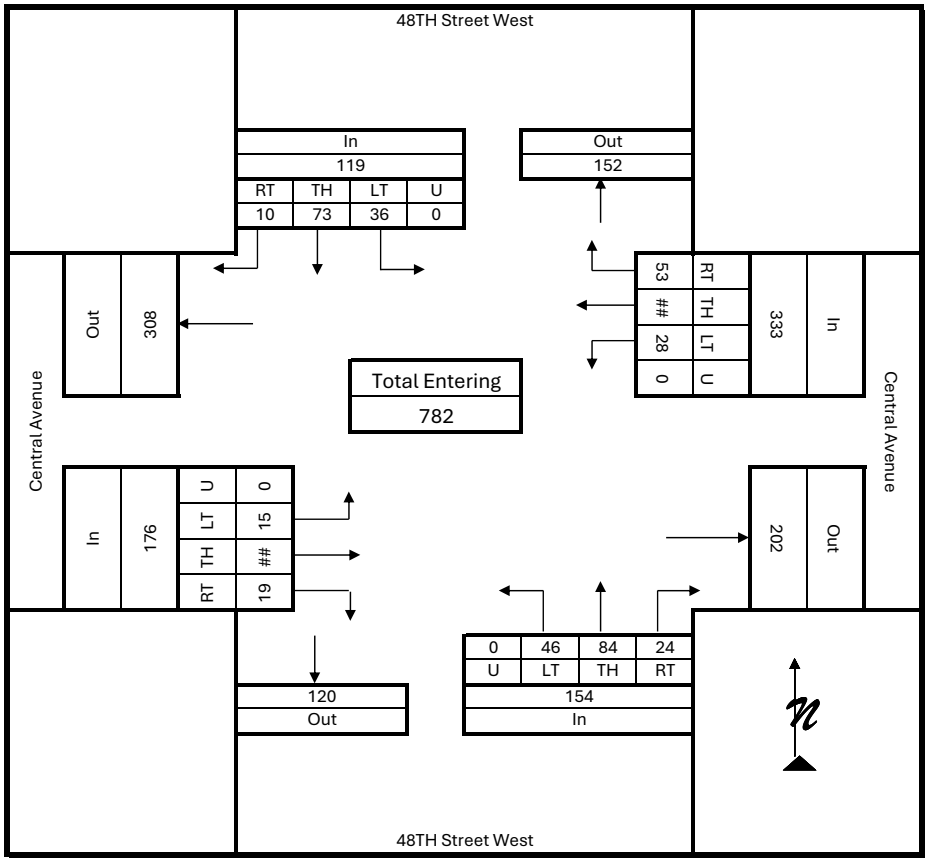
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Central Ave & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, August 8, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	Central Avenue

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		
4:45 PM	2	21	13	0	36	6	12	8	0	26	7	35	8	0	50	14	56	3	0	73	185
5:00 PM	1	15	6	0	22	7	23	9	0	39	5	37	1	0	43	14	69	7	0	90	194
5:15 PM	3	19	12	0	34	5	29	19	0	53	5	39	2	0	46	17	59	12	0	88	221
5:30 PM	4	18	5	0	27	6	20	10	0	36	2	31	4	0	37	8	68	6	0	82	182
Grand Total	10	73	36	0	119	24	84	46	0	154	19	142	15	0	176	53	252	28	0	333	782
Medium Truck %	0.0	1.4	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	5.3	2.1	0.0	0.0	2.3	3.8	0.0	0.0	0.0	0.6	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.4	0.0	0.0	0.3	
Total Truck %	0.0	1.4	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	5.3	2.8	0.0	0.0	2.8	3.8	0.4	0.0	0.0	0.9	
Total %	1.3	9.3	4.6	0.0	15.2	3.1	10.7	5.9	0.0	19.7	2.4	18.2	1.9	0.0	22.5	6.8	32.2	3.6	0.0	42.6	100.0
PHF	0.88	0.88	0.88			0.72	0.72	0.72			0.96	0.96	0.96			0.95	0.95	0.95			0.88



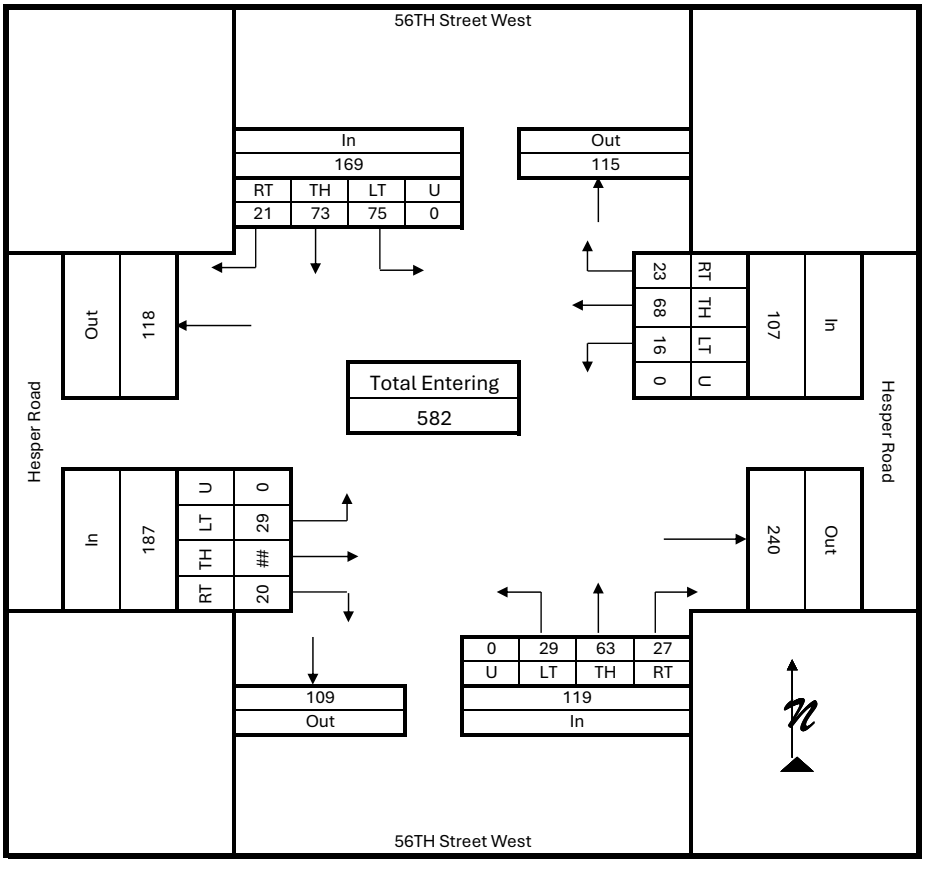
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Hesper RD & 56TH ST West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56TH Street West	East/West Street:	Hesper Road

Vehicle Volumes and Adjustments

	56TH Street West Southbound					56TH Street West Northbound					Hesper Road Eastbound					Hesper Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
7:15 AM	4	13	14	0	31	6	15	1	0	22	3	32	2	0	37	8	10	3	0	21	111
7:30 AM	7	23	19	0	49	13	18	8	0	39	2	19	4	0	25	4	19	3	0	26	139
7:45 AM	7	19	26	0	52	3	10	19	0	32	6	54	19	0	79	7	26	9	0	42	205
8:00 AM	3	18	16	0	37	5	20	1	0	26	9	33	4	0	46	4	13	1	0	18	127
Grand Total	21	73	75	0	169	27	63	29	0	119	20	138	29	0	187	23	68	16	0	107	582
Medium Truck %	0.0	0.0	0.0	0.0	0.0	3.7	0.0	3.4	0.0	1.7	0.0	5.8	0.0	0.0	4.3	8.7	1.5	0.0	0.0	2.8	
Heavy Truck %	0.0	6.8	0.0	0.0	3.0	3.7	1.6	0.0	0.0	1.7	0.0	0.7	0.0	0.0	0.5	8.7	2.9	12.5	0.0	5.6	
Total Truck %	0.0	6.8	0.0	0.0	3.0	7.4	1.6	3.4	0.0	3.4	0.0	6.5	0.0	0.0	4.8	17.4	4.4	12.5	0.0	8.4	
Total %	3.6	12.5	12.9	0.0	29.0	4.6	10.8	5.0	0.0	20.4	3.4	23.7	5.0	0.0	32.1	4.0	11.7	2.7	0.0	18.4	100.0
PHF	0.81	0.81	0.81			0.93	0.93	0.93			0.60	0.60	0.60			0.64	0.64	0.64			0.71



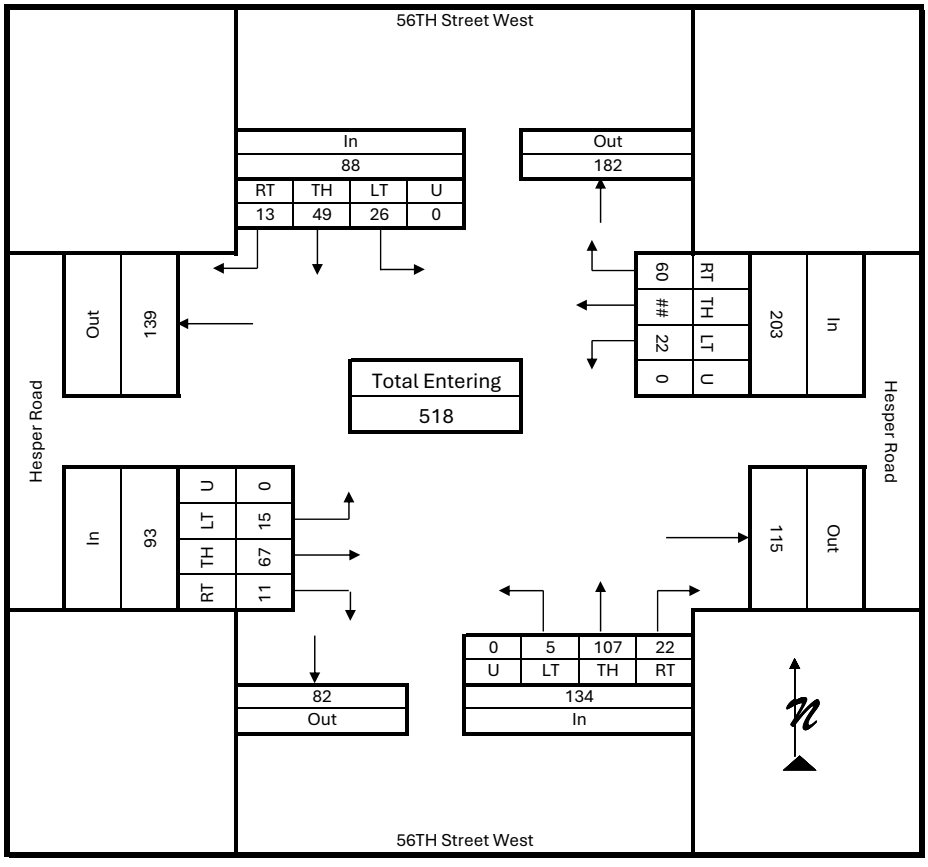
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Hesper RD & 56TH ST West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56TH Street West	East/West Street:	Hesper Road

Vehicle Volumes and Adjustments

	56TH Street West Southbound					56TH Street West Northbound					Hesper Road Eastbound					Hesper Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
4:45 PM	5	9	8	0	22	4	19	2	0	25	1	18	4	0	23	11	33	6	0	50	120
5:00 PM	2	15	9	0	26	10	38	3	0	51	6	23	4	0	33	18	38	8	0	64	174
5:15 PM	5	16	4	0	25	6	21	0	0	27	3	14	5	0	22	21	27	2	0	50	124
5:30 PM	1	9	5	0	15	2	29	0	0	31	1	12	2	0	15	10	23	6	0	39	100
Grand Total	13	49	26	0	88	22	107	5	0	134	11	67	15	0	93	60	121	22	0	203	518
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	2.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	9.1	3.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	2.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	9.1	3.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	
Total %	2.5	9.5	5.0	0.0	17.0	4.2	20.7	1.0	0.0	25.9	2.1	12.9	2.9	0.0	18.0	11.6	23.4	4.2	0.0	39.2	100.0
PHF	0.85	0.85	0.85			0.66	0.66	0.66			0.70	0.70	0.70			0.79	0.79	0.79			0.74



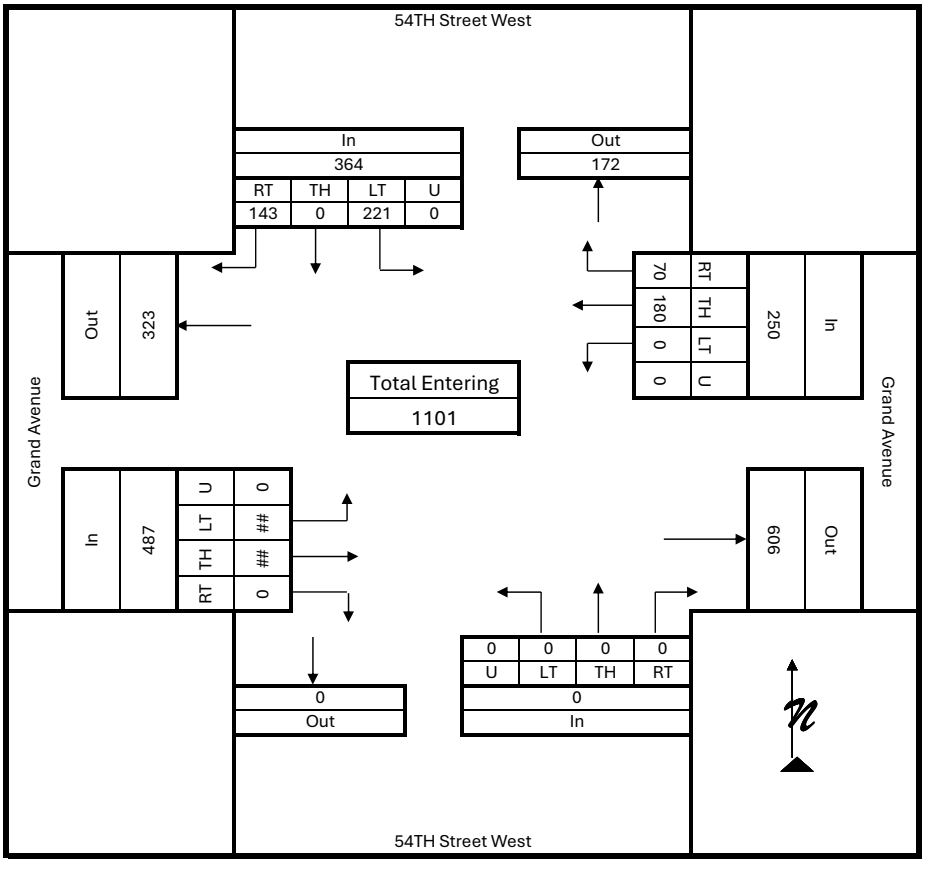
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Grand Ave & 54TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54TH Street West	East/West Street:	Grand Avenue

Vehicle Volumes and Adjustments

	54TH Street West Southbound					54TH Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	19	0	56	0	75	0	0	0	0	0	0	66	7	0	73	9	31	0	0	40	188
7:30 AM	52	0	66	0	118	0	0	0	0	0	0	104	23	0	127	8	46	0	0	54	299
7:45 AM	51	0	54	0	105	0	0	0	0	0	0	133	43	0	176	22	52	0	0	74	355
8:00 AM	21	0	45	0	66	0	0	0	0	0	0	82	29	0	111	31	51	0	0	82	259
Grand Total	143	0	221	0	364	0	0	0	0	0	0	385	102	0	487	70	180	0	0	250	1101
Medium Truck %	0.0	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	3.3	0.0	0.0	2.4	
Heavy Truck %	0.7	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	2.9	2.8	0.0	0.0	2.8	
Total Truck %	0.7	0.0	0.9	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.0	0.0	1.2	2.9	6.1	0.0	0.0	5.2	
Total %	13.0	0.0	20.1	0.0	33.1	0.0	0.0	0.0	0.0	0.0	0.0	35.0	9.3	0.0	44.2	6.4	16.3	0.0	0.0	22.7	100.0
PHF	0.86	0.86	0.86			1.00	1.00	1.00			0.69	0.69	0.69			0.85	0.85	0.85			0.78



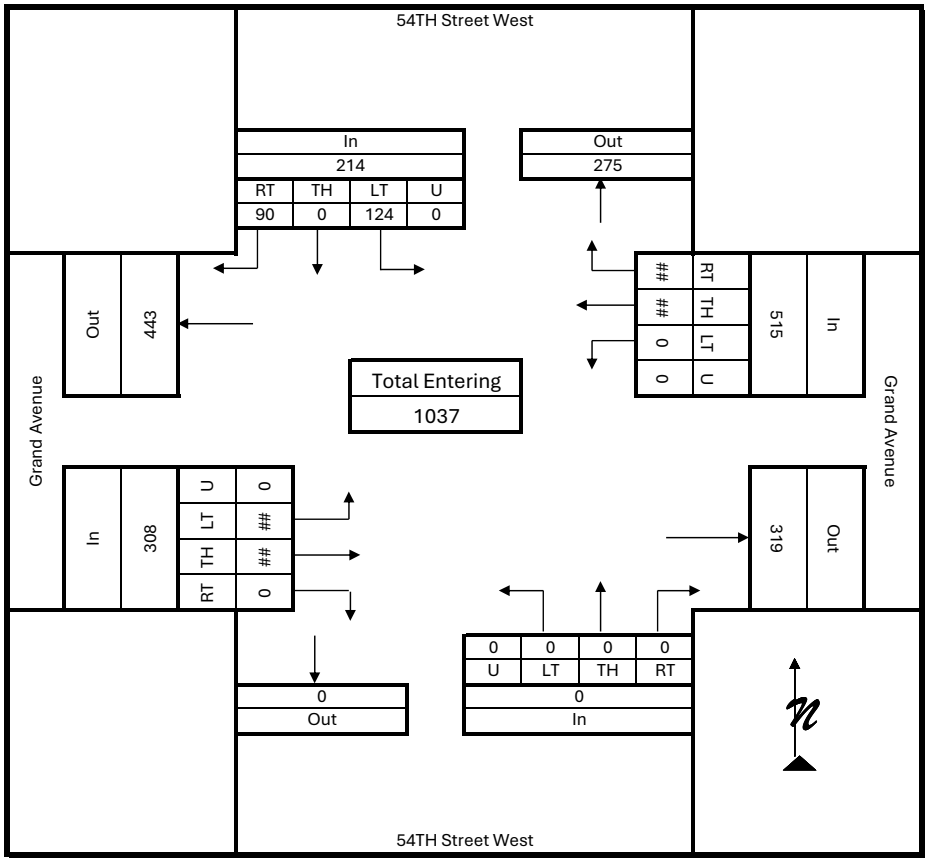
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Grand Ave & 54TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54TH Street West	East/West Street:	Grand Avenue

Vehicle Volumes and Adjustments

	54TH Street West Southbound					54TH Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	20	0	25	0	45	0	0	0	0	0	0	44	28	0	72	27	70	0	0	97	214
5:00 PM	28	0	45	0	73	0	0	0	0	0	0	58	29	0	87	35	80	0	0	115	275
5:15 PM	23	0	26	0	49	0	0	0	0	0	0	51	32	0	83	64	95	0	0	159	291
5:30 PM	19	0	28	0	47	0	0	0	0	0	0	42	24	0	66	36	108	0	0	144	257
Grand Total	90	0	124	0	214	0	0	0	0	0	0	195	113	0	308	162	353	0	0	515	1037
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.2	
Heavy Truck %	0.0	0.0	0.8	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.8	0.0	1.0	0.6	0.0	0.0	0.0	0.2	
Total Truck %	0.0	0.0	0.8	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.8	0.0	1.0	1.2	0.0	0.0	0.0	0.4	
Total %	8.7	0.0	12.0	0.0	20.6	0.0	0.0	0.0	0.0	0.0	0.0	18.8	10.9	0.0	29.7	15.6	34.0	0.0	0.0	49.7	100.0
PHF	1.00	1.00	1.00			1.00	1.00	1.00			0.93	0.93	0.93			0.81	0.81	0.81			0.89



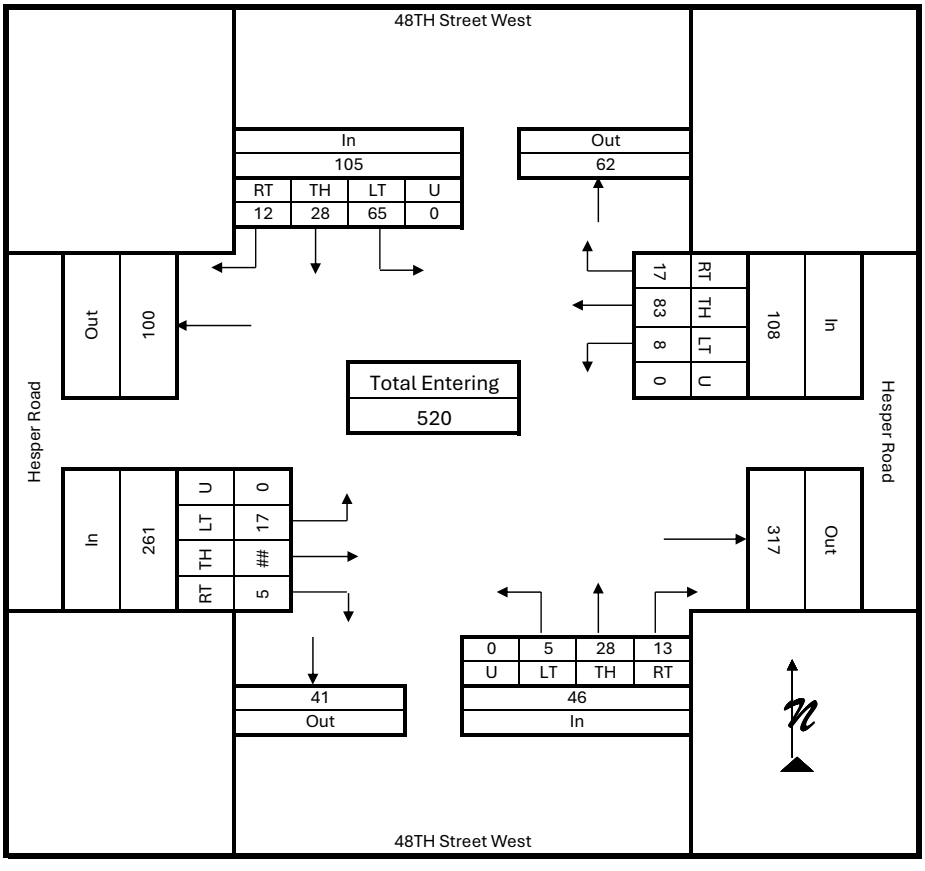
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Hesper Road & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	Hesper Road

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					Hesper Road Eastbound					Hesper Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		
7:15 AM	2	8	15	0	25	2	4	1	0	7	1	49	2	0	52	5	18	1	0	24	108
7:30 AM	3	3	8	0	14	5	10	3	0	18	0	65	4	0	69	4	21	2	0	27	128
7:45 AM	6	9	22	0	37	3	7	1	0	11	0	67	4	0	71	5	26	2	0	33	152
8:00 AM	1	8	20	0	29	3	7	0	0	10	4	58	7	0	69	3	18	3	0	24	132
Grand Total	12	28	65	0	105	13	28	5	0	46	5	239	17	0	261	17	83	8	0	108	520
Medium Truck %	8.3	3.6	0.0	0.0	1.9	0.0	0.0	20.0	0.0	2.2	0.0	3.3	5.9	0.0	3.4	0.0	2.4	0.0	0.0	1.9	
Heavy Truck %	0.0	0.0	1.5	0.0	1.0	7.7	3.6	0.0	0.0	4.3	0.0	2.1	0.0	0.0	1.9	5.9	7.2	0.0	0.0	6.5	
Total Truck %	8.3	3.6	1.5	0.0	2.9	7.7	3.6	20.0	0.0	6.5	0.0	5.4	5.9	0.0	5.4	5.9	9.6	0.0	0.0	8.3	
Total %	2.3	5.4	12.5	0.0	20.2	2.5	5.4	1.0	0.0	8.8	1.0	46.0	3.3	0.0	50.2	3.3	16.0	1.5	0.0	20.8	100.0
PHF	0.71	0.71	0.71			1.00	1.00	1.00			0.92	0.92	0.92			0.82	0.82	0.82			0.86



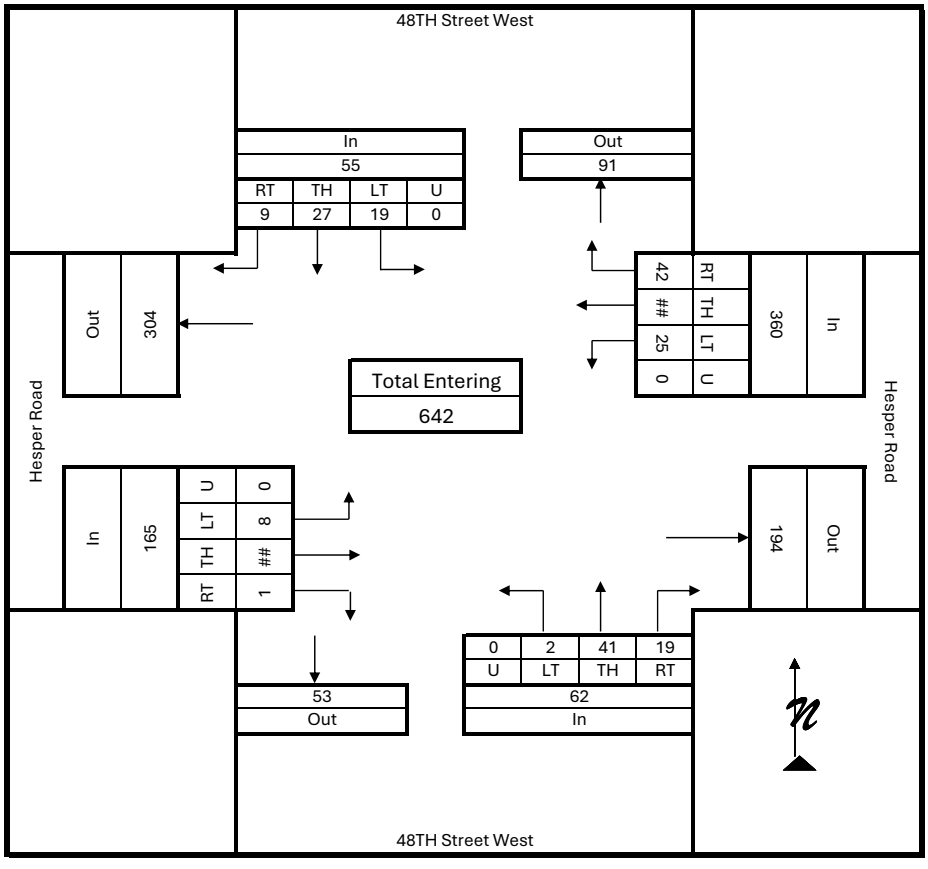
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Hesper Road & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	Hesper Road

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					Hesper Road Eastbound					Hesper Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		
4:45 PM	1	6	4	0	11	2	7	0	0	9	0	43	2	0	45	11	67	4	0	82	147
5:00 PM	4	4	5	0	13	8	18	1	0	27	0	29	2	0	31	17	75	6	0	98	169
5:15 PM	3	10	7	0	20	4	6	1	0	11	0	48	3	0	51	8	85	9	0	102	184
5:30 PM	1	7	3	0	11	5	10	0	0	15	1	36	1	0	38	6	66	6	0	78	142
Grand Total	9	27	19	0	55	19	41	2	0	62	1	156	8	0	165	42	293	25	0	360	642
Medium Truck %	0.0	0.0	5.3	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	12.5	0.0	1.2	0.0	0.7	0.0	0.0	0.6	
Total Truck %	0.0	0.0	5.3	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.9	12.5	0.0	2.4	0.0	0.7	0.0	0.0	0.6	
Total %	1.4	4.2	3.0	0.0	8.6	3.0	6.4	0.3	0.0	9.7	0.2	24.3	1.2	0.0	25.7	6.5	45.6	3.9	0.0	56.1	100.0
PHF	0.67	0.67	0.67			1.00	1.00	1.00			0.81	0.81	0.81			0.89	0.89	0.89			0.87



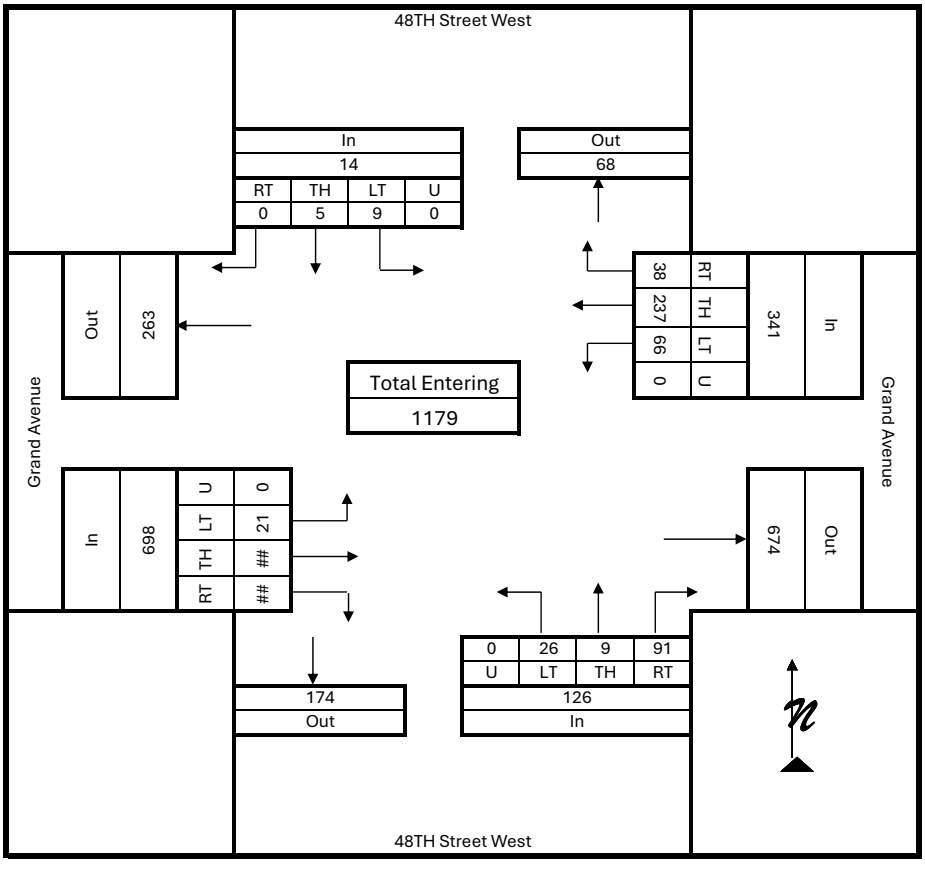
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Grand Ave & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	Grand Avenue

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	0	0	0	0	0	22	0	4	0	26	16	126	0	0	142	1	37	9	0	47	215
7:30 AM	0	1	1	0	2	25	2	7	0	34	28	159	0	0	187	1	46	6	0	53	276
7:45 AM	0	1	1	0	2	32	2	12	0	46	35	162	0	0	197	6	71	14	0	91	336
8:00 AM	0	3	7	0	10	12	5	3	0	20	24	127	21	0	172	30	83	37	0	150	352
Grand Total	0	5	9	0	14	91	9	26	0	126	103	574	21	0	698	38	237	66	0	341	1179
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	1.6	1.0	0.7	0.0	0.0	0.7	0.0	1.7	1.5	0.0	1.5	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	1.6	0.0	0.5	0.0	0.0	0.4	0.0	2.1	0.0	0.0	1.5	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.0	3.2	1.0	1.2	0.0	0.0	1.1	0.0	3.8	1.5	0.0	2.9	
Total %	0.0	0.4	0.8	0.0	1.2	7.7	0.8	2.2	0.0	10.7	8.7	48.7	1.8	0.0	59.2	3.2	20.1	5.6	0.0	28.9	100.0
PHF	0.35	0.35	0.35			1.00	1.00	1.00			1.00	1.00	1.00			0.57	0.57	0.57			0.84



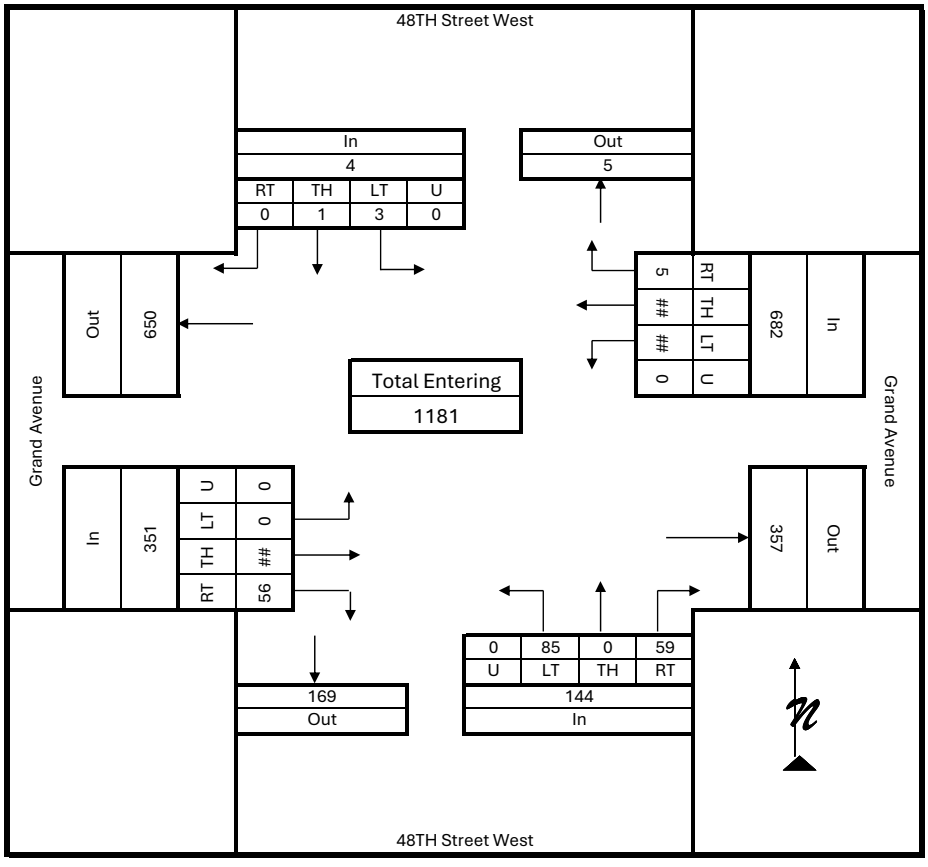
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Grand Ave & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	Grand Avenue

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	0	0	3	0	3	12	0	8	0	20	9	74	0	0	83	3	118	22	0	143	249
5:00 PM	0	1	0	0	1	14	0	30	0	44	16	88	0	0	104	1	129	29	0	159	308
5:15 PM	0	0	0	0	0	7	0	23	0	30	21	72	0	0	93	1	177	37	0	215	338
5:30 PM	0	0	0	0	0	26	0	24	0	50	10	61	0	0	71	0	141	24	0	165	286
Grand Total	0	1	3	0	4	59	0	85	0	144	56	295	0	0	351	5	565	112	0	682	1181
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.7	0.0	0.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.7	0.0	0.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.1	0.3	0.0	0.3	5.0	0.0	7.2	0.0	12.2	4.7	25.0	0.0	0.0	29.7	0.4	47.8	9.5	0.0	57.7	100.0
PHF	1.00	1.00	1.00			1.00	1.00	1.00			0.95	0.95	0.95			0.79	0.79	0.79			0.87



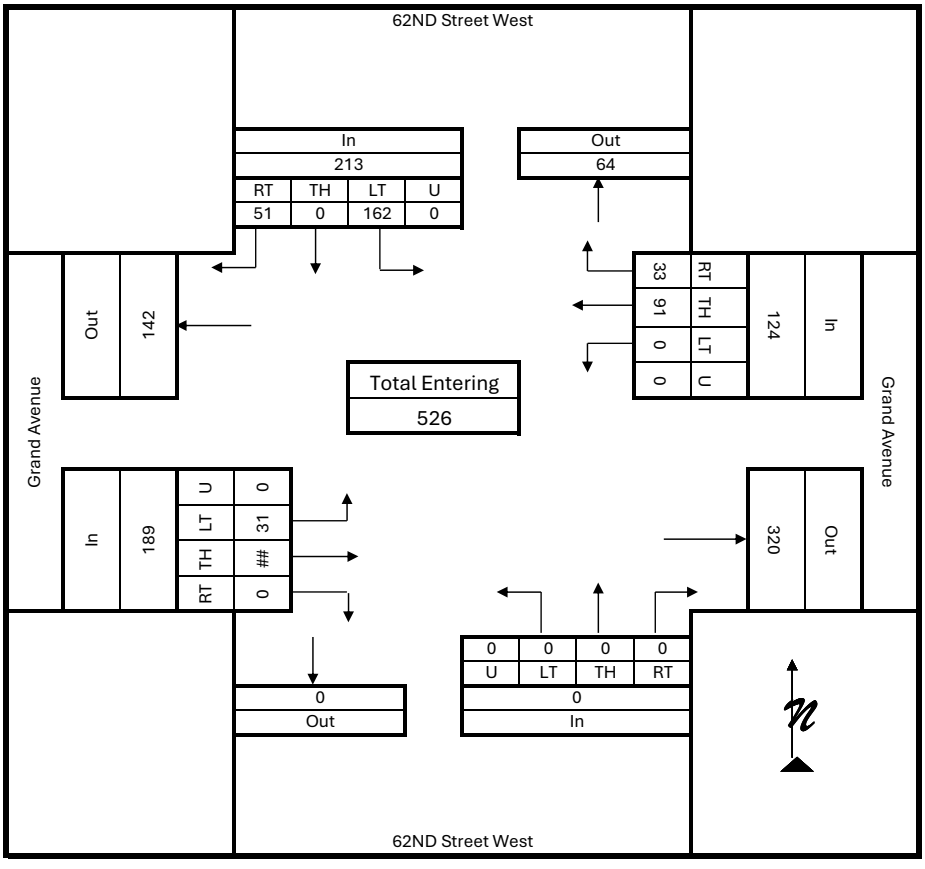
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Grand Ave & 62ND ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62ND Street West	East/West Street:	Grand Avenue

Vehicle Volumes and Adjustments

	62ND Street West Southbound					62ND Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	7	0	33	0	40	0	0	0	0	0	0	33	8	0	41	3	20	0	0	23	104
7:30 AM	10	0	48	0	58	0	0	0	0	0	0	47	7	0	54	6	15	0	0	21	133
7:45 AM	23	0	50	0	73	0	0	0	0	0	0	47	9	0	56	10	25	0	0	35	164
8:00 AM	11	0	31	0	42	0	0	0	0	0	0	31	7	0	38	14	31	0	0	45	125
Grand Total	51	0	162	0	213	0	0	0	0	0	0	158	31	0	189	33	91	0	0	124	526
Medium Truck %	0.0	0.0	0.6	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.1	6.1	3.3	0.0	0.0	4.0	
Heavy Truck %	0.0	0.0	0.6	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	3.3	0.0	0.0	4.0	
Total Truck %	0.0	0.0	1.2	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.1	12.1	6.6	0.0	0.0	8.1	
Total %	9.7	0.0	30.8	0.0	40.5	0.0	0.0	0.0	0.0	0.0	0.0	30.0	5.9	0.0	35.9	6.3	17.3	0.0	0.0	23.6	100.0
PHF	0.74	0.74	0.74			1.00	1.00	1.00			0.85	0.85	0.85			0.88	0.88	0.88			0.80



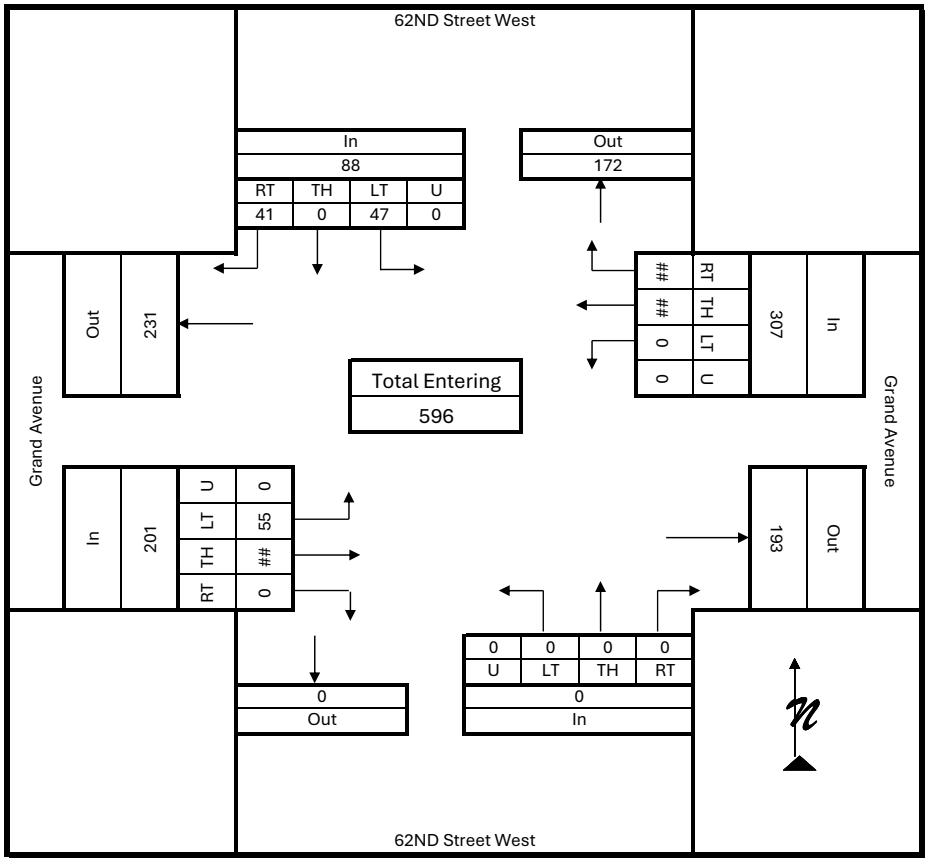
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Grand Ave & 62ND ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62ND Street West	East/West Street:	Grand Avenue

Vehicle Volumes and Adjustments

	62ND Street West Southbound					62ND Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	10	0	14	0	24	0	0	0	0	0	0	31	15	0	46	22	36	0	0	58	128
5:00 PM	7	0	7	0	14	0	0	0	0	0	0	42	15	0	57	23	49	0	0	72	143
5:15 PM	18	0	15	0	33	0	0	0	0	0	0	35	17	0	52	41	56	0	0	97	182
5:30 PM	6	0	11	0	17	0	0	0	0	0	0	38	8	0	46	31	49	0	0	80	143
Grand Total	41	0	47	0	88	0	0	0	0	0	0	146	55	0	201	117	190	0	0	307	596
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Total %	6.9	0.0	7.9	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.0	24.5	9.2	0.0	33.7	19.6	31.9	0.0	0.0	51.5	100.0
PHF	0.69	0.69	0.69			1.00	1.00	1.00			0.97	0.97	0.97			0.79	0.79	0.79			0.82



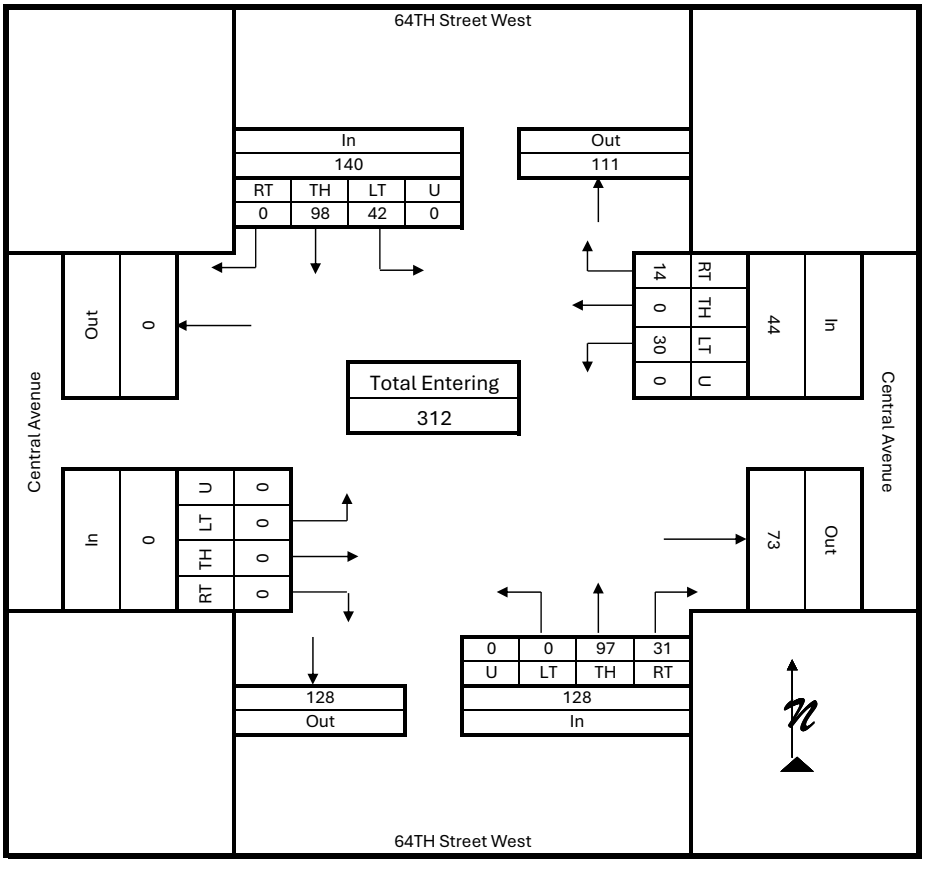
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Central Ave & 64TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64TH Street West	East/West Street:	Central Avenue

Vehicle Volumes and Adjustments

	64TH Street West Southbound					64TH Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	0	20	10	0	30	7	28	0	0	35	0	0	0	0	0	5	0	9	0	14	79
7:30 AM	0	20	16	0	36	5	14	0	0	19	0	0	0	0	0	1	0	5	0	6	61
7:45 AM	0	34	6	0	40	9	30	0	0	39	0	0	0	0	0	5	0	8	0	13	92
8:00 AM	0	24	10	0	34	10	25	0	0	35	0	0	0	0	0	3	0	8	0	11	80
Grand Total	0	98	42	0	140	31	97	0	0	128	0	0	0	0	0	14	0	30	0	44	312
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	4.1	2.4	0.0	3.6	0.0	1.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	7.1	0.0	3.3	0.0	4.5	
Total Truck %	0.0	4.1	2.4	0.0	3.6	0.0	1.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	7.1	0.0	3.3	0.0	4.5	
Total %	0.0	31.4	13.5	0.0	44.9	9.9	31.1	0.0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	9.6	0.0	14.1	100.0
PHF	0.87	0.87	0.87			0.82	0.82	0.82			1.00	1.00	1.00			0.85	0.85	0.85			0.84



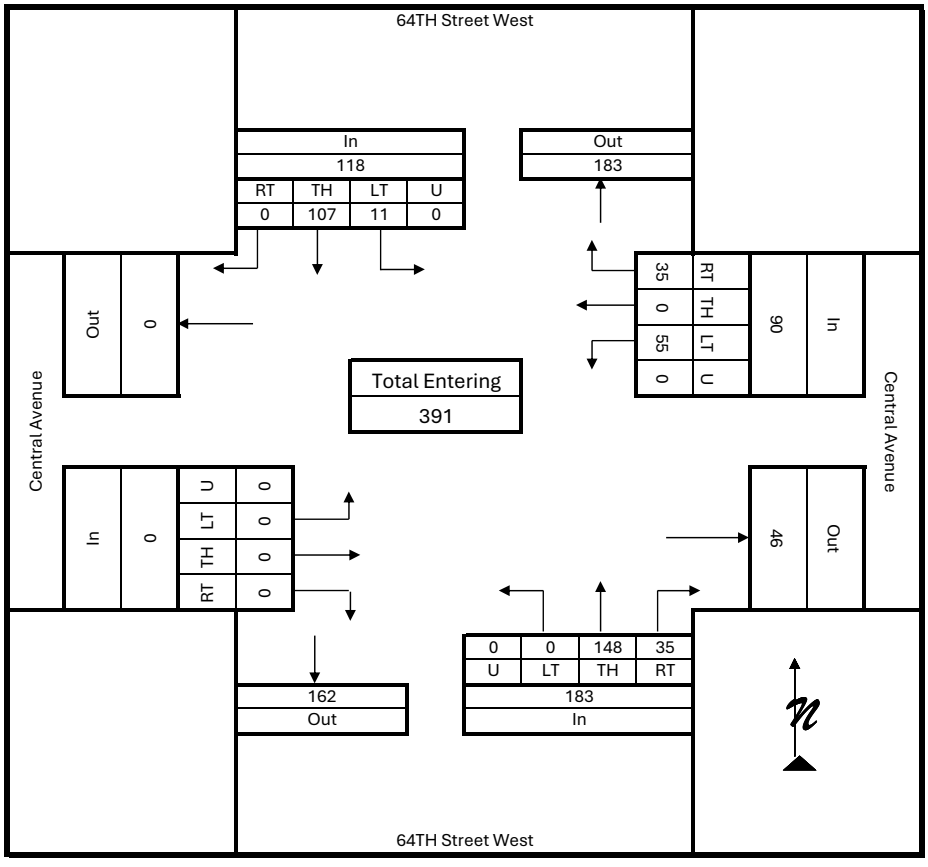
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Central Ave & 64TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64TH Street West	East/West Street:	Central Avenue

Vehicle Volumes and Adjustments

	64TH Street West Southbound					64TH Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	0	22	0	0	22	7	32	0	0	39	0	0	0	0	0	11	0	15	0	26	87
5:00 PM	0	30	6	0	36	17	42	0	0	59	0	0	0	0	0	10	0	12	0	22	117
5:15 PM	0	31	1	0	32	5	34	0	0	39	0	0	0	0	0	8	0	16	0	24	95
5:30 PM	0	24	4	0	28	6	40	0	0	46	0	0	0	0	0	6	0	12	0	18	92
Grand Total	0	107	11	0	118	35	148	0	0	183	0	0	0	0	0	35	0	55	0	90	391
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	1.9	0.0	0.0	1.7	0.0	1.4	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	1.9	0.0	0.0	1.7	0.0	1.4	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	27.4	2.8	0.0	30.2	9.0	37.9	0.0	0.0	46.8	0.0	0.0	0.0	0.0	0.0	9.0	0.0	14.1	0.0	23.0	100.0
PHF	0.81	0.81	0.81			0.79	0.79	0.79			1.00	1.00	1.00			1.00	1.00	1.00			0.84



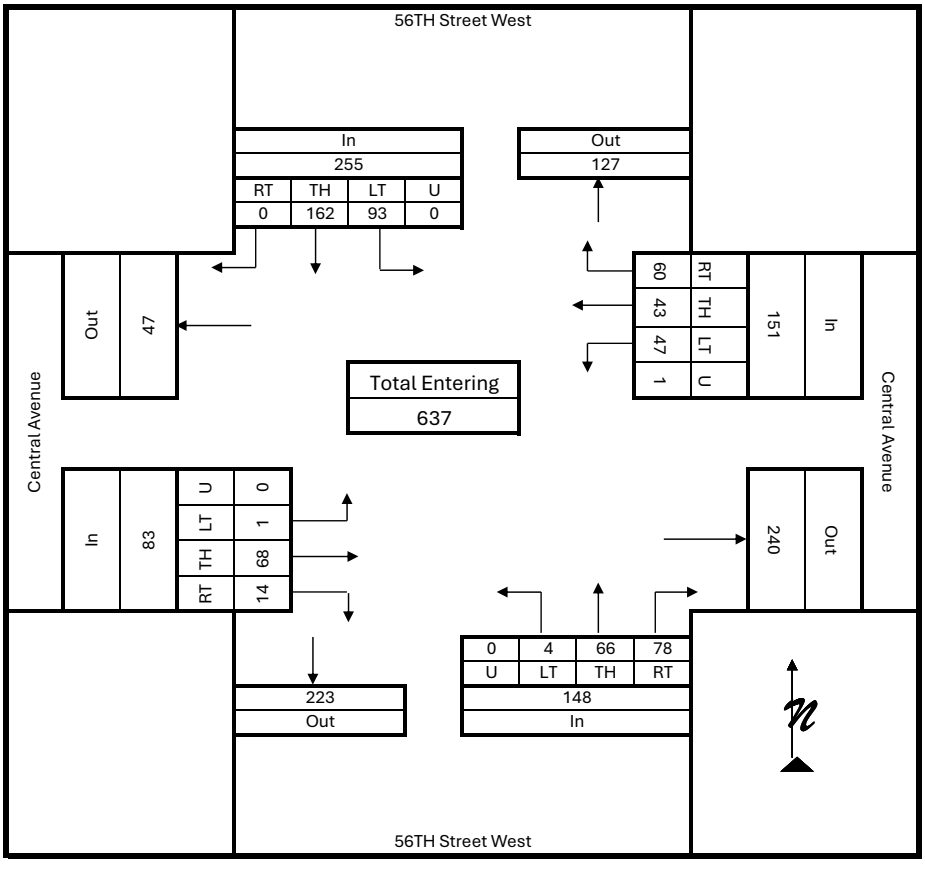
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Central Ave & 56TH ST West
Agency/Company:	Sanbell		
Date Performed:	Thursday, January 11, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56TH Street West	East/West Street:	Central Avenue

Vehicle Volumes and Adjustments

	56TH Street West Southbound					56TH Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	0	23	14	0	37	17	15	1	0	33	1	21	0	0	22	7	12	7	0	26	118
7:30 AM	0	54	21	0	75	25	16	0	0	41	6	16	0	0	22	23	5	12	0	40	178
7:45 AM	0	52	37	0	89	21	20	0	0	41	5	11	1	0	17	26	17	20	1	64	211
8:00 AM	0	33	21	0	54	15	15	3	0	33	2	20	0	0	22	4	9	8	0	21	130
Grand Total	0	162	93	0	255	78	66	4	0	148	14	68	1	0	83	60	43	47	1	151	637
Medium Truck %	0.0	0.6	1.1	0.0	0.8	0.0	1.5	25.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	2.6	
Heavy Truck %	0.0	1.2	1.1	0.0	1.2	0.0	4.5	50.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	3.3	4.7	2.1	0.0	3.3	
Total Truck %	0.0	1.9	2.2	0.0	2.0	0.0	6.1	75.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	10.0	4.7	2.1	0.0	6.0	
Total %	0.0	25.4	14.6	0.0	40.0	12.2	10.4	0.6	0.0	23.2	2.2	10.7	0.2	0.0	13.0	9.4	6.8	7.4	0.2	23.7	100.0
PHF	0.71	0.71	0.71			0.90	0.90	0.90			1.00	1.00	1.00			0.60	0.60	0.60			0.75



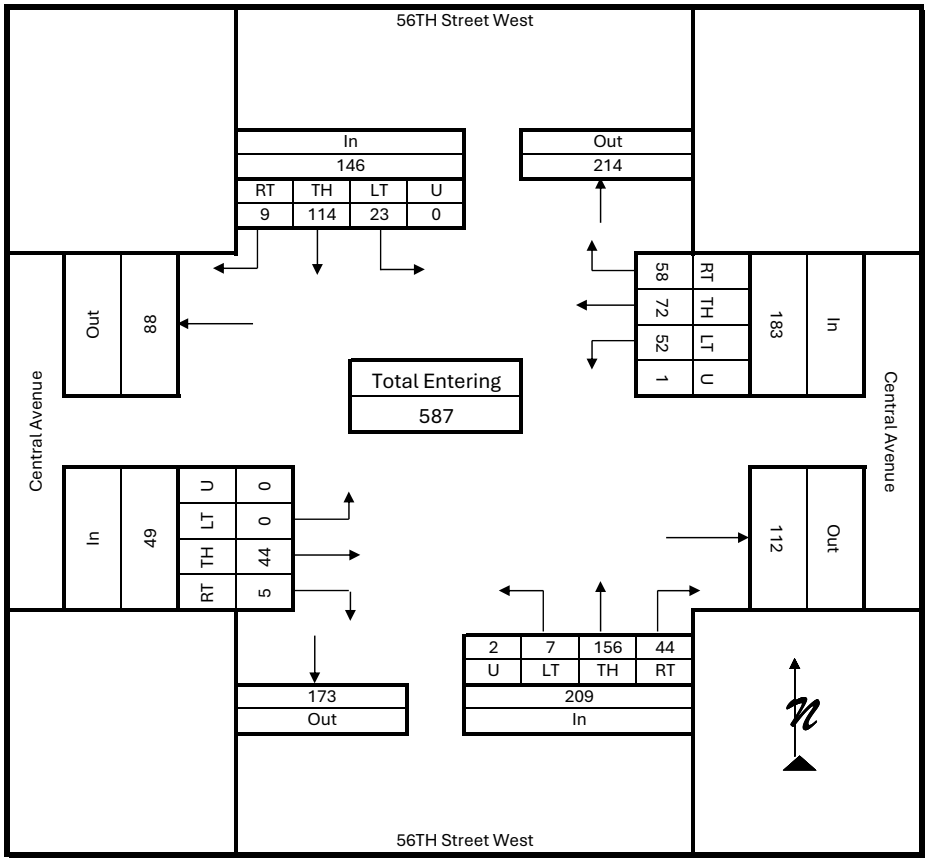
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Central Ave & 56TH ST West
Agency/Company:	Sanbell		
Date Performed:	Thursday, January 11, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56TH Street West	East/West Street:	Central Avenue

Vehicle Volumes and Adjustments

	56TH Street West Southbound					56TH Street West Northbound					Central Avenue Eastbound					Central Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	0	18	8	0	26	14	34	1	0	49	1	8	0	0	9	8	15	16	1	40	124
5:00 PM	3	41	6	0	50	15	44	2	2	63	2	22	0	0	24	18	22	20	0	60	197
5:15 PM	4	25	1	0	30	7	46	3	0	56	0	7	0	0	7	21	25	9	0	55	148
5:30 PM	2	30	8	0	40	8	32	1	0	41	2	7	0	0	9	11	10	7	0	28	118
Grand Total	9	114	23	0	146	44	156	7	2	209	5	44	0	0	49	58	72	52	1	183	587
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.9	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.9	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	1.5	19.4	3.9	0.0	24.9	7.5	26.6	1.2	0.3	35.6	0.9	7.5	0.0	0.0	8.3	9.9	12.3	8.9	0.2	31.2	100.0
PHF	0.73	0.73	0.73			0.84	0.84	0.84			0.52	0.52	0.52			0.77	0.77	0.77			0.75



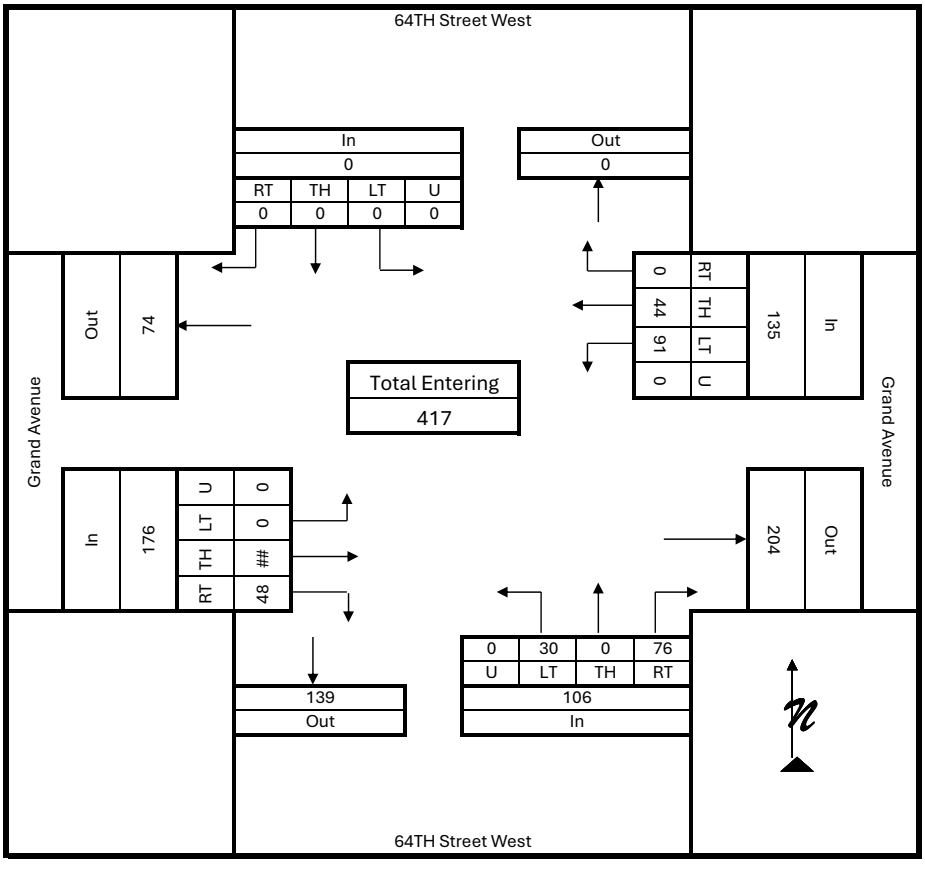
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Grand Ave & 64TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 16, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64TH Street West	East/West Street:	Grand Avenue

Vehicle Volumes and Adjustments

	64TH Street West Southbound					64TH Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	0	0	0	0	0	14	0	3	0	17	16	32	0	0	48	0	6	24	0	30	95
7:30 AM	0	0	0	0	0	21	0	7	0	28	12	40	0	0	52	0	11	18	0	29	109
7:45 AM	0	0	0	0	0	23	0	9	0	32	14	35	0	0	49	0	10	21	0	31	112
8:00 AM	0	0	0	0	0	18	0	11	0	29	6	21	0	0	27	0	17	28	0	45	101
Grand Total	0	0	0	0	0	76	0	30	0	106	48	128	0	0	176	0	44	91	0	135	417
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.9	0.0	1.6	0.0	0.0	1.1	0.0	6.8	1.1	0.0	3.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	1.9	0.0	0.8	0.0	0.0	0.6	0.0	0.0	1.1	0.0	0.7	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	2.8	0.0	2.3	0.0	0.0	1.7	0.0	6.8	2.2	0.0	3.7	
Total %	0.0	0.0	0.0	0.0	0.0	18.2	0.0	7.2	0.0	25.4	11.5	30.7	0.0	0.0	42.2	0.0	10.6	21.8	0.0	32.4	100.0
PHF	1.00	1.00	1.00			0.82	0.82	0.82			0.90	0.90	0.90			1.00	1.00	1.00			0.93



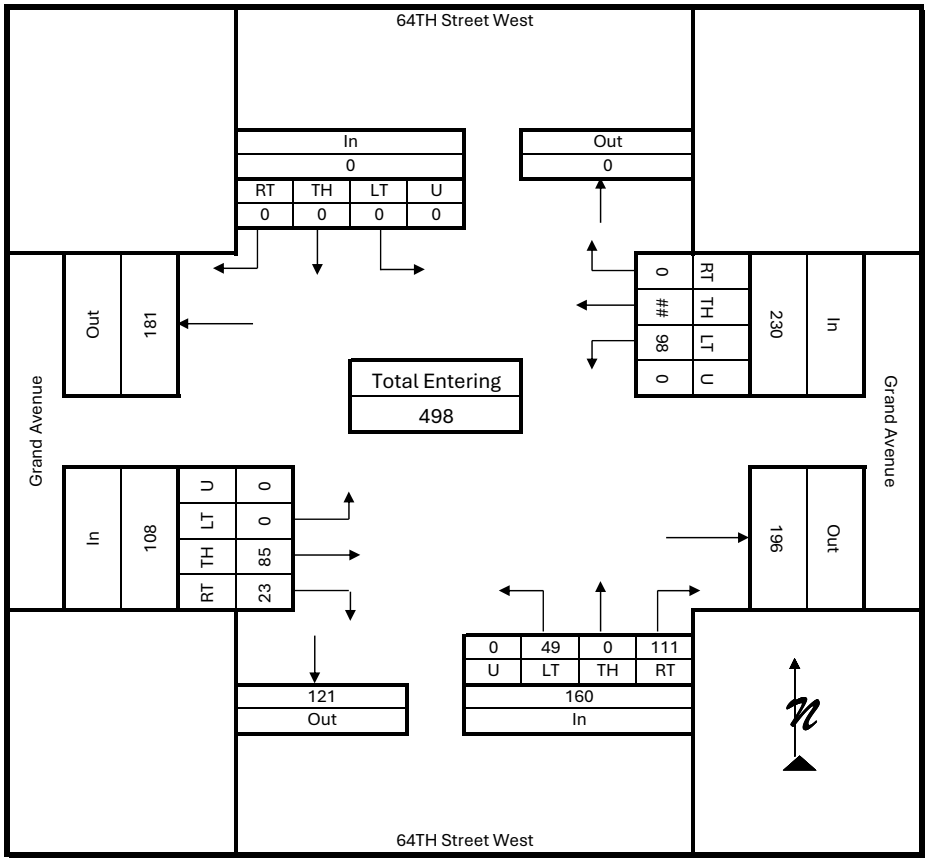
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Grand Ave & 64TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 16, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64TH Street West	East/West Street:	Grand Avenue

Vehicle Volumes and Adjustments

	64TH Street West Southbound					64TH Street West Northbound					Grand Avenue Eastbound					Grand Avenue Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	0	0	0	0	0	20	0	16	0	36	5	26	0	0	31	0	34	21	0	55	122
5:00 PM	0	0	0	0	0	33	0	6	0	39	10	22	0	0	32	0	36	20	0	56	127
5:15 PM	0	0	0	0	0	34	0	17	0	51	3	20	0	0	23	0	28	23	0	51	125
5:30 PM	0	0	0	0	0	24	0	10	0	34	5	17	0	0	22	0	34	34	0	68	124
Grand Total	0	0	0	0	0	111	0	49	0	160	23	85	0	0	108	0	132	98	0	230	498
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.6	0.0	2.4	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.6	0.0	2.4	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	22.3	0.0	9.8	0.0	32.1	4.6	17.1	0.0	0.0	21.7	0.0	26.5	19.7	0.0	46.2	100.0
PHF	1.00	1.00	1.00			1.00	1.00	1.00			0.84	0.84	0.84			1.00	1.00	1.00			0.98



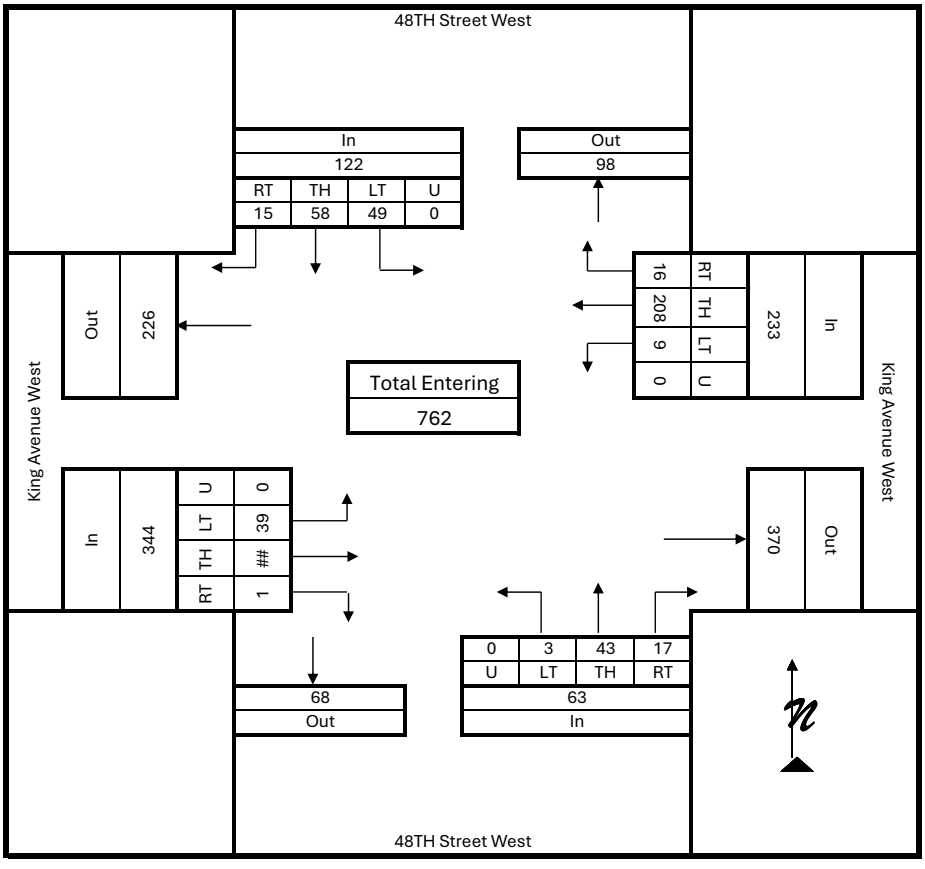
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	King Ave West & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, August 8, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	King Avenue West

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					King Avenue West Eastbound					King Avenue West Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		
7:15 AM	2	15	10	0	27	4	12	0	0	16	1	61	7	0	69	3	45	3	0	51	163
7:30 AM	3	9	4	0	16	5	13	2	0	20	0	83	12	0	95	6	54	2	0	62	193
7:45 AM	4	20	20	0	44	4	10	0	0	14	0	93	9	0	102	2	65	2	0	69	229
8:00 AM	6	14	15	0	35	4	8	1	0	13	0	67	11	0	78	5	44	2	0	51	177
Grand Total	15	58	49	0	122	17	43	3	0	63	1	304	39	0	344	16	208	9	0	233	762
Medium Truck %	0.0	1.7	0.0	0.0	0.8	0.0	4.7	33.3	0.0	4.8	0.0	4.9	2.6	0.0	4.7	6.3	4.8	0.0	0.0	4.7	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	4.9	0.0	5.8	0.0	0.0	5.2	
Total Truck %	0.0	1.7	0.0	0.0	0.8	0.0	4.7	33.3	0.0	4.8	0.0	10.5	2.6	0.0	9.6	6.3	10.6	0.0	0.0	9.9	
Total %	2.0	7.6	6.4	0.0	16.0	2.2	5.6	0.4	0.0	8.3	0.1	39.9	5.1	0.0	45.1	2.1	27.3	1.2	0.0	30.6	100.0
PHF	0.69	0.69	0.69			1.00	1.00	1.00			0.84	0.84	0.84			0.85	0.85	0.85			0.83



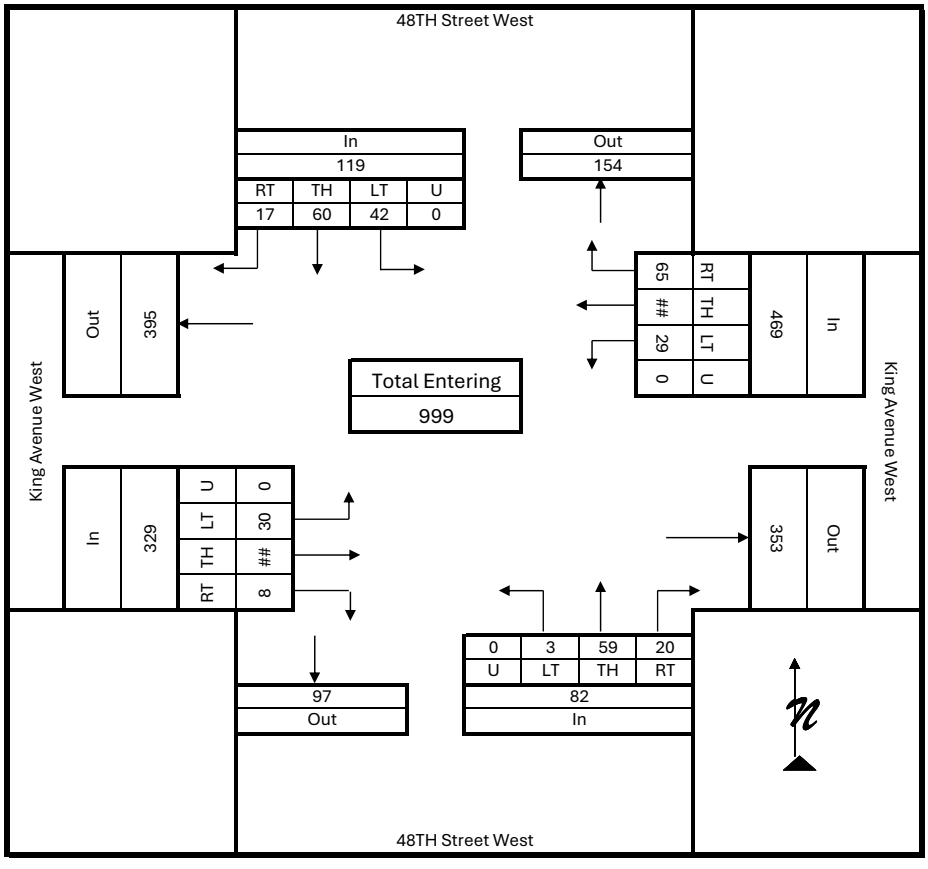
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	King Ave West & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, August 8, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	King Avenue West

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					King Avenue West Eastbound					King Avenue West Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		0.98	0.98	0.98	0.98		
4:45 PM	2	16	12	0	30	3	7	0	0	10	2	76	6	0	84	11	95	5	0	111	235
5:00 PM	7	14	12	0	33	5	15	0	0	20	3	80	8	0	91	18	76	7	0	101	245
5:15 PM	4	17	9	0	30	7	21	2	0	30	2	80	11	0	93	19	104	10	0	133	286
5:30 PM	4	13	9	0	26	5	16	1	0	22	1	55	5	0	61	17	100	7	0	124	233
Grand Total	17	60	42	0	119	20	59	3	0	82	8	291	30	0	329	65	375	29	0	469	999
Medium Truck %	0.0	3.3	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.3	0.0	0.0	0.2	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	3.3	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.9	0.0	0.3	0.0	0.0	0.2	
Total %	1.7	6.0	4.2	0.0	11.9	2.0	5.9	0.3	0.0	8.2	0.8	29.1	3.0	0.0	32.9	6.5	37.5	2.9	0.0	46.9	100.0
PHF	0.99	0.99	0.99			0.68	0.68	0.68			0.88	0.88	0.88			0.88	0.88	0.88			0.87



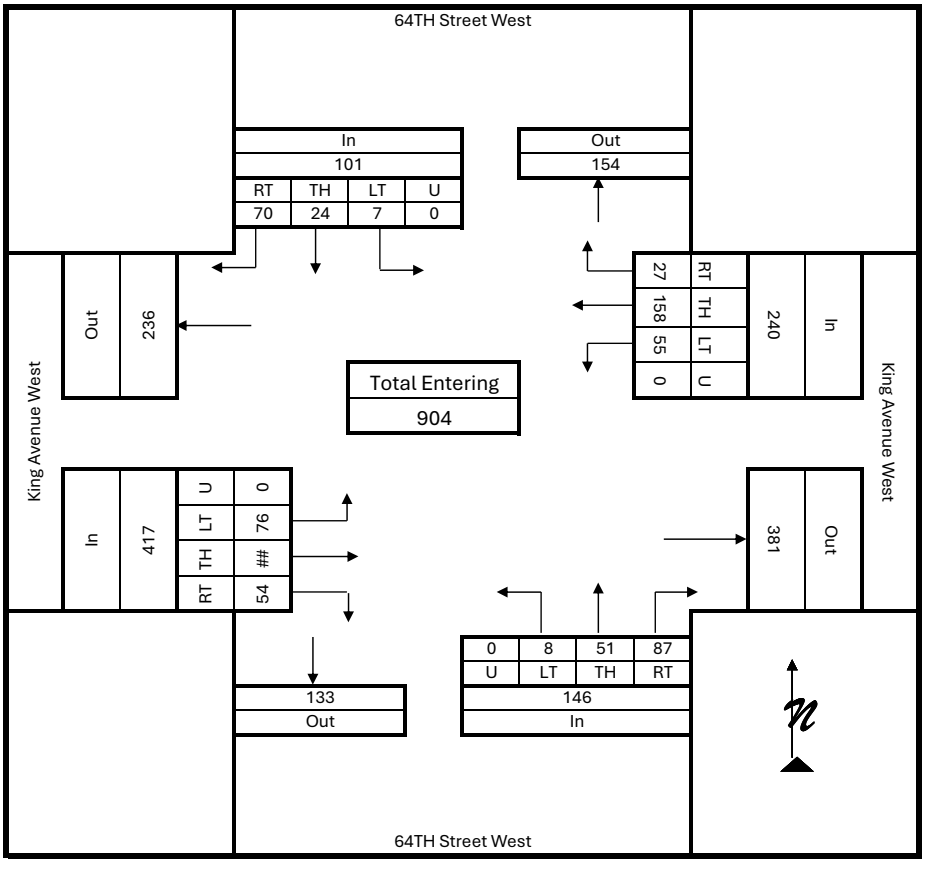
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	King Ave & 64TH ST West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64TH Street West	East/West Street:	King Avenue West

Vehicle Volumes and Adjustments

	64TH Street West Southbound					64TH Street West Northbound					King Avenue West Eastbound					King Avenue West Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
7:15 AM	11	10	3	0	24	8	8	1	0	17	5	72	15	0	92	6	31	11	0	48	181
7:30 AM	21	5	0	0	26	17	5	0	0	22	21	80	25	0	126	4	39	18	0	61	235
7:45 AM	21	5	3	0	29	31	17	3	0	51	27	76	18	0	121	9	61	19	0	89	290
8:00 AM	17	4	1	0	22	31	21	4	0	56	1	59	18	0	78	8	27	7	0	42	198
Grand Total	70	24	7	0	101	87	51	8	0	146	54	287	76	0	417	27	158	55	0	240	904
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.3	0.0	0.0	1.2	0.0	0.0	1.8	0.0	0.4	
Heavy Truck %	0.0	0.0	14.3	0.0	1.0	1.1	3.9	0.0	0.0	2.1	0.0	3.1	6.6	0.0	3.4	0.0	1.9	1.8	0.0	1.7	
Total Truck %	0.0	0.0	14.3	0.0	1.0	1.1	3.9	0.0	0.0	2.1	7.4	3.5	6.6	0.0	4.6	0.0	1.9	3.6	0.0	2.1	
Total %	7.7	2.7	0.8	0.0	11.2	9.6	5.6	0.9	0.0	16.2	6.0	31.7	8.4	0.0	46.1	3.0	17.5	6.1	0.0	26.5	100.0
PHF	0.87	0.87	0.87			0.72	0.72	0.72			0.86	0.86	0.86			0.68	0.68	0.68			0.78



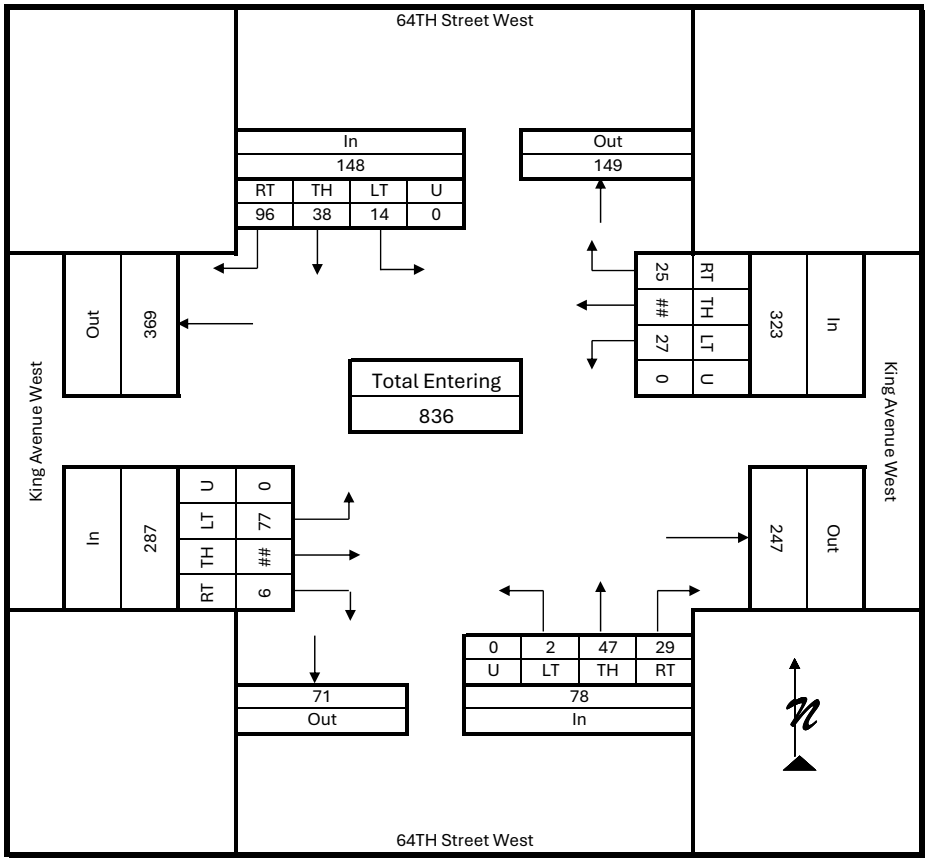
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	King Ave & 64TH ST West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	64TH Street West	East/West Street:	King Avenue West

Vehicle Volumes and Adjustments

	64TH Street West Southbound					64TH Street West Northbound					King Avenue West Eastbound					King Avenue West Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
4:45 PM	23	10	3	0	36	7	15	1	0	23	3	49	19	0	71	7	67	10	0	84	214
5:00 PM	33	8	6	0	47	9	12	1	0	22	2	61	26	0	89	8	70	4	0	82	240
5:15 PM	18	12	4	0	34	6	10	0	0	16	1	59	13	0	73	4	92	10	0	106	229
5:30 PM	22	8	1	0	31	7	10	0	0	17	0	35	19	0	54	6	42	3	0	51	153
Grand Total	96	38	14	0	148	29	47	2	0	78	6	204	77	0	287	25	271	27	0	323	836
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	1.3	0.0	2.0	0.0	0.0	1.4	0.0	1.1	0.0	0.0	0.9	
Total Truck %	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	1.3	0.0	2.0	0.0	0.0	1.4	0.0	1.1	0.0	0.0	0.9	
Total %	11.5	4.5	1.7	0.0	17.7	3.5	5.6	0.2	0.0	9.3	0.7	24.4	9.2	0.0	34.3	3.0	32.4	3.2	0.0	38.6	100.0
PHF	0.79	0.79	0.79			0.89	0.89	0.89			0.81	0.81	0.81			0.99	0.99	0.99			0.87



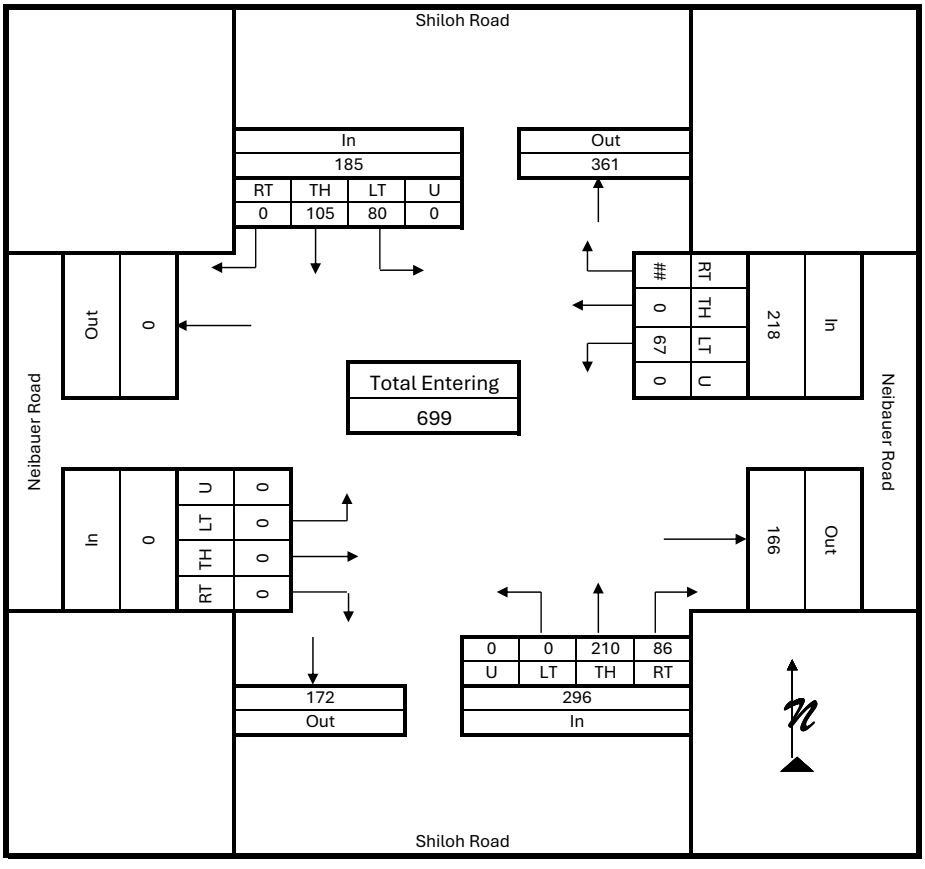
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Neibauer RD & Shiloh RD
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	Shiloh Road	East/West Street:	Neibauer Road

Vehicle Volumes and Adjustments

	Shiloh Road Southbound					Shiloh Road Northbound					Neibauer Road Eastbound					Neibauer Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		
7:15 AM	0	23	22	0	45	14	47	0	0	61	0	0	0	0	0	27	0	12	0	39	145
7:30 AM	0	26	20	0	46	28	65	0	0	93	0	0	0	0	0	46	0	16	0	62	201
7:45 AM	0	29	20	0	49	30	51	0	0	81	0	0	0	0	0	46	0	19	0	65	195
8:00 AM	0	27	18	0	45	14	47	0	0	61	0	0	0	0	0	32	0	20	0	52	158
Grand Total	0	105	80	0	185	86	210	0	0	296	0	0	0	0	0	151	0	67	0	218	699
Medium Truck %	0.0	2.9	0.0	0.0	1.6	2.3	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.7	0.0	4.5	0.0	1.8	
Heavy Truck %	0.0	16.2	2.5	0.0	10.3	2.3	10.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	2.8	
Total Truck %	0.0	19.0	2.5	0.0	11.9	4.7	10.0	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0	0.7	0.0	13.4	0.0	4.6	
Total %	0.0	15.0	11.4	0.0	26.5	12.3	30.0	0.0	0.0	42.3	0.0	0.0	0.0	0.0	0.0	21.6	0.0	9.6	0.0	31.2	100.0
PHF	1.00	1.00	1.00			0.80	0.80	0.80			1.00	1.00	1.00			0.88	0.88	0.88			0.87



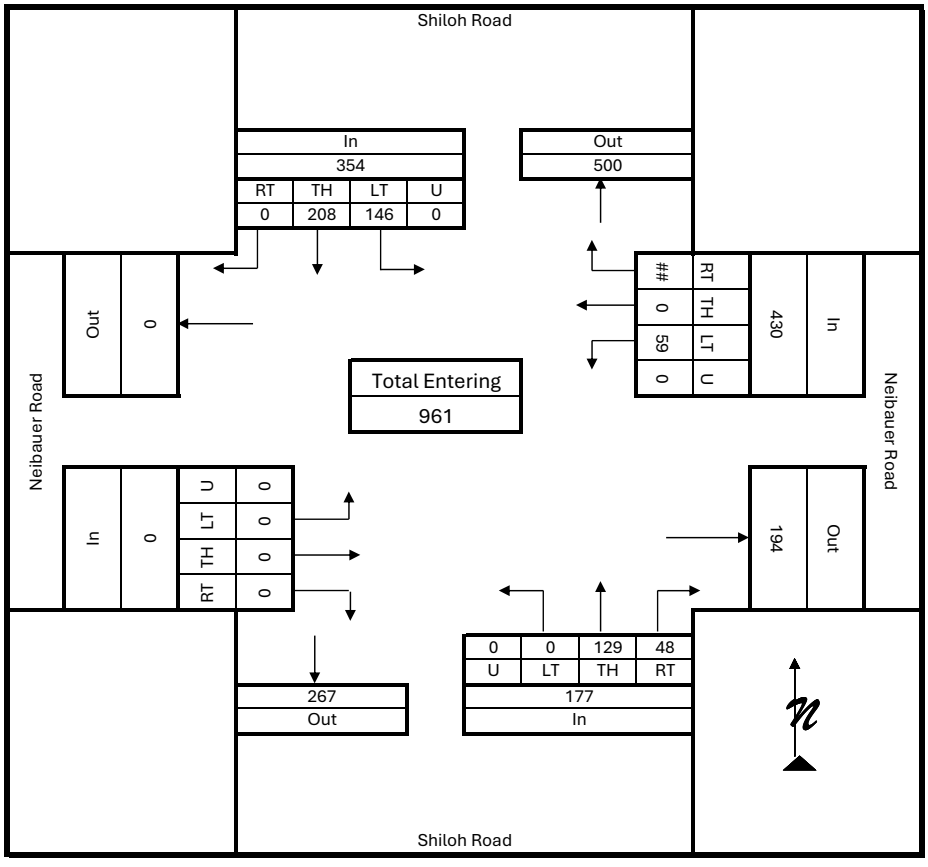
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Neibauer RD & Shiloh RD
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	Shiloh Road	East/West Street:	Neibauer Road

Vehicle Volumes and Adjustments

	Shiloh Road Southbound					Shiloh Road Northbound					Neibauer Road Eastbound					Neibauer Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		
4:45 PM	0	45	29	0	74	11	42	0	0	53	0	0	0	0	0	143	0	11	0	154	281
5:00 PM	0	45	45	0	90	11	32	0	0	43	0	0	0	0	0	115	0	16	0	131	264
5:15 PM	0	61	46	0	107	16	29	0	0	45	0	0	0	0	0	74	0	20	0	94	246
5:30 PM	0	57	26	0	83	10	26	0	0	36	0	0	0	0	0	39	0	12	0	51	170
Grand Total	0	208	146	0	354	48	129	0	0	177	0	0	0	0	0	371	0	59	0	430	961
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.5	0.0	0.0	0.3	0.0	3.9	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	1.6	0.0	1.7	0.0	1.6	
Total Truck %	0.0	0.5	0.0	0.0	0.3	0.0	5.4	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	1.7	0.0	1.6	
Total %	0.0	21.6	15.2	0.0	36.8	5.0	13.4	0.0	0.0	18.4	0.0	0.0	0.0	0.0	0.0	38.6	0.0	6.1	0.0	44.7	100.0
PHF	1.00	1.00	1.00			0.83	0.83	0.83			1.00	1.00	1.00			0.70	0.70	0.70			0.85



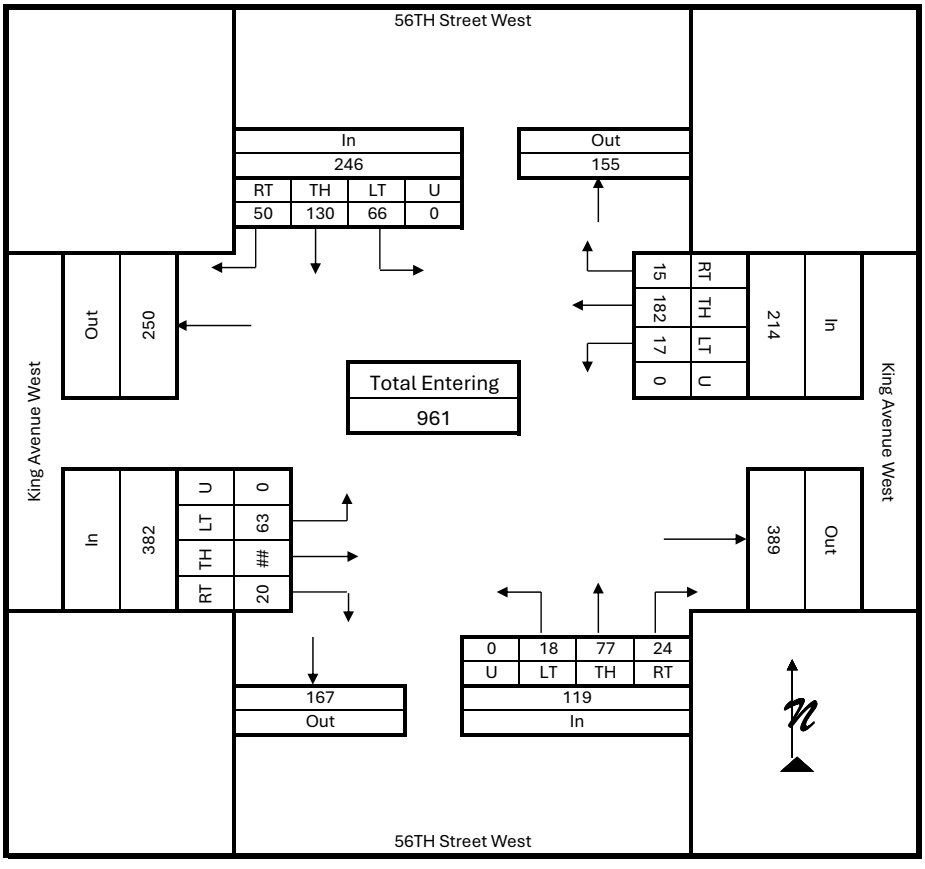
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	King Ave & 56TH ST West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56TH Street West	East/West Street:	King Avenue West

Vehicle Volumes and Adjustments

	56TH Street West Southbound					56TH Street West Northbound					King Avenue West Eastbound					King Avenue West Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
7:15 AM	8	26	14	0	48	5	14	3	0	22	2	72	10	0	84	3	43	3	0	49	203
7:30 AM	14	30	17	0	61	5	15	7	0	27	10	67	19	0	96	4	41	5	0	50	234
7:45 AM	17	42	19	0	78	8	21	8	0	37	7	85	23	0	115	1	64	4	0	69	299
8:00 AM	11	32	16	0	59	6	27	0	0	33	1	75	11	0	87	7	34	5	0	46	225
Grand Total	50	130	66	0	246	24	77	18	0	119	20	299	63	0	382	15	182	17	0	214	961
Medium Truck %	0.0	0.0	1.5	0.0	0.4	0.0	2.6	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	
Heavy Truck %	0.0	0.8	1.5	0.0	0.8	4.2	1.3	0.0	0.0	1.7	10.0	1.3	6.3	0.0	2.6	20.0	2.2	5.9	0.0	3.7	
Total Truck %	0.0	0.8	3.0	0.0	1.2	4.2	3.9	0.0	0.0	3.4	10.0	1.3	6.3	0.0	2.6	20.0	2.7	5.9	0.0	4.2	
Total %	5.2	13.5	6.9	0.0	25.6	2.5	8.0	1.9	0.0	12.4	2.1	31.1	6.6	0.0	39.8	1.6	18.9	1.8	0.0	22.3	100.0
PHF	0.79	0.79	0.79			0.80	0.80	0.80			0.83	0.83	0.83			0.78	0.78	0.78			0.80



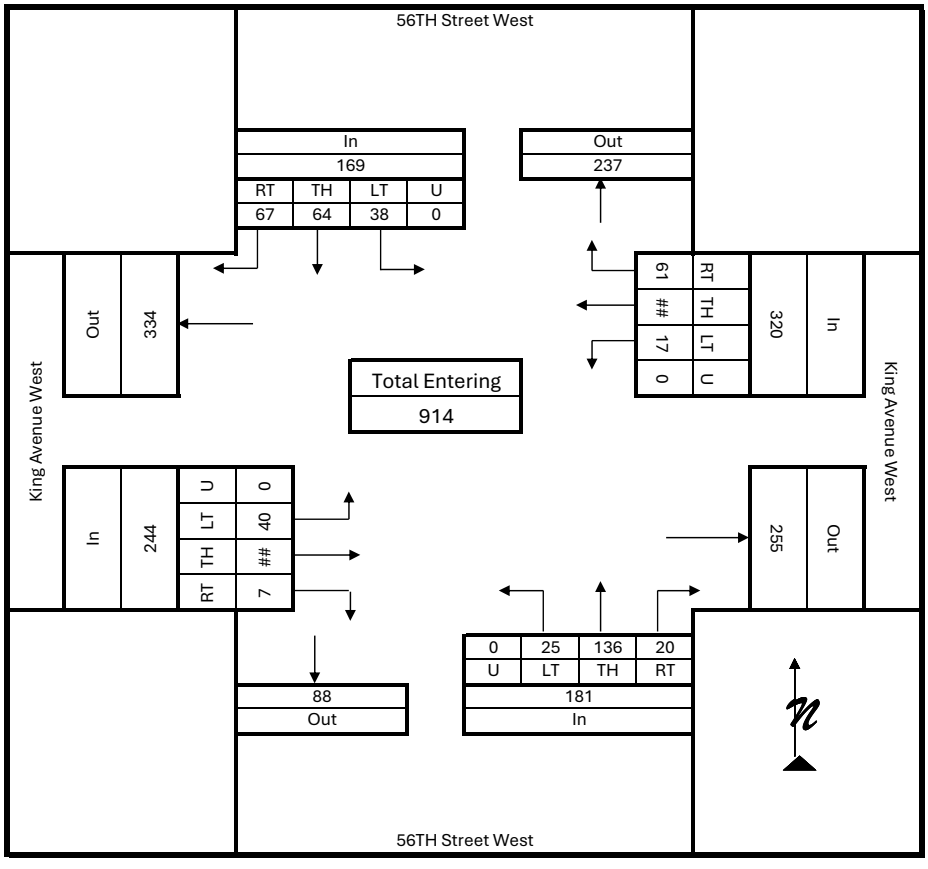
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	King Ave & 56TH ST West
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56TH Street West	East/West Street:	King Avenue West

Vehicle Volumes and Adjustments

	56TH Street West Southbound					56TH Street West Northbound					King Avenue West Eastbound					King Avenue West Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
4:45 PM	15	16	10	0	41	7	21	3	0	31	1	46	14	0	61	11	63	4	0	78	211
5:00 PM	21	18	9	0	48	3	46	8	0	57	2	62	9	0	73	18	61	8	0	87	265
5:15 PM	21	18	11	0	50	3	40	11	0	54	1	58	8	0	67	20	69	4	0	93	264
5:30 PM	10	12	8	0	30	7	29	3	0	39	3	31	9	0	43	12	49	1	0	62	174
Grand Total	67	64	38	0	169	20	136	25	0	181	7	197	40	0	244	61	242	17	0	320	914
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.6	14.3	1.5	0.0	0.0	1.6	0.0	1.2	0.0	0.0	0.9	
Total Truck %	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.6	14.3	1.5	0.0	0.0	1.6	0.0	1.2	0.0	0.0	0.9	
Total %	7.3	7.0	4.2	0.0	18.5	2.2	14.9	2.7	0.0	19.8	0.8	21.6	4.4	0.0	26.7	6.7	26.5	1.9	0.0	35.0	100.0
PHF	0.88	0.88	0.88			0.79	0.79	0.79			0.84	0.84	0.84			0.92	0.92	0.92			0.86



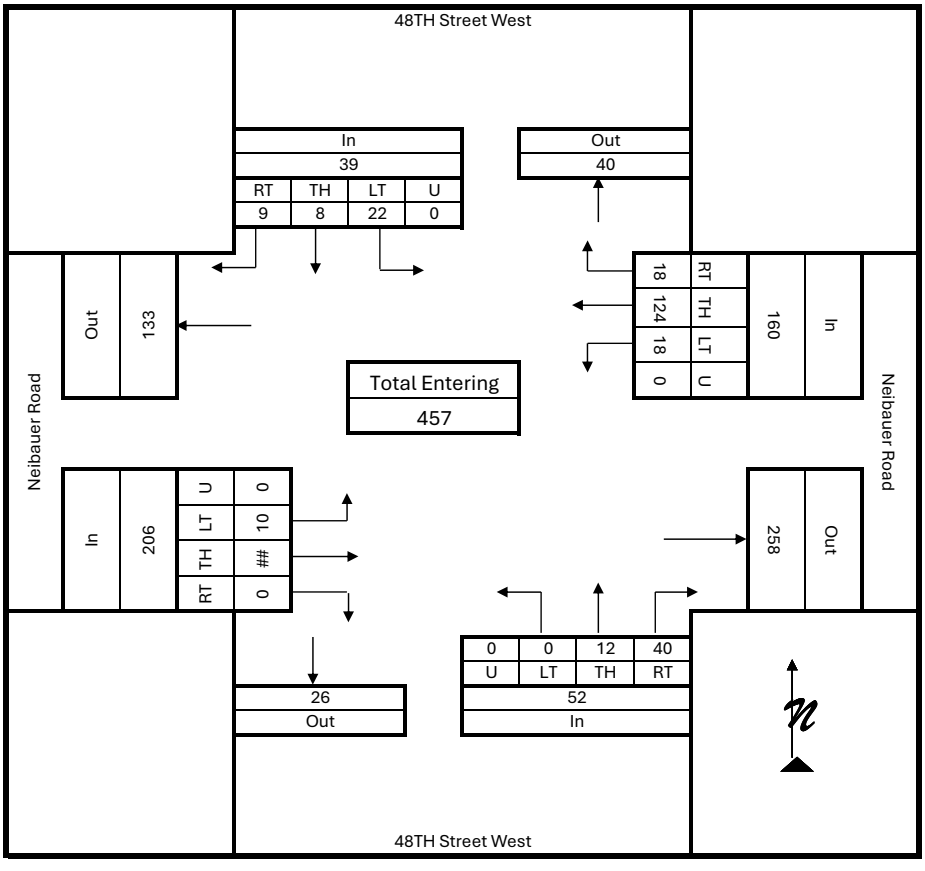
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Neibauer RD & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	Neibauer Road

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					Neibauer Road Eastbound					Neibauer Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		
7:15 AM	2	1	5	0	8	10	3	0	0	13	0	39	3	0	42	5	24	4	0	33	96
7:30 AM	2	3	5	0	10	10	5	0	0	15	0	67	1	0	68	6	31	3	0	40	133
7:45 AM	3	4	5	0	12	13	3	0	0	16	0	48	3	0	51	4	41	4	0	49	128
8:00 AM	2	0	7	0	9	7	1	0	0	8	0	42	3	0	45	3	28	7	0	38	100
Grand Total	9	8	22	0	39	40	12	0	0	52	0	196	10	0	206	18	124	18	0	160	457
Medium Truck %	0.0	12.5	0.0	0.0	2.6	2.5	0.0	0.0	0.0	1.9	0.0	1.0	0.0	0.0	1.0	5.6	4.0	0.0	0.0	3.8	
Heavy Truck %	0.0	0.0	4.5	0.0	2.6	2.5	0.0	0.0	0.0	1.9	0.0	11.2	0.0	0.0	10.7	0.0	16.1	0.0	0.0	12.5	
Total Truck %	0.0	12.5	4.5	0.0	5.1	5.0	0.0	0.0	0.0	3.8	0.0	12.2	0.0	0.0	11.7	5.6	20.2	0.0	0.0	16.3	
Total %	2.0	1.8	4.8	0.0	8.5	8.8	2.6	0.0	0.0	11.4	0.0	42.9	2.2	0.0	45.1	3.9	27.1	3.9	0.0	35.0	100.0
PHF	0.98	0.98	0.98			0.84	0.84	0.84			0.75	0.75	0.75			0.99	0.99	0.99			0.85



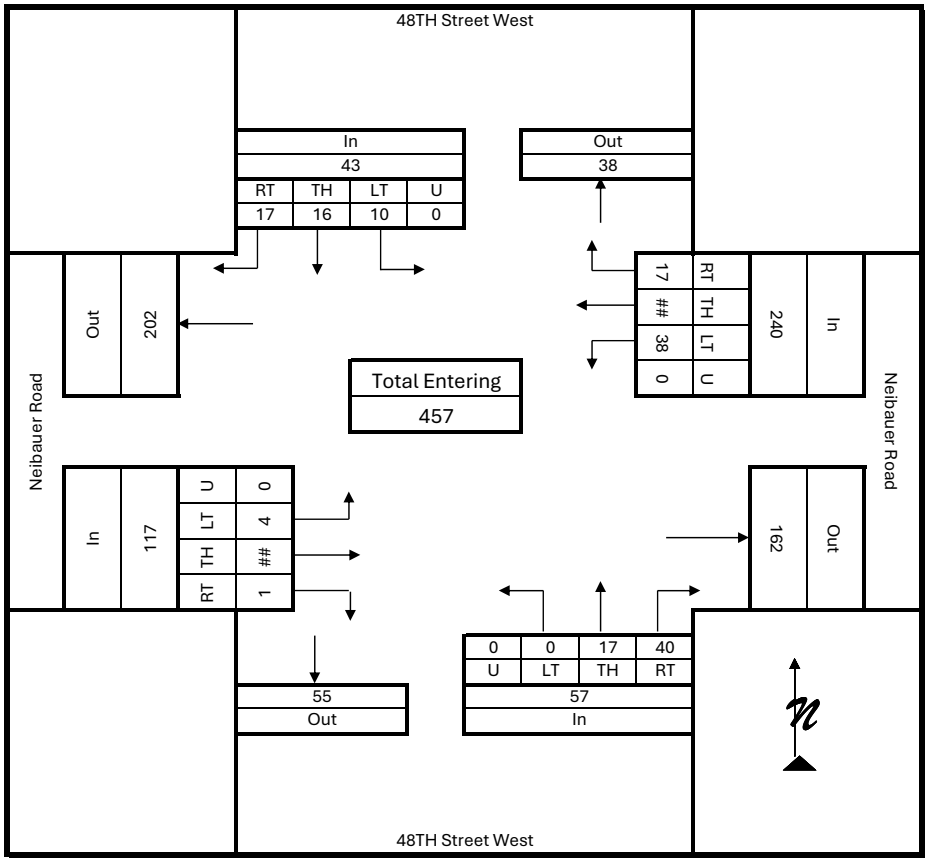
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Neibauer RD & 48TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	48TH Street West	East/West Street:	Neibauer Road

Vehicle Volumes and Adjustments

	48TH Street West Southbound					48TH Street West Northbound					Neibauer Road Eastbound					Neibauer Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		
4:45 PM	4	1	3	0	8	10	3	0	0	13	0	36	1	0	37	5	36	7	0	48	106
5:00 PM	6	4	1	0	11	8	6	0	0	14	0	30	1	0	31	3	39	10	0	52	108
5:15 PM	6	6	3	0	15	10	4	0	0	14	1	23	1	0	25	6	61	9	0	76	130
5:30 PM	1	5	3	0	9	12	4	0	0	16	0	23	1	0	24	3	49	12	0	64	113
Grand Total	17	16	10	0	43	40	17	0	0	57	1	112	4	0	117	17	185	38	0	240	457
Medium Truck %	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	1.8	0.0	0.9	0.0	0.0	0.9	0.0	0.5	0.0	0.0	0.4	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	1.8	0.0	5.4	0.0	0.0	5.1	0.0	0.0	2.6	0.0	0.4	
Total Truck %	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	3.5	0.0	6.3	0.0	0.0	6.0	0.0	0.5	2.6	0.0	0.8	
Total %	3.7	3.5	2.2	0.0	9.4	8.8	3.7	0.0	0.0	12.5	0.2	24.5	0.9	0.0	25.6	3.7	40.5	8.3	0.0	52.5	100.0
PHF	0.72	0.72	0.72			1.00	1.00	1.00			1.00	1.00	1.00			0.80	0.80	0.80			0.89



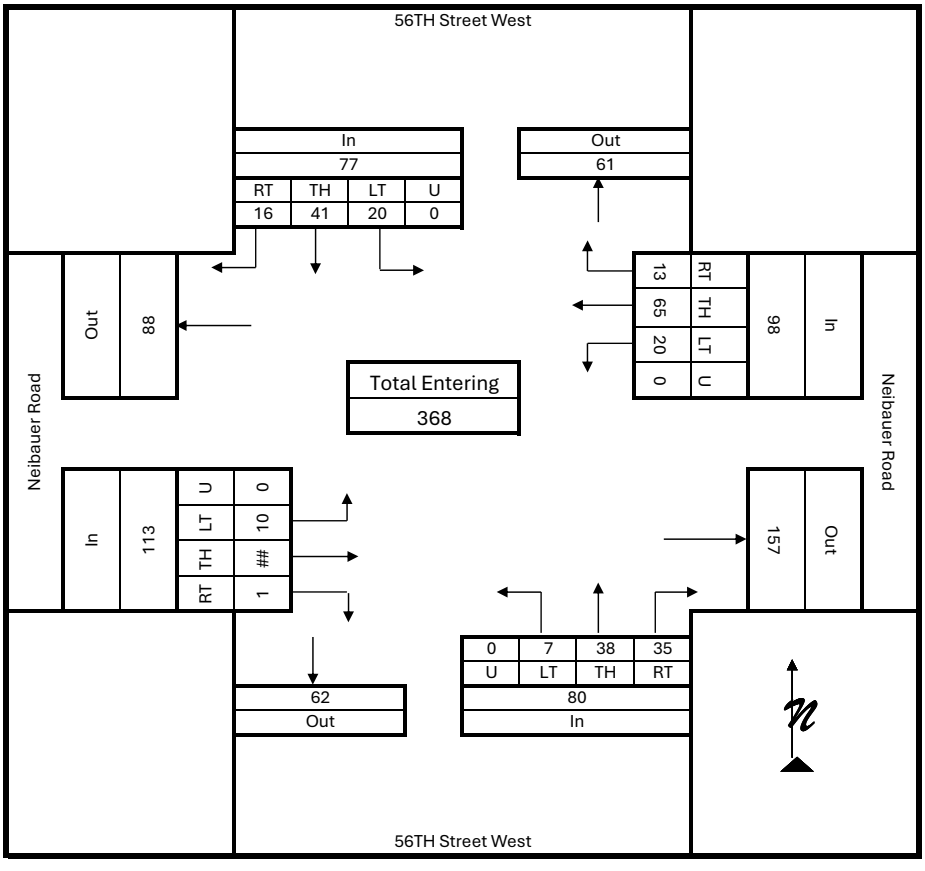
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Neibauer RD & 56TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56TH Street West	East/West Street:	Neibauer Road

Vehicle Volumes and Adjustments

	56TH Street West Southbound					56TH Street West Northbound					Neibauer Road Eastbound					Neibauer Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		
7:15 AM	3	8	1	0	12	13	6	1	0	20	0	20	1	0	21	3	10	5	0	18	71
7:30 AM	7	13	6	0	26	11	11	1	0	23	0	29	1	0	30	4	16	6	0	26	105
7:45 AM	4	13	6	0	23	6	11	2	0	19	0	26	5	0	31	5	26	3	0	34	107
8:00 AM	2	7	7	0	16	5	10	3	0	18	1	27	3	0	31	1	13	6	0	20	85
Grand Total	16	41	20	0	77	35	38	7	0	80	1	102	10	0	113	13	65	20	0	98	368
Medium Truck %	6.3	0.0	0.0	0.0	1.3	0.0	0.0	14.3	0.0	1.3	0.0	1.0	0.0	0.0	0.9	0.0	4.6	0.0	0.0	3.1	
Heavy Truck %	0.0	31.7	5.0	0.0	18.2	34.3	18.4	14.3	0.0	25.0	0.0	9.8	0.0	0.0	8.8	23.1	10.8	60.0	0.0	22.4	
Total Truck %	6.3	31.7	5.0	0.0	19.5	34.3	18.4	28.6	0.0	26.3	0.0	10.8	0.0	0.0	9.7	23.1	15.4	60.0	0.0	25.5	
Total %	4.3	11.1	5.4	0.0	20.9	9.5	10.3	1.9	0.0	21.7	0.3	27.7	2.7	0.0	30.7	3.5	17.7	5.4	0.0	26.6	100.0
PHF	0.73	0.73	0.73			0.85	0.85	0.85			0.92	0.92	0.92			0.94	0.94	0.94			0.86



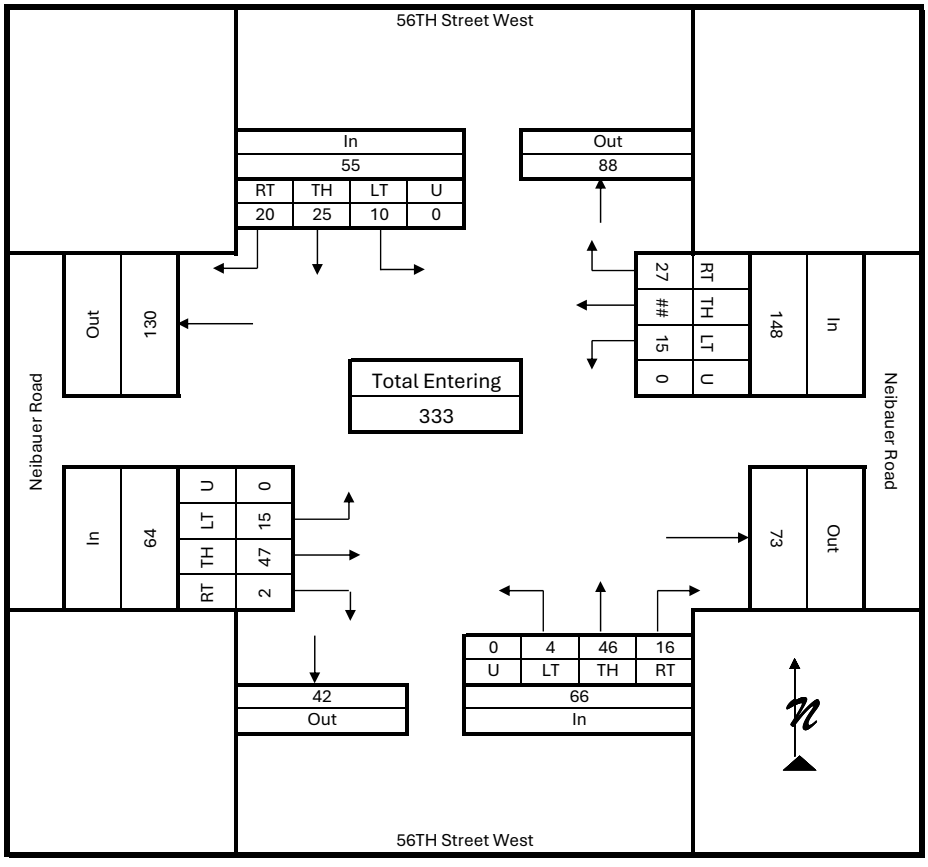
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Neibauer RD & 56TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, September 12, 2023	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	56TH Street West	East/West Street:	Neibauer Road

Vehicle Volumes and Adjustments

	56TH Street West Southbound					56TH Street West Northbound					Neibauer Road Eastbound					Neibauer Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95		
4:45 PM	2	7	3	0	12	3	10	3	0	16	0	16	2	0	18	6	23	3	0	32	78
5:00 PM	4	7	1	0	12	5	15	0	0	20	0	14	5	0	19	3	22	3	0	28	79
5:15 PM	8	4	4	0	16	5	8	1	0	14	1	7	3	0	11	7	38	5	0	50	91
5:30 PM	6	7	2	0	15	3	13	0	0	16	1	10	5	0	16	11	23	4	0	38	85
Grand Total	20	25	10	0	55	16	46	4	0	66	2	47	15	0	64	27	106	15	0	148	333
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	5.0	0.0	0.0	0.0	1.8	18.8	4.3	0.0	0.0	7.6	0.0	4.3	0.0	0.0	3.1	3.7	0.0	0.0	0.0	0.7	
Total Truck %	5.0	0.0	0.0	0.0	1.8	18.8	4.3	0.0	0.0	7.6	0.0	4.3	0.0	0.0	3.1	3.7	0.0	0.0	0.0	0.7	
Total %	6.0	7.5	3.0	0.0	16.5	4.8	13.8	1.2	0.0	19.8	0.6	14.1	4.5	0.0	19.2	8.1	31.8	4.5	0.0	44.4	100.0
PHF	0.86	0.86	0.86			1.00	1.00	1.00			1.00	1.00	1.00			0.74	0.74	0.74			0.92



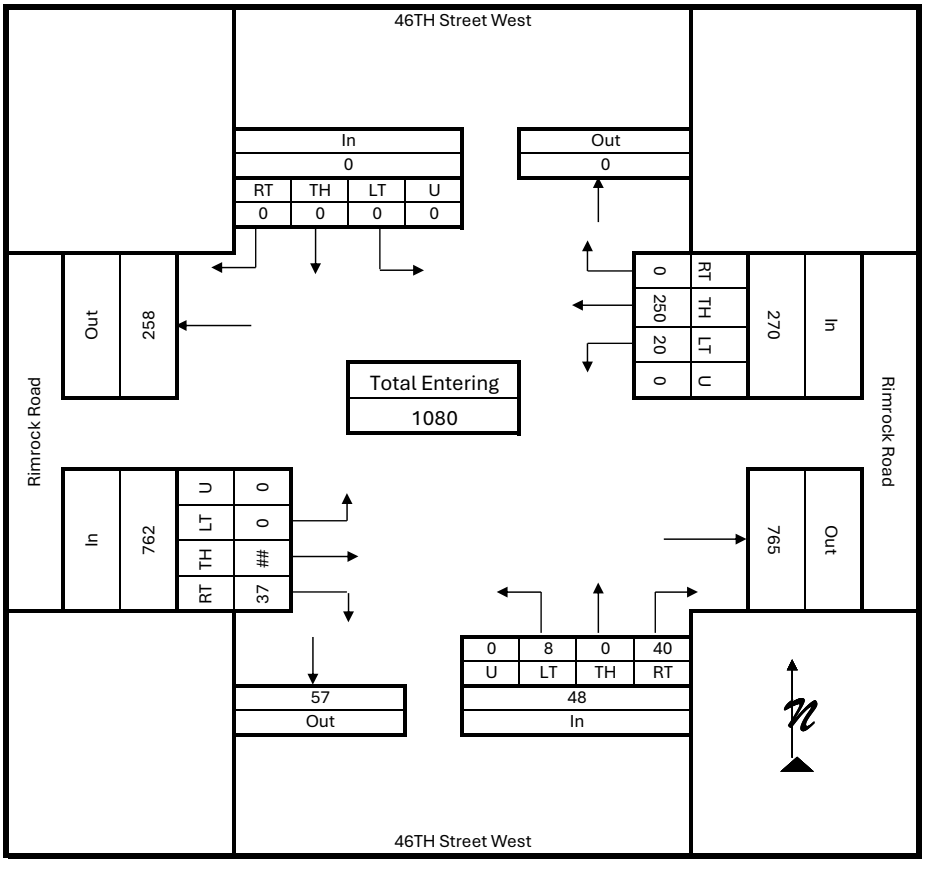
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 46TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	46TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	46TH Street West Southbound					46TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	0	0	0	0	0	7	0	1	0	8	1	183	0	0	184	0	41	3	0	44	236
7:30 AM	0	0	0	0	0	10	0	2	0	12	4	212	0	0	216	0	63	3	0	66	294
7:45 AM	0	0	0	0	0	14	0	4	0	18	18	157	0	0	175	0	70	6	0	76	269
8:00 AM	0	0	0	0	0	9	0	1	0	10	14	173	0	0	187	0	76	8	0	84	281
Grand Total	0	0	0	0	0	40	0	8	0	48	37	725	0	0	762	0	250	20	0	270	1080
Medium Truck %	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.1	2.7	1.5	0.0	0.0	1.6	0.0	2.0	0.0	0.0	1.9	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	1.2	0.0	0.0	1.1	
Total Truck %	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.1	2.7	1.7	0.0	0.0	1.7	0.0	3.2	0.0	0.0	3.0	
Total %	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.7	0.0	4.4	3.4	67.1	0.0	0.0	70.6	0.0	23.1	1.9	0.0	25.0	100.0
PHF	1.00	1.00	1.00			0.98	0.98	0.98			0.88	0.88	0.88			1.00	1.00	1.00			0.91



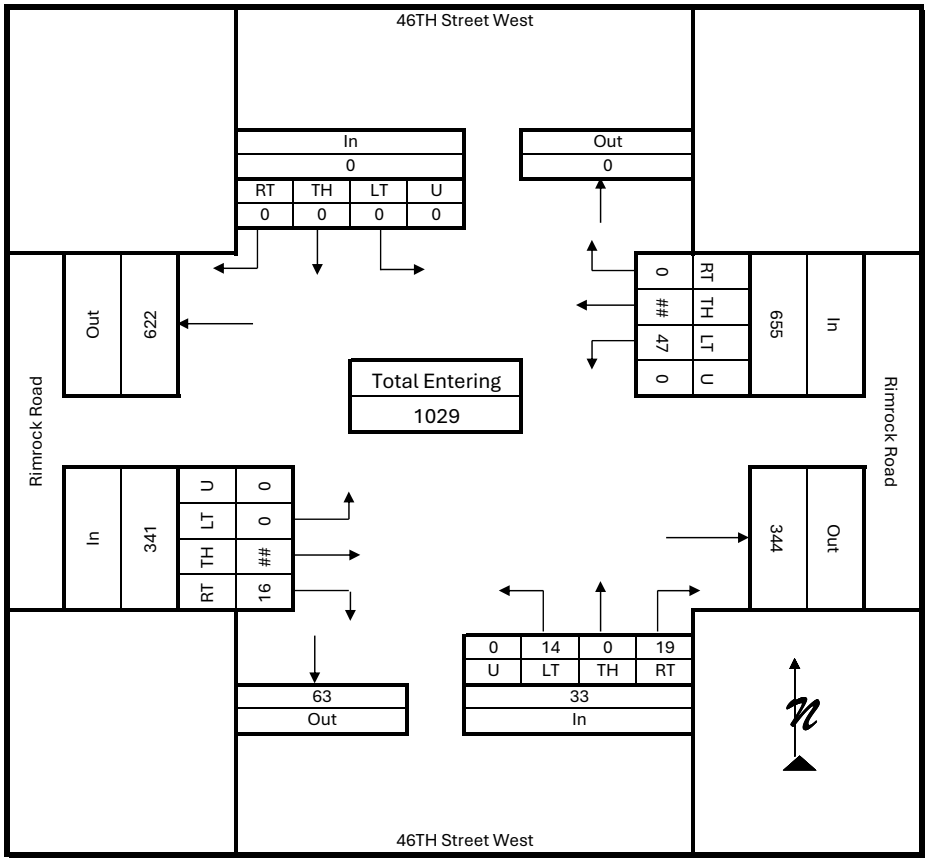
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 46TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	46TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	46TH Street West Southbound					46TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	0	0	0	0	0	3	0	4	0	7	3	76	0	0	79	0	148	8	0	156	242
5:00 PM	0	0	0	0	0	8	0	3	0	11	6	85	0	0	91	0	132	7	0	139	241
5:15 PM	0	0	0	0	0	3	0	3	0	6	6	83	0	0	89	0	168	22	0	190	285
5:30 PM	0	0	0	0	0	5	0	4	0	9	1	81	0	0	82	0	160	10	0	170	261
Grand Total	0	0	0	0	0	19	0	14	0	33	16	325	0	0	341	0	608	47	0	655	1029
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	3.0	0.0	1.2	0.0	0.0	1.2	0.0	0.2	0.0	0.0	0.2	
Total Truck %	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	3.0	0.0	1.2	0.0	0.0	1.2	0.0	0.2	0.0	0.0	0.2	
Total %	0.0	0.0	0.0	0.0	0.0	1.8	0.0	1.4	0.0	3.2	1.6	31.6	0.0	0.0	33.1	0.0	59.1	4.6	0.0	63.7	100.0
PHF	1.00	1.00	1.00			1.00	1.00	1.00			0.96	0.96	0.96			0.86	0.86	0.86			0.90



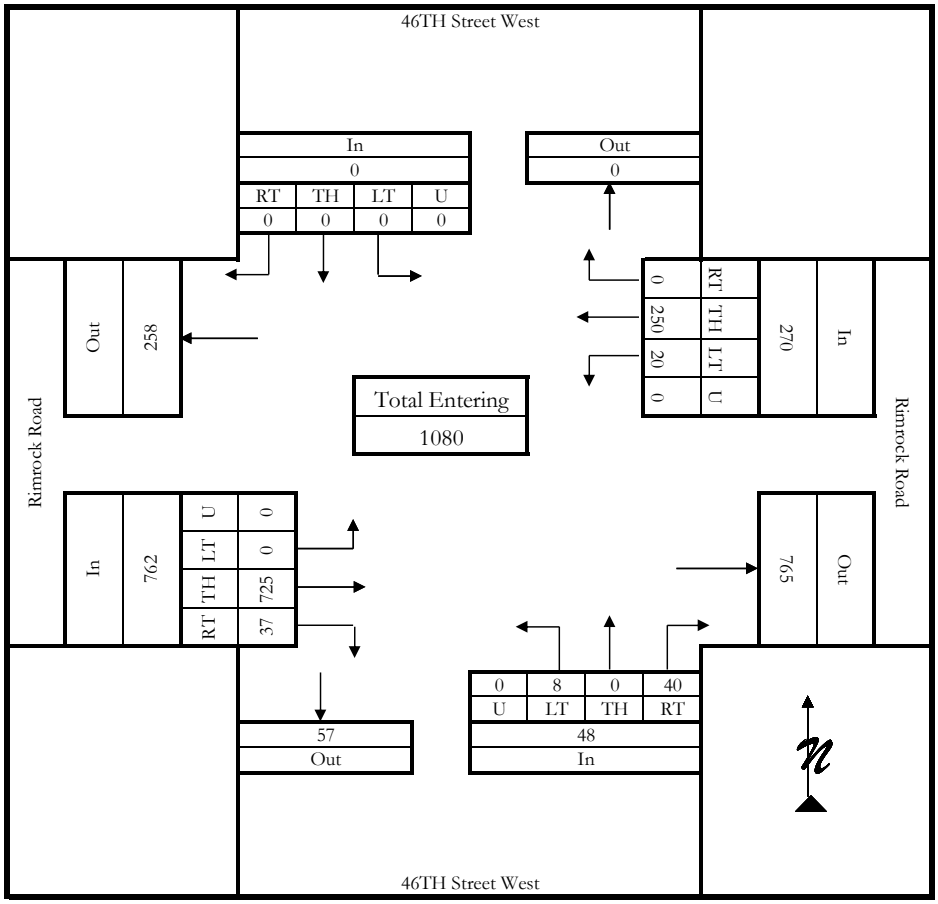
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 46TH ST West
Agency/Company:	Sanderson Stewart		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	46TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	46TH Street West Southbound					46TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	0	0	0	0	0	7	0	1	0	8	1	183	0	0	184	0	41	3	0	44	236
7:30 AM	0	0	0	0	0	10	0	2	0	12	4	212	0	0	216	0	63	3	0	66	294
7:45 AM	0	0	0	0	0	14	0	4	0	18	18	157	0	0	175	0	70	6	0	76	269
8:00 AM	0	0	0	0	0	9	0	1	0	10	14	173	0	0	187	0	76	8	0	84	281
Grand Total	0	0	0	0	0	40	0	8	0	48	37	725	0	0	762	0	250	20	0	270	1080
Medium Truck %	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.1	2.7	1.5	0.0	0.0	1.6	0.0	2.0	0.0	0.0	1.9	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	1.2	0.0	0.0	1.1	
Total Truck %	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.1	2.7	1.7	0.0	0.0	1.7	0.0	3.2	0.0	0.0	3.0	
Total %	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.7	0.0	4.4	3.4	67.1	0.0	0.0	70.6	0.0	23.1	1.9	0.0	25.0	100.0
PHF	1.00	1.00	1.00			0.98	0.98	0.98			0.88	0.88	0.88			1.00	1.00	1.00			0.91



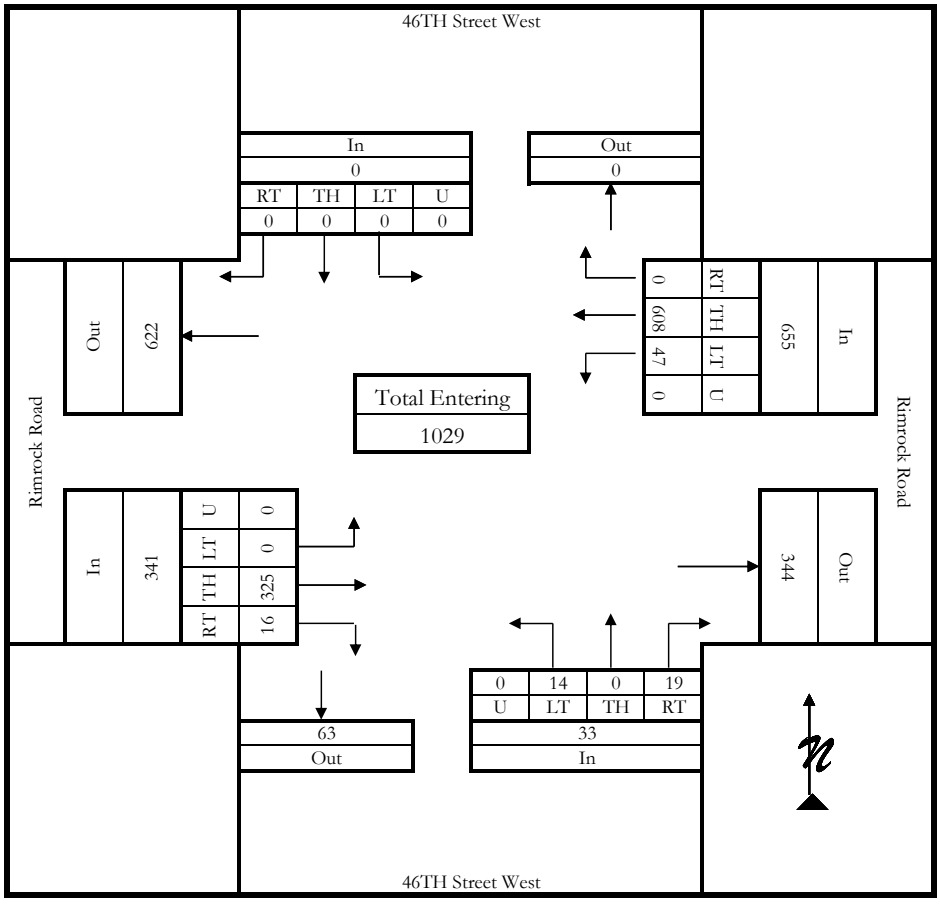
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 46TH ST West
Agency/Company:	Sanderson Stewart		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	46TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	46TH Street West Southbound					46TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	0	0	0	0	0	3	0	4	0	7	3	76	0	0	79	0	148	8	0	156	242
5:00 PM	0	0	0	0	0	8	0	3	0	11	6	85	0	0	91	0	132	7	0	139	241
5:15 PM	0	0	0	0	0	3	0	3	0	6	6	83	0	0	89	0	168	22	0	190	285
5:30 PM	0	0	0	0	0	5	0	4	0	9	1	81	0	0	82	0	160	10	0	170	261
Grand Total	0	0	0	0	0	19	0	14	0	33	16	325	0	0	341	0	608	47	0	655	1029
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	3.0	0.0	1.2	0.0	0.0	1.2	0.0	0.2	0.0	0.0	0.2	
Total Truck %	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	3.0	0.0	1.2	0.0	0.0	1.2	0.0	0.2	0.0	0.0	0.2	
Total %	0.0	0.0	0.0	0.0	0.0	1.8	0.0	1.4	0.0	3.2	1.6	31.6	0.0	0.0	33.1	0.0	59.1	4.6	0.0	63.7	100.0
PHF	1.00	1.00	1.00			1.00	1.00	1.00			0.96	0.96	0.96			0.86	0.86	0.86			0.90



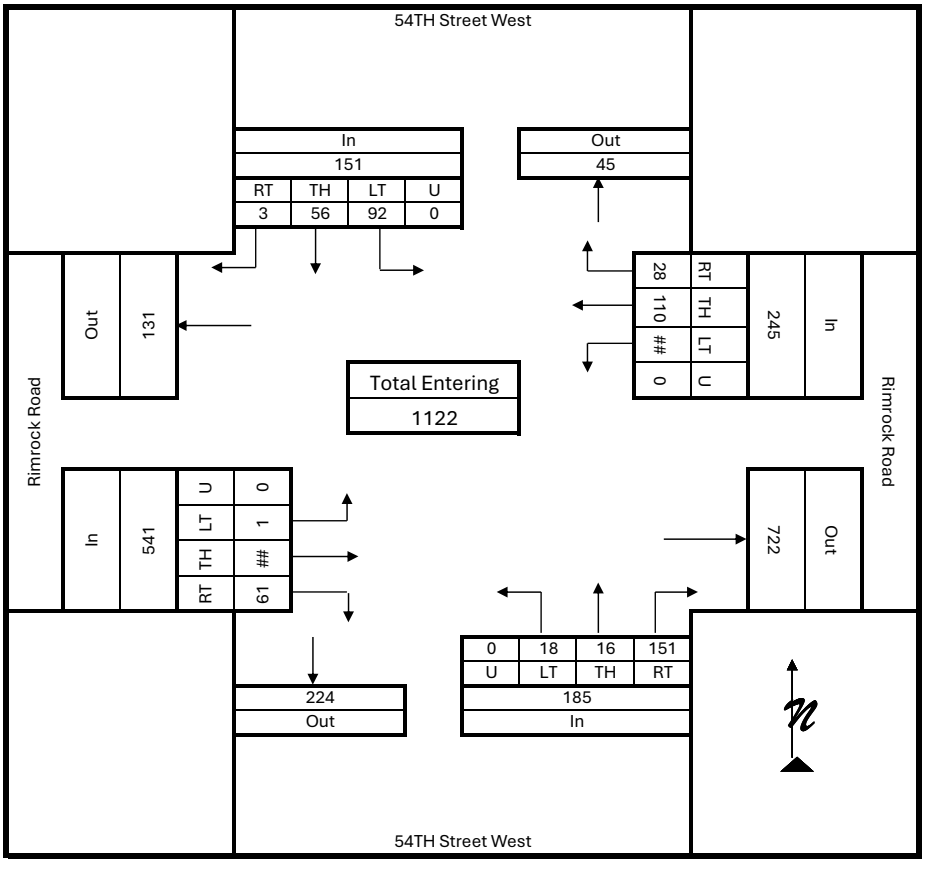
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 54TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	54TH Street West Southbound					54TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	0	11	22	0	33	28	1	2	0	31	16	134	1	0	151	7	10	18	0	35	250
7:30 AM	1	15	25	0	41	41	1	3	0	45	16	147	0	0	163	7	23	32	0	62	311
7:45 AM	1	23	24	0	48	47	8	4	0	59	18	119	0	0	137	5	33	37	0	75	319
8:00 AM	1	7	21	0	29	35	6	9	0	50	11	79	0	0	90	9	44	20	0	73	242
Grand Total	3	56	92	0	151	151	16	18	0	185	61	479	1	0	541	28	110	107	0	245	1122
Medium Truck %	0.0	0.0	3.3	0.0	2.0	0.7	0.0	0.0	0.0	0.5	0.0	1.9	100.0	0.0	1.8	3.6	2.7	0.0	0.0	1.6	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.5	0.0	0.2	0.0	0.0	0.2	7.1	0.9	1.9	0.0	2.0	
Total Truck %	0.0	0.0	3.3	0.0	2.0	0.7	0.0	5.6	0.0	1.1	0.0	2.1	100.0	0.0	2.0	10.7	3.6	1.9	0.0	3.7	
Total %	0.3	5.0	8.2	0.0	13.5	13.5	1.4	1.6	0.0	16.5	5.4	42.7	0.1	0.0	48.2	2.5	9.8	9.5	0.0	21.8	100.0
PHF	0.79	0.79	0.79			0.79	0.79	0.79			0.99	0.99	0.99			0.81	0.81	0.81			0.88



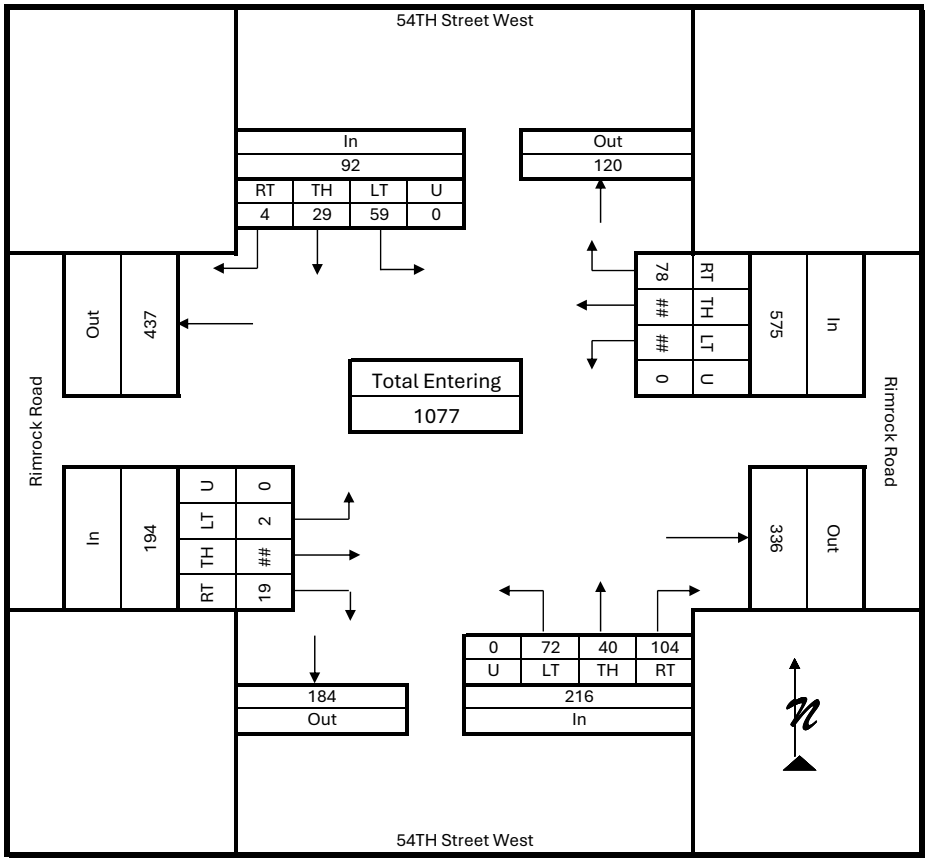
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 54TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	54TH Street West Southbound					54TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	1	10	15	0	26	19	5	22	0	46	4	50	1	0	55	23	79	35	0	137	264
5:00 PM	0	7	11	0	18	26	12	17	0	55	8	46	1	0	55	19	85	30	0	134	262
5:15 PM	2	2	12	0	16	31	14	17	0	62	6	40	0	0	46	12	104	36	0	152	276
5:30 PM	1	10	21	0	32	28	9	16	0	53	1	37	0	0	38	24	93	35	0	152	275
Grand Total	4	29	59	0	92	104	40	72	0	216	19	173	2	0	194	78	361	136	0	575	1077
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	3.4	0.0	2.2	2.9	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	3.4	0.0	2.2	2.9	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.4	2.7	5.5	0.0	8.5	9.7	3.7	6.7	0.0	20.1	1.8	16.1	0.2	0.0	18.0	7.2	33.5	12.6	0.0	53.4	100.0
PHF	1.00	1.00	1.00			0.88	0.88	0.88			1.00	1.00	1.00			0.94	0.94	0.94			0.98



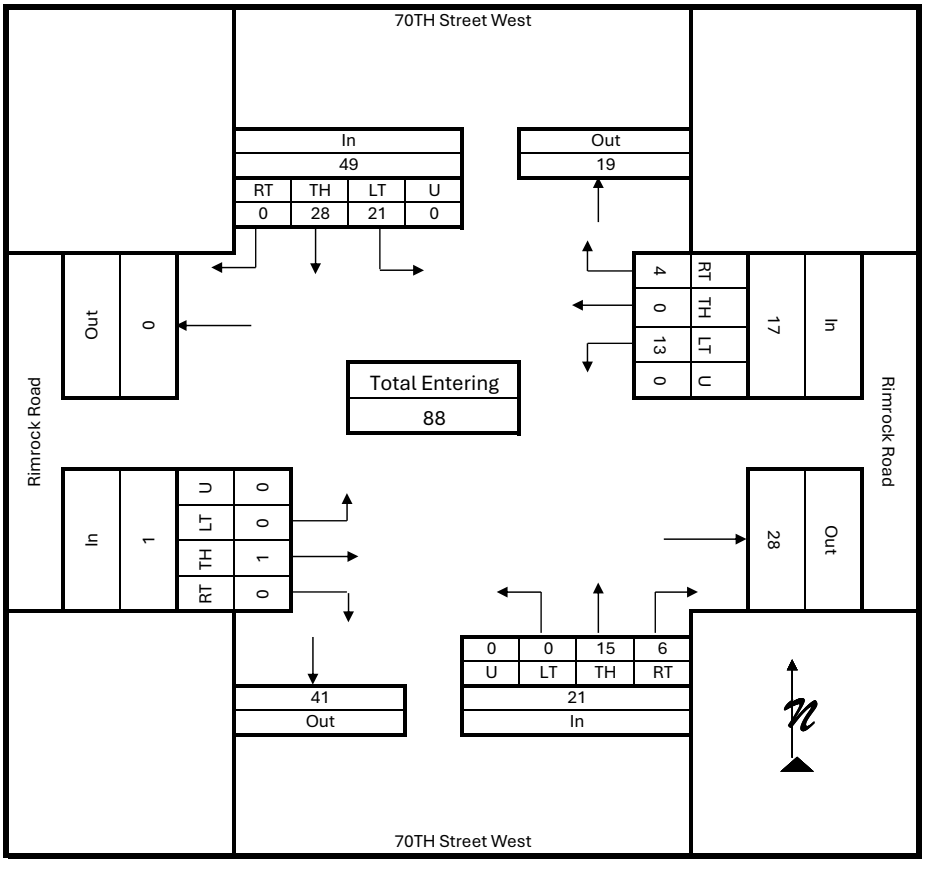
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 70TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	70TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	70TH Street West Southbound					70TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	0	6	5	0	11	0	2	0	0	2	0	0	0	0	0	0	0	2	0	2	15
7:30 AM	0	11	7	0	18	2	3	0	0	5	0	1	0	0	1	1	0	8	0	9	33
7:45 AM	0	6	5	0	11	3	4	0	0	7	0	0	0	0	0	2	0	2	0	4	22
8:00 AM	0	5	4	0	9	1	6	0	0	7	0	0	0	0	0	1	0	1	0	2	18
Grand Total	0	28	21	0	49	6	15	0	0	21	0	1	0	0	1	4	0	13	0	17	88
Medium Truck %	0.0	3.6	0.0	0.0	2.0	16.7	6.7	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	5.9	
Total Truck %	0.0	3.6	0.0	0.0	2.0	16.7	13.3	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	5.9	
Total %	0.0	31.8	23.9	0.0	55.7	6.8	17.0	0.0	0.0	23.9	0.0	1.1	0.0	0.0	1.1	4.5	0.0	14.8	0.0	19.3	100.0
PHF	0.68	0.68	0.68			1.00	1.00	1.00			0.25	0.25	0.25			0.47	0.47	0.47			0.67



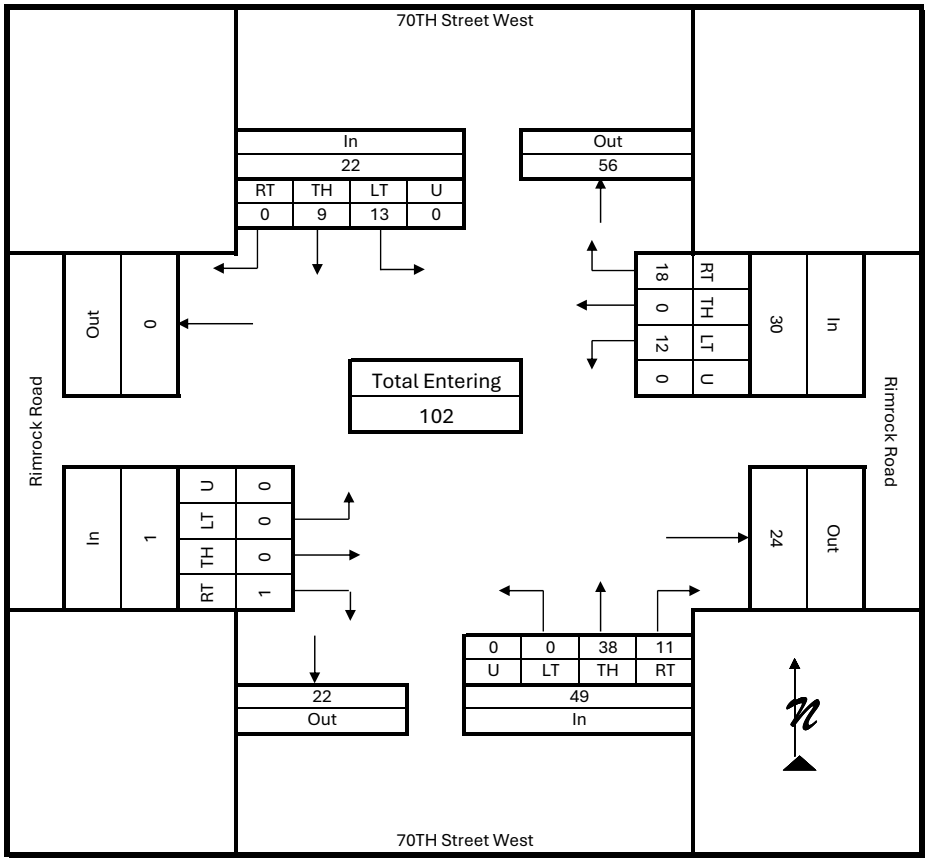
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 70TH ST West
Agency/Company:	Sanbell		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	70TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	70TH Street West Southbound					70TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	0	2	3	0	5	5	5	0	0	10	1	0	0	0	1	3	0	4	0	7	23
5:00 PM	0	2	2	0	4	2	8	0	0	10	0	0	0	0	0	2	0	1	0	3	17
5:15 PM	0	3	3	0	6	2	9	0	0	11	0	0	0	0	0	3	0	2	0	5	22
5:30 PM	0	2	5	0	7	2	16	0	0	18	0	0	0	0	0	10	0	5	0	15	40
Grand Total	0	9	13	0	22	11	38	0	0	49	1	0	0	0	1	18	0	12	0	30	102
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	8.8	12.7	0.0	21.6	10.8	37.3	0.0	0.0	48.0	1.0	0.0	0.0	0.0	1.0	17.6	0.0	11.8	0.0	29.4	100.0
PHF	0.79	0.79	0.79			0.71	0.71	0.71			1.00	1.00	1.00			0.50	0.50	0.50			0.65



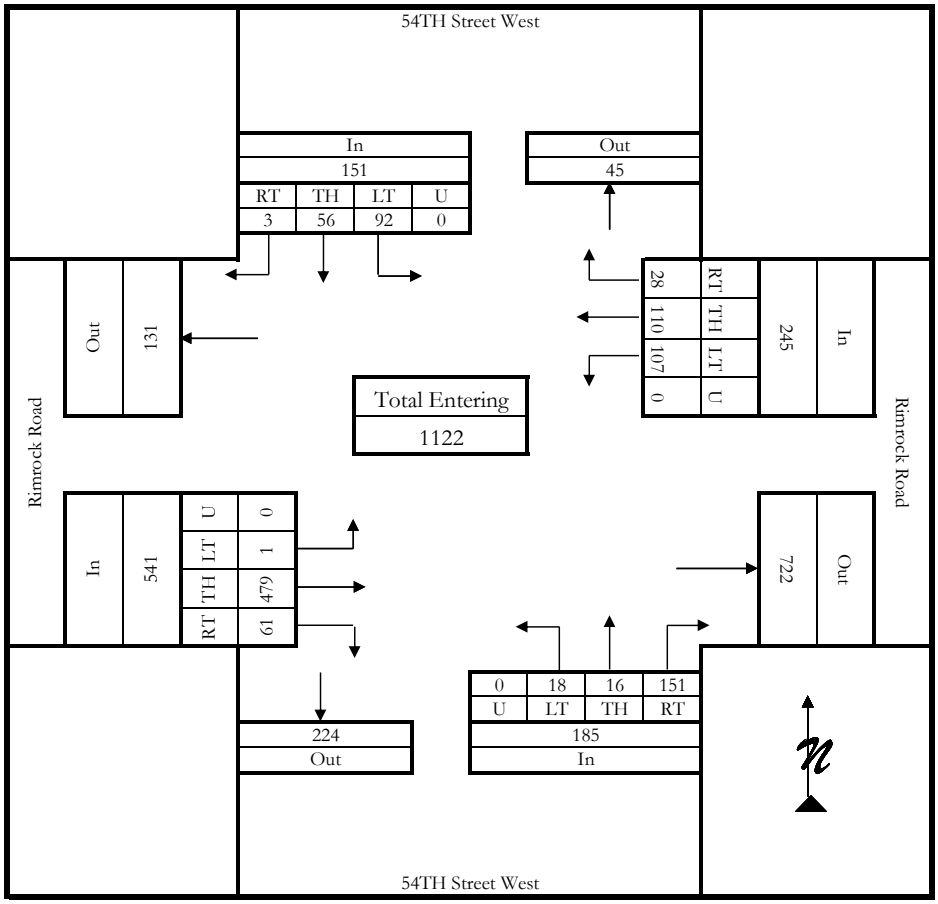
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 54TH ST West
Agency/Company:	Sanderson Stewart		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	54TH Street West Southbound					54TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
7:15 AM	0	11	22	0	33	28	1	2	0	31	16	134	1	0	151	7	10	18	0	35	250
7:30 AM	1	15	25	0	41	41	1	3	0	45	16	147	0	0	163	7	23	32	0	62	311
7:45 AM	1	23	24	0	48	47	8	4	0	59	18	119	0	0	137	5	33	37	0	75	319
8:00 AM	1	7	21	0	29	35	6	9	0	50	11	79	0	0	90	9	44	20	0	73	242
Grand Total	3	56	92	0	151	151	16	18	0	185	61	479	1	0	541	28	110	107	0	245	1122
Medium Truck %	0.0	0.0	3.3	0.0	2.0	0.7	0.0	0.0	0.0	0.5	0.0	1.9	100.0	0.0	1.8	3.6	2.7	0.0	0.0	1.6	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.5	0.0	0.2	0.0	0.0	0.2	7.1	0.9	1.9	0.0	2.0	
Total Truck %	0.0	0.0	3.3	0.0	2.0	0.7	0.0	5.6	0.0	1.1	0.0	2.1	100.0	0.0	2.0	10.7	3.6	1.9	0.0	3.7	
Total %	0.3	5.0	8.2	0.0	13.5	13.5	1.4	1.6	0.0	16.5	5.4	42.7	0.1	0.0	48.2	2.5	9.8	9.5	0.0	21.8	100.0
PHF	0.79	0.79	0.79			0.79	0.79	0.79			0.99	0.99	0.99			0.81	0.81	0.81			0.88



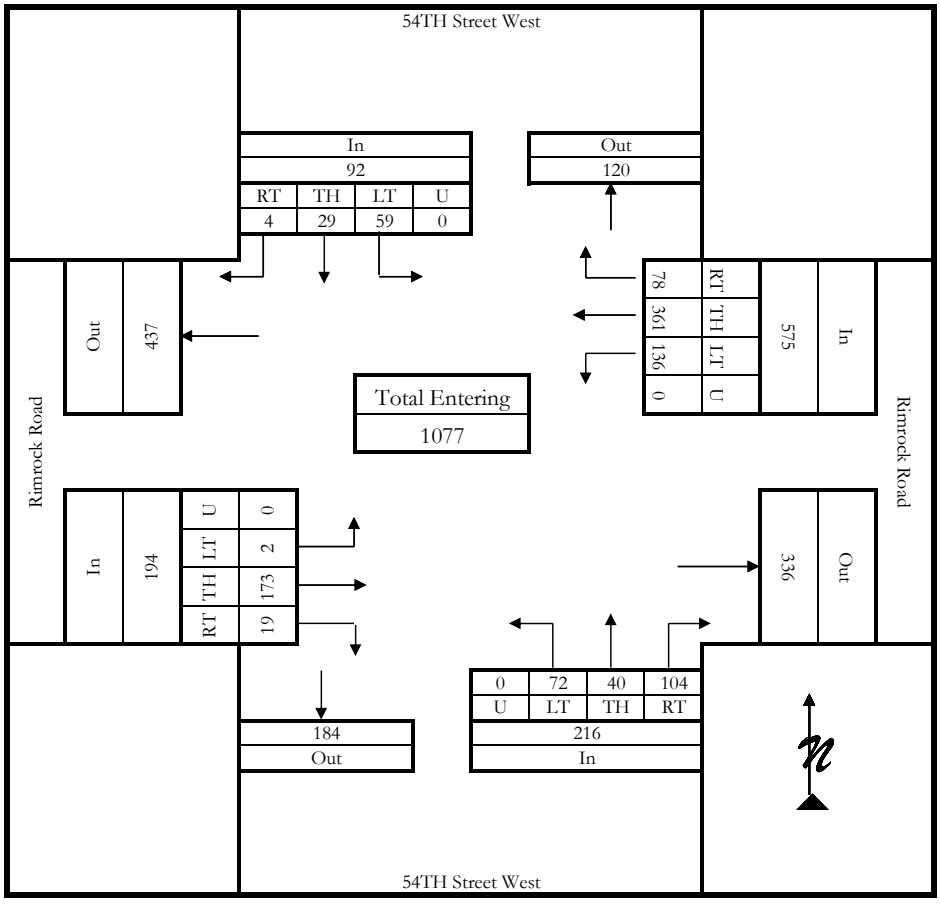
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Road & 54TH ST West
Agency/Company:	Sanderson Stewart		
Date Performed:	Tuesday, January 9, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	54TH Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	54TH Street West Southbound					54TH Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		1.04	1.04	1.04	1.04		
4:45 PM	1	10	15	0	26	19	5	22	0	46	4	50	1	0	55	23	79	35	0	137	264
5:00 PM	0	7	11	0	18	26	12	17	0	55	8	46	1	0	55	19	85	30	0	134	262
5:15 PM	2	2	12	0	16	31	14	17	0	62	6	40	0	0	46	12	104	36	0	152	276
5:30 PM	1	10	21	0	32	28	9	16	0	53	1	37	0	0	38	24	93	35	0	152	275
Grand Total	4	29	59	0	92	104	40	72	0	216	19	173	2	0	194	78	361	136	0	575	1077
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	3.4	0.0	2.2	2.9	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	3.4	0.0	2.2	2.9	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.4	2.7	5.5	0.0	8.5	9.7	3.7	6.7	0.0	20.1	1.8	16.1	0.2	0.0	18.0	7.2	33.5	12.6	0.0	53.4	100.0
PHF	1.00	1.00	1.00			0.88	0.88	0.88			1.00	1.00	1.00			0.94	0.94	0.94			0.98



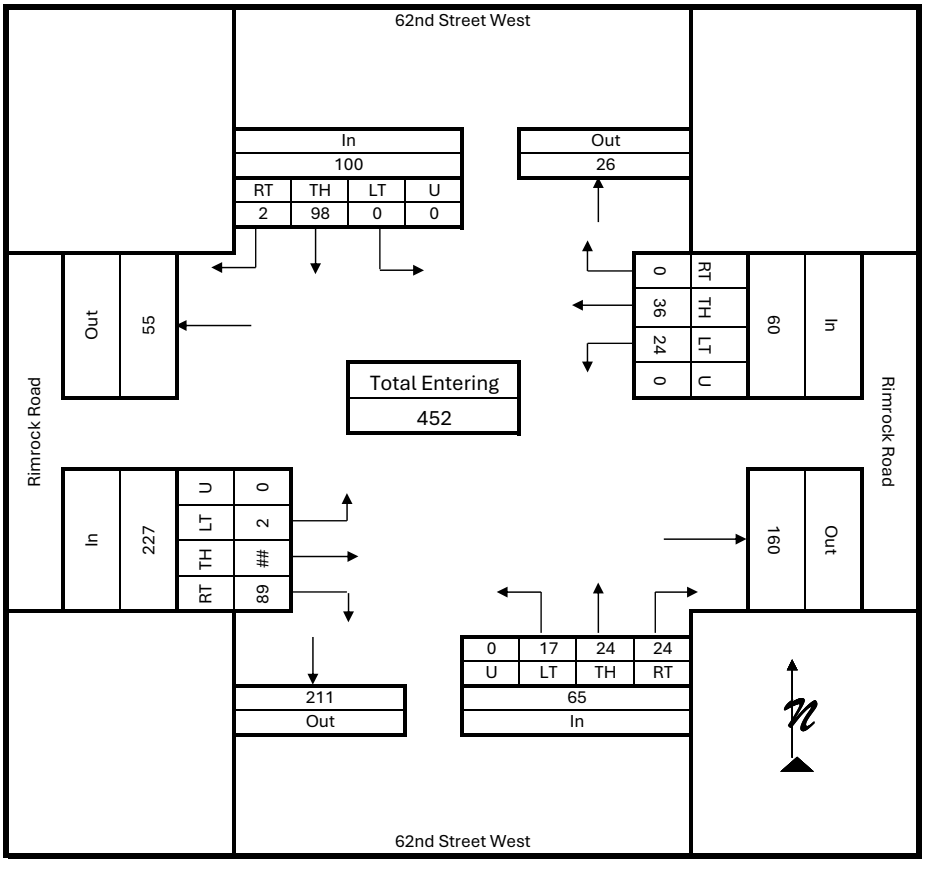
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Rd & 62nd St W - South Leg
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
7:15 AM	0	11	0	0	11	11	3	2	0	16	26	41	1	0	68	0	2	3	0	5	100
7:30 AM	1	24	0	0	25	3	2	4	0	9	34	34	1	0	69	0	7	8	0	15	118
7:45 AM	1	39	0	0	40	7	7	7	0	21	17	27	0	0	44	0	13	9	0	22	127
8:00 AM	0	24	0	0	24	3	12	4	0	19	12	34	0	0	46	0	14	4	0	18	107
Grand Total	2	98	0	0	100	24	24	17	0	65	89	136	2	0	227	0	36	24	0	60	452
Medium Truck %	0.0	1.0	0.0	0.0	1.0	0.0	0.0	11.8	0.0	3.1	0.0	2.2	0.0	0.0	1.3	0.0	5.6	0.0	0.0	3.3	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	4.2	16.7	0.0	0.0	7.7	1.1	0.7	0.0	0.0	0.9	0.0	11.1	4.2	0.0	8.3	
Total Truck %	0.0	1.0	0.0	0.0	1.0	4.2	16.7	11.8	0.0	10.8	1.1	2.9	0.0	0.0	2.2	0.0	16.7	4.2	0.0	11.7	
Total %	0.4	21.7	0.0	0.0	22.1	5.3	5.3	3.8	0.0	14.4	19.7	30.1	0.4	0.0	50.2	0.0	8.0	5.3	0.0	13.3	100.0
PHF	0.63	0.63	0.63			0.77	0.77	0.77			1.00	1.00	1.00			0.68	0.68	0.68			0.89



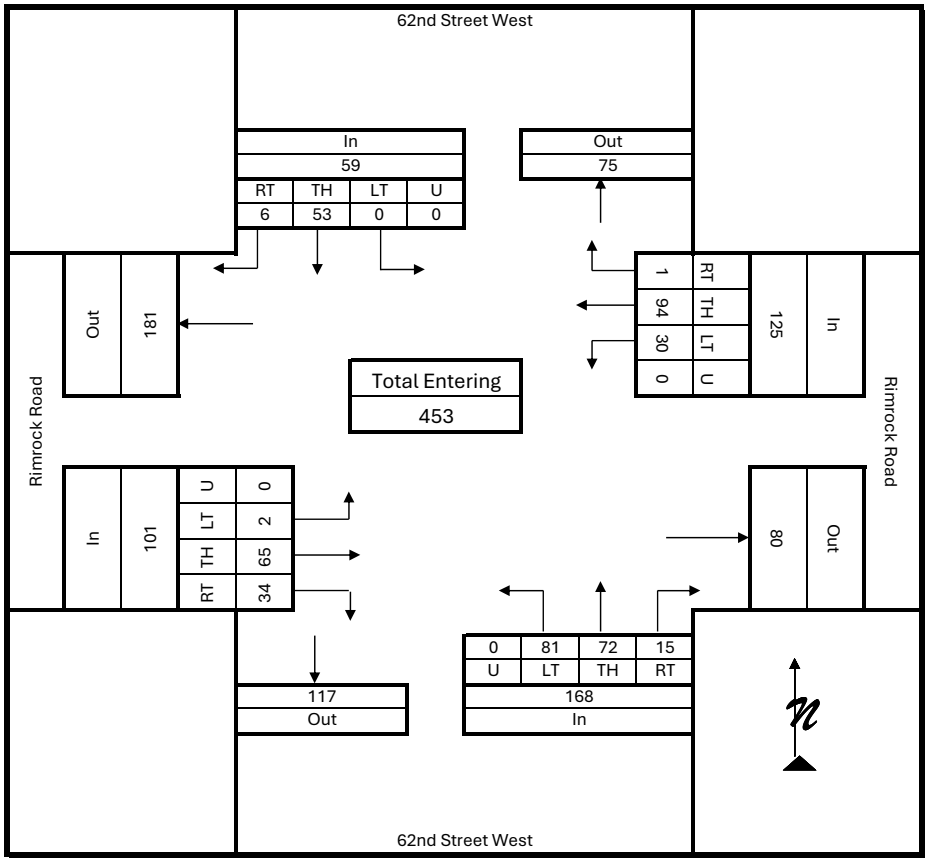
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Rd & 62nd St W - South Leg
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
4:45 PM	1	13	0	0	14	1	15	18	0	34	9	17	1	0	27	1	23	11	0	35	110
5:00 PM	0	13	0	0	13	8	24	19	0	51	12	18	0	0	30	0	23	6	0	29	123
5:15 PM	5	12	0	0	17	3	14	20	0	37	7	15	0	0	22	0	28	8	0	36	112
5:30 PM	0	15	0	0	15	3	19	24	0	46	6	15	1	0	22	0	20	5	0	25	108
Grand Total	6	53	0	0	59	15	72	81	0	168	34	65	2	0	101	1	94	30	0	125	453
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Total %	1.3	11.7	0.0	0.0	13.0	3.3	15.9	17.9	0.0	37.1	7.5	14.3	0.4	0.0	22.3	0.2	20.8	6.6	0.0	27.6	100.0
PHF	1.00	1.00	1.00			0.82	0.82	0.82			0.84	0.84	0.84			1.00	1.00	1.00			0.92



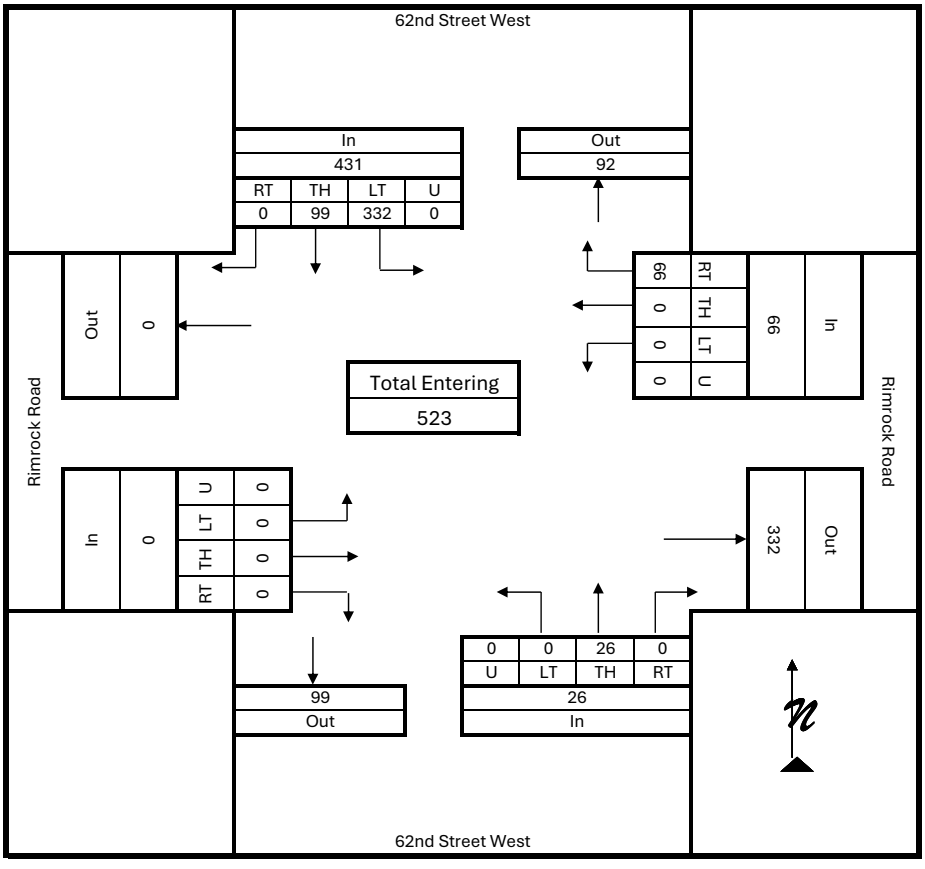
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Rd & 62nd St W - North Leg
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
7:15 AM	0	12	91	0	103	0	4	0	0	4	0	0	0	0	0	7	0	0	0	7	114
7:30 AM	0	24	88	0	112	0	3	0	0	3	0	0	0	0	0	16	0	0	0	16	131
7:45 AM	0	39	80	0	119	0	7	0	0	7	0	0	0	0	0	12	0	0	0	12	138
8:00 AM	0	24	73	0	97	0	12	0	0	12	0	0	0	0	0	31	0	0	0	31	140
Grand Total	0	99	332	0	431	0	26	0	0	26	0	0	0	0	0	66	0	0	0	66	523
Medium Truck %	0.0	1.0	2.1	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	4.5	
Heavy Truck %	0.0	1.0	0.0	0.0	0.2	0.0	11.5	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0	6.1	
Total Truck %	0.0	2.0	2.1	0.0	2.1	0.0	11.5	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0	10.6	0.0	0.0	0.0	10.6	
Total %	0.0	18.9	63.5	0.0	82.4	0.0	5.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	12.6	0.0	0.0	0.0	12.6	100.0
PHF	1.00	1.00	1.00			0.54	0.54	0.54			1.00	1.00	1.00			0.53	0.53	0.53			0.93



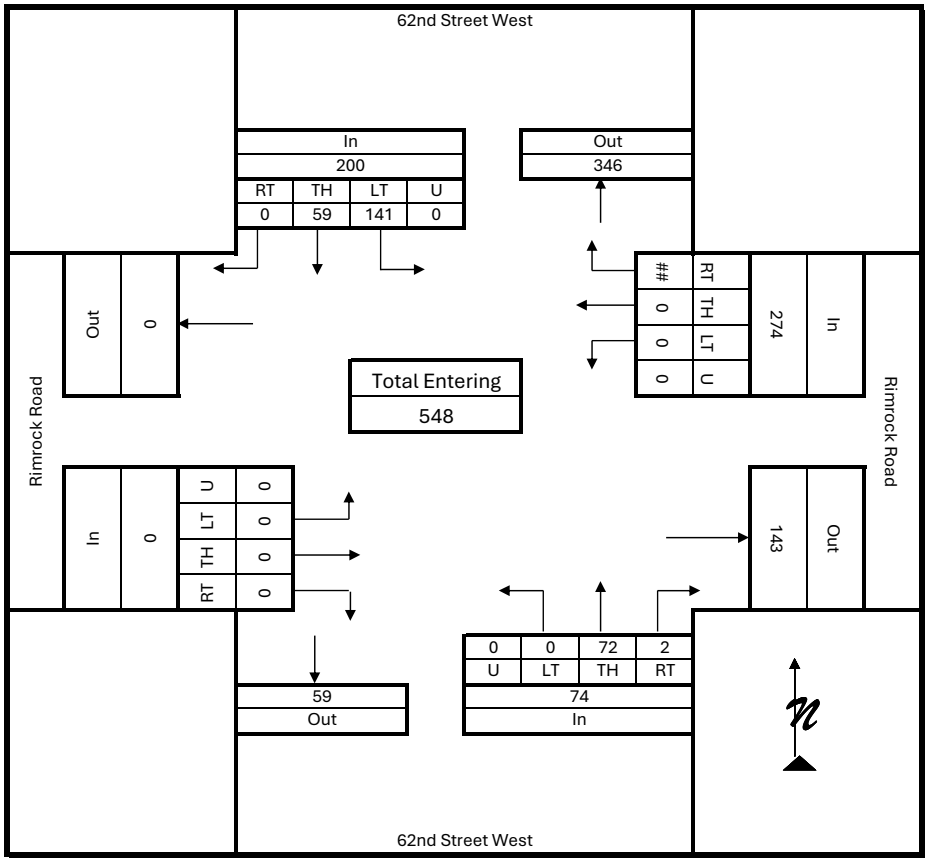
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Rd & 62nd St W - North Leg
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
4:45 PM	0	14	41	0	55	1	16	0	0	17	0	0	0	0	0	68	0	0	0	68	140
5:00 PM	0	13	36	0	49	1	20	0	0	21	0	0	0	0	0	64	0	0	0	64	134
5:15 PM	0	17	30	0	47	0	16	0	0	16	0	0	0	0	0	77	0	0	0	77	140
5:30 PM	0	15	34	0	49	0	20	0	0	20	0	0	0	0	0	65	0	0	0	65	134
Grand Total	0	59	141	0	200	2	72	0	0	74	0	0	0	0	0	274	0	0	0	274	548
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	10.8	25.7	0.0	36.5	0.4	13.1	0.0	0.0	13.5	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	100.0
PHF	0.91	0.91	0.91			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			0.98



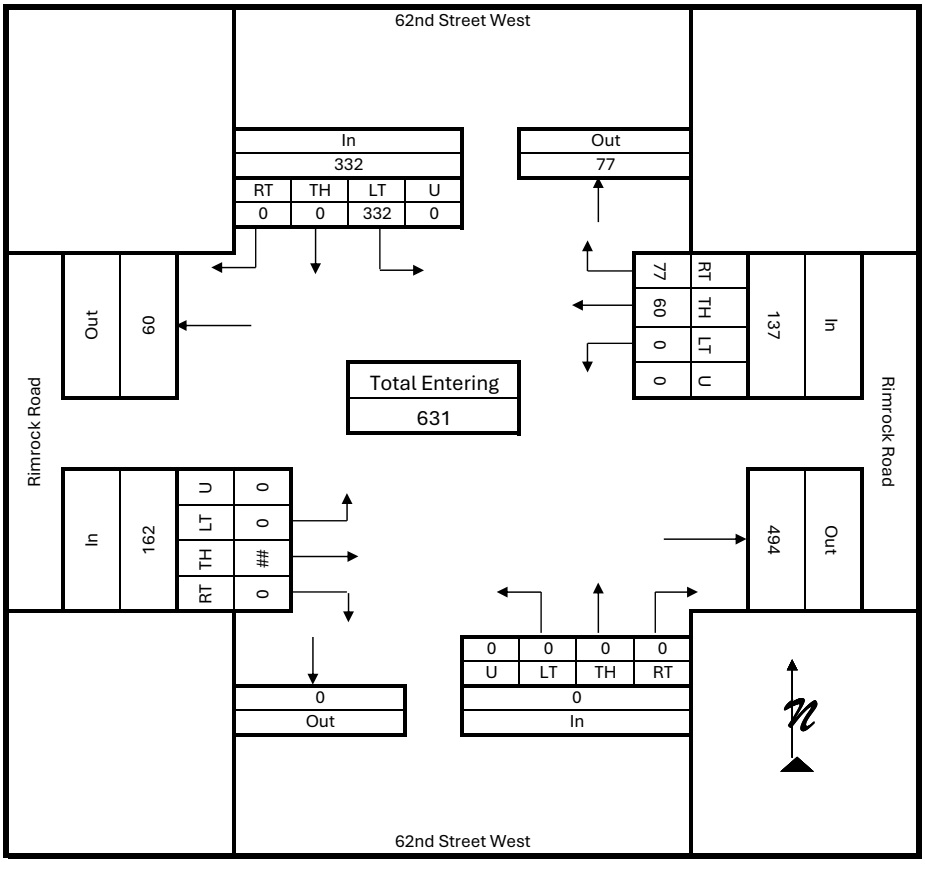
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Rd & 62nd St W - East Leg
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	AM Peak Hour (7:15 - 8:15 AM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
7:15 AM	0	0	92	0	92	0	0	0	0	0	0	54	0	0	54	9	4	0	0	13	159
7:30 AM	0	0	87	0	87	0	0	0	0	0	0	36	0	0	36	20	15	0	0	35	158
7:45 AM	0	0	80	0	80	0	0	0	0	0	0	35	0	0	35	15	23	0	0	38	153
8:00 AM	0	0	73	0	73	0	0	0	0	0	0	37	0	0	37	33	18	0	0	51	161
Grand Total	0	0	332	0	332	0	0	0	0	0	0	162	0	0	162	77	60	0	0	137	631
Medium Truck %	0.0	0.0	2.1	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	1.9	3.9	3.3	0.0	0.0	3.6	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	6.5	8.3	0.0	0.0	7.3	
Total Truck %	0.0	0.0	2.1	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	3.1	10.4	11.7	0.0	0.0	10.9	
Total %	0.0	0.0	52.6	0.0	52.6	0.0	0.0	0.0	0.0	0.0	0.0	25.7	0.0	0.0	25.7	12.2	9.5	0.0	0.0	21.7	100.0
PHF	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			0.67	0.67	0.67			0.98



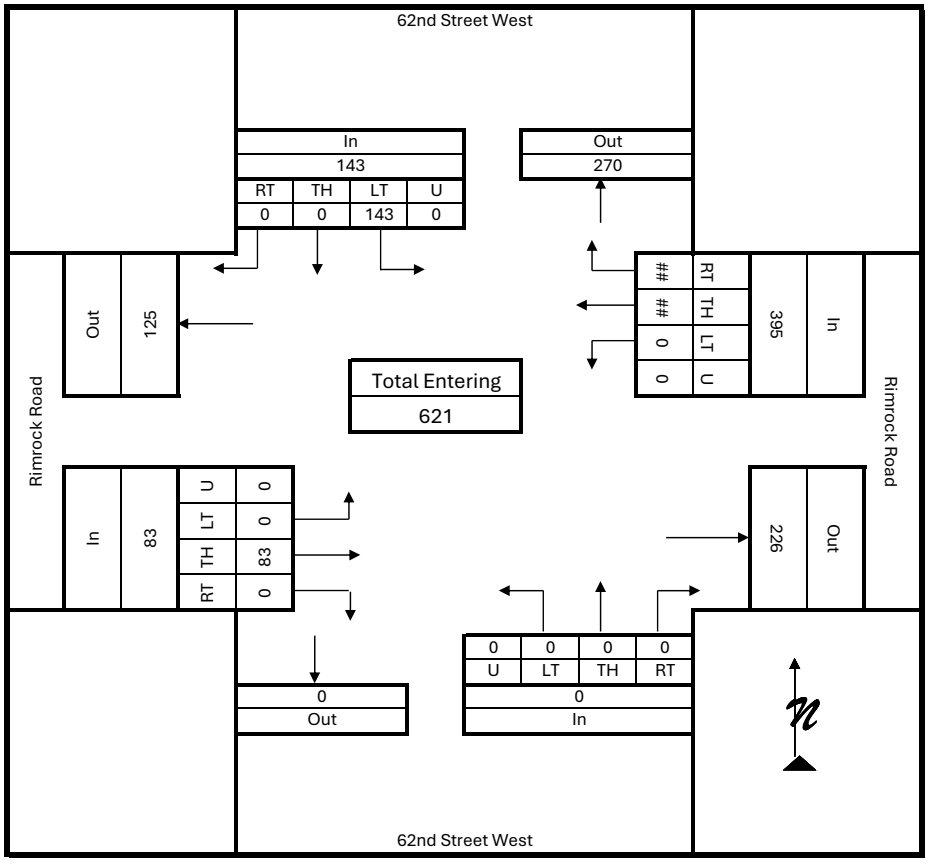
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Rd & 62nd St W - East Leg
Agency/Company:	Sanbell		
Date Performed:	Thursday, February 8, 2024	Jurisdiction:	City of Billings, MT / MDT
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	23379	Project Description:	West Billings Neighborhood Plan
North/South Street:	62nd Street West	East/West Street:	Rimrock Road

Vehicle Volumes and Adjustments

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
4:45 PM	0	0	43	0	43	0	0	0	0	0	0	19	0	0	19	69	35	0	0	104	166
5:00 PM	0	0	37	0	37	0	0	0	0	0	0	24	0	0	24	63	30	0	0	93	154
5:15 PM	0	0	28	0	28	0	0	0	0	0	0	21	0	0	21	74	35	0	0	109	158
5:30 PM	0	0	35	0	35	0	0	0	0	0	0	19	0	0	19	64	25	0	0	89	143
Grand Total	0	0	143	0	143	0	0	0	0	0	0	83	0	0	83	270	125	0	0	395	621
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	23.0	0.0	23.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4	0.0	0.0	13.4	43.5	20.1	0.0	0.0	63.6	100.0
PHF	0.83	0.83	0.83			1.00	1.00	1.00			1.00	1.00	1.00			0.95	0.95	0.95			0.93



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Rafael Teixeira	Intersection:	Rimrock Rd & 62nd St W - Combined
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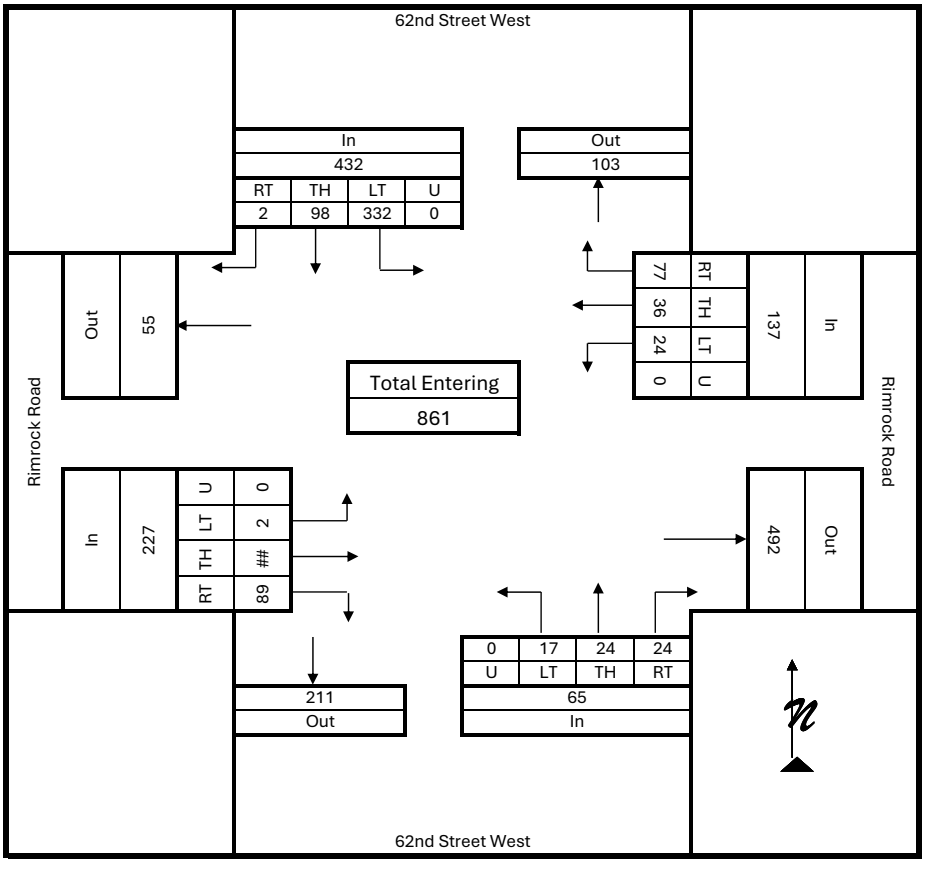
Vehicle Volumes and Adjustments

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
7:15 AM	0	11	91	0	102	11	3	2	0	16	26	41	1	0	68	9	2	3	0	14	200
7:30 AM	1	24	88	0	113	3	2	4	0	9	34	34	1	0	69	20	7	8	0	35	226
7:45 AM	1	39	80	0	120	7	7	7	0	21	17	27	0	0	44	15	13	9	0	37	222
8:00 AM	0	24	73	0	97	3	12	4	0	19	12	34	0	0	46	33	14	4	0	51	213
Grand Total	2	98	332	0	432	24	24	17	0	65	89	136	2	0	227	77	36	24	0	137	861
Medium Truck %	0.0	1.0	2.1	0.0	1.9	0.0	0.0	11.8	0.0	3.1	0.0	2.2	0.0	0.0	1.3	3.9	5.6	0.0	0.0	3.6	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	4.2	16.7	0.0	0.0	7.7	1.1	0.7	0.0	0.0	0.9	6.5	11.1	4.2	0.0	7.3	
Total Truck %	0.0	1.0	2.1	0.0	1.9	4.2	16.7	11.8	0.0	10.8	1.1	2.9	0.0	0.0	2.2	10.4	16.7	4.2	0.0	10.9	
Total %	0.2	11.4	38.6	0.0	50.2	2.8	2.8	2.0	0.0	7.5	10.3	15.8	0.2	0.0	26.4	8.9	4.2	2.8	0.0	15.9	100.0
PHF	0.96	0.96	0.96			1.00	1.00	1.00			0.82	0.82	0.82			0.98	0.98	0.98			0.95



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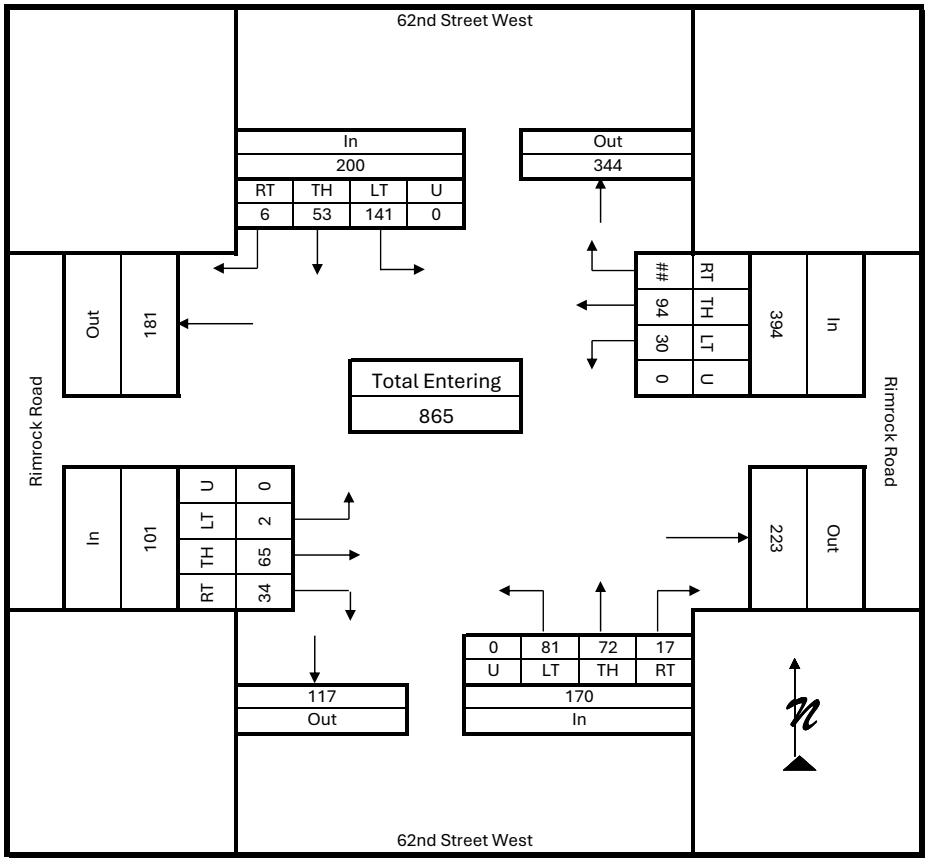
Vehicle Volumes and Adjustments

	62nd Street West Southbound					62nd Street West Northbound					Rimrock Road Eastbound					Rimrock Road Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		1.01	1.01	1.01	1.01		
4:45 PM	1	13	41	0	55	2	15	18	0	35	9	17	1	0	27	69	23	11	0	103	220
5:00 PM	0	13	36	0	49	9	24	19	0	52	12	18	0	0	30	63	23	6	0	92	223
5:15 PM	5	12	30	0	47	3	14	20	0	37	7	15	0	0	22	74	28	8	0	110	216
5:30 PM	0	15	34	0	49	3	19	24	0	46	6	15	1	0	22	64	20	5	0	89	206
Grand Total	6	53	141	0	200	17	72	81	0	170	34	65	2	0	101	270	94	30	0	394	865
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.7	6.1	16.3	0.0	23.1	2.0	8.3	9.4	0.0	19.7	3.9	7.5	0.2	0.0	11.7	31.2	10.9	3.5	0.0	45.5	100.0
PHF	1.00	1.00	1.00			0.82	0.82	0.82			0.84	0.84	0.84			1.00	1.00	1.00			0.97



APPENDIX D

EXISTING CONDITIONS (2025) CAPACITY CALCULATIONS

Appendix D Contents

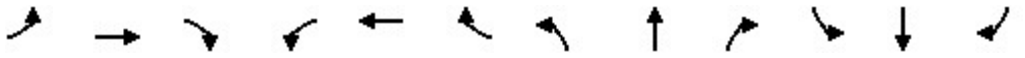
Existing Conditions (2025) Capacity Calculations

Existing AM Capacity:

Queues
2: 54th Street West & Rimrock Road 10/19/2025

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	546	132	136	35	23	211	116	75
v/c Ratio	0.00	0.64	0.30	0.13	0.04	0.11	0.49	0.78	0.24
Control Delay (s/veh)	7.0	21.2	8.2	8.9	0.1	29.7	10.3	66.8	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.0	21.2	8.2	8.9	0.1	29.7	10.3	66.8	30.4
Queue Length 50th (ft)	0	209	23	24	0	11	9	63	34
Queue Length 95th (ft)	4	394	52	74	0	28	44	105	61
Internal Link Dist (ft)		4323		924			5202		920
Turn Bay Length (ft)	250		250		250	200		150	
Base Capacity (vph)	377	857	455	1080	899	386	623	271	576
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.64	0.29	0.13	0.04	0.06	0.34	0.43	0.13

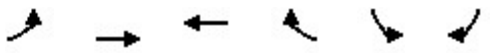
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	479	61	107	110	28	18	16	151	92	56	3
Future Volume (veh/h)	1	479	61	107	110	28	18	16	151	92	56	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	385	1723	1750	1723	1695	1600	1668	1750	1736	1709	1750	1750
Adj Flow Rate, veh/h	1	484	62	132	136	35	23	20	191	116	71	4
Peak Hour Factor	0.99	0.99	0.99	0.81	0.81	0.81	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	100	2	0	2	4	11	6	0	1	3	0	0
Cap, veh/h	210	716	92	375	911	729	352	35	336	223	405	23
Arrive On Green	0.00	0.48	0.48	0.06	0.54	0.54	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	367	1496	192	1641	1695	1356	1283	143	1362	1161	1641	92
Grp Volume(v), veh/h	1	0	546	132	136	35	23	0	211	116	0	75
Grp Sat Flow(s),veh/h/ln	367	0	1688	1641	1695	1356	1283	0	1505	1161	0	1733
Q Serve(g_s), s	0.1	0.0	22.6	3.6	3.7	1.1	1.3	0.0	11.2	8.8	0.0	3.1
Cycle Q Clear(g_c), s	0.1	0.0	22.6	3.6	3.7	1.1	4.4	0.0	11.2	20.0	0.0	3.1
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.91	1.00		0.05
Lane Grp Cap(c), veh/h	210	0	808	375	911	729	352	0	371	223	0	427
V/C Ratio(X)	0.00	0.00	0.68	0.35	0.15	0.05	0.07	0.00	0.57	0.52	0.00	0.18
Avail Cap(c_a), veh/h	243	0	808	430	911	729	438	0	472	301	0	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.3	0.0	18.3	13.7	10.6	10.0	28.7	0.0	30.0	38.8	0.0	27.0
Incr Delay (d2), s/veh	0.0	0.0	4.5	0.6	0.3	0.1	0.1	0.0	1.4	1.9	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	8.4	1.2	1.3	0.3	0.4	0.0	3.9	2.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.3	0.0	22.8	14.2	10.9	10.1	28.8	0.0	31.4	40.6	0.0	27.2
LnGrp LOS	B		C	B	B	B	C		C	D		C
Approach Vol, veh/h		547			303			234			191	
Approach Delay, s/veh		22.7			12.3			31.1			35.3	
Approach LOS		C			B			C			D	

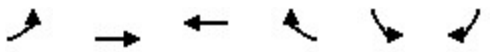
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	50.0		28.9	6.6	55.3		28.9				
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	8.5	43.5		28.5	8.5	43.5		28.5				
Max Q Clear Time (g_c+I1), s	5.6	24.6		22.0	2.1	5.7		13.2				
Green Ext Time (p_c), s	0.1	2.9		0.4	0.0	0.8		1.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	23.7	
HCM 7th LOS	C	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	148	558	212	82	257	166
v/c Ratio	0.20	0.49	0.27	0.07	0.75	0.24
Control Delay (s/veh)	6.8	10.7	17.5	1.0	49.1	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.8	10.7	17.5	1.0	49.1	3.4
Queue Length 50th (ft)	27	149	75	0	143	0
Queue Length 95th (ft)	46	186	144	10	224	30
Internal Link Dist (ft)		1579	3521		5202	
Turn Bay Length (ft)	400			400		250
Base Capacity (vph)	990	1688	783	1409	781	1172
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.33	0.27	0.06	0.33	0.14

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	102	385	180	70	221	143
Future Volume (veh/h)	102	385	180	70	221	143
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1736	1736	1668	1709	1736	1736
Adj Flow Rate, veh/h	148	558	212	82	257	166
Peak Hour Factor	0.69	0.69	0.85	0.85	0.86	0.86
Percent Heavy Veh, %	1	1	6	3	1	1
Cap, veh/h	707	1139	895	1052	313	373
Arrive On Green	0.06	0.66	0.54	0.54	0.19	0.19
Sat Flow, veh/h	1654	1736	1668	1448	1654	1471
Grp Volume(v), veh/h	148	558	212	82	257	166
Grp Sat Flow(s),veh/h/ln	1654	1736	1668	1448	1654	1471
Q Serve(g_s), s	3.0	13.3	5.5	1.3	12.1	7.7
Cycle Q Clear(g_c), s	3.0	13.3	5.5	1.3	12.1	7.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	707	1139	895	1052	313	373
V/C Ratio(X)	0.21	0.49	0.24	0.08	0.82	0.45
Avail Cap(c_a), veh/h	1526	1998	895	1052	887	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.7	7.1	10.0	3.2	31.7	25.6
Incr Delay (d2), s/veh	0.1	0.3	0.6	0.1	5.3	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.6	1.8	0.6	5.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.8	7.4	10.6	3.4	37.0	26.4
LnGrp LOS	A	A	B	A	D	C
Approach Vol, veh/h		706	294		423	
Approach Delay, s/veh		7.3	8.6		32.9	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		59.7		21.7	9.7	50.0
Change Period (Y+Rc), s		6.3		6.3	4.5	6.3
Max Green Setting (Gmax), s		93.7		43.7	45.5	43.7
Max Q Clear Time (g_c+I1), s		15.3		14.1	5.0	7.5
Green Ext Time (p_c), s		3.7		1.3	0.4	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	15.2
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	480	134	88	274	0	28	0	98	0	0	0
Future Vol, veh/h	0	480	134	88	274	0	28	0	98	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	93	93	93	66	66	66	100	100	100
Heavy Vehicles, %	0	1	4	8	3	0	11	0	9	0	0	0
Mvmt Flow	0	640	179	95	295	0	42	0	148	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	295	0	0	819	0	0	1213	1213	729	1124	1303	295
Stage 1	-	-	-	-	-	-	729	729	-	484	484	-
Stage 2	-	-	-	-	-	-	484	484	-	640	819	-
Critical Hdwy	4.1	-	-	4.18	-	-	7.21	6.5	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.21	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.21	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.272	-	-	3.599	4	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	1278	-	-	784	-	-	152	183	411	184	162	749
Stage 1	-	-	-	-	-	-	400	431	-	568	556	-
Stage 2	-	-	-	-	-	-	548	556	-	467	392	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1278	-	-	784	-	-	134	161	411	104	143	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	161	-	104	143	-
Stage 1	-	-	-	-	-	-	400	431	-	499	489	-
Stage 2	-	-	-	-	-	-	482	489	-	298	392	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	2.48	24.25	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	134	411	1278	-	-	784	-	-	-
HCM Lane V/C Ratio	0.317	0.361	-	-	-	0.121	-	-	-
HCM Ctrl Dly (s/v)	44	18.6	0	-	-	10.2	-	-	0
HCM Lane LOS	E	C	A	-	-	B	-	-	A
HCM 95th %tile Q(veh)	1.3	1.6	0	-	-	0.4	-	-	-

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	698	599	35	91	40
v/c Ratio	0.56	0.62	0.26	0.37	0.26
Control Delay (s/veh)	7.3	9.3	30.6	11.4	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.3	9.3	30.6	11.4	29.9
Queue Length 50th (ft)	113	107	13	0	14
Queue Length 95th (ft)	224	94	36	35	15
Internal Link Dist (ft)	3521	424	5188		424
Turn Bay Length (ft)				120	
Base Capacity (vph)	1242	966	816	1049	938
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.62	0.04	0.09	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	574	103	66	237	38	26	9	91	9	5	0
Future Volume (veh/h)	21	574	103	66	237	38	26	9	91	9	5	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1736	1723	1695	1750	1545	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	21	574	103	116	416	67	26	9	91	26	14	0
Peak Hour Factor	1.00	1.00	1.00	0.57	0.57	0.57	1.00	1.00	1.00	0.35	0.35	0.35
Percent Heavy Veh, %	0	1	1	2	4	0	15	0	0	0	0	0
Cap, veh/h	74	991	174	222	743	113	195	52	139	166	67	0
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.09	0.09	0.09	0.09	0.09	0.00
Sat Flow, veh/h	20	1406	247	216	1054	160	1000	552	1483	748	713	0
Grp Volume(v), veh/h	698	0	0	599	0	0	35	0	91	40	0	0
Grp Sat Flow(s),veh/h/ln	1674	0	0	1430	0	0	1552	0	1483	1461	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.4	0.0	0.0
Cycle Q Clear(g_c), s	12.8	0.0	0.0	10.4	0.0	0.0	1.2	0.0	3.7	1.5	0.0	0.0
Prop In Lane	0.03		0.15	0.19		0.11	0.74		1.00	0.65		0.00
Lane Grp Cap(c), veh/h	1239	0	0	1077	0	0	246	0	139	233	0	0
V/C Ratio(X)	0.56	0.00	0.00	0.56	0.00	0.00	0.14	0.00	0.66	0.17	0.00	0.00
Avail Cap(c_a), veh/h	1239	0	0	1077	0	0	1167	0	1052	1120	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.6	0.0	0.0	4.2	0.0	0.0	26.0	0.0	27.1	26.1	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	2.1	0.0	0.0	0.3	0.0	5.2	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	2.5	0.0	0.0	0.5	0.0	1.4	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	0.0	0.0	6.3	0.0	0.0	26.2	0.0	32.3	26.4	0.0	0.0
LnGrp LOS	A			A			C		C	C		
Approach Vol, veh/h		698			599			126			40	
Approach Delay, s/veh		6.5			6.3			30.6			26.4	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.9		50.0		11.9		50.0				
Change Period (Y+Rc), s		6.1		6.4		6.1		6.4				
Max Green Setting (Gmax), s		43.9		43.6		43.9		43.6				
Max Q Clear Time (g_c+I1), s		5.7		14.8		3.5		12.4				
Green Ext Time (p_c), s		0.5		5.4		0.2		5.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			9.0									
HCM 7th LOS			A									

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	128	48	91	44	30	76
Future Vol, veh/h	128	48	91	44	30	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	100	100	82	82
Heavy Vehicles, %	2	0	2	7	10	0
Mvmt Flow	142	53	91	44	37	93

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	196	0	395	169
Stage 1	-	-	-	-	169	-
Stage 2	-	-	-	-	226	-
Critical Hdwy	-	-	4.12	-	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	-	-	2.218	-	3.59	3.3
Pot Cap-1 Maneuver	-	-	1377	-	595	880
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1377	-	554	880
Mov Cap-2 Maneuver	-	-	-	-	554	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	739	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	5.26	10.75
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	755	-	-	1213	-
HCM Lane V/C Ratio	0.171	-	-	0.066	-
HCM Ctrl Dly (s/v)	10.8	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.2	-

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	200	37	14	94	11	8	39	49	70	70	12
Future Vol, veh/h	11	200	37	14	94	11	8	39	49	70	70	12
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.83	0.83	0.83	1.00	1.00	1.00
Heavy Vehicles, %	0	1	3	0	3	18	13	5	2	0	0	0
Mvmt Flow	12	215	40	15	99	12	10	47	59	70	70	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.1	8.9	9	9.5
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	4%	12%	46%
Vol Thru, %	41%	81%	79%	46%
Vol Right, %	51%	15%	9%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	248	119	152
LT Vol	8	11	14	70
Through Vol	39	200	94	70
RT Vol	49	37	11	12
Lane Flow Rate	116	267	125	152
Geometry Grp	1	1	1	1
Degree of Util (X)	0.159	0.344	0.169	0.212
Departure Headway (Hd)	4.959	4.64	4.859	5.019
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	717	771	733	710
Service Time	3.032	2.696	2.925	3.087
HCM Lane V/C Ratio	0.162	0.346	0.171	0.214
HCM Control Delay, s/veh	9	10.1	8.9	9.5
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.6	1.5	0.6	0.8

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	14	97	31	42	98
Future Vol, veh/h	30	14	97	31	42	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	82	82	87	87
Heavy Vehicles, %	3	7	1	0	2	4
Mvmt Flow	35	16	118	38	48	113

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	346	137	0	0	156	0
Stage 1	137	-	-	-	-	-
Stage 2	209	-	-	-	-	-
Critical Hdwy	6.43	6.27	-	-	4.12	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.363	-	-	2.218	-
Pot Cap-1 Maneuver	648	898	-	-	1424	-
Stage 1	887	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	625	898	-	-	1424	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	887	-	-	-	-	-
Stage 2	794	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.62	0	2.29
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	692	540	-
HCM Lane V/C Ratio	-	-	0.075	0.034	-
HCM Ctrl Dly (s/v)	-	-	10.6	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	304	1	9	208	16	3	43	17	49	58	15
Future Vol, veh/h	39	304	1	9	208	16	3	43	17	49	58	15
Peak Hour Factor	0.84	0.84	0.84	0.85	0.85	0.85	1.00	1.00	1.00	0.69	0.69	0.69
Heavy Vehicles, %	3	11	0	0	11	6	33	5	0	0	2	0
Mvmt Flow	46	362	1	11	245	19	3	43	17	71	84	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	15	11.6	10.3	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	11%	4%	40%
Vol Thru, %	68%	88%	89%	48%
Vol Right, %	27%	0%	7%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	63	344	233	122
LT Vol	3	39	9	49
Through Vol	43	304	208	58
RT Vol	17	1	16	15
Lane Flow Rate	63	410	274	177
Geometry Grp	1	1	1	1
Degree of Util (X)	0.113	0.581	0.395	0.284
Departure Headway (Hd)	6.439	5.106	5.187	5.784
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	556	708	694	621
Service Time	4.491	3.138	3.224	3.828
HCM Lane V/C Ratio	0.113	0.579	0.395	0.285
HCM Control Delay, s/veh	10.3	15	11.6	11.1
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.4	3.8	1.9	1.2

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	287	54	55	158	27	8	51	87	7	24	70
Future Vol, veh/h	76	287	54	55	158	27	8	51	87	7	24	70
Peak Hour Factor	0.86	0.86	0.86	0.68	0.68	0.68	0.72	0.72	0.72	0.87	0.87	0.87
Heavy Vehicles, %	7	4	7	4	2	0	0	4	1	14	0	0
Mvmt Flow	88	334	63	81	232	40	11	71	121	8	28	80
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	24.8	16.5	12.6	11.5
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	18%	23%	7%
Vol Thru, %	35%	69%	66%	24%
Vol Right, %	60%	13%	11%	69%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	417	240	101
LT Vol	8	76	55	7
Through Vol	51	287	158	24
RT Vol	87	54	27	70
Lane Flow Rate	203	485	353	116
Geometry Grp	1	1	1	1
Degree of Util (X)	0.35	0.765	0.575	0.214
Departure Headway (Hd)	6.21	5.682	5.865	6.64
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	578	640	618	539
Service Time	4.261	3.694	3.881	4.698
HCM Lane V/C Ratio	0.351	0.758	0.571	0.215
HCM Control Delay, s/veh	12.6	24.8	16.5	11.5
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	1.6	7.1	3.6	0.8

Intersection	
Int Delay, s/veh	15.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	29	138	20	16	68	23	29	63	27	75	73	21
Future Vol, veh/h	29	138	20	16	68	23	29	63	27	75	73	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	64	64	64	93	93	93	81	81	81
Heavy Vehicles, %	0	7	0	13	4	17	3	2	7	0	7	0
Mvmt Flow	48	230	33	25	106	36	31	68	29	93	90	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	472	447	103	535	446	82	116	0	0	97	0	0
Stage 1	288	288	-	145	145	-	-	-	-	-	-	-
Stage 2	183	159	-	390	301	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.57	6.2	7.23	6.54	6.37	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.57	-	6.23	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.57	-	6.23	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.063	3.3	3.617	4.036	3.453	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	506	499	957	439	504	937	1466	-	-	1509	-	-
Stage 1	724	664	-	833	773	-	-	-	-	-	-	-
Stage 2	823	757	-	612	661	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	349	455	957	200	460	937	1466	-	-	1509	-	-
Mov Cap-2 Maneuver	349	455	-	200	460	-	-	-	-	-	-	-
Stage 1	676	621	-	814	756	-	-	-	-	-	-	-
Stage 2	665	740	-	348	618	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	27.82	18.88	1.83	3.35
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	414	-	-	459	425	765	-	-
HCM Lane V/C Ratio	0.021	-	-	0.678	0.394	0.061	-	-
HCM Ctrl Dly (s/v)	7.5	0	-	27.8	18.9	7.5	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	5	1.8	0.2	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	239	5	8	83	17	5	28	13	65	28	12
Future Vol, veh/h	17	239	5	8	83	17	5	28	13	65	28	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	82	82	82	100	100	100	71	71	71
Heavy Vehicles, %	6	5	0	0	10	6	20	4	8	2	4	8
Mvmt Flow	18	260	5	10	101	21	5	28	13	92	39	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	122	0	0	265	0	0	440	441	263	442	433	112
Stage 1	-	-	-	-	-	-	299	299	-	131	131	-
Stage 2	-	-	-	-	-	-	140	141	-	311	302	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.3	6.54	6.28	7.12	6.54	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.54	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.54	-	6.12	5.54	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.68	4.036	3.372	3.518	4.036	3.372
Pot Cap-1 Maneuver	1441	-	-	1310	-	-	498	507	762	526	513	925
Stage 1	-	-	-	-	-	-	672	662	-	872	784	-
Stage 2	-	-	-	-	-	-	821	776	-	700	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1441	-	-	1310	-	-	441	496	762	477	501	925
Mov Cap-2 Maneuver	-	-	-	-	-	-	441	496	-	477	501	-
Stage 1	-	-	-	-	-	-	662	652	-	865	778	-
Stage 2	-	-	-	-	-	-	759	770	-	648	651	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.49	0.58	12.26	14.86
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	542	117	-	-	129	-	-	512
HCM Lane V/C Ratio	0.085	0.013	-	-	0.007	-	-	0.289
HCM Ctrl Dly (s/v)	12.3	7.5	0	-	7.8	0	-	14.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	1.2

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	102	10	20	65	13	7	38	35	20	41	16
Future Vol, veh/h	10	102	10	20	65	13	7	38	35	20	41	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	94	94	94	85	85	85	73	73	73
Heavy Vehicles, %	0	11	0	6	15	23	29	18	34	5	32	6
Mvmt Flow	11	111	11	21	69	14	8	45	41	27	56	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	218	224	67	248	215	65	78	0	0	86	0	0
Stage 1	122	122	-	82	82	-	-	-	-	-	-	-
Stage 2	96	102	-	166	133	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.61	6.2	7.16	6.65	6.43	4.39	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.61	-	6.16	5.65	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.61	-	6.16	5.65	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.099	3.3	3.554	4.135	3.507	2.461	-	-	2.245	-	-
Pot Cap-1 Maneuver	743	659	1002	697	661	943	1366	-	-	1492	-	-
Stage 1	887	778	-	917	802	-	-	-	-	-	-	-
Stage 2	916	793	-	826	762	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	639	642	1002	559	644	943	1366	-	-	1492	-	-
Mov Cap-2 Maneuver	639	642	-	559	644	-	-	-	-	-	-	-
Stage 1	870	763	-	911	797	-	-	-	-	-	-	-
Stage 2	819	788	-	685	747	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.8	11.58	0.67	1.94
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	144	-	-	662	651	443	-	-
HCM Lane V/C Ratio	0.006	-	-	0.2	0.16	0.018	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	11.8	11.6	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	196	0	18	124	18	0	12	40	22	8	9
Future Vol, veh/h	10	196	0	18	124	18	0	12	40	22	8	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	99	99	99	84	84	84	98	98	98
Heavy Vehicles, %	0	12	0	0	20	6	0	0	5	5	13	0
Mvmt Flow	13	261	0	18	125	18	0	14	48	22	8	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	143	0	0	261	0	0	454	468	261	466	459	134
Stage 1	-	-	-	-	-	-	288	288	-	171	171	-
Stage 2	-	-	-	-	-	-	166	180	-	295	288	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.25	7.15	6.63	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.63	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.63	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.345	3.545	4.117	3.3
Pot Cap-1 Maneuver	1452	-	-	1315	-	-	520	496	770	502	483	920
Stage 1	-	-	-	-	-	-	724	677	-	824	737	-
Stage 2	-	-	-	-	-	-	841	754	-	707	654	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1452	-	-	1315	-	-	493	483	770	446	470	920
Mov Cap-2 Maneuver	-	-	-	-	-	-	493	483	-	446	470	-
Stage 1	-	-	-	-	-	-	716	670	-	812	726	-
Stage 2	-	-	-	-	-	-	811	743	-	642	647	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.36	0.87	10.85	12.62
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	677	87	-	-	197	-	-	512
HCM Lane V/C Ratio	0.091	0.009	-	-	0.014	-	-	0.078
HCM Ctrl Dly (s/v)	10.8	7.5	0	-	7.8	0	-	12.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	158	91	33	162	51
Future Vol, veh/h	31	158	91	33	162	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	88	88	74	74
Heavy Vehicles, %	0	1	7	12	1	0
Mvmt Flow	36	186	103	38	219	69

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	141	0	-	0	381	122
Stage 1	-	-	-	-	122	-
Stage 2	-	-	-	-	259	-
Critical Hdwy	4.1	-	-	-	6.41	6.2
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.2	-	-	-	3.509	3.3
Pot Cap-1 Maneuver	1455	-	-	-	623	934
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	787	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1455	-	-	-	606	934
Mov Cap-2 Maneuver	-	-	-	-	606	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.24	0	14.57
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	295	-	-	-	662
HCM Lane V/C Ratio	0.025	-	-	-	0.435
HCM Ctrl Dly (s/v)	7.5	0	-	-	14.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	2.2

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	4	15	6	21	28
Future Vol, veh/h	13	4	15	6	21	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	47	47	100	100	68	68
Heavy Vehicles, %	0	25	0	0	0	0
Mvmt Flow	28	9	15	6	31	41

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	15	21
Stage 1	-	-	0	0
Stage 2	-	-	15	21
Critical Hdwy	-	-	6.4	6.5
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.4	5.5
Follow-up Hdwy	-	-	3.5	4
Pot Cap-1 Maneuver	-	-	1009	877
Stage 1	-	-	-	-
Stage 2	-	-	1013	882
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	1009	0
Mov Cap-2 Maneuver	-	-	1009	0
Stage 1	-	-	-	0
Stage 2	-	-	1013	0

Approach	NB	SB
HCM Ctrl Dly, s/v	0	
HCM LOS		-

Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Ctrl Dly (s/v)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	725	37	20	250	8	40
Future Vol, veh/h	725	37	20	250	8	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	100	100	98	98
Heavy Vehicles, %	2	3	0	3	0	3
Mvmt Flow	824	42	20	250	8	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	866	0	1135	845
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	290	-
Critical Hdwy	-	-	4.1	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	786	-	226	361
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	764	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	786	-	220	361
Mov Cap-2 Maneuver	-	-	-	-	335	-
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.72	16.69
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	357	-	-	786	-
HCM Lane V/C Ratio	0.137	-	-	0.025	-
HCM Ctrl Dly (s/v)	16.7	-	-	9.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.5

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	67	151	210	86	80	105
Future Vol, veh/h	67	151	210	86	80	105
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	80	80	100	100
Heavy Vehicles, %	13	1	10	5	3	19
Mvmt Flow	76	172	263	108	80	105

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	581	316	0	0	370	0
Stage 1	316	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.53	6.21	-	-	4.13	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.309	-	-	2.227	-
Pot Cap-1 Maneuver	458	727	-	-	1183	-
Stage 1	715	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	425	727	-	-	1183	-
Mov Cap-2 Maneuver	425	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	700	-	-	-	-	-

Approach	NW	NE	SW
HCM Ctrl Dly, s/v	15.26	0	3.57
HCM LOS	C		

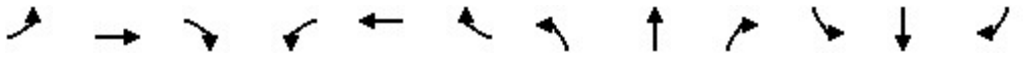
Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	596	778	-
HCM Lane V/C Ratio	-	-	0.415	0.068	-
HCM Ctrl Dly (s/v)	-	-	15.3	8.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2	0.2	-

Existing PM Capacity:

Queues
2: 54th Street West & Rimrock Road 10/19/2025

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	192	145	384	83	82	163	59	33
v/c Ratio	0.00	0.21	0.19	0.32	0.08	0.49	0.55	0.46	0.15
Control Delay (s/veh)	5.0	11.0	4.9	7.7	1.4	43.3	18.4	44.6	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.0	11.0	4.9	7.7	1.4	43.3	18.4	44.6	29.7
Queue Length 50th (ft)	0	46	19	60	0	39	21	29	13
Queue Length 95th (ft)	2	94	45	184	13	81	73	67	39
Internal Link Dist (ft)		4323		924			5202		920
Turn Bay Length (ft)	250		250		250	200		150	
Base Capacity (vph)	676	929	762	1194	1049	453	613	350	607
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.21	0.19	0.32	0.08	0.18	0.27	0.17	0.05

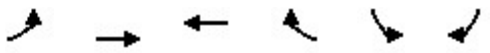
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	173	19	136	361	78	72	40	104	59	29	4
Future Volume (veh/h)	2	173	19	136	361	78	72	40	104	59	29	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1750	1750	1750	1750	1750	1709	1709	1750	1750
Adj Flow Rate, veh/h	2	173	19	145	384	83	82	45	118	59	29	4
Peak Hour Factor	1.00	1.00	1.00	0.94	0.94	0.94	0.88	0.88	0.88	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	3	3	0	0
Cap, veh/h	536	820	90	759	1029	872	305	74	193	178	259	36
Arrive On Green	0.00	0.53	0.53	0.06	0.59	0.59	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1667	1549	170	1667	1750	1483	1398	427	1121	1213	1505	208
Grp Volume(v), veh/h	2	0	192	145	384	83	82	0	163	59	0	33
Grp Sat Flow(s),veh/h/ln	1667	0	1719	1667	1750	1483	1398	0	1548	1213	0	1713
Q Serve(g_s), s	0.0	0.0	4.9	3.2	9.5	2.0	4.3	0.0	8.0	3.9	0.0	1.3
Cycle Q Clear(g_c), s	0.0	0.0	4.9	3.2	9.5	2.0	5.7	0.0	8.0	11.9	0.0	1.3
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.72	1.00		0.12
Lane Grp Cap(c), veh/h	536	0	910	759	1029	872	305	0	266	178	0	295
V/C Ratio(X)	0.00	0.00	0.21	0.19	0.37	0.10	0.27	0.00	0.61	0.33	0.00	0.11
Avail Cap(c_a), veh/h	704	0	910	828	1029	872	549	0	537	390	0	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	0.0	10.3	7.6	8.9	7.4	31.1	0.0	31.5	37.0	0.0	28.7
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.1	1.0	0.2	0.5	0.0	2.3	1.1	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.6	0.9	3.2	0.6	1.4	0.0	3.0	1.2	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.2	0.0	10.8	7.7	10.0	7.6	31.6	0.0	33.8	38.1	0.0	28.9
LnGrp LOS	A		B	A	A	A	C		C	D		C
Approach Vol, veh/h		194			612			245			92	
Approach Delay, s/veh		10.8			9.1			33.0			34.8	
Approach LOS		B			A			C			C	

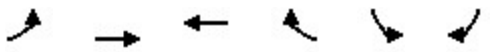
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.6	50.0		20.6	6.7	54.9		20.6				
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	8.5	43.5		28.5	8.5	43.5		28.5				
Max Q Clear Time (g_c+I1), s	5.2	6.9		13.9	2.0	11.5		10.0				
Green Ext Time (p_c), s	0.1	0.9		0.2	0.0	2.5		1.0				

Intersection Summary		
HCM 7th Control Delay, s/veh		16.6
HCM 7th LOS		B



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	122	210	436	200	124	90
v/c Ratio	0.19	0.17	0.48	0.18	0.55	0.16
Control Delay (s/veh)	4.3	4.6	16.1	1.0	44.3	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.3	4.6	16.1	1.0	44.3	4.8
Queue Length 50th (ft)	15	30	137	0	62	0
Queue Length 95th (ft)	35	61	223	12	122	28
Internal Link Dist (ft)		1579	3521		5202	
Turn Bay Length (ft)	400			400		250
Base Capacity (vph)	1015	1750	915	1473	860	1146
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.12	0.48	0.14	0.14	0.08

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	113	195	353	162	124	90
Future Volume (veh/h)	113	195	353	162	124	90
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1723	1750	1750	1736	1736	1750
Adj Flow Rate, veh/h	122	210	436	200	124	90
Peak Hour Factor	0.93	0.93	0.81	0.81	1.00	1.00
Percent Heavy Veh, %	2	0	0	1	1	0
Cap, veh/h	568	1262	1045	1036	177	251
Arrive On Green	0.06	0.72	0.60	0.60	0.11	0.11
Sat Flow, veh/h	1641	1750	1750	1471	1654	1483
Grp Volume(v), veh/h	122	210	436	200	124	90
Grp Sat Flow(s),veh/h/ln	1641	1750	1750	1471	1654	1483
Q Serve(g_s), s	1.8	2.8	9.8	3.4	5.3	3.9
Cycle Q Clear(g_c), s	1.8	2.8	9.8	3.4	5.3	3.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	568	1262	1045	1036	177	251
V/C Ratio(X)	0.21	0.17	0.42	0.19	0.70	0.36
Avail Cap(c_a), veh/h	1485	2240	1045	1036	987	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.0	3.2	7.9	3.7	31.6	26.9
Incr Delay (d2), s/veh	0.2	0.1	1.2	0.4	5.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.5	3.0	1.2	2.2	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	5.2	3.3	9.1	4.1	36.6	27.7
LnGrp LOS	A	A	A	A	D	C
Approach Vol, veh/h		332	636		214	
Approach Delay, s/veh		4.0	7.6		32.9	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		59.1		14.1	9.1	50.0
Change Period (Y+Rc), s		6.3		6.3	4.5	6.3
Max Green Setting (Gmax), s		93.7		43.7	45.5	43.7
Max Q Clear Time (g_c+I1), s		4.8		7.3	3.8	11.8
Green Ext Time (p_c), s		1.2		0.6	0.3	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	11.1
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	300	61	107	341	0	76	0	174	0	0	0
Future Vol, veh/h	0	300	61	107	341	0	76	0	174	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	87	87	87	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	2	0	0	1	0	3	0	0	0
Mvmt Flow	0	341	69	123	392	0	76	0	174	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	392	0	0	410	0	0	1013	1013	376	979	1048	392
Stage 1	-	-	-	-	-	-	376	376	-	638	638	-
Stage 2	-	-	-	-	-	-	638	638	-	341	410	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.11	6.5	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.509	4	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1178	-	-	1149	-	-	218	241	669	231	230	661
Stage 1	-	-	-	-	-	-	648	620	-	468	474	-
Stage 2	-	-	-	-	-	-	467	474	-	678	599	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1178	-	-	1149	-	-	195	215	669	153	205	661
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	215	-	153	205	-
Stage 1	-	-	-	-	-	-	648	620	-	418	423	-
Stage 2	-	-	-	-	-	-	417	423	-	502	599	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	2.03	19.13	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	195	669	1178	-	-	1149	-	-	-
HCM Lane V/C Ratio	0.39	0.26	-	-	-	0.107	-	-	-
HCM Ctrl Dly (s/v)	34.8	12.3	0	-	-	8.5	-	-	0
HCM Lane LOS	D	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	1.7	1	0	-	-	0.4	-	-	-

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	370	863	85	59	4
v/c Ratio	0.30	0.79	0.45	0.22	0.02
Control Delay (s/veh)	5.5	16.6	33.4	9.8	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.5	16.6	33.4	9.8	23.5
Queue Length 50th (ft)	51	223	32	0	1
Queue Length 95th (ft)	107	#368	70	28	9
Internal Link Dist (ft)	3521	424	5188		424
Turn Bay Length (ft)				120	
Base Capacity (vph)	1232	1096	867	1006	884
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.79	0.10	0.06	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	295	56	112	565	5	85	0	59	3	1	0
Future Volume (veh/h)	0	295	56	112	565	5	85	0	59	3	1	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1750	1750	1750	1750	1736	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	0	311	59	142	715	6	85	0	59	3	1	0
Peak Hour Factor	0.95	0.95	0.95	0.79	0.79	0.79	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	1	0	0	0	0	1	0	0	0	0	0
Cap, veh/h	0	1009	191	219	979	8	251	0	126	141	31	0
Arrive On Green	0.00	0.71	0.71	0.71	0.71	0.71	0.08	0.00	0.08	0.08	0.08	0.00
Sat Flow, veh/h	0	1419	269	212	1376	11	1571	0	1483	456	370	0
Grp Volume(v), veh/h	0	0	370	863	0	0	85	0	59	4	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1688	1599	0	0	1571	0	1483	826	0	0
Q Serve(g_s), s	0.0	0.0	5.0	12.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	5.0	19.7	0.0	0.0	3.0	0.0	2.3	3.0	0.0	0.0
Prop In Lane	0.00		0.16	0.16		0.01	1.00		1.00	0.75		0.00
Lane Grp Cap(c), veh/h	0	0	1200	1206	0	0	251	0	126	173	0	0
V/C Ratio(X)	0.00	0.00	0.31	0.72	0.00	0.00	0.34	0.00	0.47	0.02	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1200	1206	0	0	1159	0	1062	1085	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	3.3	5.2	0.0	0.0	27.0	0.0	26.7	25.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	3.7	0.0	0.0	0.8	0.0	2.7	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.1	4.3	0.0	0.0	1.2	0.0	0.9	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	3.9	8.9	0.0	0.0	27.8	0.0	29.4	25.8	0.0	0.0
LnGrp LOS			A	A			C		C	C		
Approach Vol, veh/h		370			863			144			4	
Approach Delay, s/veh		3.9			8.9			28.5			25.8	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	11.3	50.0	11.3	50.0
Change Period (Y+Rc), s	6.1	6.4	6.1	6.4
Max Green Setting (Gmax), s	43.9	43.6	43.9	43.6
Max Q Clear Time (g_c+I1), s	5.0	7.0	5.0	21.7
Green Ext Time (p_c), s	0.6	2.4	0.0	7.0

Intersection Summary	
HCM 7th Control Delay, s/veh	9.7
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	4.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	85	23	98	132	49	111
Future Vol, veh/h	85	23	98	132	49	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	100	100	100	100
Heavy Vehicles, %	0	2	0	0	2	0
Mvmt Flow	101	27	98	132	49	111

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	129	0	443	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	328	-
Critical Hdwy	-	-	4.1	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.2	-	3.518	3.3
Pot Cap-1 Maneuver	-	-	1470	-	572	943
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	730	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1470	-	531	943
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.25	10.98
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	767	-
HCM Lane V/C Ratio	0.21	-	-	0.067	-
HCM Ctrl Dly (s/v)	11	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	142	19	28	252	53	46	84	24	36	73	10
Future Vol, veh/h	15	142	19	28	252	53	46	84	24	36	73	10
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.72	0.72	0.72	0.88	0.88	0.88
Heavy Vehicles, %	0	3	5	0	0	4	0	0	0	0	1	0
Mvmt Flow	16	148	20	29	265	56	64	117	33	41	83	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.5	13.1	11.3	10.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	9%	8%	30%
Vol Thru, %	55%	81%	76%	61%
Vol Right, %	16%	11%	16%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	154	176	333	119
LT Vol	46	15	28	36
Through Vol	84	142	252	73
RT Vol	24	19	53	10
Lane Flow Rate	214	183	351	135
Geometry Grp	1	1	1	1
Degree of Util (X)	0.328	0.274	0.497	0.214
Departure Headway (Hd)	5.518	5.385	5.108	5.705
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	650	666	705	627
Service Time	3.561	3.43	3.146	3.754
HCM Lane V/C Ratio	0.329	0.275	0.498	0.215
HCM Control Delay, s/veh	11.3	10.5	13.1	10.3
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.4	1.1	2.8	0.8

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	35	148	35	11	107
Future Vol, veh/h	55	35	148	35	11	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	79	79	81	81
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	55	35	187	44	14	132

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	369	209	0	0	232	0
Stage 1	209	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	635	836	-	-	1348	-
Stage 1	830	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	629	836	-	-	1348	-
Mov Cap-2 Maneuver	629	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.94	0	0.72
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	696	168	-
HCM Lane V/C Ratio	-	-	0.129	0.01	-
HCM Ctrl Dly (s/v)	-	-	10.9	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Intersection Delay, s/veh	18.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	291	8	29	375	65	3	59	20	42	60	17
Future Vol, veh/h	30	291	8	29	375	65	3	59	20	42	60	17
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.68	0.68	0.68	0.99	0.99	0.99
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	3	0
Mvmt Flow	34	331	9	33	426	74	4	87	29	42	61	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	15.6	23.4	11.2	11.4
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	9%	6%	35%
Vol Thru, %	72%	88%	80%	50%
Vol Right, %	24%	2%	14%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	82	329	469	119
LT Vol	3	30	29	42
Through Vol	59	291	375	60
RT Vol	20	8	65	17
Lane Flow Rate	121	374	533	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.214	0.568	0.768	0.217
Departure Headway (Hd)	6.382	5.468	5.187	6.503
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	558	654	693	548
Service Time	4.473	3.535	3.246	4.594
HCM Lane V/C Ratio	0.217	0.572	0.769	0.219
HCM Control Delay, s/veh	11.2	15.6	23.4	11.4
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	0.8	3.6	7.3	0.8

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	77	204	6	27	271	25	2	47	29	14	38	96
Future Vol, veh/h	77	204	6	27	271	25	2	47	29	14	38	96
Peak Hour Factor	0.81	0.81	0.81	0.99	0.99	0.99	0.89	0.89	0.89	0.79	0.79	0.79
Heavy Vehicles, %	0	2	0	0	1	0	0	0	3	0	0	0
Mvmt Flow	95	252	7	27	274	25	2	53	33	18	48	122
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	13.6	12.7	9.8	10.6
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	27%	8%	9%
Vol Thru, %	60%	71%	84%	26%
Vol Right, %	37%	2%	8%	65%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	287	323	148
LT Vol	2	77	27	14
Through Vol	47	204	271	38
RT Vol	29	6	25	96
Lane Flow Rate	88	354	326	187
Geometry Grp	1	1	1	1
Degree of Util (X)	0.141	0.512	0.469	0.283
Departure Headway (Hd)	5.798	5.202	5.175	5.441
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	616	691	695	659
Service Time	3.857	3.24	3.214	3.49
HCM Lane V/C Ratio	0.143	0.512	0.469	0.284
HCM Control Delay, s/veh	9.8	13.6	12.7	10.6
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.5	2.9	2.5	1.2

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	67	11	22	121	60	5	107	22	26	49	13
Future Vol, veh/h	15	67	11	22	121	60	5	107	22	26	49	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	79	79	79	66	66	66	85	85	85
Heavy Vehicles, %	0	3	9	0	0	0	0	0	0	0	2	0
Mvmt Flow	21	96	16	28	153	76	8	162	33	31	58	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	380	337	65	361	328	179	73	0	0	195	0	0
Stage 1	126	126	-	194	194	-	-	-	-	-	-	-
Stage 2	254	211	-	167	134	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.53	6.29	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.027	3.381	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	581	582	979	599	594	869	1540	-	-	1390	-	-
Stage 1	882	789	-	812	744	-	-	-	-	-	-	-
Stage 2	755	726	-	840	789	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	381	566	979	478	577	869	1540	-	-	1390	-	-
Mov Cap-2 Maneuver	381	566	-	478	577	-	-	-	-	-	-	-
Stage 1	862	771	-	808	740	-	-	-	-	-	-	-
Stage 2	543	722	-	707	771	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.61	14.72	0.27	2.26
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	65	-	-	550	625	510	-	-
HCM Lane V/C Ratio	0.005	-	-	0.241	0.411	0.022	-	-
HCM Ctrl Dly (s/v)	7.3	0	-	13.6	14.7	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	2	0.1	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	156	1	25	293	42	2	41	19	19	27	9
Future Vol, veh/h	8	156	1	25	293	42	2	41	19	19	27	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	89	89	89	100	100	100	67	67	67
Heavy Vehicles, %	13	2	0	0	1	0	0	0	0	5	0	0
Mvmt Flow	10	193	1	28	329	47	2	41	19	28	40	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	376	0	0	194	0	0	619	646	193	642	623	353
Stage 1	-	-	-	-	-	-	213	213	-	409	409	-
Stage 2	-	-	-	-	-	-	406	433	-	233	214	-
Critical Hdwy	4.23	-	-	4.1	-	-	7.1	6.5	6.2	7.15	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.317	-	-	2.2	-	-	3.5	4	3.3	3.545	4	3.3
Pot Cap-1 Maneuver	1124	-	-	1391	-	-	404	393	853	383	405	695
Stage 1	-	-	-	-	-	-	794	730	-	613	600	-
Stage 2	-	-	-	-	-	-	626	585	-	763	730	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1124	-	-	1391	-	-	344	379	853	323	391	695
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	379	-	323	391	-
Stage 1	-	-	-	-	-	-	786	723	-	598	584	-
Stage 2	-	-	-	-	-	-	557	570	-	697	722	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.4	0.53	14.15	16.65
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	455	87	-	-	122	-	-	391
HCM Lane V/C Ratio	0.136	0.009	-	-	0.02	-	-	0.21
HCM Ctrl Dly (s/v)	14.2	8.2	0	-	7.6	0	-	16.6
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.8

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	47	2	15	106	27	4	46	16	10	25	20
Future Vol, veh/h	15	47	2	15	106	27	4	46	16	10	25	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	74	74	74	100	100	100	60	86	86
Heavy Vehicles, %	0	4	0	0	0	4	0	4	19	0	0	5
Mvmt Flow	15	47	2	20	143	36	4	46	16	17	29	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	200	144	41	148	148	54	52	0	0	62	0	0
Stage 1	74	74	-	62	62	-	-	-	-	-	-	-
Stage 2	126	70	-	86	86	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.54	6.2	7.1	6.5	6.24	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.036	3.3	3.5	4	3.336	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	763	744	1036	825	747	1008	1566	-	-	1554	-	-
Stage 1	940	829	-	954	847	-	-	-	-	-	-	-
Stage 2	883	833	-	927	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	586	733	1036	761	737	1008	1566	-	-	1554	-	-
Mov Cap-2 Maneuver	586	733	-	761	737	-	-	-	-	-	-	-
Stage 1	930	820	-	952	845	-	-	-	-	-	-	-
Stage 2	705	831	-	862	819	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.67	11.22	0.44	1.77
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	104	-	-	699	778	399	-	-
HCM Lane V/C Ratio	0.003	-	-	0.092	0.257	0.011	-	-
HCM Ctrl Dly (s/v)	7.3	0	-	10.7	11.2	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	112	1	38	185	17	0	17	40	10	16	17
Future Vol, veh/h	4	112	1	38	185	17	0	17	40	10	16	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	80	80	80	100	100	100	72	72	72
Heavy Vehicles, %	0	6	0	3	1	0	0	0	5	0	0	0
Mvmt Flow	4	112	1	48	231	21	0	17	40	14	22	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	253	0	0	113	0	0	458	468	113	465	458	242
Stage 1	-	-	-	-	-	-	121	121	-	337	337	-
Stage 2	-	-	-	-	-	-	337	348	-	129	121	-
Critical Hdwy	4.1	-	-	4.13	-	-	7.1	6.5	6.25	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.227	-	-	3.5	4	3.345	3.5	4	3.3
Pot Cap-1 Maneuver	1325	-	-	1470	-	-	517	496	932	511	502	802
Stage 1	-	-	-	-	-	-	889	800	-	682	645	-
Stage 2	-	-	-	-	-	-	681	638	-	880	800	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1325	-	-	1470	-	-	460	476	932	453	482	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	460	476	-	453	482	-
Stage 1	-	-	-	-	-	-	886	797	-	656	621	-
Stage 2	-	-	-	-	-	-	613	614	-	822	797	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.26	1.19	10.39	12.16
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	725	61	-	-	280	-	-	562
HCM Lane V/C Ratio	0.079	0.003	-	-	0.032	-	-	0.106
HCM Ctrl Dly (s/v)	10.4	7.7	0	-	7.5	0	-	12.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	55	146	190	117	47	41
Future Vol, veh/h	55	146	190	117	47	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	79	79	69	69
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	57	151	241	148	68	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	389	0	-	0	578	315
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	264	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1181	-	-	-	481	731
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	785	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1181	-	-	-	456	731
Mov Cap-2 Maneuver	-	-	-	-	456	-
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	785	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.24	0	13.46
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	493	-	-	-	553
HCM Lane V/C Ratio	0.048	-	-	-	0.231
HCM Ctrl Dly (s/v)	8.2	0	-	-	13.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	18	38	11	13	9
Future Vol, veh/h	12	18	38	11	13	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	71	71	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	36	54	15	16	11

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	54	69
Stage 1	-	-	0	0
Stage 2	-	-	54	69
Critical Hdwy	-	-	6.4	6.5
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.4	5.5
Follow-up Hdwy	-	-	3.5	4
Pot Cap-1 Maneuver	-	-	960	825
Stage 1	-	-	-	-
Stage 2	-	-	974	841
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	960	0
Mov Cap-2 Maneuver	-	-	960	0
Stage 1	-	-	-	0
Stage 2	-	-	974	0

Approach	NB	SB
HCM Ctrl Dly, s/v	0	
HCM LOS		-

Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Ctrl Dly (s/v)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	325	16	47	608	14	19
Future Vol, veh/h	325	16	47	608	14	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	86	86	100	100
Heavy Vehicles, %	2	0	0	0	0	5
Mvmt Flow	339	17	55	707	14	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	355	0	1163	347
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	816	-
Critical Hdwy	-	-	4.1	-	6.4	6.25
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.345
Pot Cap-1 Maneuver	-	-	1215	-	217	689
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	438	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1215	-	207	689
Mov Cap-2 Maneuver	-	-	-	-	326	-
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	418	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.58	13.28
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	468	-	-	1215	-
HCM Lane V/C Ratio	0.071	-	-	0.045	-
HCM Ctrl Dly (s/v)	13.3	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	17.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	59	371	129	48	146	208
Future Vol, veh/h	59	371	129	48	146	208
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	70	70	83	83	100	100
Heavy Vehicles, %	2	2	5	0	0	1
Mvmt Flow	84	530	155	58	146	208

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	684	184	0	0	213	0
Stage 1	184	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	414	858	-	-	1369	-
Stage 1	847	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	364	858	-	-	1369	-
Mov Cap-2 Maneuver	364	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	536	-	-	-	-	-

Approach	NW	NE	SW
HCM Ctrl Dly, s/v	31.3	0	3.28
HCM LOS	D		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	723	742	-
HCM Lane V/C Ratio	-	-	0.849	0.107	-
HCM Ctrl Dly (s/v)	-	-	31.3	7.9	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	9.8	0.4	-

MOVEMENT SUMMARY

Site: [101] King Ave & 56th St AM (Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	84	3.0	84	3.0	0.306	6.8	LOS A	1.6	39.7	0.50	0.33	0.50	37.2
4	T1	All MCs	165	0.8	165	0.8	0.306	6.5	LOS A	1.6	39.7	0.50	0.33	0.50	36.5
14	R2	All MCs	63	0.0	63	0.0	0.306	6.5	LOS A	1.6	39.7	0.50	0.33	0.50	37.7
Approach			311	1.2	311	1.2	0.306	6.6	LOS A	1.6	39.7	0.50	0.33	0.50	36.9
West: King Avenue															
5	L2	All MCs	76	6.2	76	6.2	0.455	9.1	LOS A	2.7	69.1	0.58	0.37	0.58	35.5
2	T1	All MCs	360	1.3	360	1.3	0.455	8.5	LOS A	2.7	69.1	0.58	0.37	0.58	38.3
12	R2	All MCs	24	10.0	24	10.0	0.455	9.5	LOS A	2.7	69.1	0.58	0.37	0.58	35.4
Approach			460	2.6	460	2.6	0.455	8.7	LOS A	2.7	69.1	0.58	0.37	0.58	37.6
South: 56th Street West															
3	L2	All MCs	22	0.0	22	0.0	0.195	6.3	LOS A	0.8	20.7	0.58	0.47	0.58	37.8
8	T1	All MCs	96	3.9	96	3.9	0.195	6.9	LOS A	0.8	20.7	0.58	0.47	0.58	36.2
18	R2	All MCs	30	4.2	30	4.2	0.195	6.9	LOS A	0.8	20.7	0.58	0.47	0.58	37.3
Approach			149	3.4	149	3.4	0.195	6.8	LOS A	0.8	20.7	0.58	0.47	0.58	36.7
East: King Avenue															
1	L2	All MCs	22	5.9	22	5.9	0.256	5.9	LOS A	1.3	32.5	0.41	0.24	0.41	37.4
6	T1	All MCs	233	2.7	233	2.7	0.256	5.6	LOS A	1.3	32.5	0.41	0.24	0.41	40.3
16	R2	All MCs	19	20.0	19	20.0	0.256	7.2	LOS A	1.3	32.5	0.41	0.24	0.41	35.8
Approach			274	4.2	274	4.2	0.256	5.7	LOS A	1.3	32.5	0.41	0.24	0.41	39.7
All Vehicles			1195	2.7	1195	2.7	0.455	7.2	LOS A	2.7	69.1	0.52	0.34	0.52	37.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [102] King Ave & 56th St PM (Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	43	0.0	43	0.0	0.192	5.4	LOS A	0.9	22.3	0.47	0.32	0.47	38.6
4	T1	All MCs	73	0.0	73	0.0	0.192	5.4	LOS A	0.9	22.3	0.47	0.32	0.47	37.5
14	R2	All MCs	76	0.0	76	0.0	0.192	5.4	LOS A	0.9	22.3	0.47	0.32	0.47	38.8
Approach			192	0.0	192	0.0	0.192	5.4	LOS A	0.9	22.3	0.47	0.32	0.47	38.3
West: King Avenue															
5	L2	All MCs	48	0.0	48	0.0	0.246	5.1	LOS A	1.3	32.0	0.33	0.16	0.33	38.6
2	T1	All MCs	235	1.5	235	1.5	0.246	5.2	LOS A	1.3	32.0	0.33	0.16	0.33	40.6
12	R2	All MCs	8	14.3	8	14.3	0.246	6.2	LOS A	1.3	32.0	0.33	0.16	0.33	36.7
Approach			290	1.6	290	1.6	0.246	5.2	LOS A	1.3	32.0	0.33	0.16	0.33	40.2
South: 56th Street West															
3	L2	All MCs	32	0.0	32	0.0	0.234	5.9	LOS A	1.1	27.9	0.50	0.34	0.50	39.7
8	T1	All MCs	172	0.0	172	0.0	0.234	5.9	LOS A	1.1	27.9	0.50	0.34	0.50	38.5
18	R2	All MCs	25	5.0	25	5.0	0.234	6.4	LOS A	1.1	27.9	0.50	0.34	0.50	39.0
Approach			229	0.6	229	0.6	0.234	5.9	LOS A	1.1	27.9	0.50	0.34	0.50	38.8
East: King Avenue															
1	L2	All MCs	18	0.0	18	0.0	0.329	6.6	LOS A	1.8	44.5	0.48	0.30	0.48	38.0
6	T1	All MCs	263	1.2	263	1.2	0.329	6.7	LOS A	1.8	44.5	0.48	0.30	0.48	40.0
16	R2	All MCs	66	0.0	66	0.0	0.329	6.6	LOS A	1.8	44.5	0.48	0.30	0.48	38.4
Approach			348	0.9	348	0.9	0.329	6.7	LOS A	1.8	44.5	0.48	0.30	0.48	39.6
All Vehicles			1059	0.9	1059	0.9	0.329	5.9	LOS A	1.8	44.5	0.44	0.28	0.44	39.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [103] Central Ave & 56th St AM (Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	131	2.2	131	2.2	0.316	6.1	LOS A	1.7	43.8	0.39	0.21	0.39	35.6
4	T1	All MCs	228	1.9	228	1.9	0.316	6.1	LOS A	1.7	43.8	0.39	0.21	0.39	36.3
14	R2	All MCs	1	0.0	1	0.0	0.316	5.9	LOS A	1.7	43.8	0.39	0.21	0.39	36.3
Approach			361	2.0	361	2.0	0.316	6.1	LOS A	1.7	43.8	0.39	0.21	0.39	36.1
West: Central Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.095	5.0	LOS A	0.4	9.9	0.51	0.39	0.51	37.5
2	T1	All MCs	68	0.0	68	0.0	0.095	5.0	LOS A	0.4	9.9	0.51	0.39	0.51	38.3
12	R2	All MCs	14	0.0	14	0.0	0.095	5.0	LOS A	0.4	9.9	0.51	0.39	0.51	37.9
Approach			83	0.0	83	0.0	0.095	5.0	LOS A	0.4	9.9	0.51	0.39	0.51	38.2
South: 56th Street West															
3	L2	All MCs	4	75.0	4	75.0	0.154	12.3	LOS B	0.7	17.7	0.37	0.21	0.37	27.9
8	T1	All MCs	73	6.1	73	6.1	0.154	4.8	LOS A	0.7	17.7	0.37	0.21	0.37	37.6
18	R2	All MCs	87	0.0	87	0.0	0.154	4.4	LOS A	0.7	17.7	0.37	0.21	0.37	38.2
Approach			164	4.7	164	4.7	0.154	4.7	LOS A	0.7	17.7	0.37	0.21	0.37	37.6
East: Central Avenue															
1	L2	All MCs	80	2.1	80	2.1	0.211	4.5	LOS A	1.0	26.8	0.25	0.10	0.25	36.5
6	T1	All MCs	72	4.7	72	4.7	0.211	4.7	LOS A	1.0	26.8	0.25	0.10	0.25	36.9
16	R2	All MCs	100	10.0	100	10.0	0.211	5.1	LOS A	1.0	26.8	0.25	0.10	0.25	35.7
Approach			252	6.0	252	6.0	0.211	4.8	LOS A	1.0	26.8	0.25	0.10	0.25	36.3
All Vehicles			860	3.5	860	3.5	0.316	5.4	LOS A	1.7	43.8	0.36	0.20	0.36	36.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [104] Central Ave & 56th St PM (Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	32	0.0	32	0.0	0.174	4.6	LOS A	0.8	20.8	0.35	0.19	0.35	37.3
4	T1	All MCs	156	0.9	156	0.9	0.174	4.6	LOS A	0.8	20.8	0.35	0.19	0.35	37.9
14	R2	All MCs	12	0.0	12	0.0	0.174	4.6	LOS A	0.8	20.8	0.35	0.19	0.35	37.7
Approach			200	0.7	200	0.7	0.174	4.6	LOS A	0.8	20.8	0.35	0.19	0.35	37.8
West: Central Avenue															
5	L2	All MCs	2	0.0	2	0.0	0.091	4.2	LOS A	0.4	9.8	0.39	0.25	0.39	38.0
2	T1	All MCs	85	0.0	85	0.0	0.091	4.2	LOS A	0.4	9.8	0.39	0.25	0.39	38.8
12	R2	All MCs	10	0.0	10	0.0	0.091	4.2	LOS A	0.4	9.8	0.39	0.25	0.39	38.4
Approach			96	0.0	96	0.0	0.091	4.2	LOS A	0.4	9.8	0.39	0.25	0.39	38.7
South: 56th Street West															
3	L2	All MCs	11	0.0	11	0.0	0.203	4.7	LOS A	1.0	25.6	0.29	0.14	0.29	37.7
8	T1	All MCs	186	0.0	186	0.0	0.203	4.7	LOS A	1.0	25.6	0.29	0.14	0.29	38.4
18	R2	All MCs	52	0.0	52	0.0	0.203	4.7	LOS A	1.0	25.6	0.29	0.14	0.29	38.1
Approach			249	0.0	249	0.0	0.203	4.7	LOS A	1.0	25.6	0.29	0.14	0.29	38.3
East: Central Avenue															
1	L2	All MCs	69	0.0	69	0.0	0.211	5.1	LOS A	1.0	25.9	0.39	0.22	0.39	36.8
6	T1	All MCs	94	0.0	94	0.0	0.211	5.1	LOS A	1.0	25.9	0.39	0.22	0.39	37.5
16	R2	All MCs	75	0.0	75	0.0	0.211	5.1	LOS A	1.0	25.9	0.39	0.22	0.39	37.2
Approach			238	0.0	238	0.0	0.211	5.1	LOS A	1.0	25.9	0.39	0.22	0.39	37.2
All Vehicles			783	0.2	783	0.2	0.211	4.7	LOS A	1.0	25.9	0.35	0.19	0.35	37.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [103 (2)] Rimrock Rd & 62nd St AM (Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 62nd Street West															
7	L2	All MCs	527	0.0	527	0.0	0.565	9.2	LOS A	4.6	115.9	0.49	0.24	0.49	33.2
4	T1	All MCs	156	1.0	156	1.0	0.565	9.3	LOS A	4.6	115.9	0.49	0.24	0.49	32.0
14	R2	All MCs	3	0.0	3	0.0	0.565	9.2	LOS A	4.6	115.9	0.49	0.24	0.49	33.4
Approach			686	0.2	686	0.2	0.565	9.2	LOS A	4.6	115.9	0.49	0.24	0.49	32.9
West: Rimrock Road															
5	L2	All MCs	2	0.0	2	0.0	0.356	10.0	LOS A	1.7	42.7	0.70	0.65	0.80	34.2
2	T1	All MCs	136	3.0	136	3.0	0.356	10.6	LOS B	1.7	42.7	0.70	0.65	0.80	36.3
12	R2	All MCs	89	1.0	89	1.0	0.356	10.2	LOS B	1.7	42.7	0.70	0.65	0.80	34.4
Approach			227	2.2	227	2.2	0.356	10.5	LOS B	1.7	42.7	0.70	0.65	0.80	35.5
South: 62nd Street West															
3	L2	All MCs	22	12.0	22	12.0	0.143	8.0	LOS A	0.5	13.4	0.61	0.53	0.61	33.5
8	T1	All MCs	31	17.0	31	17.0	0.143	9.0	LOS A	0.5	13.4	0.61	0.53	0.61	31.9
18	R2	All MCs	31	4.0	31	4.0	0.143	6.6	LOS A	0.5	13.4	0.61	0.53	0.61	34.8
Approach			84	10.9	84	10.9	0.143	7.8	LOS A	0.5	13.4	0.61	0.53	0.61	33.3
East: Rimrock Road															
1	L2	All MCs	35	4.0	35	4.0	0.164	4.2	LOS A	0.8	19.9	0.20	0.07	0.20	36.7
6	T1	All MCs	53	17.0	53	17.0	0.164	5.0	LOS A	0.8	19.9	0.20	0.07	0.20	37.8
16	R2	All MCs	113	0.0	113	0.0	0.164	3.9	LOS A	0.8	19.9	0.20	0.07	0.20	37.8
Approach			201	5.2	201	5.2	0.164	4.2	LOS A	0.8	19.9	0.20	0.07	0.20	37.6
All Vehicles			1199	2.2	1199	2.2	0.565	8.5	LOS A	4.6	115.9	0.49	0.31	0.51	34.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Organisation: SANBELL | Licence: PLUS / 1PC | Processed: Monday, October 20, 2025 10:05:47 AM
Project: P:\23379_Yellowstone_County_West_Billings_Neighborhood_Plan\TRAFFIC\Capacity Calcs\Existing\Roundabouts\West Billings RABs Existing.sipx

MOVEMENT SUMMARY

Site: [103 (3)] Rimrock Rd & 62nd St PM (Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 62nd Street West															
7	L2	All MCs	141	0.0	141	0.0	0.182	4.9	LOS A	0.9	21.6	0.40	0.24	0.40	35.6
4	T1	All MCs	53	0.0	53	0.0	0.182	4.9	LOS A	0.9	21.6	0.40	0.24	0.40	34.4
14	R2	All MCs	6	0.0	6	0.0	0.182	4.9	LOS A	0.9	21.6	0.40	0.24	0.40	35.8
Approach			200	0.0	200	0.0	0.182	4.9	LOS A	0.9	21.6	0.40	0.24	0.40	35.3
West: Rimrock Road															
5	L2	All MCs	2	0.0	2	0.0	0.111	4.2	LOS A	0.5	12.3	0.37	0.22	0.37	37.7
2	T1	All MCs	77	2.0	77	2.0	0.111	4.3	LOS A	0.5	12.3	0.37	0.22	0.37	40.4
12	R2	All MCs	40	0.0	40	0.0	0.111	4.2	LOS A	0.5	12.3	0.37	0.22	0.37	38.2
Approach			120	1.3	120	1.3	0.111	4.3	LOS A	0.5	12.3	0.37	0.22	0.37	39.6
South: 62nd Street West															
3	L2	All MCs	99	0.0	99	0.0	0.186	4.9	LOS A	0.9	22.2	0.40	0.24	0.40	36.1
8	T1	All MCs	88	0.0	88	0.0	0.186	4.9	LOS A	0.9	22.2	0.40	0.24	0.40	34.9
18	R2	All MCs	18	0.0	18	0.0	0.186	4.9	LOS A	0.9	22.2	0.40	0.24	0.40	36.4
Approach			205	0.0	205	0.0	0.186	4.9	LOS A	0.9	22.2	0.40	0.24	0.40	35.6
East: Rimrock Road															
1	L2	All MCs	30	0.0	30	0.0	0.347	6.5	LOS A	2.0	49.6	0.44	0.25	0.44	36.3
6	T1	All MCs	94	0.0	94	0.0	0.347	6.5	LOS A	2.0	49.6	0.44	0.25	0.44	39.1
16	R2	All MCs	271	0.0	271	0.0	0.347	6.5	LOS A	2.0	49.6	0.44	0.25	0.44	36.7
Approach			395	0.0	395	0.0	0.347	6.5	LOS A	2.0	49.6	0.44	0.25	0.44	37.2
All Vehicles			920	0.2	920	0.2	0.347	5.5	LOS A	2.0	49.6	0.41	0.24	0.41	36.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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APPENDIX E

TRAFFIC GENERATION ASSUMPTIONS & WORKFLOW DIAGRAM

Appendix E Contents

TRAFFIC GENERATIONASSUMPTIONS & WORKFLOW DIAGRAM

Flowchart:

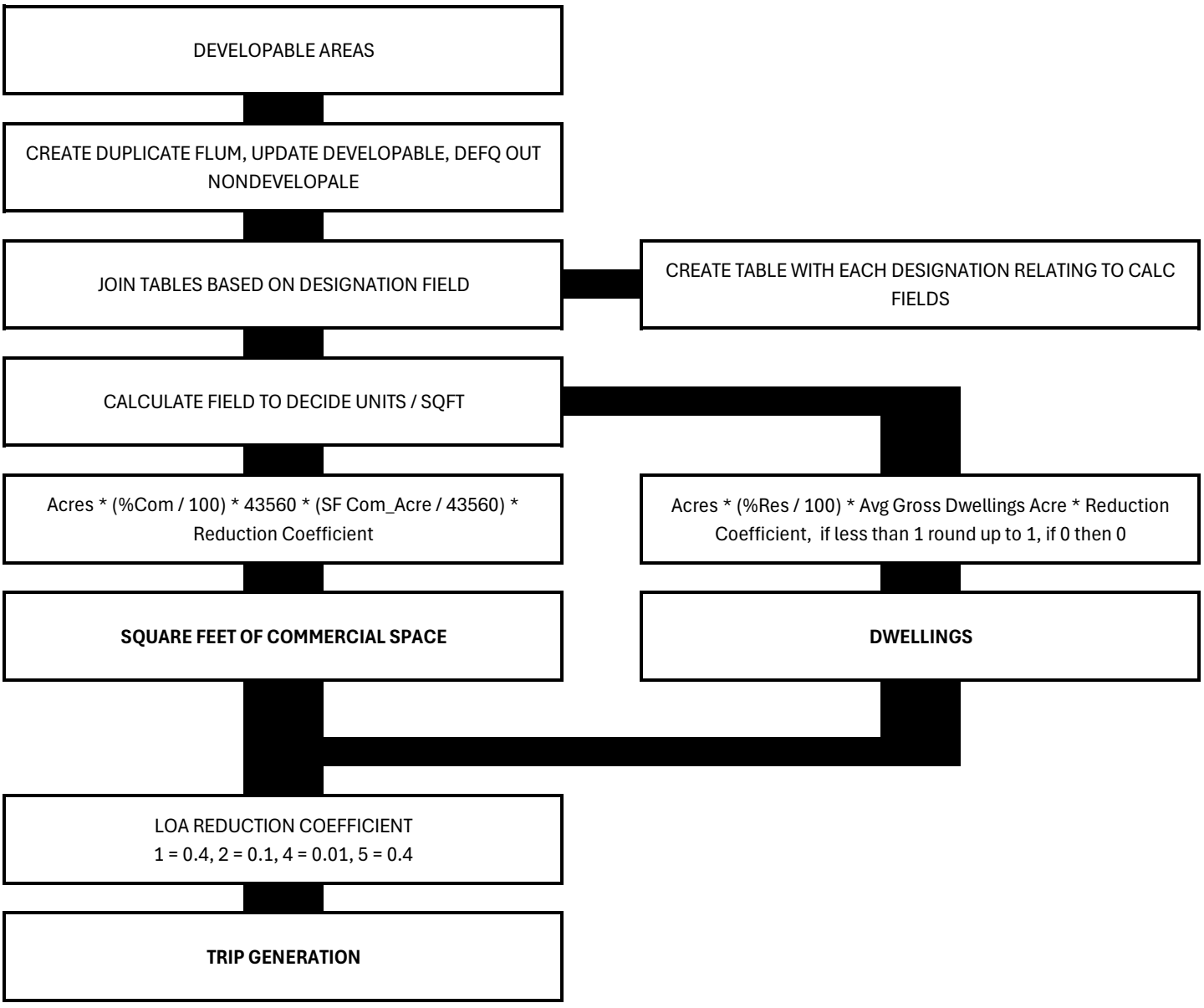

Figure E.1 Data Workflow

Category	% Com	% Res	Avg Gross Dwellings/ Acre	SF Com/ Acre
RRA	0.00	100%	0.25	-
CN	0	100%	0.35	-
URL	0.0	100%	3.40	-
UR	10%	90%	6.00	26,136
URM	20%	80%	7.00	21,780
UN	33%	67%	16.00	17,424
CM	80%	20%	6.00	14,375
DU	n/a	n/a	n/a	n/a
EI	100%	0%	n/a	14,375
OS	n/a	n/a	n/a	n/a
PI	n/a	n/a	n/a	10,890

Figure E.2 Trip Generation Assumptions

TRIP GENERATION SUMMARY

Figure E.3 Trip Generation Summary

(1)	Manufacturing - Land Use 140*	Units = 1000 SF GFA	
	Average Weekday:	Average Rate = 4.75	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 0.68	(76% entering/24% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 0.74	(31% entering/69% exiting)
(2)	Warehousing - Land Use 150*	Units = 1000 SF GFA	
	Average Weekday:	Average Rate = 1.71	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 0.17	(77% entering/23% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 0.18	(28% entering/72% exiting)
(3)	Single-Family Detached Housing - Land Use 210*	Units = Dwelling Units	
	Average Weekday:	Average Rate = 9.43	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 0.70	(25% entering/75% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 0.94	(63% entering/37% exiting)
(4)	Single-Family Attached Housing - Land Use 215*	Units = Dwelling Units	
	Average Weekday:	Average Rate = 7.20	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 0.48	(25% entering/75% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 0.57	(59% entering/41% exiting)
(5)	Multifamily Housing (Low-Rise) - Land Use 220*	Units = Dwelling Units	
	Average Weekday:	Average Rate = 6.74	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 0.40	(24% entering/76% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 0.51	(63% entering/37% exiting)
(6)	Low-Rise Residential with Ground-Floor Commercial - Land Use 230*	Units = Dwelling Units	
	Average Weekday:	Average Rate = 3.44	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 0.44	(23% entering/77% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 0.36	(71% entering/29% exiting)
(7)	High School - Land Use 525*	Units = Students	
	Average Weekday:	Average Rate = 1.94	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 0.52	(68% entering/32% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 0.14	(48% entering/52% exiting)
(8)	Clinic - Land Use 630*	Units = 1000 SF GFA	
	Average Weekday:	Average Rate = 37.6	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 2.75	(81% entering/19% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 3.69	(30% entering/70% exiting)
(9)	General Office Building - Land Use 710*	Units = 1000 SF GFA	
	Average Weekday:	Average Rate = 10.84	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 1.52	(88% entering/12% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 1.44	(17% entering/83% exiting)
(10)	Shopping Center (>150K) - Land Use 820*	Units = 1000 SF GFA	
	Average Weekday:	Average Rate = 37.01	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 0.84	(62% entering/38% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 3.40	(48% entering/52% exiting)
(11)	Strip Retail Plaza (<40K) - Land Use 822*	Units = 1000 SF GFA	
	Average Weekday:	Average Rate = 54.45	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 2.36	(60% entering/40% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 6.59	(50% entering/50% exiting)
(12)	Supermatket - Land Use 850*	Units = 1000 SF GFA	
	Average Weekday:	Average Rate = 93.84	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 2.86	(59% entering/41% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 8.95	(50% entering/50% exiting)
(13)	Drive-in Bank - Land Use 912*	Units = 1000 SF GFA	
	Average Weekday:	Average Rate = 100.35	(50% entering/50% exiting)
	Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 9.95	(58% entering/42% exiting)
	Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 21.01	(50% entering/50% exiting)

**Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021

***Trip Generation Handbook, 3rd Edition*, Institute of Transportation Engineers, 2017

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APPENDIX F

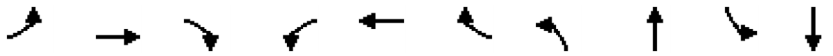
FUTURE (2044) CAPACITY CALCULATIONS

Appendix F Contents

Future (2044) Capacity Calculations

Future AM Capacity:

Queues
2: 54th Street West & Rimrock Road 10/07/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	959	122	214	221	57	36	334	184	119
v/c Ratio	0.01	1.29	0.17	1.08	0.23	0.07	0.11	0.57	1.11	0.24
Control Delay (s/veh)	9.0	166.0	4.9	112.2	13.0	0.5	27.7	14.2	138.1	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.0	166.0	4.9	112.2	13.0	0.5	27.7	14.2	138.1	28.3
Queue Length 50th (ft)	1	~781	5	~109	63	0	17	53	~134	57
Queue Length 95th (ft)	4	#1022	37	#263	138	3	42	142	#271	103
Internal Link Dist (ft)		4323			924			5202		920
Turn Bay Length (ft)	250			250		250	200		150	
Base Capacity (vph)	306	746	708	199	942	798	320	588	166	496
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	1.29	0.17	1.08	0.23	0.07	0.11	0.57	1.11	0.24

Intersection Summary

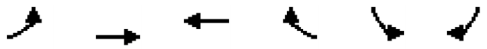
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	882	112	197	203	52	33	29	278	169	103	6
Future Volume (veh/h)	2	882	112	197	203	52	33	29	278	169	103	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	385	1723	1750	1723	1695	1600	1668	1750	1736	1709	1750	1750
Adj Flow Rate, veh/h	2	959	122	214	221	57	36	32	302	184	112	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	100	2	0	2	4	11	6	0	1	3	0	0
Cap, veh/h	180	749	645	211	877	701	358	41	388	156	464	29
Arrive On Green	0.00	0.44	0.44	0.09	0.52	0.52	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	367	1723	1483	1641	1695	1356	1232	144	1361	1038	1630	102
Grp Volume(v), veh/h	2	959	122	214	221	57	36	0	334	184	0	119
Grp Sat Flow(s),veh/h/ln	367	1723	1483	1641	1695	1356	1232	0	1505	1038	0	1732
Q Serve(g_s), s	0.3	43.5	5.1	8.5	7.2	2.1	2.3	0.0	20.4	8.1	0.0	5.3
Cycle Q Clear(g_c), s	0.3	43.5	5.1	8.5	7.2	2.1	7.6	0.0	20.4	28.5	0.0	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.90	1.00		0.06
Lane Grp Cap(c), veh/h	180	749	645	211	877	701	358	0	429	156	0	494
V/C Ratio(X)	0.01	1.28	0.19	1.01	0.25	0.08	0.10	0.00	0.78	1.18	0.00	0.24
Avail Cap(c_a), veh/h	210	749	645	211	877	701	358	0	429	156	0	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.9	28.3	17.4	28.6	13.4	12.2	30.4	0.0	32.9	47.8	0.0	27.4
Incr Delay (d2), s/veh	0.0	136.0	0.6	65.0	0.7	0.2	0.1	0.0	8.9	128.0	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	43.8	1.7	6.0	2.7	0.6	0.7	0.0	8.0	9.5	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.9	164.3	18.0	93.7	14.1	12.4	30.5	0.0	41.7	175.8	0.0	27.7
LnGrp LOS	B	F	B	F	B	B	C		D	F		C
Approach Vol, veh/h		1083			492			370			303	
Approach Delay, s/veh		147.5			48.5			40.6			117.7	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	50.0		35.0	6.8	58.2		35.0				
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	8.5	43.5		28.5	8.5	43.5		28.5				
Max Q Clear Time (g_c+I1), s	10.5	45.5		30.5	2.3	9.2		22.4				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	1.4		1.1				

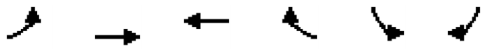
Intersection Summary		
HCM 7th Control Delay, s/veh		104.2
HCM 7th LOS		F



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	204	771	360	140	442	286
v/c Ratio	0.40	0.78	0.54	0.12	0.84	0.34
Control Delay (s/veh)	14.5	27.0	30.5	0.7	52.1	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.5	27.0	30.5	0.7	52.1	5.7
Queue Length 50th (ft)	70	432	203	0	289	25
Queue Length 95th (ft)	120	664	328	12	#533	87
Internal Link Dist (ft)		1579	3521		5202	
Turn Bay Length (ft)	400			400		250
Base Capacity (vph)	784	1437	671	1247	636	1194
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.54	0.54	0.11	0.69	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	188	709	331	129	407	263
Future Volume (veh/h)	188	709	331	129	407	263
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1736	1736	1668	1709	1736	1736
Adj Flow Rate, veh/h	204	771	360	140	442	286
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	6	3	1	1
Cap, veh/h	479	998	735	1070	493	570
Arrive On Green	0.09	0.57	0.44	0.44	0.30	0.30
Sat Flow, veh/h	1654	1736	1668	1448	1654	1471
Grp Volume(v), veh/h	204	771	360	140	442	286
Grp Sat Flow(s),veh/h/ln	1654	1736	1668	1448	1654	1471
Q Serve(g_s), s	6.3	33.7	15.3	2.8	25.4	14.7
Cycle Q Clear(g_c), s	6.3	33.7	15.3	2.8	25.4	14.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	479	998	735	1070	493	570
V/C Ratio(X)	0.43	0.77	0.49	0.13	0.90	0.50
Avail Cap(c_a), veh/h	1090	1640	735	1070	728	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	16.1	19.8	3.7	33.3	23.1
Incr Delay (d2), s/veh	0.6	1.3	2.3	0.3	10.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	11.6	5.9	1.9	10.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	14.0	17.4	22.1	4.0	43.3	23.8
LnGrp LOS	B	B	C	A	D	C
Approach Vol, veh/h		975	500		728	
Approach Delay, s/veh		16.7	17.1		35.7	
Approach LOS		B	B		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		63.3		35.9	13.3	50.0
Change Period (Y+Rc), s		6.3		6.3	4.5	6.3
Max Green Setting (Gmax), s		93.7		43.7	45.5	43.7
Max Q Clear Time (g_c+I1), s		35.7		27.4	8.3	17.3
Green Ext Time (p_c), s		5.9		2.2	0.6	2.5
Intersection Summary						
HCM 7th Control Delay, s/veh			23.1			
HCM 7th LOS			C			

Lane Group	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	1229	176	549	57	196
v/c Ratio	0.90	0.96	0.40	0.51	0.60
Control Delay (s/veh)	18.9	72.7	4.1	64.5	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.9	72.7	4.1	64.5	13.0
Queue Length 50th (ft)	460	83	83	40	0
Queue Length 95th (ft)	#1176	#149	161	84	53
Internal Link Dist (ft)	3542		1579		5173
Turn Bay Length (ft)		200		200	
Base Capacity (vph)	1368	184	1389	178	387
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.90	0.96	0.40	0.32	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	884	247	162	505	0	52	0	180	0	0	0
Future Volume (veh/h)	0	884	247	162	505	0	52	0	180	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1695	1641	1709	1750	1600	1750	1627	1750	1750	1750
Adj Flow Rate, veh/h	0	961	268	176	549	0	57	0	196	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	4	8	3	0	11	0	9	0	0	0
Cap, veh/h	60	1012	282	124	1325	0	276	0	210	0	248	0
Arrive On Green	0.00	0.77	0.77	0.77	0.77	0.00	0.14	0.00	0.14	0.00	0.00	0.00
Sat Flow, veh/h	872	1306	364	432	1709	0	1524	0	1483	0	1750	0
Grp Volume(v), veh/h	0	0	1229	176	549	0	57	0	196	0	0	0
Grp Sat Flow(s),veh/h/ln	872	0	1671	432	1709	0	1524	0	1483	0	1750	0
Q Serve(g_s), s	0.0	0.0	75.1	17.9	12.8	0.0	4.0	0.0	15.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	75.1	93.0	12.8	0.0	4.0	0.0	15.7	0.0	0.0	0.0
Prop In Lane	1.00		0.22	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	60	0	1295	124	1325	0	276	0	210	0	248	0
V/C Ratio(X)	0.00	0.00	0.95	1.42	0.41	0.00	0.21	0.00	0.93	0.00	0.00	0.00
Avail Cap(c_a), veh/h	60	0	1295	124	1325	0	276	0	210	0	248	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	11.5	55.4	4.5	0.0	45.9	0.0	50.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	14.6	227.3	0.2	0.0	0.4	0.0	43.6	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	25.6	11.6	3.6	0.0	1.5	0.0	8.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	26.1	282.7	4.7	0.0	46.3	0.0	94.5	0.0	0.0	0.0
LnGrp LOS			C	F	A		D		F			
Approach Vol, veh/h		1229			725			253			0	
Approach Delay, s/veh		26.1			72.2			83.7			0.0	
Approach LOS		C			E			F				

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.0		98.0		22.0		98.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		17.0		93.0		17.0		93.0				
Max Q Clear Time (g_c+I1), s		17.7		77.1		0.0		95.0				
Green Ext Time (p_c), s		0.0		9.9		0.0		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	47.8
HCM 7th LOS	D

Notes

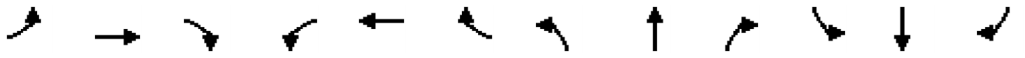
User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	1398	683	70	183	28
v/c Ratio	1.33	1.11	0.33	0.63	0.11
Control Delay (s/veh)	171.7	88.4	28.6	30.3	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	171.7	88.4	28.6	30.3	23.9
Queue Length 50th (ft)	~783	~335	26	56	10
Queue Length 95th (ft)	#1137	#589	59	116	30
Internal Link Dist (ft)	3521	424	5188		424
Turn Bay Length (ft)				120	
Base Capacity (vph)	1054	615	774	972	897
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.33	1.11	0.09	0.19	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1057	190	122	436	70	48	17	168	17	9	0
Future Volume (veh/h)	39	1057	190	122	436	70	48	17	168	17	9	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1736	1723	1695	1750	1545	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	42	1149	207	133	474	76	52	18	183	18	10	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	1	2	4	0	15	0	0	0	0	0
Cap, veh/h	73	890	158	135	419	61	266	78	240	198	90	0
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.16	0.16	0.16	0.16	0.16	0.00
Sat Flow, veh/h	27	1367	242	109	643	94	1064	480	1483	676	555	0
Grp Volume(v), veh/h	1398	0	0	683	0	0	70	0	183	28	0	0
Grp Sat Flow(s),veh/h/ln	1636	0	0	846	0	0	1545	0	1483	1231	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	43.6	0.0	0.0	43.6	0.0	0.0	2.4	0.0	7.9	2.4	0.0	0.0
Prop In Lane	0.03		0.15	0.19		0.11	0.74		1.00	0.64		0.00
Lane Grp Cap(c), veh/h	1121	0	0	615	0	0	344	0	240	288	0	0
V/C Ratio(X)	1.25	0.00	0.00	1.11	0.00	0.00	0.20	0.00	0.76	0.10	0.00	0.00
Avail Cap(c_a), veh/h	1121	0	0	615	0	0	1084	0	973	955	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	10.7	0.0	0.0	24.5	0.0	26.8	23.9	0.0	0.0
Incr Delay (d2), s/veh	118.7	0.0	0.0	70.5	0.0	0.0	0.3	0.0	5.0	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	48.6	0.0	0.0	15.3	0.0	0.0	0.9	0.0	2.9	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	131.2	0.0	0.0	81.1	0.0	0.0	24.8	0.0	31.8	24.1	0.0	0.0
LnGrp LOS	F			F			C		C	C		
Approach Vol, veh/h		1398			683			253			28	
Approach Delay, s/veh		131.2			81.1			29.9			24.1	
Approach LOS		F			F			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	16.9	50.0	16.9	50.0
Change Period (Y+Rc), s	6.1	6.4	6.1	6.4
Max Green Setting (Gmax), s	43.9	43.6	43.9	43.6
Max Q Clear Time (g_c+I1), s	9.9	45.6	4.4	45.6
Green Ext Time (p_c), s	1.0	0.0	0.1	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	104.6
HCM 7th LOS	F

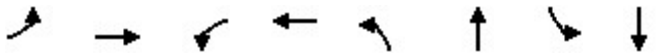
Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	236	88	168	81	55	140
Future Vol, veh/h	236	88	168	81	55	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	2	7	10	0
Mvmt Flow	257	96	183	88	60	152

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	352	0	758	304
Stage 1	-	-	-	-	304	-
Stage 2	-	-	-	-	453	-
Critical Hdwy	-	-	4.12	-	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	-	-	2.218	-	3.59	3.3
Pot Cap-1 Maneuver	-	-	1207	-	364	740
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	624	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1207	-	306	740
Mov Cap-2 Maneuver	-	-	-	-	306	-
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	524	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	5.74	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	529	-	-	1148	-
HCM Lane V/C Ratio	0.401	-	-	0.151	-
HCM Ctrl Dly (s/v)	16.3	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.5	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	474	28	210	16	176	140	164
v/c Ratio	0.05	0.67	0.10	0.31	0.05	0.32	0.39	0.30
Control Delay (s/veh)	6.7	13.4	7.4	7.4	8.3	6.1	12.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.7	13.4	7.4	7.4	8.3	6.1	12.5	8.9
Queue Length 50th (ft)	2	47	2	17	2	9	17	16
Queue Length 95th (ft)	11	#163	14	60	10	38	50	46
Internal Link Dist (ft)		5200		420		5201		5188
Turn Bay Length (ft)	150		150		150		150	
Base Capacity (vph)	601	938	385	911	554	894	619	949
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.51	0.07	0.23	0.03	0.20	0.23	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	368	68	26	173	20	15	72	90	129	129	22
Future Volume (veh/h)	20	368	68	26	173	20	15	72	90	129	129	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1709	1750	1709	1504	1573	1682	1723	1750	1750	1750
Adj Flow Rate, veh/h	22	400	74	28	188	22	16	78	98	140	140	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	3	0	3	18	13	5	2	0	0	0
Cap, veh/h	633	545	101	415	575	67	538	206	258	544	442	76
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1190	1425	264	934	1502	176	1115	677	851	1228	1456	250
Grp Volume(v), veh/h	22	0	474	28	0	210	16	0	176	140	0	164
Grp Sat Flow(s),veh/h/ln	1190	0	1689	934	0	1677	1115	0	1529	1228	0	1705
Q Serve(g_s), s	0.3	0.0	6.1	0.7	0.0	2.3	0.3	0.0	2.3	2.6	0.0	1.9
Cycle Q Clear(g_c), s	2.6	0.0	6.1	6.8	0.0	2.3	2.2	0.0	2.3	4.9	0.0	1.9
Prop In Lane	1.00		0.16	1.00		0.10	1.00		0.56	1.00		0.15
Lane Grp Cap(c), veh/h	633	0	646	415	0	642	538	0	464	544	0	518
V/C Ratio(X)	0.03	0.00	0.73	0.07	0.00	0.33	0.03	0.00	0.38	0.26	0.00	0.32
Avail Cap(c_a), veh/h	924	0	1060	644	0	1052	899	0	959	941	0	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.5	0.0	6.8	9.7	0.0	5.6	7.7	0.0	7.0	8.9	0.0	6.8
Incr Delay (d2), s/veh	0.0	0.0	1.6	0.1	0.0	0.3	0.0	0.0	0.5	0.2	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.7	0.1	0.0	0.2	0.0	0.0	0.3	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	0.0	8.4	9.7	0.0	5.8	7.7	0.0	7.5	9.2	0.0	7.2
LnGrp LOS	A		A	A		A	A		A	A		A
Approach Vol, veh/h		496			238			192			304	
Approach Delay, s/veh		8.3			6.3			7.5			8.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	11.7	13.8	11.7	13.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	16.0	16.0	16.0
Max Q Clear Time (g_c+I1), s	4.3	8.1	6.9	8.8
Green Ext Time (p_c), s	0.7	1.7	0.8	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	7.7
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	26	179	57	77	180
Future Vol, veh/h	55	26	179	57	77	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	7	1	0	2	4
Mvmt Flow	60	28	195	62	84	196

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	589	226	0	0	257	0
Stage 1	226	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Critical Hdwy	6.43	6.27	-	-	4.12	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.363	-	-	2.218	-
Pot Cap-1 Maneuver	469	802	-	-	1308	-
Stage 1	810	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	436	802	-	-	1308	-
Mov Cap-2 Maneuver	436	-	-	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	651	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.52	0	2.38
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	511	539	-
HCM Lane V/C Ratio	-	-	0.172	0.064	-
HCM Ctrl Dly (s/v)	-	-	13.5	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Intersection	
Int Delay, s/veh	12.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	440	9	15	153	31	9	52	24	120	52	22
Future Vol, veh/h	31	440	9	15	153	31	9	52	24	120	52	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	5	0	0	10	6	20	4	8	2	4	8
Mvmt Flow	34	478	10	16	166	34	10	57	26	130	57	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	200	0	0	488	0	0	778	783	483	790	771	183
Stage 1	-	-	-	-	-	-	551	551	-	216	216	-
Stage 2	-	-	-	-	-	-	227	233	-	574	555	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.3	6.54	6.28	7.12	6.54	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.54	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.54	-	6.12	5.54	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.68	4.036	3.372	3.518	4.036	3.372
Pot Cap-1 Maneuver	1349	-	-	1086	-	-	293	323	571	308	328	844
Stage 1	-	-	-	-	-	-	488	512	-	786	720	-
Stage 2	-	-	-	-	-	-	737	708	-	504	510	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1349	-	-	1086	-	-	223	307	571	230	312	844
Mov Cap-2 Maneuver	-	-	-	-	-	-	223	307	-	230	312	-
Stage 1	-	-	-	-	-	-	471	495	-	773	708	-
Stage 2	-	-	-	-	-	-	647	696	-	411	492	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.5	0.63	19.64	52.76
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	337	116	-	-	131	-	-	271
HCM Lane V/C Ratio	0.274	0.025	-	-	0.015	-	-	0.777
HCM Ctrl Dly (s/v)	19.6	7.7	0	-	8.4	0	-	52.8
HCM Lane LOS	C	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0	-	-	5.9

Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	188	2	37	120	24	13	70	64	37	76	29
Future Vol, veh/h	18	188	2	37	120	24	13	70	64	37	76	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	11	0	6	15	23	29	18	34	5	32	6
Mvmt Flow	20	204	2	40	130	26	14	76	70	40	83	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	348	353	98	404	334	111	114	0	0	146	0	0
Stage 1	179	179	-	139	139	-	-	-	-	-	-	-
Stage 2	170	174	-	265	195	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.61	6.2	7.16	6.65	6.43	4.39	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.61	-	6.16	5.65	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.61	-	6.16	5.65	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.099	3.3	3.554	4.135	3.507	2.461	-	-	2.245	-	-
Pot Cap-1 Maneuver	610	558	963	550	566	888	1323	-	-	1418	-	-
Stage 1	828	735	-	854	757	-	-	-	-	-	-	-
Stage 2	837	738	-	731	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	435	535	963	330	542	888	1323	-	-	1418	-	-
Mov Cap-2 Maneuver	435	535	-	330	542	-	-	-	-	-	-	-
Stage 1	803	712	-	844	748	-	-	-	-	-	-	-
Stage 2	663	730	-	505	694	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	16.88	16.71	0.69	1.98
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	145	-	-	527	502	444	-	-
HCM Lane V/C Ratio	0.011	-	-	0.429	0.392	0.028	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	16.9	16.7	7.6	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.1	1.8	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	361	0	33	228	33	0	22	74	41	15	17
Future Vol, veh/h	18	361	0	33	228	33	0	22	74	41	15	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	12	0	0	20	6	0	0	5	5	13	0
Mvmt Flow	20	392	0	36	248	36	0	24	80	45	16	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	0	392	0	0	759	787	392	781	769	266
Stage 1	-	-	-	-	-	-	432	432	-	337	337	-
Stage 2	-	-	-	-	-	-	328	355	-	443	432	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.25	7.15	6.63	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.63	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.63	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.345	3.545	4.117	3.3
Pot Cap-1 Maneuver	1290	-	-	1177	-	-	325	326	650	309	319	778
Stage 1	-	-	-	-	-	-	606	586	-	671	622	-
Stage 2	-	-	-	-	-	-	689	633	-	588	564	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1290	-	-	1177	-	-	285	308	650	237	301	778
Mov Cap-2 Maneuver	-	-	-	-	-	-	285	308	-	237	301	-
Stage 1	-	-	-	-	-	-	594	575	-	646	599	-
Stage 2	-	-	-	-	-	-	631	610	-	484	553	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.37	0.92	13.69	21.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	518	85	-	-	197	-	-	298
HCM Lane V/C Ratio	0.201	0.015	-	-	0.03	-	-	0.266
HCM Ctrl Dly (s/v)	13.7	7.8	0	-	8.2	0	-	21.4
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	1

Intersection	
Int Delay, s/veh	22.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	291	168	61	298	94
Future Vol, veh/h	57	291	168	61	298	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	7	12	1	0
Mvmt Flow	62	316	183	66	324	102

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	249	0	-	0	656	216
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	440	-
Critical Hdwy	4.1	-	-	-	6.41	6.2
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.2	-	-	-	3.509	3.3
Pot Cap-1 Maneuver	1329	-	-	-	432	829
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1329	-	-	-	407	829
Mov Cap-2 Maneuver	-	-	-	-	407	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	651	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.28	0	53.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	295	-	-	-	464
HCM Lane V/C Ratio	0.047	-	-	-	0.918
HCM Ctrl Dly (s/v)	7.8	0	-	-	53.9
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	10.5

Intersection	
Int Delay, s/veh	6.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	7	28	11	39	52
Future Vol, veh/h	24	7	28	11	39	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	25	0	0	0	0
Mvmt Flow	26	8	30	12	42	57

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	30	42
Stage 1	-	-	0	0
Stage 2	-	-	30	42
Critical Hdwy	-	-	6.4	6.5
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.4	5.5
Follow-up Hdwy	-	-	3.5	4
Pot Cap-1 Maneuver	-	-	989	853
Stage 1	-	-	-	-
Stage 2	-	-	997	864
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	989	0
Mov Cap-2 Maneuver	-	-	989	0
Stage 1	-	-	-	0
Stage 2	-	-	997	0

Approach	NB	SB
HCM Ctrl Dly, s/v	0	9.04
HCM LOS		A

Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	989
HCM Lane V/C Ratio	-	-	0.1
HCM Ctrl Dly (s/v)	-	-	9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1335	68	37	460	15	74
Future Vol, veh/h	1335	68	37	460	15	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	3	0	3	0	3
Mvmt Flow	1451	74	40	500	16	80

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1525	0	2068	1488
Stage 1	-	-	-	-	1488	-
Stage 2	-	-	-	-	580	-
Critical Hdwy	-	-	4.1	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	443	-	60	152
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	564	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	443	-	55	152
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	512	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.04	62.77
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	152	-	-	443	-
HCM Lane V/C Ratio	0.635	-	-	0.091	-
HCM Ctrl Dly (s/v)	62.8	-	-	13.9	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	3.5	-	-	0.3	-

Intersection	
Int Delay, s/veh	46.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	123	278	387	158	147	193
Future Vol, veh/h	123	278	387	158	147	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	1	10	5	3	19
Mvmt Flow	134	302	421	172	160	210

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1036	507	0	0	592	0
Stage 1	507	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Critical Hdwy	6.53	6.21	-	-	4.13	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.309	-	-	2.227	-
Pot Cap-1 Maneuver	245	568	-	-	979	-
Stage 1	583	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	199	568	-	-	979	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	583	-	-	-	-	-
Stage 2	464	-	-	-	-	-

Approach	NW	NE	SW
HCM Ctrl Dly, s/v	146.8	0	4.06
HCM LOS	F		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	362	778	-
HCM Lane V/C Ratio	-	-	1.202	0.163	-
HCM Ctrl Dly (s/v)	-	-	146.8	9.4	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	18.2	0.6	-

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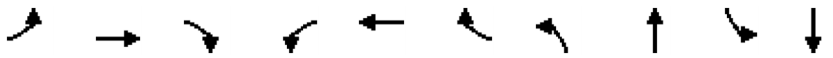
Future PM Capacity:

Queues
2: 54th Street West & Rimrock Road 10/07/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	347	38	272	723	157	145	289	118	66
v/c Ratio	0.01	0.41	0.05	0.47	0.66	0.16	0.56	0.68	1.03	0.18
Control Delay (s/veh)	8.5	18.5	0.1	11.5	18.2	2.9	40.1	25.8	126.8	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.5	18.5	0.1	11.5	18.2	2.9	40.1	25.8	126.8	26.9
Queue Length 50th (ft)	1	125	0	60	227	1	75	81	68	28
Queue Length 95th (ft)	6	231	0	127	#648	36	134	166	#165	61
Internal Link Dist (ft)		4323			924			5202		920
Turn Bay Length (ft)	250			250		250	200		150	
Base Capacity (vph)	401	845	775	579	1089	983	395	573	176	548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.41	0.05	0.47	0.66	0.16	0.37	0.50	0.67	0.12

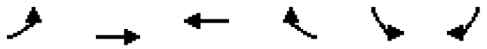
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	319	35	250	665	144	133	74	192	109	53	7
Future Volume (veh/h)	4	319	35	250	665	144	133	74	192	109	53	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1750	1750	1750	1750	1750	1709	1709	1750	1750
Adj Flow Rate, veh/h	4	347	38	272	723	157	145	80	209	118	58	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	3	3	0	0
Cap, veh/h	192	761	645	513	901	763	420	122	319	203	429	59
Arrive On Green	0.01	0.44	0.44	0.09	0.51	0.51	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1667	1750	1483	1667	1750	1483	1357	429	1120	1082	1505	208
Grp Volume(v), veh/h	4	347	38	272	723	157	145	0	289	118	0	66
Grp Sat Flow(s),veh/h/ln	1667	1750	1483	1667	1750	1483	1357	0	1548	1082	0	1713
Q Serve(g_s), s	0.1	14.0	1.5	8.5	34.2	5.7	8.9	0.0	16.4	10.8	0.0	2.9
Cycle Q Clear(g_c), s	0.1	14.0	1.5	8.5	34.2	5.7	11.8	0.0	16.4	27.2	0.0	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.12
Lane Grp Cap(c), veh/h	192	761	645	513	901	763	420	0	441	203	0	488
V/C Ratio(X)	0.02	0.46	0.06	0.53	0.80	0.21	0.35	0.00	0.65	0.58	0.00	0.14
Avail Cap(c_a), veh/h	325	761	645	513	901	763	420	0	441	203	0	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	19.9	16.4	14.9	20.1	13.2	31.0	0.0	31.4	43.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.0	0.2	1.0	7.5	0.6	0.5	0.0	3.5	4.2	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.5	0.5	3.1	14.1	1.9	2.8	0.0	6.2	3.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.2	21.9	16.6	16.0	27.6	13.8	31.4	0.0	34.9	47.5	0.0	26.7
LnGrp LOS	B	C	B	B	C	B	C		C	D		C
Approach Vol, veh/h		389			1152			434			184	
Approach Delay, s/veh		21.3			22.9			33.7			40.1	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	50.0		35.0	7.0	58.0		35.0				
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	8.5	43.5		28.5	8.5	43.5		28.5				
Max Q Clear Time (g_c+I1), s	10.5	16.0		29.2	2.1	36.2		18.4				
Green Ext Time (p_c), s	0.0	1.9		0.0	0.0	3.0		1.5				

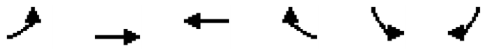
Intersection Summary		
HCM 7th Control Delay, s/veh		26.3
HCM 7th LOS		C



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	226	390	707	324	248	180
v/c Ratio	0.55	0.33	0.92	0.29	0.76	0.26
Control Delay (s/veh)	18.6	8.5	48.6	1.4	54.1	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.6	8.5	48.6	1.4	54.1	13.0
Queue Length 50th (ft)	57	92	413	0	150	52
Queue Length 95th (ft)	155	185	#860	29	260	93
Internal Link Dist (ft)		1579	3521		5202	
Turn Bay Length (ft)	400			400		250
Base Capacity (vph)	789	1608	765	1379	720	1080
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.24	0.92	0.23	0.34	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	208	359	650	298	228	166
Future Volume (veh/h)	208	359	650	298	228	166
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1723	1750	1750	1736	1736	1750
Adj Flow Rate, veh/h	226	390	707	324	248	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	1	1	0
Cap, veh/h	342	1165	915	1039	303	404
Arrive On Green	0.09	0.67	0.52	0.52	0.18	0.18
Sat Flow, veh/h	1641	1750	1750	1471	1654	1483
Grp Volume(v), veh/h	226	390	707	324	248	180
Grp Sat Flow(s),veh/h/ln	1641	1750	1750	1471	1654	1483
Q Serve(g_s), s	4.9	8.0	27.0	6.9	12.0	8.4
Cycle Q Clear(g_c), s	4.9	8.0	27.0	6.9	12.0	8.4
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	342	1165	915	1039	303	404
V/C Ratio(X)	0.66	0.33	0.77	0.31	0.82	0.45
Avail Cap(c_a), veh/h	1088	1961	915	1039	864	908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	6.0	16.0	4.6	32.8	25.2
Incr Delay (d2), s/veh	2.2	0.2	6.3	0.8	5.4	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.2	10.5	3.3	4.9	7.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	17.1	6.2	22.3	5.4	38.2	25.9
LnGrp LOS	B	A	C	A	D	C
Approach Vol, veh/h		616	1031		428	
Approach Delay, s/veh		10.2	17.0		33.0	
Approach LOS		B	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		62.0		21.6	12.0	50.0
Change Period (Y+Rc), s		6.3		6.3	4.5	6.3
Max Green Setting (Gmax), s		93.7		43.7	45.5	43.7
Max Q Clear Time (g_c+I1), s		10.0		14.0	6.9	29.0
Green Ext Time (p_c), s		2.3		1.3	0.6	4.9

Intersection Summary	
HCM 7th Control Delay, s/veh	18.3
HCM 7th LOS	B

Lane Group	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	722	214	683	152	348
v/c Ratio	0.70	0.74	0.64	0.52	0.61
Control Delay (s/veh)	13.2	27.9	11.8	36.5	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.2	27.9	11.8	36.5	11.0
Queue Length 50th (ft)	158	50	145	53	11
Queue Length 95th (ft)	383	199	342	161	108
Internal Link Dist (ft)	3542		1579		5173
Turn Bay Length (ft)		200		200	
Base Capacity (vph)	1516	428	1571	772	979
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.50	0.43	0.20	0.36

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	552	112	197	628	0	140	0	320	0	0	0
Future Volume (veh/h)	0	552	112	197	628	0	140	0	320	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1723	1723	1750	1750	1736	1750	1709	1750	1750	1750
Adj Flow Rate, veh/h	0	600	122	214	683	0	152	0	348	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	2	2	0	0	1	0	3	0	0	0
Cap, veh/h	74	883	180	332	1103	0	515	0	395	0	467	0
Arrive On Green	0.00	0.63	0.63	0.63	0.63	0.00	0.27	0.00	0.27	0.00	0.00	0.00
Sat Flow, veh/h	770	1400	285	731	1750	0	1654	0	1483	0	1750	0
Grp Volume(v), veh/h	0	0	722	214	683	0	152	0	348	0	0	0
Grp Sat Flow(s),veh/h/ln	770	0	1685	731	1750	0	1654	0	1483	0	1750	0
Q Serve(g_s), s	0.0	0.0	26.9	26.0	23.0	0.0	7.2	0.0	21.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	26.9	52.9	23.0	0.0	7.2	0.0	21.8	0.0	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	74	0	1062	332	1103	0	515	0	395	0	467	0
V/C Ratio(X)	0.00	0.00	0.68	0.64	0.62	0.00	0.30	0.00	0.88	0.00	0.00	0.00
Avail Cap(c_a), veh/h	183	0	1301	436	1351	0	670	0	534	0	631	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	11.6	28.7	10.9	0.0	28.8	0.0	34.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.1	2.1	0.6	0.0	0.3	0.0	12.3	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	9.0	4.5	7.9	0.0	2.8	0.0	8.9	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	12.7	30.8	11.5	0.0	29.1	0.0	46.5	0.0	0.0	0.0
LnGrp LOS			B	C	B		C		D			
Approach Vol, veh/h		722			897			500			0	
Approach Delay, s/veh		12.7			16.1			41.2			0.0	
Approach LOS		B			B			D				

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	30.9	66.2	30.9	66.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	75.0	35.0	75.0
Max Q Clear Time (g_c+I1), s	23.8	28.9	0.0	54.9
Green Ext Time (p_c), s	2.1	6.0	0.0	6.3

Intersection Summary	
HCM 7th Control Delay, s/veh	20.8
HCM 7th LOS	C

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	702	1364	171	118	9
v/c Ratio	0.67	2.17	0.65	0.30	0.03
Control Delay (s/veh)	13.5	548.2	37.5	7.0	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.5	548.2	37.5	7.0	21.6
Queue Length 50th (ft)	169	~968	68	0	3
Queue Length 95th (ft)	359	#1332	127	37	14
Internal Link Dist (ft)	3521	424	5188		424
Turn Bay Length (ft)				120	
Base Capacity (vph)	1055	629	812	972	855
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	2.17	0.21	0.12	0.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	543	103	206	1040	9	157	0	109	6	2	0
Future Volume (veh/h)	0	543	103	206	1040	9	157	0	109	6	2	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1750	1750	1750	1750	1736	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	0	590	112	224	1130	10	171	0	118	7	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	0	0	0	0	1	0	0	0	0	0
Cap, veh/h	0	922	175	157	561	5	341	0	243	148	30	0
Arrive On Green	0.00	0.65	0.65	0.65	0.65	0.65	0.16	0.00	0.16	0.16	0.16	0.00
Sat Flow, veh/h	0	1419	269	145	864	7	1423	0	1483	322	183	0
Grp Volume(v), veh/h	0	0	702	1364	0	0	171	0	118	9	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1688	1017	0	0	1423	0	1483	504	0	0
Q Serve(g_s), s	0.0	0.0	16.7	26.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	16.7	43.6	0.0	0.0	7.7	0.0	4.8	7.7	0.0	0.0
Prop In Lane	0.00		0.16	0.16		0.01	1.00		1.00	0.78		0.00
Lane Grp Cap(c), veh/h	0	0	1096	723	0	0	341	0	243	178	0	0
V/C Ratio(X)	0.00	0.00	0.64	1.89	0.00	0.00	0.50	0.00	0.48	0.05	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1096	723	0	0	1045	0	970	851	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	7.1	17.9	0.0	0.0	26.7	0.0	25.5	23.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	2.9	404.3	0.0	0.0	1.1	0.0	1.5	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	5.0	91.3	0.0	0.0	2.5	0.0	1.7	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	9.9	422.2	0.0	0.0	27.8	0.0	27.0	24.1	0.0	0.0
LnGrp LOS			A	F			C		C	C		
Approach Vol, veh/h		702			1364			289			9	
Approach Delay, s/veh		9.9			422.2			27.5			24.1	
Approach LOS		A			F			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.1		50.0		17.1		50.0				
Change Period (Y+Rc), s		6.1		6.4		6.1		6.4				
Max Green Setting (Gmax), s		43.9		43.6		43.9		43.6				
Max Q Clear Time (g_c+I1), s		9.7		18.7		9.7		45.6				
Green Ext Time (p_c), s		1.4		5.2		0.0		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			250.0									
HCM 7th LOS			F									

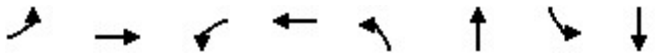
Intersection	
Int Delay, s/veh	8.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	157	42	180	243	90	204
Future Vol, veh/h	157	42	180	243	90	204
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0
Mvmt Flow	171	46	196	264	98	222

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	216	0	849	193
Stage 1	-	-	-	-	193	-
Stage 2	-	-	-	-	655	-
Critical Hdwy	-	-	4.1	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.2	-	3.518	3.3
Pot Cap-1 Maneuver	-	-	1365	-	331	853
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	517	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1365	-	276	853
Mov Cap-2 Maneuver	-	-	-	-	276	-
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	430	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.44	22.35
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	520	-	-	766	-
HCM Lane V/C Ratio	0.615	-	-	0.143	-
HCM Ctrl Dly (s/v)	22.3	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	4.1	-	-	0.5	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	30	322	57	611	92	216	72	166
v/c Ratio	0.12	0.41	0.12	0.76	0.29	0.43	0.24	0.34
Control Delay (s/veh)	7.4	7.8	6.6	16.8	11.8	10.6	11.1	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.4	7.8	6.6	16.8	11.8	10.6	11.1	10.4
Queue Length 50th (ft)	2	28	4	65	13	24	10	20
Queue Length 95th (ft)	14	85	20	#246	34	57	28	48
Internal Link Dist (ft)		5200		420		5201		5188
Turn Bay Length (ft)	150		150		150		150	
Base Capacity (vph)	268	864	507	884	585	889	559	884
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.37	0.11	0.69	0.16	0.24	0.13	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	261	35	52	464	98	85	155	44	66	134	18
Future Volume (veh/h)	28	261	35	52	464	98	85	155	44	66	134	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1709	1682	1750	1750	1695	1750	1750	1750	1750	1736	1750
Adj Flow Rate, veh/h	30	284	38	57	504	107	92	168	48	72	146	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	5	0	0	4	0	0	0	0	1	0
Cap, veh/h	376	664	89	603	630	134	484	341	98	440	390	53
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	823	1476	197	1075	1399	297	1239	1309	374	1184	1495	205
Grp Volume(v), veh/h	30	0	322	57	0	611	92	0	216	72	0	166
Grp Sat Flow(s),veh/h/ln	823	0	1674	1075	0	1697	1239	0	1683	1184	0	1699
Q Serve(g_s), s	0.9	0.0	3.6	1.1	0.0	8.6	1.8	0.0	3.0	1.5	0.0	2.2
Cycle Q Clear(g_c), s	9.5	0.0	3.6	4.7	0.0	8.6	4.0	0.0	3.0	4.5	0.0	2.2
Prop In Lane	1.00		0.12	1.00		0.18	1.00		0.22	1.00		0.12
Lane Grp Cap(c), veh/h	376	0	753	603	0	763	484	0	439	440	0	443
V/C Ratio(X)	0.08	0.00	0.43	0.09	0.00	0.80	0.19	0.00	0.49	0.16	0.00	0.37
Avail Cap(c_a), veh/h	482	0	968	741	0	981	878	0	973	816	0	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.6	0.0	5.2	6.8	0.0	6.5	10.0	0.0	8.7	10.6	0.0	8.4
Incr Delay (d2), s/veh	0.1	0.0	0.4	0.1	0.0	3.7	0.2	0.0	0.9	0.2	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	0.1	0.0	1.4	0.3	0.0	0.6	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.7	0.0	5.6	6.8	0.0	10.3	10.2	0.0	9.5	10.8	0.0	8.9
LnGrp LOS	B		A	A		B	B		A	B		A
Approach Vol, veh/h		352			668			308			238	
Approach Delay, s/veh		6.0			10.0			9.7			9.5	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	11.2	16.4	11.2	16.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	16.0	16.0	16.0
Max Q Clear Time (g_c+I1), s	6.0	11.5	6.5	10.6
Green Ext Time (p_c), s	0.9	0.7	0.7	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	9.0
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	101	64	273	64	20	197
Future Vol, veh/h	101	64	273	64	20	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	110	70	297	70	22	214

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	589	332	0	0	366	0
Stage 1	332	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	474	715	-	-	1203	-
Stage 1	732	-	-	-	-	-
Stage 2	790	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	464	715	-	-	1203	-
Mov Cap-2 Maneuver	464	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	774	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.02	0	0.74
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	537	166	-
HCM Lane V/C Ratio	-	-	0.334	0.018	-
HCM Ctrl Dly (s/v)	-	-	15	8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	287	2	46	540	77	4	76	35	35	50	17
Future Vol, veh/h	15	287	2	46	540	77	4	76	35	35	50	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	2	0	0	1	0	0	0	0	5	0	0
Mvmt Flow	16	312	2	50	587	84	4	83	38	38	54	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	671	0	0	314	0	0	1060	1116	313	1115	1076	629
Stage 1	-	-	-	-	-	-	346	346	-	729	729	-
Stage 2	-	-	-	-	-	-	714	771	-	386	347	-
Critical Hdwy	4.23	-	-	4.1	-	-	7.1	6.5	6.2	7.15	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.317	-	-	2.2	-	-	3.5	4	3.3	3.545	4	3.3
Pot Cap-1 Maneuver	870	-	-	1258	-	-	204	209	732	183	221	486
Stage 1	-	-	-	-	-	-	674	639	-	410	431	-
Stage 2	-	-	-	-	-	-	425	413	-	631	638	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	870	-	-	1258	-	-	134	191	732	94	202	486
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	191	-	94	202	-
Stage 1	-	-	-	-	-	-	659	625	-	383	403	-
Stage 2	-	-	-	-	-	-	331	386	-	508	624	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.45	0.55	34.7	71.38
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	242	89	-	-	122	-	-	155
HCM Lane V/C Ratio	0.516	0.019	-	-	0.04	-	-	0.713
HCM Ctrl Dly (s/v)	34.7	9.2	0	-	8	0	-	71.4
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	2.7	0.1	-	-	0.1	-	-	4.2

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	87	4	28	195	50	7	85	29	18	46	37
Future Vol, veh/h	28	87	4	28	195	50	7	85	29	18	46	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	4	0	0	0	4	0	4	19	0	0	5
Mvmt Flow	30	95	4	30	212	54	8	92	32	20	50	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	323	248	70	260	253	108	90	0	0	124	0	0
Stage 1	109	109	-	123	123	-	-	-	-	-	-	-
Stage 2	214	139	-	136	129	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.54	6.2	7.1	6.5	6.24	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.036	3.3	3.5	4	3.336	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	634	651	998	697	654	940	1518	-	-	1475	-	-
Stage 1	901	801	-	886	798	-	-	-	-	-	-	-
Stage 2	793	778	-	872	793	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	395	638	998	582	641	940	1518	-	-	1475	-	-
Mov Cap-2 Maneuver	395	638	-	582	641	-	-	-	-	-	-	-
Stage 1	888	790	-	881	793	-	-	-	-	-	-	-
Stage 2	545	773	-	753	782	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.29	14.49	0.43	1.33
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	99	-	-	563	674	295	-	-
HCM Lane V/C Ratio	0.005	-	-	0.23	0.441	0.013	-	-
HCM Ctrl Dly (s/v)	7.4	0	-	13.3	14.5	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	2.3	0	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	206	2	70	341	31	0	31	74	18	29	31
Future Vol, veh/h	7	206	2	70	341	31	0	31	74	18	29	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	6	0	3	1	0	0	0	5	0	0	0
Mvmt Flow	8	224	2	76	371	34	0	34	80	20	32	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	404	0	0	226	0	0	779	797	225	796	781	387
Stage 1	-	-	-	-	-	-	240	240	-	540	540	-
Stage 2	-	-	-	-	-	-	539	557	-	256	241	-
Critical Hdwy	4.1	-	-	4.13	-	-	7.1	6.5	6.25	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.227	-	-	3.5	4	3.345	3.5	4	3.3
Pot Cap-1 Maneuver	1165	-	-	1336	-	-	316	322	807	308	329	665
Stage 1	-	-	-	-	-	-	768	710	-	530	525	-
Stage 2	-	-	-	-	-	-	530	516	-	753	710	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1165	-	-	1336	-	-	249	296	807	228	302	665
Mov Cap-2 Maneuver	-	-	-	-	-	-	249	296	-	228	302	-
Stage 1	-	-	-	-	-	-	762	705	-	491	486	-
Stage 2	-	-	-	-	-	-	436	478	-	641	704	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.26	1.24	13.56	18.45
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	534	58	-	-	280	-	-	352
HCM Lane V/C Ratio	0.214	0.007	-	-	0.057	-	-	0.241
HCM Ctrl Dly (s/v)	13.6	8.1	0	-	7.9	0	-	18.4
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	0.9

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	269	350	215	87	76
Future Vol, veh/h	101	269	350	215	87	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	110	292	380	234	95	83

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	614	0	-	0	1009	497
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	512	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	975	-	-	-	268	577
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	975	-	-	-	232	577
Mov Cap-2 Maneuver	-	-	-	-	232	-
Stage 1	-	-	-	-	533	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.5	0	29.04
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	491	-	-	-	322
HCM Lane V/C Ratio	0.113	-	-	-	0.55
HCM Ctrl Dly (s/v)	9.2	0	-	-	29
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	3.1

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	33	70	20	24	17
Future Vol, veh/h	22	33	70	20	24	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	36	76	22	26	18

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	76	98
Stage 1	-	-	0	0
Stage 2	-	-	76	98
Critical Hdwy	-	-	6.4	6.5
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.4	5.5
Follow-up Hdwy	-	-	3.5	4
Pot Cap-1 Maneuver	-	-	932	796
Stage 1	-	-	-	-
Stage 2	-	-	952	818
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	932	0
Mov Cap-2 Maneuver	-	-	932	0
Stage 1	-	-	-	0
Stage 2	-	-	952	0

Approach	NB	SB
HCM Ctrl Dly, s/v	0	9.06
HCM LOS		A

Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	932
HCM Lane V/C Ratio	-	-	0.048
HCM Ctrl Dly (s/v)	-	-	9.1
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	598	29	87	1120	26	35
Future Vol, veh/h	598	29	87	1120	26	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	0	0	5
Mvmt Flow	650	32	95	1217	28	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	682	0	2072	666
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	1407	-
Critical Hdwy	-	-	4.1	-	6.4	6.25
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.345
Pot Cap-1 Maneuver	-	-	921	-	60	454
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	229	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	921	-	54	454
Mov Cap-2 Maneuver	-	-	-	-	153	-
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	205	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.67	24.81
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	247	-	-	921	-
HCM Lane V/C Ratio	0.268	-	-	0.103	-
HCM Ctrl Dly (s/v)	24.8	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.1	-	-	0.3	-

Intersection	
Int Delay, s/veh	378.9

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	109	683	238	88	269	383
Future Vol, veh/h	109	683	238	88	269	383
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	70	70	83	83	100	100
Heavy Vehicles, %	2	2	5	0	0	1
Mvmt Flow	156	976	287	106	269	383

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1261	340	0	0	393	0
Stage 1	340	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	188	~ 703	-	-	1177	-
Stage 1	721	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 133	~ 703	-	-	1177	-
Mov Cap-2 Maneuver	~ 133	-	-	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	275	-	-	-	-	-

Approach	NW	NE	SW
HCM Ctrl Dly, s/v	$ 726.64	0	3.7
HCM LOS	F		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	443	743	-
HCM Lane V/C Ratio	-	-	2.556	0.229	-
HCM Ctrl Dly (s/v)	-	-	$ 726.6	9	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	90.8	0.9	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

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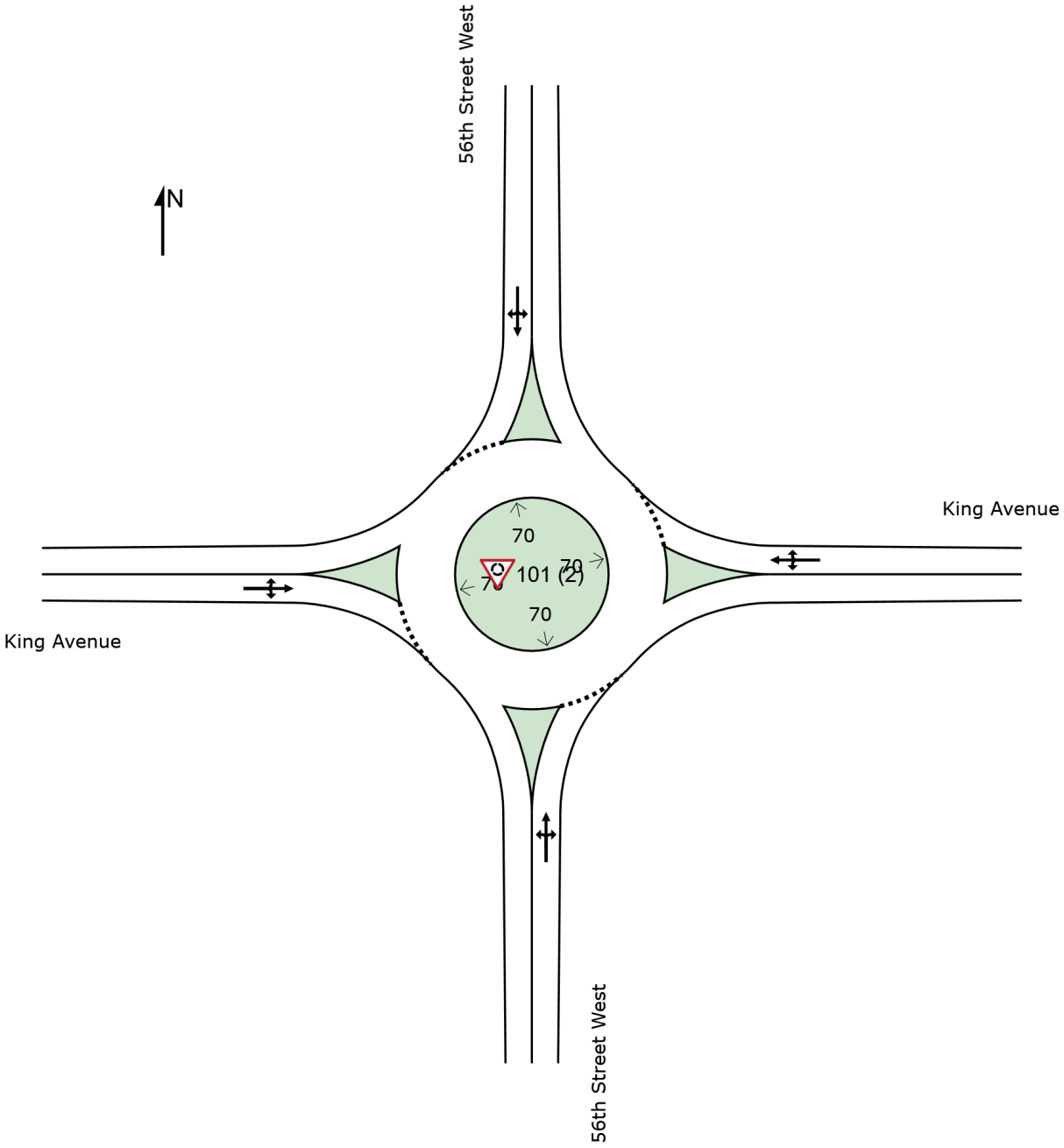
SITE LAYOUT

Site: [101 (2)] King Ave & 56th St AM (Future (2044))

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (2)] King Ave & 56th St AM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	133	3.0	133	3.0	0.572	12.6	LOS B	5.0	125.7	0.75	0.68	1.08	34.0
4	T1	All MCs	260	0.8	260	0.8	0.572	12.2	LOS B	5.0	125.7	0.75	0.68	1.08	33.4
14	R2	All MCs	100	0.0	100	0.0	0.572	12.1	LOS B	5.0	125.7	0.75	0.68	1.08	34.4
Approach			492	1.2	492	1.2	0.572	12.3	LOS B	5.0	125.7	0.75	0.68	1.08	33.8
West: King Avenue															
5	L2	All MCs	126	6.3	126	6.3	0.894	31.9	LOS D	20.9	533.2	1.00	1.28	2.53	26.2
2	T1	All MCs	599	1.3	599	1.3	0.894	31.0	LOS D	20.9	533.2	1.00	1.28	2.53	27.7
12	R2	All MCs	40	10.0	40	10.0	0.894	32.5	LOS D	20.9	533.2	1.00	1.28	2.53	26.2
Approach			765	2.6	765	2.6	0.894	31.2	LOS D	20.9	533.2	1.00	1.28	2.53	27.4
South: 56th Street West															
3	L2	All MCs	36	0.0	36	0.0	0.450	13.5	LOS B	2.2	56.4	0.76	0.79	0.99	33.5
8	T1	All MCs	154	3.9	154	3.9	0.450	14.6	LOS B	2.2	56.4	0.76	0.79	0.99	32.3
18	R2	All MCs	48	4.2	48	4.2	0.450	14.7	LOS B	2.2	56.4	0.76	0.79	0.99	33.1
Approach			238	3.4	238	3.4	0.450	14.4	LOS B	2.2	56.4	0.76	0.79	0.99	32.6
East: King Avenue															
1	L2	All MCs	34	5.9	34	5.9	0.458	9.4	LOS A	2.7	70.5	0.61	0.44	0.65	35.4
6	T1	All MCs	364	2.7	364	2.7	0.458	9.1	LOS A	2.7	70.5	0.61	0.44	0.65	38.0
16	R2	All MCs	30	20.0	30	20.0	0.458	11.3	LOS B	2.7	70.5	0.61	0.44	0.65	33.9
Approach			428	4.2	428	4.2	0.458	9.2	LOS A	2.7	70.5	0.61	0.44	0.65	37.4
All Vehicles			1924	2.7	1924	2.7	0.894	19.4	LOS C	20.9	533.2	0.82	0.88	1.55	31.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [102 (2)] King Ave & 56th St PM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	76	0.0	76	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	35.5
4	T1	All MCs	128	0.0	128	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	34.6
14	R2	All MCs	134	0.0	134	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	35.7
Approach			338	0.0	338	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	35.2
West: King Avenue															
5	L2	All MCs	80	0.0	80	0.0	0.460	8.3	LOS A	2.9	72.5	0.55	0.34	0.55	36.6
2	T1	All MCs	395	1.5	395	1.5	0.460	8.4	LOS A	2.9	72.5	0.55	0.34	0.55	38.4
12	R2	All MCs	14	14.3	14	14.3	0.460	9.8	LOS A	2.9	72.5	0.55	0.34	0.55	34.9
Approach			489	1.6	489	1.6	0.460	8.4	LOS A	2.9	72.5	0.55	0.34	0.55	38.0
South: 56th Street West															
3	L2	All MCs	50	0.0	50	0.0	0.467	10.8	LOS B	3.0	74.7	0.71	0.65	0.92	36.5
8	T1	All MCs	272	0.0	272	0.0	0.467	10.8	LOS B	3.0	74.7	0.71	0.65	0.92	35.5
18	R2	All MCs	40	5.0	40	5.0	0.467	11.7	LOS B	3.0	74.7	0.71	0.65	0.92	35.9
Approach			362	0.6	362	0.6	0.467	10.9	LOS B	3.0	74.7	0.71	0.65	0.92	35.7
East: King Avenue															
1	L2	All MCs	34	0.0	34	0.0	0.708	16.1	LOS C	9.5	239.3	0.86	0.81	1.46	32.7
6	T1	All MCs	485	1.2	485	1.2	0.708	16.2	LOS C	9.5	239.3	0.86	0.81	1.46	34.2
16	R2	All MCs	122	0.0	122	0.0	0.708	16.1	LOS C	9.5	239.3	0.86	0.81	1.46	33.1
Approach			640	0.9	640	0.9	0.708	16.2	LOS C	9.5	239.3	0.86	0.81	1.46	33.9
All Vehicles			1829	0.9	1829	0.9	0.708	12.0	LOS B	9.5	239.3	0.72	0.62	1.00	35.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [102 (2)] King Ave & 56th St PM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	76	0.0	76	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	35.5
4	T1	All MCs	128	0.0	128	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	34.6
14	R2	All MCs	134	0.0	134	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	35.7
Approach			338	0.0	338	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	35.2
West: King Avenue															
5	L2	All MCs	80	0.0	80	0.0	0.460	8.3	LOS A	2.9	72.5	0.55	0.34	0.55	36.6
2	T1	All MCs	395	1.5	395	1.5	0.460	8.4	LOS A	2.9	72.5	0.55	0.34	0.55	38.4
12	R2	All MCs	14	14.3	14	14.3	0.460	9.8	LOS A	2.9	72.5	0.55	0.34	0.55	34.9
Approach			489	1.6	489	1.6	0.460	8.4	LOS A	2.9	72.5	0.55	0.34	0.55	38.0
South: 56th Street West															
3	L2	All MCs	50	0.0	50	0.0	0.467	10.8	LOS B	3.0	74.7	0.71	0.65	0.92	36.5
8	T1	All MCs	272	0.0	272	0.0	0.467	10.8	LOS B	3.0	74.7	0.71	0.65	0.92	35.5
18	R2	All MCs	40	5.0	40	5.0	0.467	11.7	LOS B	3.0	74.7	0.71	0.65	0.92	35.9
Approach			362	0.6	362	0.6	0.467	10.9	LOS B	3.0	74.7	0.71	0.65	0.92	35.7
East: King Avenue															
1	L2	All MCs	34	0.0	34	0.0	0.708	16.1	LOS C	9.5	239.3	0.86	0.81	1.46	32.7
6	T1	All MCs	485	1.2	485	1.2	0.708	16.2	LOS C	9.5	239.3	0.86	0.81	1.46	34.2
16	R2	All MCs	122	0.0	122	0.0	0.708	16.1	LOS C	9.5	239.3	0.86	0.81	1.46	33.1
Approach			640	0.9	640	0.9	0.708	16.2	LOS C	9.5	239.3	0.86	0.81	1.46	33.9
All Vehicles			1829	0.9	1829	0.9	0.708	12.0	LOS B	9.5	239.3	0.72	0.62	1.00	35.5

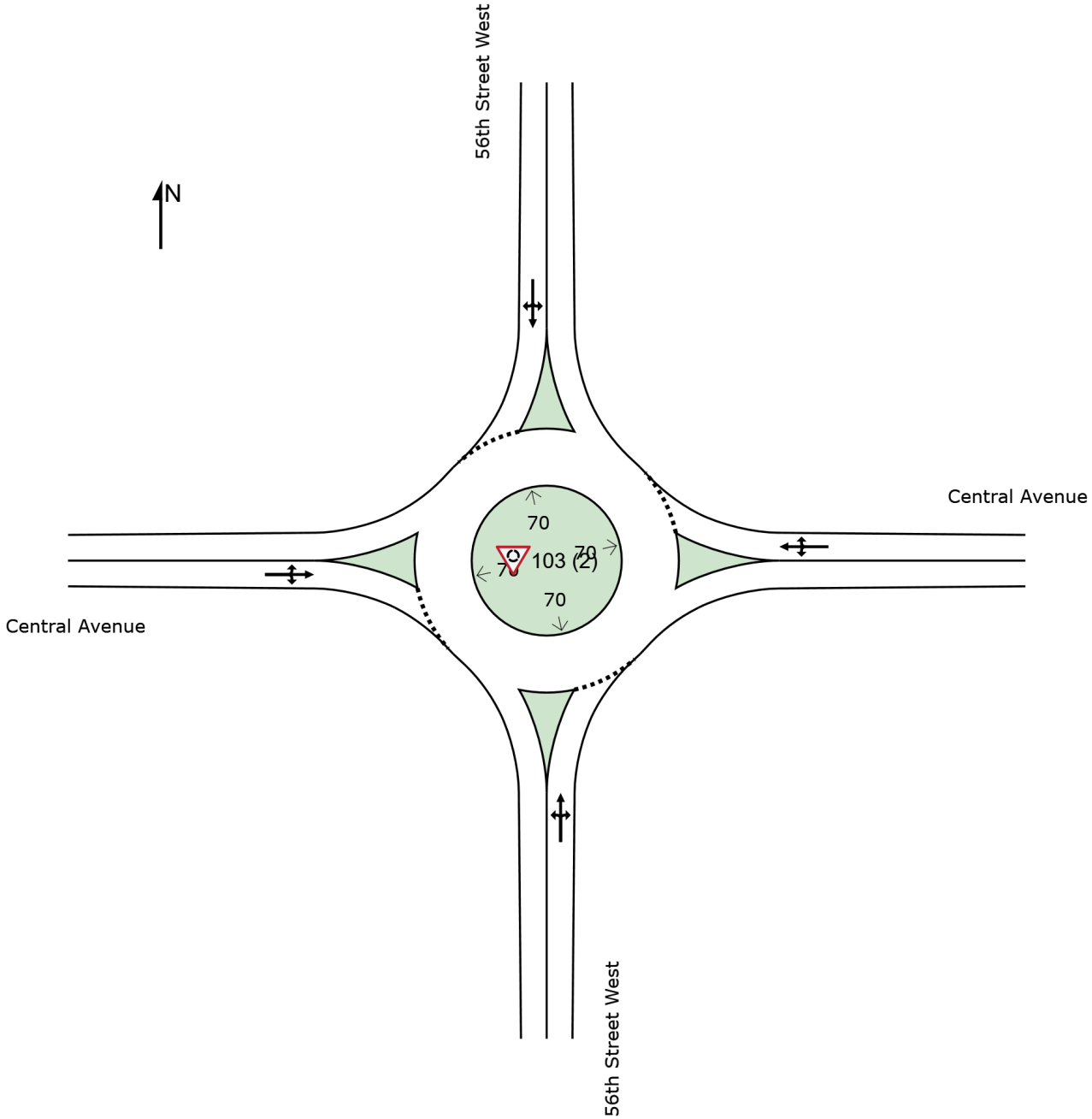
Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SITE LAYOUT

Site: [103 (2)] Central Ave & 56th St AM (Future (2044))

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [103 (2)] Central Ave & 56th St AM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	186	2.2	186	2.2	0.465	8.3	LOS A	3.0	75.6	0.52	0.30	0.52	34.4
4	T1	All MCs	324	1.9	324	1.9	0.465	8.3	LOS A	3.0	75.6	0.52	0.30	0.52	35.1
14	R2	All MCs	1	0.0	1	0.0	0.465	8.1	LOS A	3.0	75.6	0.52	0.30	0.52	35.1
Approach			511	2.0	511	2.0	0.465	8.3	LOS A	3.0	75.6	0.52	0.30	0.52	34.9
West: Central Avenue															
5	L2	All MCs	2	0.0	2	0.0	0.226	7.4	LOS A	1.0	24.5	0.62	0.53	0.62	36.1
2	T1	All MCs	136	0.0	136	0.0	0.226	7.4	LOS A	1.0	24.5	0.62	0.53	0.62	36.8
12	R2	All MCs	28	0.0	28	0.0	0.226	7.4	LOS A	1.0	24.5	0.62	0.53	0.62	36.5
Approach			166	0.0	166	0.0	0.226	7.4	LOS A	1.0	24.5	0.62	0.53	0.62	36.7
South: 56th Street West															
3	L2	All MCs	8	75.0	8	75.0	0.318	17.7	LOS C	1.6	40.3	0.53	0.37	0.53	27.1
8	T1	All MCs	133	6.1	133	6.1	0.318	7.3	LOS A	1.6	40.3	0.53	0.37	0.53	36.1
18	R2	All MCs	157	0.0	157	0.0	0.318	6.7	LOS A	1.6	40.3	0.53	0.37	0.53	36.7
Approach			297	4.6	297	4.6	0.318	7.2	LOS A	1.6	40.3	0.53	0.37	0.53	36.1
East: Central Avenue															
1	L2	All MCs	96	2.1	96	2.1	0.272	5.5	LOS A	1.4	35.8	0.37	0.19	0.37	35.9
6	T1	All MCs	86	4.7	86	4.7	0.272	5.7	LOS A	1.4	35.8	0.37	0.19	0.37	36.3
16	R2	All MCs	120	10.0	120	10.0	0.272	6.1	LOS A	1.4	35.8	0.37	0.19	0.37	35.2
Approach			301	6.0	301	6.0	0.272	5.8	LOS A	1.4	35.8	0.37	0.19	0.37	35.7
All Vehicles			1275	3.3	1275	3.3	0.465	7.3	LOS A	3.0	75.6	0.50	0.32	0.50	35.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [104 (2)] Central Ave & 56th St PM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	46	0.0	46	0.0	0.281	6.1	LOS A	1.4	35.9	0.48	0.31	0.48	36.4
4	T1	All MCs	228	0.9	228	0.9	0.281	6.2	LOS A	1.4	35.9	0.48	0.31	0.48	37.0
14	R2	All MCs	18	0.0	18	0.0	0.281	6.1	LOS A	1.4	35.9	0.48	0.31	0.48	36.8
Approach			292	0.7	292	0.7	0.281	6.2	LOS A	1.4	35.9	0.48	0.31	0.48	36.9
West: Central Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.106	4.8	LOS A	0.5	11.3	0.48	0.35	0.48	37.6
2	T1	All MCs	88	0.0	88	0.0	0.106	4.8	LOS A	0.5	11.3	0.48	0.35	0.48	38.4
12	R2	All MCs	10	0.0	10	0.0	0.106	4.8	LOS A	0.5	11.3	0.48	0.35	0.48	38.0
Approach			99	0.0	99	0.0	0.106	4.8	LOS A	0.5	11.3	0.48	0.35	0.48	38.3
South: 56th Street West															
3	L2	All MCs	18	0.0	18	0.0	0.348	6.2	LOS A	2.1	51.4	0.37	0.18	0.37	36.7
8	T1	All MCs	312	0.0	312	0.0	0.348	6.2	LOS A	2.1	51.4	0.37	0.18	0.37	37.4
18	R2	All MCs	88	0.0	88	0.0	0.348	6.2	LOS A	2.1	51.4	0.37	0.18	0.37	37.1
Approach			418	0.0	418	0.0	0.348	6.2	LOS A	2.1	51.4	0.37	0.18	0.37	37.3
East: Central Avenue															
1	L2	All MCs	107	0.0	107	0.0	0.373	7.6	LOS A	2.0	50.7	0.56	0.39	0.56	35.3
6	T1	All MCs	145	0.0	145	0.0	0.373	7.6	LOS A	2.0	50.7	0.56	0.39	0.56	36.0
16	R2	All MCs	116	0.0	116	0.0	0.373	7.6	LOS A	2.0	50.7	0.56	0.39	0.56	35.7
Approach			367	0.0	367	0.0	0.373	7.6	LOS A	2.0	50.7	0.56	0.39	0.56	35.7
All Vehicles			1177	0.2	1177	0.2	0.373	6.5	LOS A	2.1	51.4	0.47	0.29	0.47	36.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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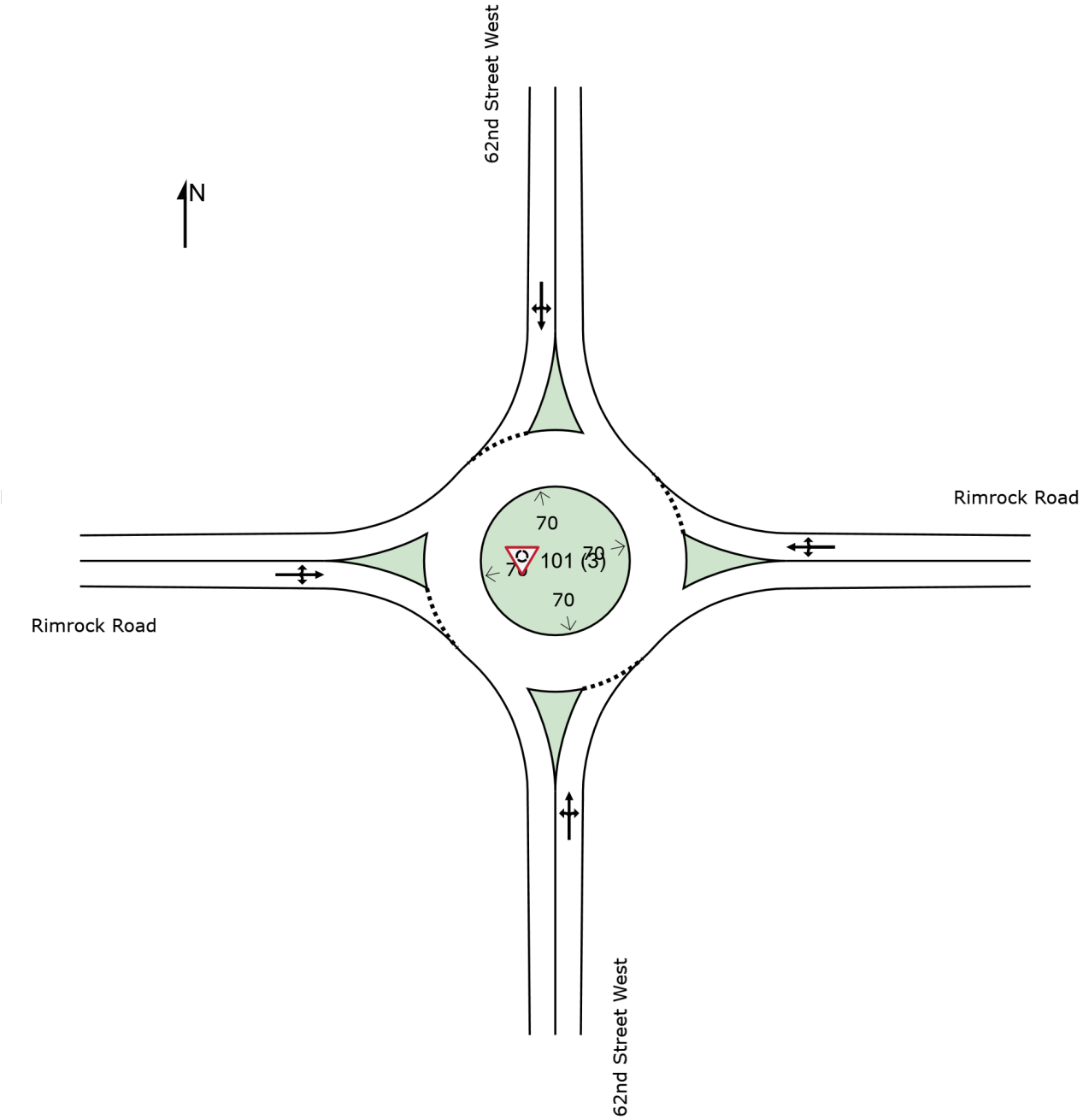
SITE LAYOUT

Site: [101 (3)] Rimrock Rd & 62nd St AM (Future (2044))

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (3)] Rimrock Rd & 62nd St AM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist ft]	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 62nd Street West															
7	L2	All MCs	664	0.0	664	0.0	0.748	14.7	LOS B	13.3	332.1	0.79	0.53	1.03	30.7
4	T1	All MCs	196	1.0	196	1.0	0.748	14.8	LOS B	13.3	332.1	0.79	0.53	1.03	29.7
14	R2	All MCs	4	0.0	4	0.0	0.748	14.7	LOS B	13.3	332.1	0.79	0.53	1.03	30.9
Approach			864	0.2	864	0.2	0.748	14.7	LOS B	13.3	332.1	0.79	0.53	1.03	30.5
West: Rimrock Road															
5	L2	All MCs	4	0.0	4	0.0	0.872	40.2	LOS E	9.1	231.8	0.95	1.24	2.28	23.3
2	T1	All MCs	272	3.0	272	3.0	0.872	41.2	LOS E	9.1	231.8	0.95	1.24	2.28	24.3
12	R2	All MCs	178	1.0	178	1.0	0.872	40.5	LOS E	9.1	231.8	0.95	1.24	2.28	23.4
Approach			454	2.2	454	2.2	0.872	41.0	LOS E	9.1	231.8	0.95	1.24	2.28	23.9
South: 62nd Street West															
3	L2	All MCs	34	12.0	34	12.0	0.303	13.9	LOS B	1.1	29.0	0.71	0.73	0.82	30.9
8	T1	All MCs	48	17.0	48	17.0	0.303	15.5	LOS C	1.1	29.0	0.71	0.73	0.82	29.5
18	R2	All MCs	48	4.0	48	4.0	0.303	11.5	LOS B	1.1	29.0	0.71	0.73	0.82	32.0
Approach			129	10.9	129	10.9	0.303	13.5	LOS B	1.1	29.0	0.71	0.73	0.82	30.7
East: Rimrock Road															
1	L2	All MCs	48	4.0	48	4.0	0.231	4.9	LOS A	1.1	29.9	0.27	0.12	0.27	36.2
6	T1	All MCs	72	17.0	72	17.0	0.231	5.9	LOS A	1.1	29.9	0.27	0.12	0.27	37.3
16	R2	All MCs	154	0.0	154	0.0	0.231	4.7	LOS A	1.1	29.9	0.27	0.12	0.27	37.3
Approach			274	5.2	274	5.2	0.231	5.0	LOS A	1.1	29.9	0.27	0.12	0.27	37.1
All Vehicles			1722	2.3	1722	2.3	0.872	20.0	LOS C	13.3	332.1	0.75	0.67	1.22	29.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (4)] Rimrock Rd & 62nd St PM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 62nd Street West															
7	L2	All MCs	283	0.0	283	0.0	0.441	9.2	LOS A	2.7	67.3	0.65	0.51	0.71	33.4
4	T1	All MCs	107	0.0	107	0.0	0.441	9.2	LOS A	2.7	67.3	0.65	0.51	0.71	32.3
14	R2	All MCs	12	0.0	12	0.0	0.441	9.2	LOS A	2.7	67.3	0.65	0.51	0.71	33.6
Approach			401	0.0	401	0.0	0.441	9.2	LOS A	2.7	67.3	0.65	0.51	0.71	33.1
West: Rimrock Road															
5	L2	All MCs	4	0.0	4	0.0	0.237	6.5	LOS A	1.1	27.1	0.56	0.43	0.56	36.2
2	T1	All MCs	130	2.0	130	2.0	0.237	6.7	LOS A	1.1	27.1	0.56	0.43	0.56	38.8
12	R2	All MCs	68	0.0	68	0.0	0.237	6.5	LOS A	1.1	27.1	0.56	0.43	0.56	36.7
Approach			203	1.3	203	1.3	0.237	6.7	LOS A	1.1	27.1	0.56	0.43	0.56	38.0
South: 62nd Street West															
3	L2	All MCs	162	0.0	162	0.0	0.375	8.2	LOS A	2.0	48.8	0.61	0.46	0.61	34.4
8	T1	All MCs	145	0.0	145	0.0	0.375	8.2	LOS A	2.0	48.8	0.61	0.46	0.61	33.2
18	R2	All MCs	30	0.0	30	0.0	0.375	8.2	LOS A	2.0	48.8	0.61	0.46	0.61	34.6
Approach			337	0.0	337	0.0	0.375	8.2	LOS A	2.0	48.8	0.61	0.46	0.61	33.9
East: Rimrock Road															
1	L2	All MCs	60	0.0	60	0.0	0.786	18.6	LOS C	15.9	397.2	0.94	0.90	1.70	30.3
6	T1	All MCs	188	0.0	188	0.0	0.786	18.6	LOS C	15.9	397.2	0.94	0.90	1.70	32.3
16	R2	All MCs	542	0.0	542	0.0	0.786	18.6	LOS C	15.9	397.2	0.94	0.90	1.70	30.6
Approach			790	0.0	790	0.0	0.786	18.6	LOS C	15.9	397.2	0.94	0.90	1.70	31.0
All Vehicles			1732	0.2	1732	0.2	0.786	13.0	LOS B	15.9	397.2	0.76	0.67	1.13	32.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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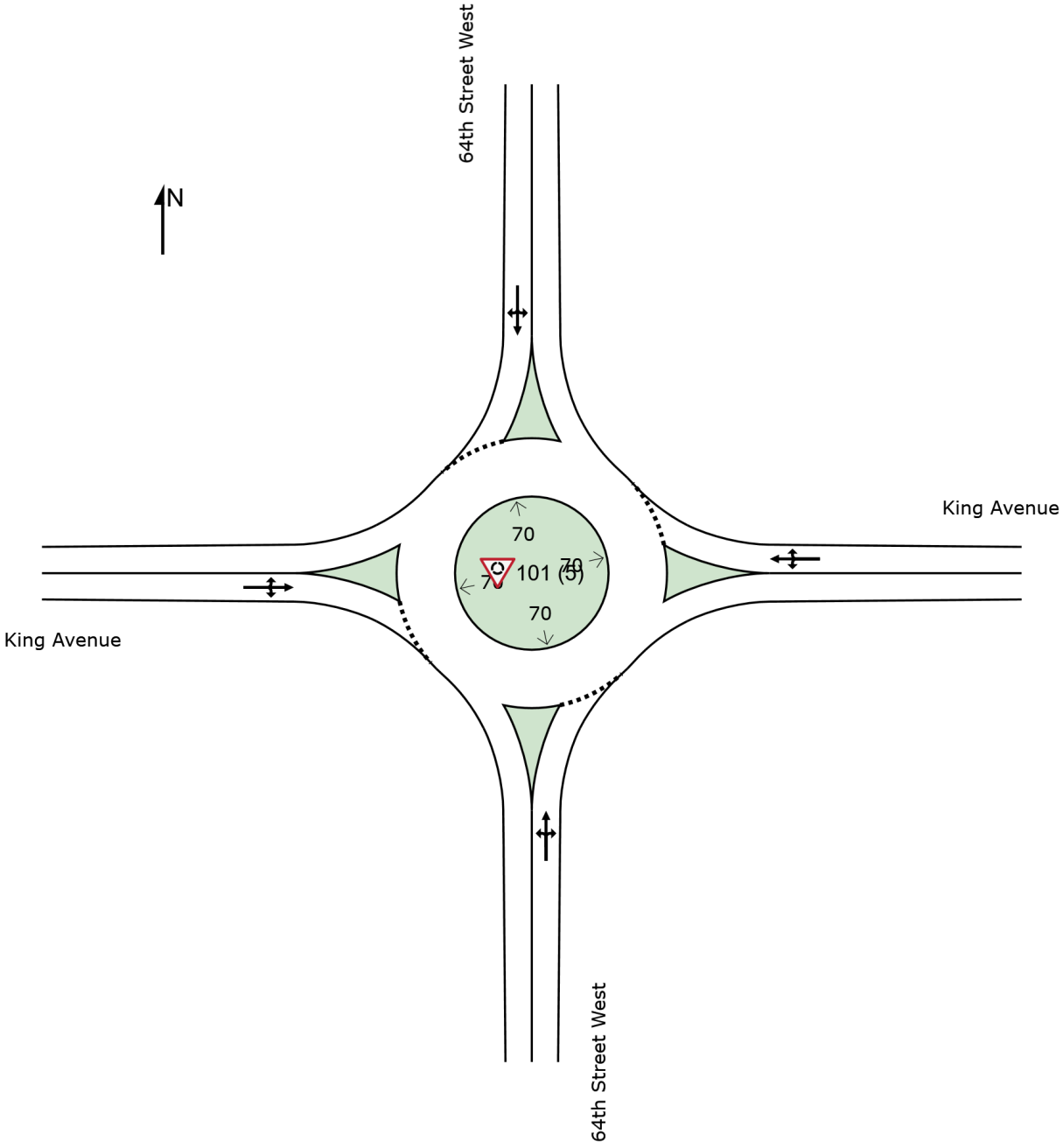
SITE LAYOUT

Site: [101 (5)] King Ave & 64th St AM (Future (2044))

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (5)] King Ave & 64th St AM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 64th Street West															
7	L2	All MCs	14	14.3	14	14.3	0.236	8.5	LOS A	1.1	26.9	0.56	0.43	0.56	36.1
4	T1	All MCs	48	0.0	48	0.0	0.236	6.5	LOS A	1.1	26.9	0.56	0.43	0.56	37.2
14	R2	All MCs	140	0.0	140	0.0	0.236	6.5	LOS A	1.1	26.9	0.56	0.43	0.56	38.4
Approach			202	1.0	202	1.0	0.236	6.6	LOS A	1.1	26.9	0.56	0.43	0.56	37.9
West: King Avenue															
5	L2	All MCs	152	6.6	152	6.6	0.761	16.1	LOS C	15.0	387.5	0.83	0.60	1.17	31.8
2	T1	All MCs	575	3.5	575	3.5	0.761	15.8	LOS C	15.0	387.5	0.83	0.60	1.17	33.9
12	R2	All MCs	108	7.4	108	7.4	0.761	16.2	LOS C	15.0	387.5	0.83	0.60	1.17	32.1
Approach			835	4.6	835	4.6	0.761	15.9	LOS C	15.0	387.5	0.83	0.60	1.17	33.2
South: 64th Street West															
3	L2	All MCs	16	0.0	16	0.0	0.484	13.2	LOS B	2.7	68.6	0.76	0.77	1.03	34.1
8	T1	All MCs	102	3.9	102	3.9	0.484	14.2	LOS B	2.7	68.6	0.76	0.77	1.03	32.8
18	R2	All MCs	174	1.1	174	1.1	0.484	13.5	LOS B	2.7	68.6	0.76	0.77	1.03	34.1
Approach			292	2.0	292	2.0	0.484	13.7	LOS B	2.7	68.6	0.76	0.77	1.03	33.6
East: King Avenue															
1	L2	All MCs	110	3.6	110	3.6	0.477	9.2	LOS A	2.9	73.9	0.60	0.39	0.60	35.5
6	T1	All MCs	316	1.9	316	1.9	0.477	9.0	LOS A	2.9	73.9	0.60	0.39	0.60	37.8
16	R2	All MCs	54	0.0	54	0.0	0.477	8.8	LOS A	2.9	73.9	0.60	0.39	0.60	36.5
Approach			480	2.1	480	2.1	0.477	9.1	LOS A	2.9	73.9	0.60	0.39	0.60	37.1
All Vehicles			1810	3.1	1810	3.1	0.761	12.7	LOS B	15.0	387.5	0.72	0.55	0.93	34.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (6)] King Ave & 64th St PM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 64th Street West															
7	L2	All MCs	28	0.0	28	0.0	0.399	10.0	LOS A	2.2	54.0	0.69	0.62	0.80	36.2
4	T1	All MCs	76	0.0	76	0.0	0.399	10.0	LOS A	2.2	54.0	0.69	0.62	0.80	35.2
14	R2	All MCs	192	0.0	192	0.0	0.399	10.0	LOS A	2.2	54.0	0.69	0.62	0.80	36.4
Approach			297	0.0	297	0.0	0.399	10.0	LOS A	2.2	54.0	0.69	0.62	0.80	36.0
West: King Avenue															
5	L2	All MCs	154	0.0	154	0.0	0.497	8.3	LOS A	3.5	88.0	0.49	0.26	0.49	36.3
2	T1	All MCs	409	2.0	409	2.0	0.497	8.5	LOS A	3.5	88.0	0.49	0.26	0.49	38.0
12	R2	All MCs	12	0.0	12	0.0	0.497	8.3	LOS A	3.5	88.0	0.49	0.26	0.49	36.7
Approach			575	1.4	575	1.4	0.497	8.5	LOS A	3.5	88.0	0.49	0.26	0.49	37.5
South: 64th Street West															
3	L2	All MCs	4	0.0	4	0.0	0.213	7.1	LOS A	0.9	22.8	0.61	0.52	0.61	37.9
8	T1	All MCs	95	0.0	95	0.0	0.213	7.1	LOS A	0.9	22.8	0.61	0.52	0.61	36.8
18	R2	All MCs	58	3.4	58	3.4	0.213	7.6	LOS A	0.9	22.8	0.61	0.52	0.61	37.5
Approach			157	1.3	157	1.3	0.213	7.3	LOS A	0.9	22.8	0.61	0.52	0.61	37.1
East: King Avenue															
1	L2	All MCs	54	0.0	54	0.0	0.613	11.4	LOS B	6.6	165.2	0.69	0.50	0.87	35.0
6	T1	All MCs	542	1.1	542	1.1	0.613	11.5	LOS B	6.6	165.2	0.69	0.50	0.87	36.8
16	R2	All MCs	50	0.0	50	0.0	0.613	11.4	LOS B	6.6	165.2	0.69	0.50	0.87	35.4
Approach			647	0.9	647	0.9	0.613	11.5	LOS B	6.6	165.2	0.69	0.50	0.87	36.5
All Vehicles			1675	1.0	1675	1.0	0.613	9.8	LOS A	6.6	165.2	0.61	0.44	0.70	36.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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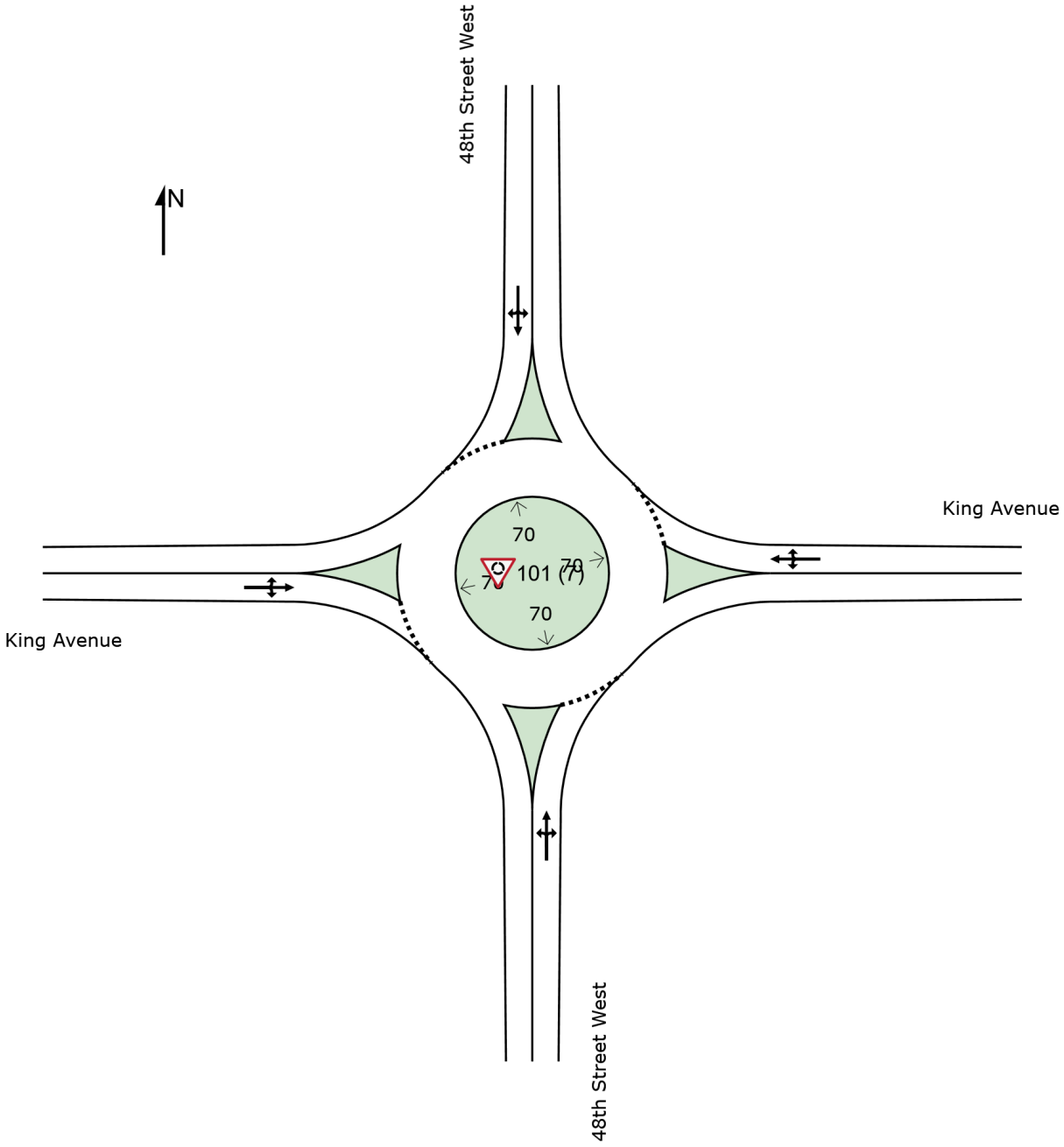
SITE LAYOUT

Site: [101 (7)] King Ave & 48th St AM (Future (2044))

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (7)] King Ave & 48th St AM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	98	0.0	98	0.0	0.295	7.5	LOS A	1.4	34.8	0.60	0.48	0.60	36.7
4	T1	All MCs	116	1.7	116	1.7	0.295	7.7	LOS A	1.4	34.8	0.60	0.48	0.60	35.4
14	R2	All MCs	30	0.0	30	0.0	0.295	7.5	LOS A	1.4	34.8	0.60	0.48	0.60	36.7
Approach			245	0.8	245	0.8	0.295	7.6	LOS A	1.4	34.8	0.60	0.48	0.60	36.1
West: King Avenue															
5	L2	All MCs	78	2.6	78	2.6	0.705	14.2	LOS B	10.7	287.8	0.78	0.63	1.19	32.8
2	T1	All MCs	609	10.5	609	10.5	0.705	15.1	LOS C	10.7	287.8	0.78	0.63	1.19	33.7
12	R2	All MCs	2	0.0	2	0.0	0.705	14.0	LOS B	10.7	287.8	0.78	0.63	1.19	33.5
Approach			689	9.6	689	9.6	0.705	15.0	LOS C	10.7	287.8	0.78	0.63	1.19	33.6
South: 48th Street West															
3	L2	All MCs	7	33.0	7	33.0	0.238	19.2	LOS C	0.9	23.1	0.68	0.64	0.68	31.9
8	T1	All MCs	86	4.7	86	4.7	0.238	10.0	LOS B	0.9	23.1	0.68	0.64	0.68	34.6
18	R2	All MCs	34	0.0	34	0.0	0.238	8.8	LOS A	0.9	23.1	0.68	0.64	0.68	36.2
Approach			126	4.9	126	4.9	0.238	10.1	LOS B	0.9	23.1	0.68	0.64	0.68	34.9
East: King Avenue															
1	L2	All MCs	18	0.0	18	0.0	0.450	7.5	LOS A	2.6	71.5	0.48	0.27	0.48	36.9
6	T1	All MCs	416	10.6	416	10.6	0.450	8.4	LOS A	2.6	71.5	0.48	0.27	0.48	37.6
16	R2	All MCs	32	6.3	32	6.3	0.450	8.1	LOS A	2.6	71.5	0.48	0.27	0.48	36.4
Approach			466	9.9	466	9.9	0.450	8.4	LOS A	2.6	71.5	0.48	0.27	0.48	37.5
All Vehicles			1526	7.9	1526	7.9	0.705	11.4	LOS B	10.7	287.8	0.65	0.50	0.84	35.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (8)] King Ave & 48th St PM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	84	0.0	84	0.0	0.408	11.9	LOS B	2.0	50.4	0.73	0.73	0.90	34.1
4	T1	All MCs	120	3.3	120	3.3	0.408	12.8	LOS B	2.0	50.4	0.73	0.73	0.90	32.9
14	R2	All MCs	34	0.0	34	0.0	0.408	11.9	LOS B	2.0	50.4	0.73	0.73	0.90	34.2
Approach			237	1.7	237	1.7	0.408	12.4	LOS B	2.0	50.4	0.73	0.73	0.90	33.5
West: King Avenue															
5	L2	All MCs	60	0.0	60	0.0	0.632	12.0	LOS B	7.3	185.0	0.72	0.54	0.96	34.7
2	T1	All MCs	583	1.0	583	1.0	0.632	12.1	LOS B	7.3	185.0	0.72	0.54	0.96	36.4
12	R2	All MCs	16	0.0	16	0.0	0.632	12.0	LOS B	7.3	185.0	0.72	0.54	0.96	35.1
Approach			659	0.9	659	0.9	0.632	12.1	LOS B	7.3	185.0	0.72	0.54	0.96	36.2
South: 48th Street West															
3	L2	All MCs	7	0.0	7	0.0	0.253	8.6	LOS A	1.1	26.8	0.66	0.60	0.66	37.1
8	T1	All MCs	118	0.0	118	0.0	0.253	8.6	LOS A	1.1	26.8	0.66	0.60	0.66	36.0
18	R2	All MCs	40	0.0	40	0.0	0.253	8.6	LOS A	1.1	26.8	0.66	0.60	0.66	37.3
Approach			165	0.0	165	0.0	0.253	8.6	LOS A	1.1	26.8	0.66	0.60	0.66	36.4
East: King Avenue															
1	L2	All MCs	58	0.0	58	0.0	0.824	18.8	LOS C	22.5	564.8	0.97	0.76	1.53	31.5
6	T1	All MCs	751	0.3	751	0.3	0.824	18.8	LOS C	22.5	564.8	0.97	0.76	1.53	33.0
16	R2	All MCs	130	0.0	130	0.0	0.824	18.8	LOS C	22.5	564.8	0.97	0.76	1.53	31.8
Approach			939	0.2	939	0.2	0.824	18.8	LOS C	22.5	564.8	0.97	0.76	1.53	32.7
All Vehicles			2000	0.6	2000	0.6	0.824	15.0	LOS B	22.5	564.8	0.83	0.67	1.19	34.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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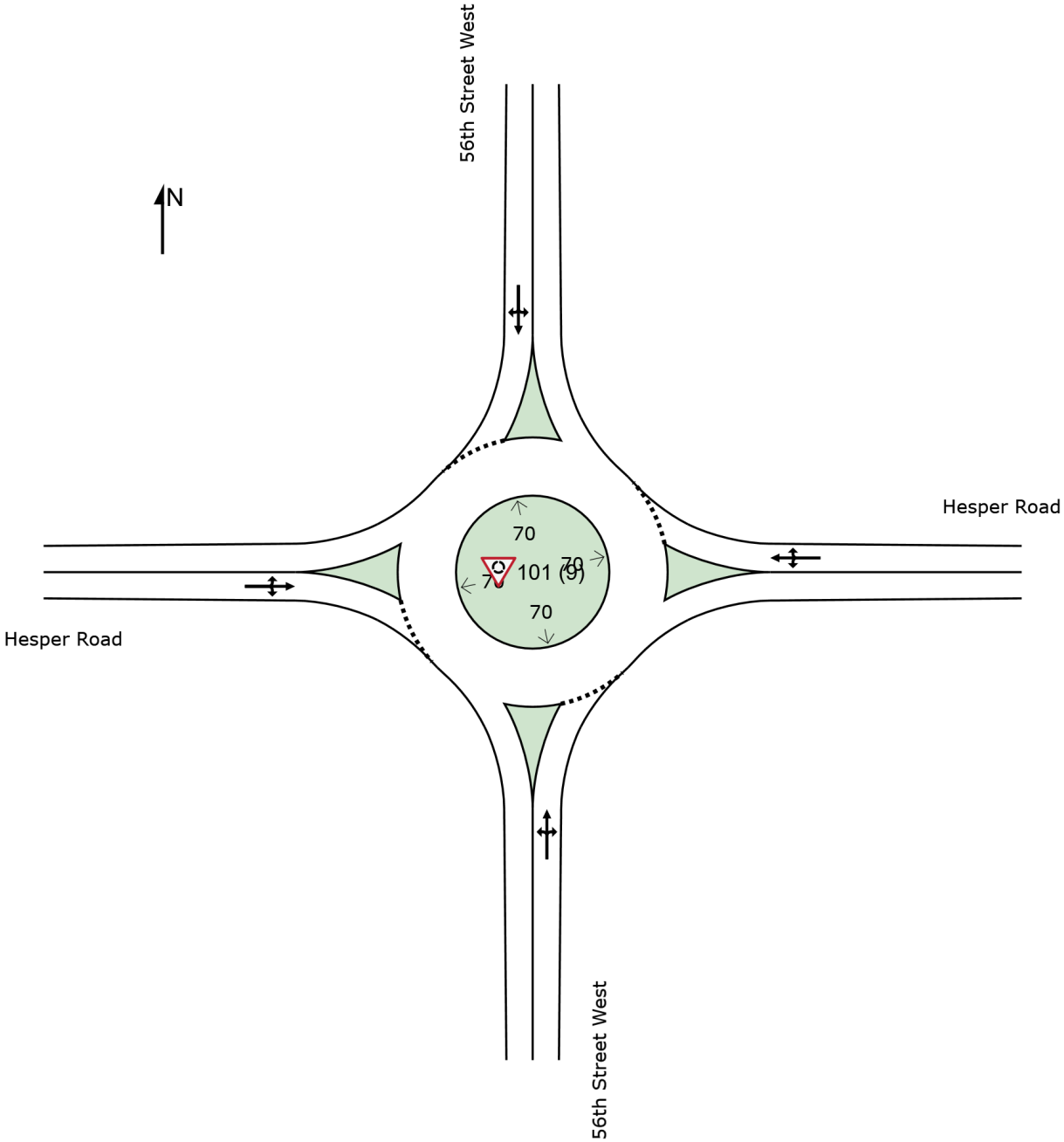
SITE LAYOUT

Site: [101 (9)] Hesper Rd & 56th St AM (Future (2044))

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (9)] Hesper Rd & 56th St AM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	150	0.0	150	0.0	0.323	6.3	LOS A	1.7	43.3	0.47	0.29	0.47	35.4
4	T1	All MCs	146	6.8	146	6.8	0.323	7.0	LOS A	1.7	43.3	0.47	0.29	0.47	35.2
14	R2	All MCs	42	0.0	42	0.0	0.323	6.3	LOS A	1.7	43.3	0.47	0.29	0.47	35.8
Approach			338	2.9	338	2.9	0.323	6.6	LOS A	1.7	43.3	0.47	0.29	0.47	35.4
West: Hesper Road															
5	L2	All MCs	58	0.0	58	0.0	0.407	8.0	LOS A	2.1	55.7	0.59	0.41	0.59	35.1
2	T1	All MCs	276	6.5	276	6.5	0.407	8.7	LOS A	2.1	55.7	0.59	0.41	0.59	34.9
12	R2	All MCs	40	0.0	40	0.0	0.407	8.0	LOS A	2.1	55.7	0.59	0.41	0.59	35.4
Approach			374	4.8	374	4.8	0.407	8.5	LOS A	2.1	55.7	0.59	0.41	0.59	35.0
South: 56th Street West															
3	L2	All MCs	58	3.4	58	3.4	0.302	8.0	LOS A	1.4	35.0	0.61	0.49	0.61	34.7
8	T1	All MCs	126	1.6	126	1.6	0.302	7.7	LOS A	1.4	35.0	0.61	0.49	0.61	35.6
18	R2	All MCs	54	7.4	54	7.4	0.302	8.6	LOS A	1.4	35.0	0.61	0.49	0.61	34.5
Approach			238	3.4	238	3.4	0.302	8.0	LOS A	1.4	35.0	0.61	0.49	0.61	35.1
East: Hesper Road															
1	L2	All MCs	32	12.5	32	12.5	0.218	6.1	LOS A	1.0	25.8	0.43	0.27	0.43	34.8
6	T1	All MCs	136	4.4	136	4.4	0.218	5.4	LOS A	1.0	25.8	0.43	0.27	0.43	36.8
16	R2	All MCs	46	17.4	46	17.4	0.218	6.6	LOS A	1.0	25.8	0.43	0.27	0.43	34.6
Approach			213	8.4	213	8.4	0.218	5.8	LOS A	1.0	25.8	0.43	0.27	0.43	36.0
All Vehicles			1163	4.6	1163	4.6	0.407	7.4	LOS A	2.1	55.7	0.53	0.37	0.53	35.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
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Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (10)] Hesper Rd & 56th St PM (Future (2044))
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	52	0.0	52	0.0	0.175	5.1	LOS A	0.8	20.1	0.45	0.30	0.45	36.6
4	T1	All MCs	98	2.0	98	2.0	0.175	5.3	LOS A	0.8	20.1	0.45	0.30	0.45	37.1
14	R2	All MCs	26	0.0	26	0.0	0.175	5.1	LOS A	0.8	20.1	0.45	0.30	0.45	37.0
Approach			176	1.1	176	1.1	0.175	5.2	LOS A	0.8	20.1	0.45	0.30	0.45	36.9
West: Hesper Road															
5	L2	All MCs	30	0.0	30	0.0	0.171	4.5	LOS A	0.8	20.0	0.37	0.21	0.37	37.2
2	T1	All MCs	134	3.0	134	3.0	0.171	4.8	LOS A	0.8	20.0	0.37	0.21	0.37	37.5
12	R2	All MCs	22	9.1	22	9.1	0.171	5.3	LOS A	0.8	20.0	0.37	0.21	0.37	36.2
Approach			186	3.2	186	3.2	0.171	4.8	LOS A	0.8	20.0	0.37	0.21	0.37	37.3
South: 56th Street West															
3	L2	All MCs	10	0.0	10	0.0	0.244	5.5	LOS A	1.2	30.7	0.42	0.25	0.42	37.1
8	T1	All MCs	214	0.0	214	0.0	0.244	5.5	LOS A	1.2	30.7	0.42	0.25	0.42	37.9
18	R2	All MCs	45	0.0	45	0.0	0.244	5.5	LOS A	1.2	30.7	0.42	0.25	0.42	37.6
Approach			268	0.0	268	0.0	0.244	5.5	LOS A	1.2	30.7	0.42	0.25	0.42	37.8
East: Hesper Road															
1	L2	All MCs	45	0.0	45	0.0	0.382	7.3	LOS A	2.2	54.6	0.51	0.32	0.51	35.9
6	T1	All MCs	242	0.0	242	0.0	0.382	7.3	LOS A	2.2	54.6	0.51	0.32	0.51	36.6
16	R2	All MCs	120	0.0	120	0.0	0.382	7.3	LOS A	2.2	54.6	0.51	0.32	0.51	36.3
Approach			407	0.0	407	0.0	0.382	7.3	LOS A	2.2	54.6	0.51	0.32	0.51	36.4
All Vehicles			1037	0.8	1037	0.8	0.382	6.0	LOS A	2.2	54.6	0.45	0.28	0.45	37.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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APPENDIX G

FUTURE (2044) ALTERNATIVE CAPACITY CALCULATIONS

Appendix G Contents

Future (2044) Alternative Capacity Calculations

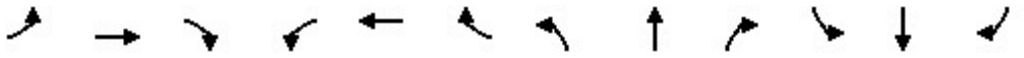
Future AM Capacity:

Queues
2: 54th Street West & Rimrock Road 10/14/2025

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	1081	214	221	57	36	334	184	119
v/c Ratio	0.01	0.79	0.84	0.22	0.07	0.11	0.50	1.04	0.22
Control Delay (s/veh)	13.5	39.5	80.3	15.1	4.2	31.7	7.8	121.5	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.5	39.5	80.3	15.1	4.2	31.7	7.8	121.5	32.8
Queue Length 50th (ft)	1	453	184	91	0	23	19	162	74
Queue Length 95th (ft)	9	586	#323	170	25	51	94	#318	123
Internal Link Dist (ft)		4323		924			5202		920
Turn Bay Length (ft)	250		250		250	200		150	
Base Capacity (vph)	267	1362	295	998	818	427	770	226	680
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.79	0.73	0.22	0.07	0.08	0.43	0.81	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	882	112	197	203	52	33	29	278	169	103	6
Future Volume (veh/h)	2	882	112	197	203	52	33	29	278	169	103	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	385	1723	1750	1723	1695	1600	1668	1750	1736	1709	1750	1750
Adj Flow Rate, veh/h	2	959	122	214	221	57	36	32	302	184	112	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	100	2	0	2	4	11	6	0	1	3	0	0
Cap, veh/h	148	1132	144	237	900	720	443	52	495	242	592	37
Arrive On Green	0.00	0.39	0.39	0.14	0.53	0.53	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	367	2921	371	1641	1695	1356	1232	144	1361	1038	1630	102
Grp Volume(v), veh/h	2	537	544	214	221	57	36	0	334	184	0	119
Grp Sat Flow(s),veh/h/ln	367	1637	1656	1641	1695	1356	1232	0	1505	1038	0	1732
Q Serve(g_s), s	0.2	40.9	40.9	17.5	9.6	2.8	2.8	0.0	24.8	24.1	0.0	6.4
Cycle Q Clear(g_c), s	0.2	40.9	40.9	17.5	9.6	2.8	9.2	0.0	24.8	48.9	0.0	6.4
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.90	1.00		0.06
Lane Grp Cap(c), veh/h	148	634	642	237	900	720	443	0	547	242	0	629
V/C Ratio(X)	0.01	0.85	0.85	0.90	0.25	0.08	0.08	0.00	0.61	0.76	0.00	0.19
Avail Cap(c_a), veh/h	159	634	642	276	900	720	443	0	547	242	0	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	38.2	38.2	57.6	17.3	15.7	32.9	0.0	35.6	55.6	0.0	29.7
Incr Delay (d2), s/veh	0.0	13.2	13.1	28.1	0.6	0.2	0.1	0.0	2.0	13.3	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.7	17.9	9.0	3.8	0.9	0.8	0.0	9.1	7.2	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.7	51.3	51.2	85.7	18.0	15.9	33.0	0.0	37.6	68.9	0.0	29.9
LnGrp LOS	C	D	D	F	B	B	C		D	E		C
Approach Vol, veh/h		1083			492			370			303	
Approach Delay, s/veh		51.2			47.2			37.1			53.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.7	59.0		55.0	3.2	78.6		55.0				
Change Period (Y+Rc), s	3.0	6.0		5.3	3.0	6.0		5.3				
Max Green Setting (Gmax), s	23.0	53.0		49.7	4.0	72.0		49.7				
Max Q Clear Time (g_c+I1), s	19.5	42.9		50.9	2.2	11.6		26.8				
Green Ext Time (p_c), s	0.2	4.3		0.0	0.0	1.4		2.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	48.3	
HCM 7th LOS	D	

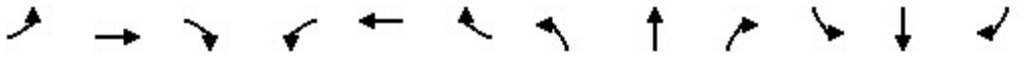
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	1229	176	549	57	196
v/c Ratio	0.83	0.74	0.26	0.31	0.52
Control Delay (s/veh)	19.3	44.6	4.1	23.9	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.3	44.6	4.1	23.9	9.2
Queue Length 50th (ft)	151	56	27	16	0
Queue Length 95th (ft)	#309	#157	56	42	47
Internal Link Dist (ft)	3542		1579	5173	
Turn Bay Length (ft)		200			200
Base Capacity (vph)	1493	238	2172	368	557
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.82	0.74	0.25	0.15	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	884	247	162	505	0	52	0	180	0	0	0
Future Volume (veh/h)	0	884	247	162	505	0	52	0	180	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1695	1641	1709	1750	1600	1750	1627	1750	1750	1750
Adj Flow Rate, veh/h	0	961	268	176	549	0	57	0	196	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	4	8	3	0	11	0	9	0	0	0
Cap, veh/h	142	1117	311	214	2059	0	408	0	255	0	323	0
Arrive On Green	0.00	0.44	0.44	0.14	0.63	0.00	0.18	0.00	0.18	0.00	0.00	0.00
Sat Flow, veh/h	872	2550	709	1563	3333	0	1440	0	1379	0	1750	0
Grp Volume(v), veh/h	0	621	608	176	549	0	57	0	196	0	0	0
Grp Sat Flow(s),veh/h/ln	872	1650	1609	1563	1624	0	1440	0	1379	0	1750	0
Q Serve(g_s), s	0.0	17.2	17.4	5.6	3.8	0.0	1.7	0.0	6.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	17.2	17.4	5.6	3.8	0.0	1.7	0.0	6.9	0.0	0.0	0.0
Prop In Lane	1.00		0.44	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	142	723	705	214	2059	0	408	0	255	0	323	0
V/C Ratio(X)	0.00	0.86	0.86	0.82	0.27	0.00	0.14	0.00	0.77	0.00	0.00	0.00
Avail Cap(c_a), veh/h	168	773	754	246	2224	0	595	0	434	0	551	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.9	12.9	21.3	4.1	0.0	17.6	0.0	19.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	9.1	9.7	17.7	0.1	0.0	0.2	0.0	4.9	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.6	6.6	2.9	0.7	0.0	0.5	0.0	2.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	22.0	22.6	39.0	4.2	0.0	17.7	0.0	24.5	0.0	0.0	0.0
LnGrp LOS		C	C	D	A		B		C			
Approach Vol, veh/h		1229			725			253			0	
Approach Delay, s/veh		22.3			12.6			23.0			0.0	
Approach LOS		C			B			C				

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	26.9		14.0		36.8		14.0				
Change Period (Y+Rc), s	3.0	4.6		4.6		4.6		4.6				
Max Green Setting (Gmax), s	8.0	23.8		16.0		34.8		16.0				
Max Q Clear Time (g_c+I1), s	7.6	19.4		8.9		5.8		0.0				
Green Ext Time (p_c), s	0.0	2.9		0.5		3.8		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			19.2									
HCM 7th LOS			B									

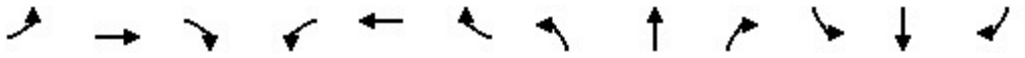
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	42	1356	133	550	70	183	28
v/c Ratio	0.07	0.69	0.64	0.25	0.38	0.48	0.13
Control Delay (s/veh)	3.3	13.5	42.1	5.5	28.0	8.8	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	3.3	13.5	42.1	5.5	28.0	8.8	22.3
Queue Length 50th (ft)	3	180	45	26	22	0	9
Queue Length 95th (ft)	11	#313	#124	80	54	45	27
Internal Link Dist (ft)		3521		424	5188		424
Turn Bay Length (ft)						120	
Base Capacity (vph)	615	1969	213	2188	255	461	286
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.69	0.62	0.25	0.27	0.40	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1057	190	122	436	70	48	17	168	17	9	0
Future Volume (veh/h)	39	1057	190	122	436	70	48	17	168	17	9	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1736	1723	1695	1750	1545	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	42	1149	207	133	474	76	52	18	183	18	10	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	1	2	4	0	15	0	0	0	0	0
Cap, veh/h	627	1466	263	165	1645	262	276	78	233	211	93	0
Arrive On Green	0.03	0.52	0.52	0.10	0.59	0.59	0.16	0.16	0.16	0.16	0.16	0.00
Sat Flow, veh/h	1667	2795	501	1641	2782	444	1047	500	1483	669	591	0
Grp Volume(v), veh/h	42	676	680	133	273	277	70	0	183	28	0	0
Grp Sat Flow(s),veh/h/ln	1667	1650	1646	1641	1611	1616	1547	0	1483	1260	0	0
Q Serve(g_s), s	0.6	18.5	18.7	4.4	4.7	4.7	0.0	0.0	6.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	18.5	18.7	4.4	4.7	4.7	2.0	0.0	6.7	2.0	0.0	0.0
Prop In Lane	1.00		0.30	1.00		0.27	0.74		1.00	0.64		0.00
Lane Grp Cap(c), veh/h	627	865	864	165	952	955	355	0	233	303	0	0
V/C Ratio(X)	0.07	0.78	0.79	0.80	0.29	0.29	0.20	0.00	0.79	0.09	0.00	0.00
Avail Cap(c_a), veh/h	719	865	864	205	952	955	424	0	302	366	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.6	10.7	10.8	24.7	5.6	5.7	20.8	0.0	22.7	20.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.9	7.2	16.9	0.8	0.8	0.3	0.0	9.9	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.6	6.7	2.3	1.3	1.3	0.8	0.0	2.7	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.6	17.7	18.0	41.5	6.4	6.4	21.0	0.0	32.6	20.4	0.0	0.0
LnGrp LOS	A	B	B	D	A	A	C		C	C		
Approach Vol, veh/h		1398			683			253			28	
Approach Delay, s/veh		17.4			13.3			29.4			20.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.4	8.6	34.0		13.4	4.9	37.7				
Change Period (Y+Rc), s		4.6	3.0	4.6		4.6	3.0	4.6				
Max Green Setting (Gmax), s		11.4	7.0	29.4		11.4	5.0	31.4				
Max Q Clear Time (g_c+I1), s		8.7	6.4	20.7		4.0	2.6	6.7				
Green Ext Time (p_c), s		0.3	0.0	5.4		0.0	0.0	3.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	17.6
HCM 7th LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	522	216	93	211
v/c Ratio	0.74	0.33	0.21	0.58
Control Delay (s/veh)	18.1	9.1	11.8	21.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.1	9.1	11.8	21.1
Queue Length 50th (ft)	97	29	12	41
Queue Length 95th (ft)	238	82	47	119
Internal Link Dist (ft)	5212	417	5184	5199
Turn Bay Length (ft)				
Base Capacity (vph)	1152	1076	728	607
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.45	0.20	0.13	0.35

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	440	9	15	153	31	9	52	24	120	52	22
Future Volume (veh/h)	31	440	9	15	153	31	9	52	24	120	52	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1668	1682	1750	1750	1614	1668	1477	1695	1641	1723	1695	1641
Adj Flow Rate, veh/h	34	478	10	16	166	34	10	57	26	130	57	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	5	0	0	10	6	20	4	8	2	4	8
Cap, veh/h	144	656	13	140	524	101	144	234	98	358	109	36
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	51	1570	32	41	1252	242	78	1073	447	791	498	165
Grp Volume(v), veh/h	522	0	0	216	0	0	93	0	0	211	0	0
Grp Sat Flow(s),veh/h/ln	1653	0	0	1534	0	0	1598	0	0	1455	0	0
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	2.9	0.0	0.0	1.5	0.0	0.0	4.0	0.0	0.0
Prop In Lane	0.07		0.02	0.07		0.16	0.11		0.28	0.62		0.11
Lane Grp Cap(c), veh/h	813	0	0	765	0	0	476	0	0	503	0	0
V/C Ratio(X)	0.64	0.00	0.00	0.28	0.00	0.00	0.20	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	1653	0	0	1525	0	0	1097	0	0	1059	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	0.0	0.0	6.2	0.0	0.0	10.2	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.6	0.0	0.0	6.4	0.0	0.0	10.4	0.0	0.0	11.6	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		522			216			93			211	
Approach Delay, s/veh		8.6			6.4			10.4			11.6	
Approach LOS		A			A			B			B	

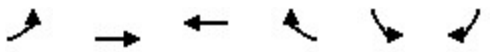
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.5		18.8		12.5		18.8				
Change Period (Y+Rc), s		5.7		5.7		5.7		5.7				
Max Green Setting (Gmax), s		19.3		29.3		19.3		29.3				
Max Q Clear Time (g_c+I1), s		3.5		10.3		6.0		4.9				
Green Ext Time (p_c), s		0.3		2.8		0.8		1.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	8.9	
HCM 7th LOS	A	

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	62	316	183	66	426
v/c Ratio	0.17	0.55	0.34	0.14	0.69
Control Delay (s/veh)	10.3	14.5	11.6	3.9	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	10.3	14.5	11.6	3.9	17.3
Queue Length 50th (ft)	9	52	29	0	61
Queue Length 95th (ft)	27	110	68	18	#200
Internal Link Dist (ft)		1482	3542		5231
Turn Bay Length (ft)					
Base Capacity (vph)	721	1111	1049	875	782
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.28	0.17	0.08	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



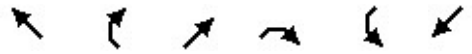
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	57	291	168	61	298	94
Future Volume (veh/h)	57	291	168	61	298	94
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1750	1736	1654	1586	1736	1750
Adj Flow Rate, veh/h	62	316	183	66	324	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	7	12	1	0
Cap, veh/h	480	497	473	385	415	131
Arrive On Green	0.29	0.29	0.29	0.29	0.34	0.34
Sat Flow, veh/h	1149	1736	1654	1344	1219	384
Grp Volume(v), veh/h	62	316	183	66	427	0
Grp Sat Flow(s),veh/h/ln	1149	1736	1654	1344	1606	0
Q Serve(g_s), s	1.3	4.5	2.5	1.0	6.8	0.0
Cycle Q Clear(g_c), s	3.8	4.5	2.5	1.0	6.8	0.0
Prop In Lane	1.00			1.00	0.76	0.24
Lane Grp Cap(c), veh/h	480	497	473	385	547	0
V/C Ratio(X)	0.13	0.64	0.39	0.17	0.78	0.00
Avail Cap(c_a), veh/h	1070	1388	1323	1075	945	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.7	8.8	8.1	7.6	8.4	0.0
Incr Delay (d2), s/veh	0.1	1.4	0.5	0.2	2.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.0	0.5	0.2	1.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	9.8	10.2	8.7	7.8	10.9	0.0
LnGrp LOS	A	B	A	A	B	
Approach Vol, veh/h		378	249		427	
Approach Delay, s/veh		10.1	8.4		10.9	
Approach LOS		B	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		13.4		15.0		13.4
Change Period (Y+Rc), s		5.3		5.3		5.3
Max Green Setting (Gmax), s		22.7		16.7		22.7
Max Q Clear Time (g_c+I1), s		6.5		8.8		4.5
Green Ext Time (p_c), s		1.7		0.9		1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	10.0
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	NWT	NWR	NET	NER	SWL	SWT
Lane Group Flow (vph)	134	302	421	172	160	210
v/c Ratio	0.53	0.44	0.79	0.29	0.79	0.28
Control Delay (s/veh)	31.9	3.3	32.8	4.7	58.4	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.9	3.3	32.8	4.7	58.4	10.9
Queue Length 50th (ft)	49	0	155	0	63	49
Queue Length 95th (ft)	97	30	#337	40	#172	108
Internal Link Dist (ft)	347		798			232
Turn Bay Length (ft)		250		200	200	
Base Capacity (vph)	377	694	553	605	203	766
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.44	0.76	0.28	0.79	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	123	0	278	0	387	158	147	193	0
Future Volume (veh/h)	0	0	0	123	0	278	0	387	158	147	193	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1573	1723	1736	1723	1614	1682	1709	1491	1723
Adj Flow Rate, veh/h	0	0	0	134	0	0	0	421	172	160	210	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	13	2	1	2	10	5	3	19	2
Cap, veh/h	0	5	0	236	0		0	566	500	200	832	0
Arrive On Green	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.35	0.35	0.12	0.56	0.00
Sat Flow, veh/h	0	1723	0	1641	0	1471	0	1614	1425	1628	1491	0
Grp Volume(v), veh/h	0	0	0	134	0	0	0	421	172	160	210	0
Grp Sat Flow(s),veh/h/ln	0	1723	0	1641	0	1471	0	1614	1425	1628	1491	0
Q Serve(g_s), s	0.0	0.0	0.0	2.7	0.0	0.0	0.0	8.2	3.2	3.4	2.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.7	0.0	0.0	0.0	8.2	3.2	3.4	2.6	0.0
Prop In Lane	0.00		0.00	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	236	0		0	566	500	200	832	0
V/C Ratio(X)	0.00	0.00	0.00	0.57	0.00		0.00	0.74	0.34	0.80	0.25	0.00
Avail Cap(c_a), veh/h	0	775	0	752	0		0	1002	885	366	1387	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	14.2	0.0	0.0	0.0	10.1	8.5	15.2	4.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.1	0.0	0.0	0.0	2.0	0.4	7.3	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.9	0.0	0.0	0.0	1.9	0.6	1.3	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	16.3	0.0	0.0	0.0	12.1	8.9	22.4	4.2	0.0
LnGrp LOS				B				B	A	C	A	
Approach Vol, veh/h		0			134			593			370	
Approach Delay, s/veh		0.0			16.3			11.2			12.1	
Approach LOS					B			B			B	

Timer - Assigned Phs	2	3	4		6		8					
Phs Duration (G+Y+Rc), s	10.4	7.4	17.8		0.0		25.2					
Change Period (Y+Rc), s	5.3	3.0	5.3		4.0		5.3					
Max Green Setting (Gmax), s	16.3	8.0	22.1		16.0		33.1					
Max Q Clear Time (g_c+I1), s	4.7	5.4	10.2		0.0		4.6					
Green Ext Time (p_c), s	0.4	0.1	2.3		0.0		1.1					

Intersection Summary	
HCM 7th Control Delay, s/veh	12.1
HCM 7th LOS	B

Notes

Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1335	68	37	460	15	74
Future Vol, veh/h	1335	68	37	460	15	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	3	0	3	0	3
Mvmt Flow	1451	74	40	500	16	80

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1525	0	2068	1488
Stage 1	-	-	-	-	1488	-
Stage 2	-	-	-	-	580	-
Critical Hdwy	-	-	4.1	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	443	-	60	152
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	564	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	443	-	55	152
Mov Cap-2 Maneuver	-	-	-	-	187	-
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	512	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.04	48.32
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	187	152	-	-	443	-
HCM Lane V/C Ratio	0.087	0.53	-	-	0.091	-
HCM Ctrl Dly (s/v)	26.1	52.8	-	-	13.9	-
HCM Lane LOS	D	F	-	-	B	-
HCM 95th %tile Q(veh)	0.3	2.6	-	-	0.3	-

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Future PM Capacity:

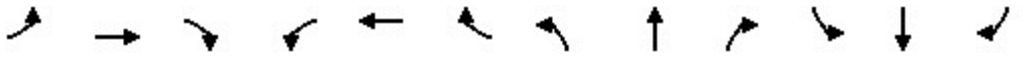
Queues

2: 54th Street West & Rimrock Road 10/14/2025

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	385	272	723	157	145	289	118	66
v/c Ratio	0.01	0.34	0.72	0.70	0.17	0.52	0.62	0.83	0.17
Control Delay (s/veh)	7.3	19.7	37.3	16.9	2.3	32.0	18.2	71.4	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.3	19.7	37.3	16.9	2.3	32.0	18.2	71.4	21.6
Queue Length 50th (ft)	1	67	115	206	0	56	49	51	20
Queue Length 95th (ft)	4	115	196	#510	28	117	133	#145	54
Internal Link Dist (ft)		4323		924			5202		920
Turn Bay Length (ft)	250		250		250	200		150	
Base Capacity (vph)	405	1140	518	1039	947	356	547	180	495
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.34	0.53	0.70	0.17	0.41	0.53	0.66	0.13

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	319	35	250	665	144	133	74	192	109	53	7
Future Volume (veh/h)	4	319	35	250	665	144	133	74	192	109	53	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1750	1750	1750	1750	1750	1709	1709	1750	1750
Adj Flow Rate, veh/h	4	347	38	272	723	157	145	80	209	118	58	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	3	3	0	0
Cap, veh/h	236	1050	114	318	931	789	424	116	303	208	407	56
Arrive On Green	0.01	0.35	0.35	0.19	0.53	0.53	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1667	3024	329	1667	1750	1483	1357	429	1120	1082	1505	208
Grp Volume(v), veh/h	4	190	195	272	723	157	145	0	289	118	0	66
Grp Sat Flow(s),veh/h/ln	1667	1663	1691	1667	1750	1483	1357	0	1548	1082	0	1713
Q Serve(g_s), s	0.1	6.3	6.3	11.7	24.5	4.1	6.8	0.0	12.5	7.6	0.0	2.2
Cycle Q Clear(g_c), s	0.1	6.3	6.3	11.7	24.5	4.1	8.9	0.0	12.5	20.1	0.0	2.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.72	1.00		0.12
Lane Grp Cap(c), veh/h	236	577	587	318	931	789	424	0	418	208	0	463
V/C Ratio(X)	0.02	0.33	0.33	0.86	0.78	0.20	0.34	0.00	0.69	0.57	0.00	0.14
Avail Cap(c_a), veh/h	361	577	587	493	931	789	424	0	418	208	0	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.4	17.9	17.9	29.1	13.9	9.1	24.0	0.0	24.4	33.6	0.0	20.6
Incr Delay (d2), s/veh	0.0	1.5	1.5	8.8	6.3	0.6	0.5	0.0	4.8	3.6	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.3	5.1	9.1	1.2	2.0	0.0	4.7	2.3	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.4	19.4	19.5	38.0	20.2	9.7	24.5	0.0	29.1	37.2	0.0	20.7
LnGrp LOS	B	B	B	D	C	A	C		C	D		C
Approach Vol, veh/h		389			1152			434			184	
Approach Delay, s/veh		19.4			22.9			27.6			31.3	
Approach LOS		B			C			C			C	

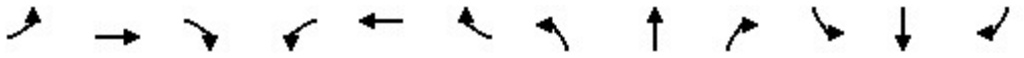
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.2	31.8		25.4	3.4	45.6		25.4				
Change Period (Y+Rc), s	3.0	6.0		5.3	3.0	6.0		5.3				
Max Green Setting (Gmax), s	22.0	23.6		20.1	6.0	39.6		20.1				
Max Q Clear Time (g_c+I1), s	13.7	8.3		22.1	2.1	26.5		14.5				
Green Ext Time (p_c), s	0.5	1.6		0.0	0.0	4.2		1.0				

Intersection Summary		
HCM 7th Control Delay, s/veh		24.0
HCM 7th LOS		C

Lane Group	EBT	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	722	214	683	152	348
v/c Ratio	0.68	0.55	0.37	0.49	0.57
Control Delay (s/veh)	19.3	25.1	6.6	24.3	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.3	25.1	6.6	24.3	6.8
Queue Length 50th (ft)	94	61	45	43	0
Queue Length 95th (ft)	#175	130	90	92	55
Internal Link Dist (ft)	3542		1579	5173	
Turn Bay Length (ft)		200			
Base Capacity (vph)	1295	520	2376	490	757
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.41	0.29	0.31	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	552	112	197	628	0	140	0	320	0	0	0
Future Volume (veh/h)	0	552	112	197	628	0	140	0	320	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1723	1723	1750	1750	1736	1750	1709	1750	1750	1750
Adj Flow Rate, veh/h	0	600	122	214	683	0	152	0	348	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	2	2	0	0	1	0	3	0	0	0
Cap, veh/h	154	794	161	269	1723	0	565	0	413	0	500	0
Arrive On Green	0.00	0.29	0.29	0.16	0.52	0.00	0.29	0.00	0.29	0.00	0.00	0.00
Sat Flow, veh/h	770	2732	554	1641	3413	0	1440	0	1448	0	1750	0
Grp Volume(v), veh/h	0	362	360	214	683	0	152	0	348	0	0	0
Grp Sat Flow(s),veh/h/ln	770	1650	1637	1641	1663	0	1440	0	1448	0	1750	0
Q Serve(g_s), s	0.0	9.3	9.4	5.9	5.8	0.0	4.0	0.0	10.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.3	9.4	5.9	5.8	0.0	4.0	0.0	10.6	0.0	0.0	0.0
Prop In Lane	1.00		0.34	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	154	479	475	269	1723	0	565	0	413	0	500	0
V/C Ratio(X)	0.00	0.75	0.76	0.80	0.40	0.00	0.27	0.00	0.84	0.00	0.00	0.00
Avail Cap(c_a), veh/h	216	612	608	490	2441	0	658	0	507	0	612	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.1	15.1	18.8	6.8	0.0	13.4	0.0	15.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.0	4.1	5.4	0.1	0.0	0.3	0.0	10.3	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	3.4	2.3	1.4	0.0	1.1	0.0	4.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	19.1	19.3	24.2	7.0	0.0	13.6	0.0	26.0	0.0	0.0	0.0
LnGrp LOS		B	B	C	A		B		C			
Approach Vol, veh/h		722			897			500			0	
Approach Delay, s/veh		19.2			11.1			22.3			0.0	
Approach LOS		B			B			C				

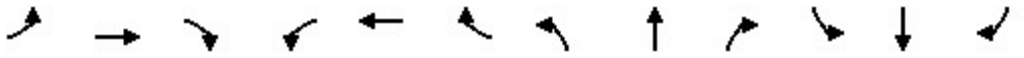
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.7	18.2		18.0		28.9		18.0				
Change Period (Y+Rc), s	3.0	4.6		4.6		4.6		4.6				
Max Green Setting (Gmax), s	14.0	17.4		16.4		34.4		16.4				
Max Q Clear Time (g_c+I1), s	7.9	11.4		12.6		7.8		0.0				
Green Ext Time (p_c), s	0.3	2.2		0.8		4.9		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			16.5									
HCM 7th LOS			B									

Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	702	224	1140	171	118	9
v/c Ratio	0.46	0.51	0.50	0.49	0.24	0.03
Control Delay (s/veh)	15.0	24.7	7.0	25.1	4.7	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.0	24.7	7.0	25.1	4.7	17.8
Queue Length 50th (ft)	96	66	98	51	0	2
Queue Length 95th (ft)	155	#151	157	109	27	12
Internal Link Dist (ft)	3521		424	5188		424
Turn Bay Length (ft)					120	
Base Capacity (vph)	1625	612	2304	531	689	544
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.37	0.49	0.32	0.17	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	543	103	206	1040	9	157	0	109	6	2	0
Future Volume (veh/h)	0	543	103	206	1040	9	157	0	109	6	2	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1736	1750	1750	1750	1750	1736	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	0	590	112	224	1130	10	171	0	118	7	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	0	0	0	0	1	0	0	0	0	0
Cap, veh/h	367	909	172	287	1969	17	456	0	244	249	48	0
Arrive On Green	0.00	0.33	0.33	0.17	0.58	0.58	0.16	0.00	0.16	0.16	0.16	0.00
Sat Flow, veh/h	1667	2768	524	1667	3377	30	1571	0	1483	449	293	0
Grp Volume(v), veh/h	0	351	351	224	556	584	171	0	118	9	0	0
Grp Sat Flow(s),veh/h/ln	1667	1650	1642	1667	1663	1745	1571	0	1483	742	0	0
Q Serve(g_s), s	0.0	6.6	6.7	4.7	7.6	7.6	0.0	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.6	6.7	4.7	7.6	7.6	3.5	0.0	2.6	3.5	0.0	0.0
Prop In Lane	1.00		0.32	1.00		0.02	1.00		1.00	0.78		0.00
Lane Grp Cap(c), veh/h	367	542	539	287	969	1017	456	0	244	298	0	0
V/C Ratio(X)	0.00	0.65	0.65	0.78	0.57	0.57	0.37	0.00	0.48	0.03	0.00	0.00
Avail Cap(c_a), veh/h	545	922	918	594	1340	1406	787	0	585	614	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.4	10.5	14.4	4.8	4.8	14.2	0.0	13.8	12.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	1.3	4.6	0.5	0.5	0.5	0.0	1.5	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	1.8	1.7	1.1	1.1	1.1	0.0	0.8	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	11.8	11.8	19.0	5.3	5.3	14.7	0.0	15.3	12.9	0.0	0.0
LnGrp LOS		B	B	B	A	A	B		B	B		
Approach Vol, veh/h		702			1364			289			9	
Approach Delay, s/veh		11.8			7.5			14.9			12.9	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	16.6		10.6	0.0	25.9		10.6				
Change Period (Y+Rc), s	3.0	4.6		4.6	3.0	4.6		4.6				
Max Green Setting (Gmax), s	13.0	20.4		14.4	4.0	29.4		14.4				
Max Q Clear Time (g_c+I1), s	6.7	8.7		5.5	0.0	9.6		5.5				
Green Ext Time (p_c), s	0.3	3.3		0.8	0.0	7.4		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	9.7
HCM 7th LOS	A

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	330	721	125	110
v/c Ratio	0.37	0.81	0.36	0.39
Control Delay (s/veh)	7.3	17.3	16.4	20.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.3	17.3	16.4	20.0
Queue Length 50th (ft)	41	123	20	22
Queue Length 95th (ft)	95	#360	61	62
Internal Link Dist (ft)	5212	417	5184	5199
Turn Bay Length (ft)				
Base Capacity (vph)	1191	1195	689	575
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.60	0.18	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	287	2	46	540	77	4	76	35	35	50	17
Future Volume (veh/h)	15	287	2	46	540	77	4	76	35	35	50	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1573	1723	1750	1750	1736	1750	1750	1750	1750	1682	1750	1750
Adj Flow Rate, veh/h	16	312	2	50	587	84	4	83	38	38	54	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	13	2	0	0	1	0	0	0	0	5	0	0
Cap, veh/h	123	881	5	142	753	104	110	156	70	199	128	37
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	27	1650	10	60	1411	194	27	1122	502	430	922	264
Grp Volume(v), veh/h	330	0	0	721	0	0	125	0	0	110	0	0
Grp Sat Flow(s),veh/h/ln	1687	0	0	1665	0	0	1652	0	0	1616	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	12.2	0.0	0.0	2.4	0.0	0.0	2.1	0.0	0.0
Prop In Lane	0.05		0.01	0.07		0.12	0.03		0.30	0.35		0.16
Lane Grp Cap(c), veh/h	1009	0	0	999	0	0	336	0	0	363	0	0
V/C Ratio(X)	0.33	0.00	0.00	0.72	0.00	0.00	0.37	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	1601	0	0	1594	0	0	924	0	0	907	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.7	0.0	0.0	6.6	0.0	0.0	14.0	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.0	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.5	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	4.9	0.0	0.0	7.6	0.0	0.0	14.7	0.0	0.0	14.3	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		330			721			125			110	
Approach Delay, s/veh		4.9			7.6			14.7			14.3	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	10.5	24.3	10.5	24.3
Change Period (Y+Rc), s	5.7	5.7	5.7	5.7
Max Green Setting (Gmax), s	17.3	31.3	17.3	31.3
Max Q Clear Time (g_c+I1), s	4.4	5.9	4.1	14.2
Green Ext Time (p_c), s	0.4	1.8	0.3	4.4

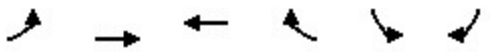
Intersection Summary	
HCM 7th Control Delay, s/veh	8.1
HCM 7th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	110	292	380	234	178
v/c Ratio	0.29	0.42	0.54	0.32	0.39
Control Delay (s/veh)	8.8	8.9	10.5	2.5	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.8	8.9	10.5	2.5	9.6
Queue Length 50th (ft)	10	29	40	0	12
Queue Length 95th (ft)	37	80	106	24	55
Internal Link Dist (ft)		1482	3542		5231
Turn Bay Length (ft)					
Base Capacity (vph)	672	1242	1254	1132	968
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.24	0.30	0.21	0.18

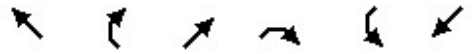
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	101	269	350	215	87	76
Future Volume (veh/h)	101	269	350	215	87	76
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1750	1736	1750	1750	1750	1750
Adj Flow Rate, veh/h	110	292	380	234	95	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	0	0	0	0
Cap, veh/h	475	722	727	616	160	140
Arrive On Green	0.42	0.42	0.42	0.42	0.19	0.19
Sat Flow, veh/h	821	1736	1750	1483	837	731
Grp Volume(v), veh/h	110	292	380	234	179	0
Grp Sat Flow(s),veh/h/ln	821	1736	1750	1483	1577	0
Q Serve(g_s), s	3.1	3.2	4.4	3.0	2.8	0.0
Cycle Q Clear(g_c), s	7.5	3.2	4.4	3.0	2.8	0.0
Prop In Lane	1.00			1.00	0.53	0.46
Lane Grp Cap(c), veh/h	475	722	727	616	302	0
V/C Ratio(X)	0.23	0.40	0.52	0.38	0.59	0.00
Avail Cap(c_a), veh/h	793	1396	1407	1192	1034	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.7	5.5	5.9	5.5	9.9	0.0
Incr Delay (d2), s/veh	0.2	0.4	0.6	0.4	1.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.5	0.3	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.9	5.9	6.5	5.9	11.8	0.0
LnGrp LOS	A	A	A	A	B	
Approach Vol, veh/h		402	614		179	
Approach Delay, s/veh		6.7	6.2		11.8	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		16.5		10.5		16.5
Change Period (Y+Rc), s		5.3		5.3		5.3
Max Green Setting (Gmax), s		21.7		17.7		21.7
Max Q Clear Time (g_c+I1), s		9.5		4.8		6.4
Green Ext Time (p_c), s		1.7		0.4		2.5

Intersection Summary	
HCM 7th Control Delay, s/veh	7.2
HCM 7th LOS	A



Lane Group	NWT	NWR	NET	NER	SWL	SWT
Lane Group Flow (vph)	156	976	287	106	269	383
v/c Ratio	0.59	0.94	0.79	0.26	0.52	0.39
Control Delay (s/veh)	38.2	23.8	46.4	7.1	26.6	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.2	23.8	46.4	7.1	26.6	11.1
Queue Length 50th (ft)	69	72	131	0	103	91
Queue Length 95th (ft)	127	54	#241	29	189	170
Internal Link Dist (ft)	347		798			232
Turn Bay Length (ft)		250		200	200	
Base Capacity (vph)	369	1035	369	417	513	988
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.94	0.78	0.25	0.52	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	109	0	683	0	238	88	269	383	0
Future Volume (veh/h)	0	0	0	109	0	683	0	238	88	269	383	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1682	1750	1750	1736	1723
Adj Flow Rate, veh/h	0	0	0	156	0	0	0	287	106	269	383	0
Peak Hour Factor	0.92	0.92	0.92	0.70	0.92	0.70	0.92	0.83	0.83	1.00	1.00	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	0	0	1	2
Cap, veh/h	0	5	0	261	0		0	414	365	351	940	0
Arrive On Green	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.25	0.25	0.21	0.54	0.00
Sat Flow, veh/h	0	1723	0	1641	0	1460	0	1682	1483	1667	1736	0
Grp Volume(v), veh/h	0	0	0	156	0	0	0	287	106	269	383	0
Grp Sat Flow(s),veh/h/ln	0	1723	0	1641	0	1460	0	1682	1483	1667	1736	0
Q Serve(g_s), s	0.0	0.0	0.0	3.1	0.0	0.0	0.0	5.5	2.1	5.4	4.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.1	0.0	0.0	0.0	5.5	2.1	5.4	4.6	0.0
Prop In Lane	0.00		0.00	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	261	0		0	414	365	351	940	0
V/C Ratio(X)	0.00	0.00	0.00	0.60	0.00		0.00	0.69	0.29	0.77	0.41	0.00
Avail Cap(c_a), veh/h	0	778	0	782	0		0	783	691	1082	2082	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	13.8	0.0	0.0	0.0	12.1	10.8	13.2	4.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.2	0.0	0.0	0.0	2.1	0.4	3.5	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.6	0.5	1.7	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	16.0	0.0	0.0	0.0	14.2	11.3	16.7	5.1	0.0
LnGrp LOS				B				B	B	B	A	
Approach Vol, veh/h		0			156			393			652	
Approach Delay, s/veh		0.0			16.0			13.4			9.9	
Approach LOS					B			B			A	

Timer - Assigned Phs	2	3	4		6		8					
Phs Duration (G+Y+Rc), s	10.9	10.5	14.0		0.0		24.5					
Change Period (Y+Rc), s	5.3	3.0	5.3		4.0		5.3					
Max Green Setting (Gmax), s	16.9	23.0	16.5		16.0		42.5					
Max Q Clear Time (g_c+I1), s	5.1	7.4	7.5		0.0		6.6					
Green Ext Time (p_c), s	0.5	0.6	1.2		0.0		2.2					

Intersection Summary	
HCM 7th Control Delay, s/veh	11.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	598	29	87	1120	26	35
Future Vol, veh/h	598	29	87	1120	26	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	0	0	5
Mvmt Flow	650	32	95	1217	28	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	682	0	2072	666
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	1407	-
Critical Hdwy	-	-	4.1	-	6.4	6.25
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.345
Pot Cap-1 Maneuver	-	-	921	-	60	454
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	229	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	921	-	54	454
Mov Cap-2 Maneuver	-	-	-	-	153	-
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	205	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.67	22.21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	153	454	-	-	921	-
HCM Lane V/C Ratio	0.184	0.084	-	-	0.103	-
HCM Ctrl Dly (s/v)	33.7	13.6	-	-	9.4	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	0.3	-	-	0.3	-

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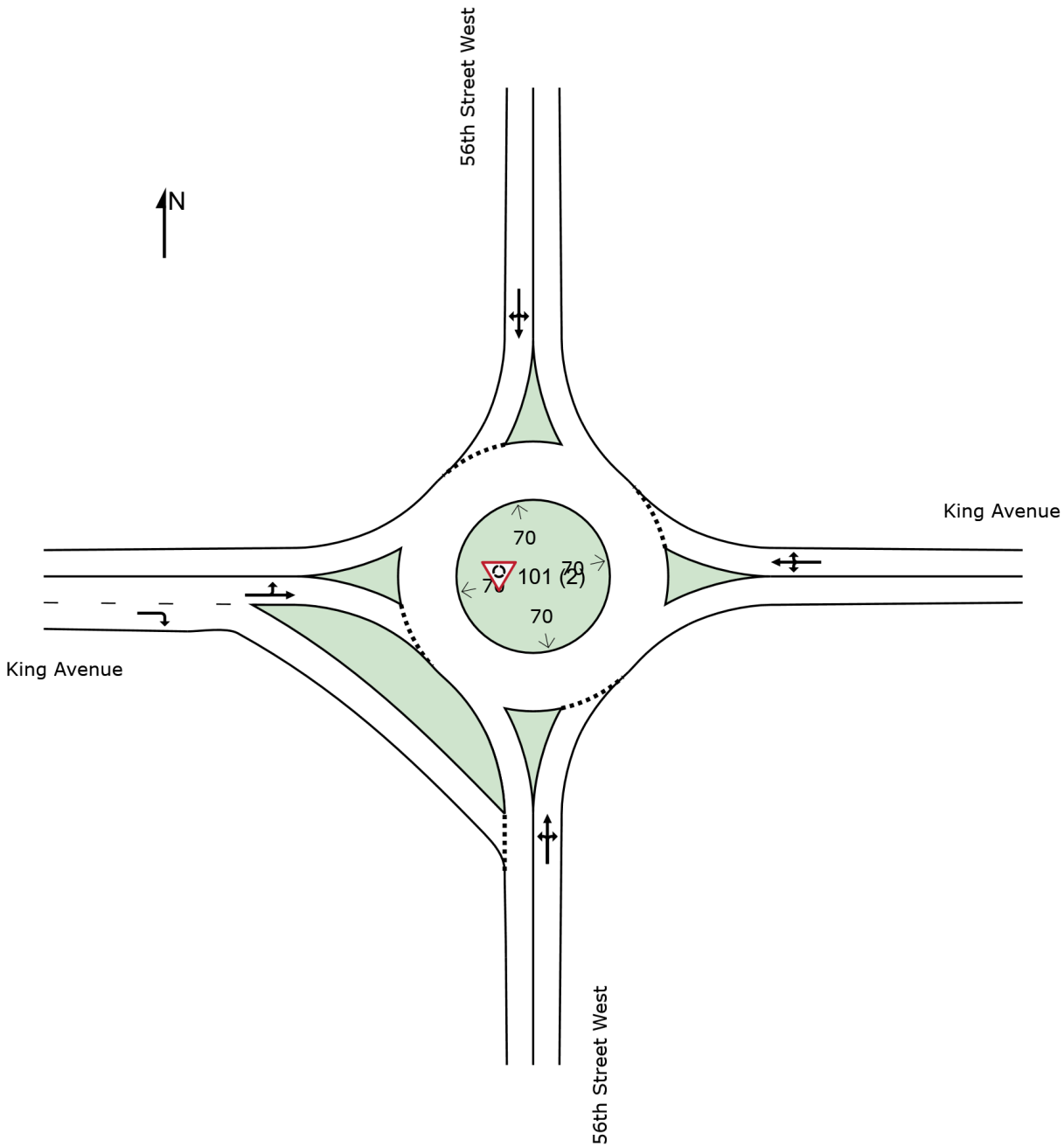
SITE LAYOUT

Site: [101 (2)] King Ave & 56th St AM Improved (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (2)] King Ave & 56th St AM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	133	3.0	133	3.0	0.572	12.6	LOS B	5.0	125.7	0.75	0.68	1.08	34.0
4	T1	All MCs	260	0.8	260	0.8	0.572	12.2	LOS B	5.0	125.7	0.75	0.68	1.08	33.4
14	R2	All MCs	100	0.0	100	0.0	0.572	12.1	LOS B	5.0	125.7	0.75	0.68	1.08	34.4
Approach			492	1.2	492	1.2	0.572	12.3	LOS B	5.0	125.7	0.75	0.68	1.08	33.8
West: King Avenue															
5	L2	All MCs	126	6.3	126	6.3	0.784	20.6	LOS C	12.6	320.4	0.92	0.95	1.81	30.2
2	T1	All MCs	599	1.3	599	1.3	0.784	19.7	LOS C	12.6	320.4	0.92	0.95	1.81	32.2
12	R2	All MCs	40	10.0	40	10.0	0.044	4.4	LOS A	0.2	4.4	0.41	0.27	0.41	38.8
Approach			765	2.6	765	2.6	0.784	19.0	LOS C	12.6	320.4	0.89	0.91	1.73	32.1
South: 56th Street West															
3	L2	All MCs	36	0.0	36	0.0	0.450	13.5	LOS B	2.2	56.7	0.76	0.79	1.00	33.5
8	T1	All MCs	154	3.9	154	3.9	0.450	14.6	LOS B	2.2	56.7	0.76	0.79	1.00	32.3
18	R2	All MCs	48	4.2	48	4.2	0.450	14.7	LOS B	2.2	56.7	0.76	0.79	1.00	33.1
Approach			238	3.4	238	3.4	0.450	14.4	LOS B	2.2	56.7	0.76	0.79	1.00	32.6
East: King Avenue															
1	L2	All MCs	34	5.9	34	5.9	0.458	9.4	LOS A	2.7	70.5	0.61	0.44	0.65	35.4
6	T1	All MCs	364	2.7	364	2.7	0.458	9.1	LOS A	2.7	70.5	0.61	0.44	0.65	38.0
16	R2	All MCs	30	20.0	30	20.0	0.458	11.3	LOS B	2.7	70.5	0.61	0.44	0.65	33.9
Approach			428	4.2	428	4.2	0.458	9.2	LOS A	2.7	70.5	0.61	0.44	0.65	37.4
All Vehicles			1924	2.7	1924	2.7	0.784	14.6	LOS B	12.6	320.4	0.78	0.73	1.23	33.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [102 (2)] King Ave & 56th St PM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	76	0.0	76	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	35.5
4	T1	All MCs	128	0.0	128	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	34.6
14	R2	All MCs	134	0.0	134	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	35.7
Approach			338	0.0	338	0.0	0.440	10.4	LOS B	2.6	65.4	0.70	0.63	0.86	35.2
West: King Avenue															
5	L2	All MCs	80	0.0	80	0.0	0.422	7.4	LOS A	2.4	59.7	0.49	0.30	0.49	37.1
2	T1	All MCs	395	1.5	395	1.5	0.422	7.6	LOS A	2.4	59.7	0.49	0.30	0.49	39.0
12	R2	All MCs	14	14.3	14	14.3	0.014	3.7	LOS A	0.1	1.4	0.29	0.13	0.29	38.5
Approach			489	1.6	489	1.6	0.422	7.4	LOS A	2.4	59.7	0.48	0.29	0.48	38.6
South: 56th Street West															
3	L2	All MCs	50	0.0	50	0.0	0.467	10.8	LOS B	3.0	74.8	0.71	0.65	0.92	36.5
8	T1	All MCs	272	0.0	272	0.0	0.467	10.8	LOS B	3.0	74.8	0.71	0.65	0.92	35.5
18	R2	All MCs	40	5.0	40	5.0	0.467	11.7	LOS B	3.0	74.8	0.71	0.65	0.92	35.9
Approach			362	0.6	362	0.6	0.467	10.9	LOS B	3.0	74.8	0.71	0.65	0.92	35.7
East: King Avenue															
1	L2	All MCs	34	0.0	34	0.0	0.708	16.1	LOS C	9.5	239.3	0.86	0.81	1.46	32.7
6	T1	All MCs	485	1.2	485	1.2	0.708	16.2	LOS C	9.5	239.3	0.86	0.81	1.46	34.2
16	R2	All MCs	122	0.0	122	0.0	0.708	16.1	LOS C	9.5	239.3	0.86	0.81	1.46	33.1
Approach			640	0.9	640	0.9	0.708	16.2	LOS C	9.5	239.3	0.86	0.81	1.46	33.9
All Vehicles			1829	0.9	1829	0.9	0.708	11.7	LOS B	9.5	239.3	0.70	0.61	0.98	35.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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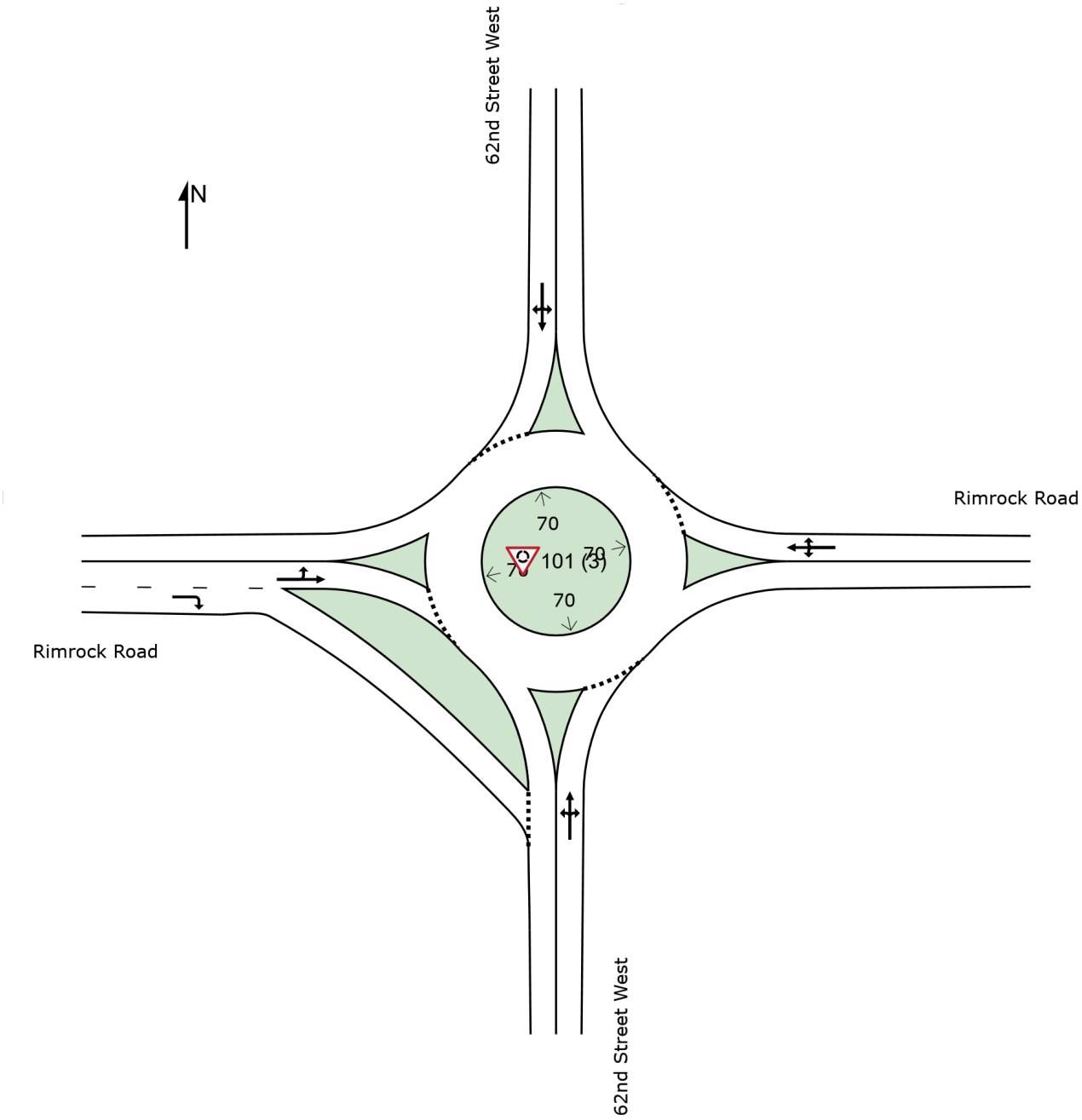
SITE LAYOUT

Site: [101 (3)] Rimrock Rd & 62nd St AM Improved (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (3)] Rimrock Rd & 62nd St AM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 62nd Street West															
7	L2	All MCs	664	0.0	664	0.0	0.748	14.7	LOS B	13.3	332.1	0.79	0.53	1.03	30.7
4	T1	All MCs	196	1.0	196	1.0	0.748	14.8	LOS B	13.3	332.1	0.79	0.53	1.03	29.7
14	R2	All MCs	4	0.0	4	0.0	0.748	14.7	LOS B	13.3	332.1	0.79	0.53	1.03	30.9
Approach			864	0.2	864	0.2	0.748	14.7	LOS B	13.3	332.1	0.79	0.53	1.03	30.5
West: Rimrock Road															
5	L2	All MCs	4	0.0	4	0.0	0.478	13.1	LOS B	2.3	60.0	0.74	0.78	1.02	32.3
2	T1	All MCs	272	3.0	272	3.0	0.478	14.1	LOS B	2.3	60.0	0.74	0.78	1.02	34.2
12	R2	All MCs	178	1.0	178	1.0	0.168	4.9	LOS A	0.8	19.5	0.41	0.26	0.41	37.9
Approach			454	2.2	454	2.2	0.478	10.5	LOS B	2.3	60.0	0.61	0.57	0.78	35.5
South: 62nd Street West															
3	L2	All MCs	34	12.0	34	12.0	0.303	13.9	LOS B	1.1	29.0	0.71	0.73	0.82	30.9
8	T1	All MCs	48	17.0	48	17.0	0.303	15.5	LOS C	1.1	29.0	0.71	0.73	0.82	29.5
18	R2	All MCs	48	4.0	48	4.0	0.303	11.5	LOS B	1.1	29.0	0.71	0.73	0.82	32.0
Approach			129	10.9	129	10.9	0.303	13.5	LOS B	1.1	29.0	0.71	0.73	0.82	30.7
East: Rimrock Road															
1	L2	All MCs	48	4.0	48	4.0	0.231	4.9	LOS A	1.1	29.9	0.27	0.12	0.27	36.2
6	T1	All MCs	72	17.0	72	17.0	0.231	5.9	LOS A	1.1	29.9	0.27	0.12	0.27	37.3
16	R2	All MCs	154	0.0	154	0.0	0.231	4.7	LOS A	1.1	29.9	0.27	0.12	0.27	37.3
Approach			274	5.2	274	5.2	0.231	5.0	LOS A	1.1	29.9	0.27	0.12	0.27	37.1
All Vehicles			1722	2.3	1722	2.3	0.748	12.0	LOS B	13.3	332.1	0.66	0.49	0.83	32.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (4)] Rimrock Rd & 62nd St PM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 62nd Street West															
7	L2	All MCs	283	0.0	283	0.0	0.441	9.2	LOS A	2.7	67.3	0.65	0.51	0.71	33.4
4	T1	All MCs	107	0.0	107	0.0	0.441	9.2	LOS A	2.7	67.3	0.65	0.51	0.71	32.3
14	R2	All MCs	12	0.0	12	0.0	0.441	9.2	LOS A	2.7	67.3	0.65	0.51	0.71	33.6
Approach			401	0.0	401	0.0	0.441	9.2	LOS A	2.7	67.3	0.65	0.51	0.71	33.1
West: Rimrock Road															
5	L2	All MCs	4	0.0	4	0.0	0.147	5.1	LOS A	0.6	14.7	0.49	0.37	0.49	36.9
2	T1	All MCs	130	2.0	130	2.0	0.147	5.3	LOS A	0.6	14.7	0.49	0.37	0.49	39.5
12	R2	All MCs	68	0.0	68	0.0	0.059	3.6	LOS A	0.3	6.3	0.31	0.16	0.31	38.9
Approach			203	1.3	203	1.3	0.147	4.7	LOS A	0.6	14.7	0.43	0.30	0.43	39.3
South: 62nd Street West															
3	L2	All MCs	162	0.0	162	0.0	0.375	8.2	LOS A	2.0	48.8	0.61	0.46	0.61	34.4
8	T1	All MCs	145	0.0	145	0.0	0.375	8.2	LOS A	2.0	48.8	0.61	0.46	0.61	33.2
18	R2	All MCs	30	0.0	30	0.0	0.375	8.2	LOS A	2.0	48.8	0.61	0.46	0.61	34.6
Approach			337	0.0	337	0.0	0.375	8.2	LOS A	2.0	48.8	0.61	0.46	0.61	33.9
East: Rimrock Road															
1	L2	All MCs	60	0.0	60	0.0	0.786	18.6	LOS C	15.9	397.2	0.94	0.90	1.70	30.3
6	T1	All MCs	188	0.0	188	0.0	0.786	18.6	LOS C	15.9	397.2	0.94	0.90	1.70	32.3
16	R2	All MCs	542	0.0	542	0.0	0.786	18.6	LOS C	15.9	397.2	0.94	0.90	1.70	30.6
Approach			790	0.0	790	0.0	0.786	18.6	LOS C	15.9	397.2	0.94	0.90	1.70	31.0
All Vehicles			1732	0.2	1732	0.2	0.786	12.8	LOS B	15.9	397.2	0.75	0.65	1.11	32.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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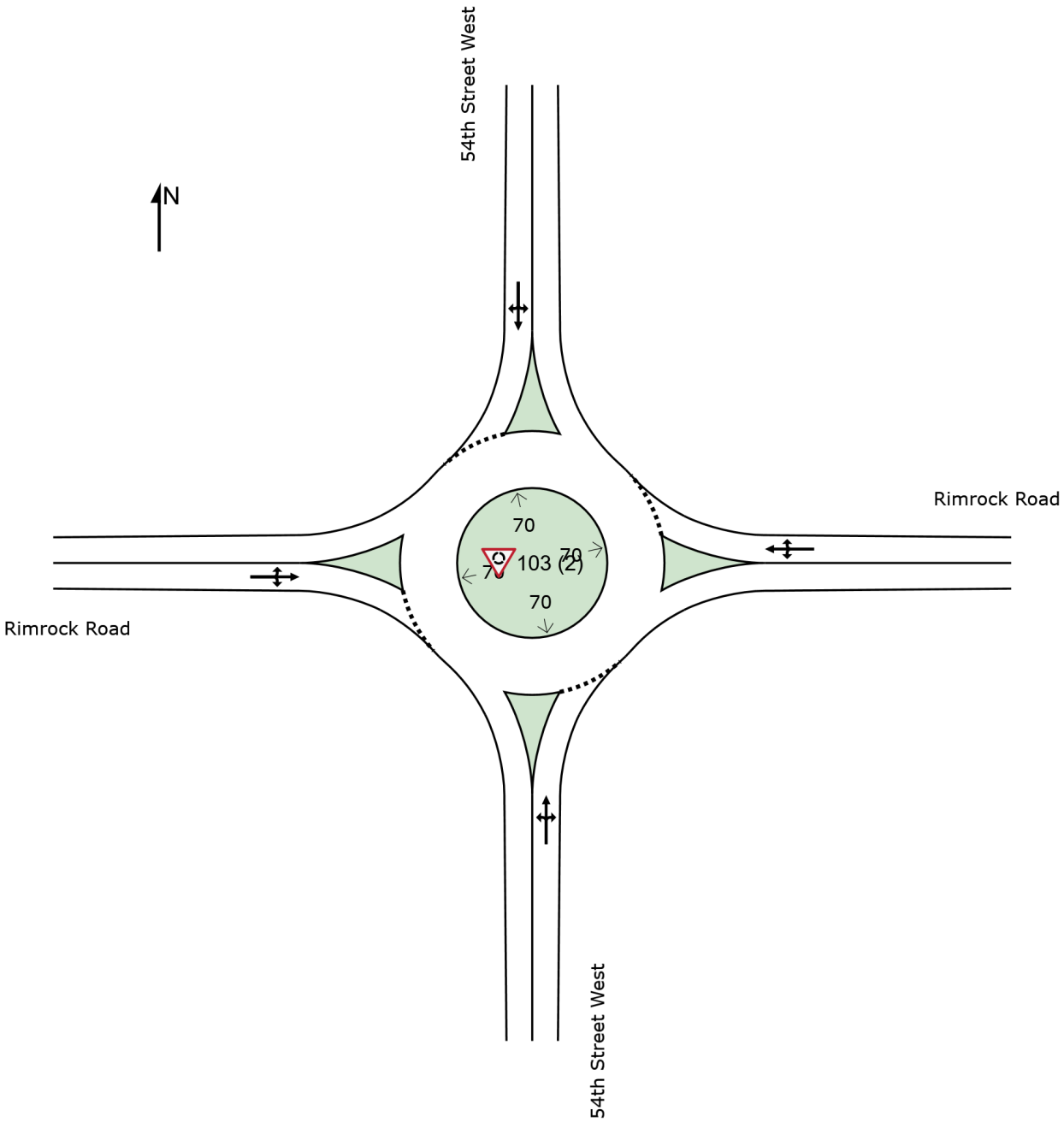
SITE LAYOUT

Site: [103 (2)] Rimrock Rd & 54th St AM Improved (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [103 (2)] Rimrock Rd & 54th St AM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 54th Street West															
7	L2	All MCs	164	3.3	164	3.3	0.311	7.7	LOS A	1.5	37.8	0.59	0.44	0.59	26.1
4	T1	All MCs	100	0.0	100	0.0	0.311	7.3	LOS A	1.5	37.8	0.59	0.44	0.59	26.8
14	R2	All MCs	5	0.0	5	0.0	0.311	7.3	LOS A	1.5	37.8	0.59	0.44	0.59	26.6
Approach			270	2.0	270	2.0	0.311	7.5	LOS A	1.5	37.8	0.59	0.44	0.59	26.4
West: Rimrock Road															
5	L2	All MCs	2	100.0	2	100.0	1.154	125.4	LOS F	63.0	1602.0	1.00	2.86	6.30	12.9
2	T1	All MCs	853	2.1	853	2.1	1.154	99.0	LOS F	63.0	1602.0	1.00	2.86	6.30	14.4
12	R2	All MCs	109	0.0	109	0.0	1.154	98.6	LOS F	63.0	1602.0	1.00	2.86	6.30	14.4
Approach			964	2.1	964	2.1	1.154	99.0	LOS F	63.0	1602.0	1.00	2.86	6.30	14.3
South: 54th Street West															
3	L2	All MCs	32	5.6	32	5.6	0.627	22.2	LOS C	3.9	98.3	0.83	0.94	1.29	27.6
8	T1	All MCs	28	0.0	28	0.0	0.627	20.3	LOS C	3.9	98.3	0.83	0.94	1.29	23.4
18	R2	All MCs	268	0.7	268	0.7	0.627	20.5	LOS C	3.9	98.3	0.83	0.94	1.29	28.4
Approach			328	1.1	328	1.1	0.627	20.6	LOS C	3.9	98.3	0.83	0.94	1.29	27.8
East: Rimrock Road															
1	L2	All MCs	190	1.9	190	1.9	0.350	5.8	LOS A	2.1	53.7	0.26	0.10	0.26	33.5
6	T1	All MCs	196	3.6	196	3.6	0.350	6.0	LOS A	2.1	53.7	0.26	0.10	0.26	33.9
16	R2	All MCs	50	10.7	50	10.7	0.350	6.5	LOS A	2.1	53.7	0.26	0.10	0.26	27.1
Approach			436	3.7	436	3.7	0.350	6.0	LOS A	2.1	53.7	0.26	0.10	0.26	32.8
All Vehicles			1998	2.3	1998	2.3	1.154	53.5	LOS F	63.0	1602.0	0.75	1.62	3.39	19.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [103 (3)] Rimrock Rd & 54th St PM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 54th Street West															
7	L2	All MCs	105	3.4	105	3.4	0.366	14.8	LOS B	1.5	38.9	0.75	0.81	0.89	24.2
4	T1	All MCs	52	0.0	52	0.0	0.366	13.5	LOS B	1.5	38.9	0.75	0.81	0.89	24.8
14	R2	All MCs	8	0.0	8	0.0	0.366	13.5	LOS B	1.5	38.9	0.75	0.81	0.89	24.6
Approach			165	2.2	165	2.2	0.366	14.3	LOS B	1.5	38.9	0.75	0.81	0.89	24.4
West: Rimrock Road															
5	L2	All MCs	3	0.0	3	0.0	0.379	8.2	LOS A	2.0	49.7	0.61	0.45	0.61	26.9
2	T1	All MCs	308	0.0	308	0.0	0.379	8.2	LOS A	2.0	49.7	0.61	0.45	0.61	34.3
12	R2	All MCs	34	0.0	34	0.0	0.379	8.2	LOS A	2.0	49.7	0.61	0.45	0.61	34.0
Approach			345	0.0	345	0.0	0.379	8.2	LOS A	2.0	49.7	0.61	0.45	0.61	34.2
South: 54th Street West															
3	L2	All MCs	128	0.0	128	0.0	0.436	9.1	LOS A	2.6	65.8	0.65	0.51	0.72	32.4
8	T1	All MCs	72	0.0	72	0.0	0.436	9.1	LOS A	2.6	65.8	0.65	0.51	0.72	26.3
18	R2	All MCs	185	2.9	185	2.9	0.436	9.5	LOS A	2.6	65.8	0.65	0.51	0.72	32.4
Approach			385	1.4	385	1.4	0.436	9.3	LOS A	2.6	65.8	0.65	0.51	0.72	31.1
East: Rimrock Road															
1	L2	All MCs	242	2.1	242	2.1	0.963	35.5	LOS E	47.4	1230.5	1.00	1.59	2.50	23.4
6	T1	All MCs	643	4.7	643	4.7	0.963	35.8	LOS E	47.4	1230.5	1.00	1.59	2.50	23.6
16	R2	All MCs	139	10.0	139	10.0	0.963	36.5	LOS E	47.4	1230.5	1.00	1.59	2.50	20.1
Approach			1025	4.8	1025	4.8	0.963	35.8	LOS E	47.4	1230.5	1.00	1.59	2.50	23.0
All Vehicles			1920	3.0	1920	3.0	0.963	23.7	LOS C	47.4	1230.5	0.84	1.10	1.67	26.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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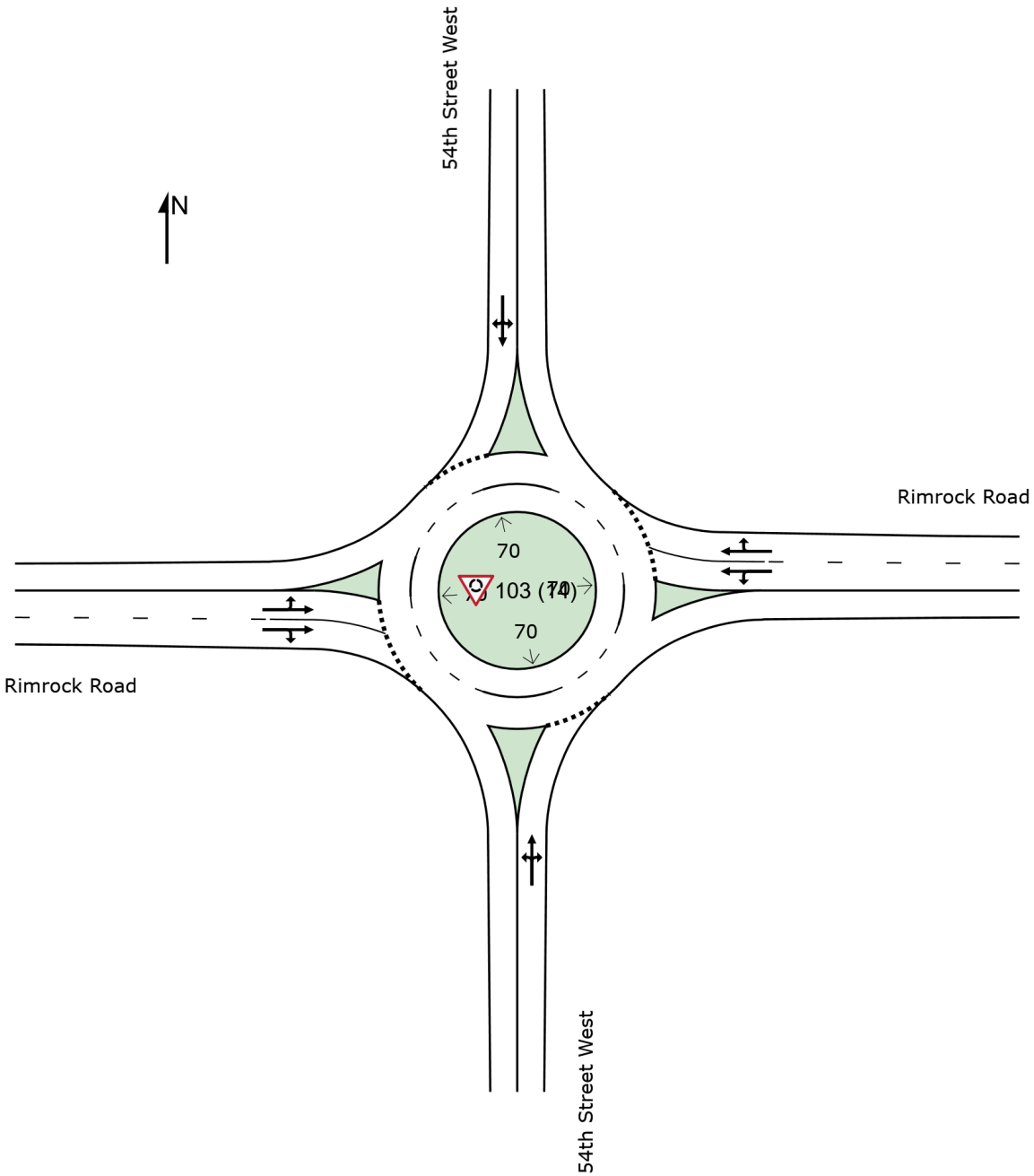
SITE LAYOUT

Site: [103 (14)] Rimrock Rd & 54th St AM Improved 2LN (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [103 (14)] Rimrock Rd & 54th St AM Improved 2LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 54th Street West															
7	L2	All MCs	164	3.3	164	3.3	0.283	6.8	LOS A	1.2	30.0	0.51	0.38	0.51	26.4
4	T1	All MCs	100	0.0	100	0.0	0.283	6.3	LOS A	1.2	30.0	0.51	0.38	0.51	27.1
14	R2	All MCs	5	0.0	5	0.0	0.283	6.3	LOS A	1.2	30.0	0.51	0.38	0.51	26.9
Approach			270	2.0	270	2.0	0.283	6.6	LOS A	1.2	30.0	0.51	0.38	0.51	26.6
West: Rimrock Road															
5	L2	All MCs	2	100.0	2	100.0	0.874	56.8	LOS F	18.9	482.7	1.00	1.32	2.48	21.7
2	T1	All MCs	853	2.1	853	2.1	0.874	26.1	LOS D	18.9	482.7	0.97	1.26	2.36	26.8
12	R2	All MCs	109	0.0	109	0.0	0.182	5.8	LOS A	0.7	18.2	0.50	0.39	0.50	35.1
Approach			964	2.1	964	2.1	0.874	23.9	LOS C	18.9	482.7	0.92	1.17	2.15	27.5
South: 54th Street West															
3	L2	All MCs	32	5.6	32	5.6	0.581	19.7	LOS C	3.1	79.3	0.77	0.89	1.20	28.7
8	T1	All MCs	28	0.0	28	0.0	0.581	17.1	LOS C	3.1	79.3	0.77	0.89	1.20	24.2
18	R2	All MCs	268	0.7	268	0.7	0.581	17.4	LOS C	3.1	79.3	0.77	0.89	1.20	29.6
Approach			328	1.1	328	1.1	0.581	17.6	LOS C	3.1	79.3	0.77	0.89	1.20	28.9
East: Rimrock Road															
1	L2	All MCs	190	1.9	190	1.9	0.281	5.0	LOS A	1.3	34.1	0.20	0.07	0.20	33.8
6	T1	All MCs	196	3.6	196	3.6	0.281	5.0	LOS A	1.3	34.1	0.20	0.07	0.20	34.4
16	R2	All MCs	50	10.7	50	10.7	0.059	3.6	LOS A	0.2	5.6	0.16	0.06	0.16	28.5
Approach			436	3.7	436	3.7	0.281	4.8	LOS A	1.3	34.1	0.19	0.07	0.19	33.3
All Vehicles			1998	2.3	1998	2.3	0.874	16.4	LOS C	18.9	482.7	0.68	0.78	1.35	28.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [103 (15)] Rimrock Rd & 54th St PM Improved 2LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 54th Street West															
7	L2	All MCs	105	3.4	105	3.4	0.302	11.4	LOS B	1.1	28.2	0.67	0.71	0.75	25.1
4	T1	All MCs	52	0.0	52	0.0	0.302	10.0	LOS B	1.1	28.2	0.67	0.71	0.75	25.7
14	R2	All MCs	8	0.0	8	0.0	0.302	10.0	LOS B	1.1	28.2	0.67	0.71	0.75	25.6
Approach			165	2.2	165	2.2	0.302	10.9	LOS B	1.1	28.2	0.67	0.71	0.75	25.3
West: Rimrock Road															
5	L2	All MCs	3	0.0	3	0.0	0.288	6.4	LOS A	1.3	31.4	0.50	0.37	0.50	27.4
2	T1	All MCs	308	0.0	308	0.0	0.288	6.3	LOS A	1.3	31.4	0.49	0.37	0.49	35.3
12	R2	All MCs	34	0.0	34	0.0	0.060	4.4	LOS A	0.2	5.6	0.44	0.33	0.44	36.0
Approach			345	0.0	345	0.0	0.288	6.1	LOS A	1.3	31.4	0.49	0.36	0.49	35.3
South: 54th Street West															
3	L2	All MCs	128	0.0	128	0.0	0.396	7.8	LOS A	1.9	47.0	0.56	0.42	0.56	33.0
8	T1	All MCs	72	0.0	72	0.0	0.396	7.8	LOS A	1.9	47.0	0.56	0.42	0.56	26.7
18	R2	All MCs	185	2.9	185	2.9	0.396	8.3	LOS A	1.9	47.0	0.56	0.42	0.56	33.0
Approach			385	1.4	385	1.4	0.396	8.0	LOS A	1.9	47.0	0.56	0.42	0.56	31.6
East: Rimrock Road															
1	L2	All MCs	242	2.1	242	2.1	0.760	15.3	LOS C	14.5	374.8	0.77	0.65	1.19	29.6
6	T1	All MCs	643	4.7	643	4.7	0.760	15.3	LOS C	14.5	374.8	0.75	0.63	1.16	30.0
16	R2	All MCs	139	10.0	139	10.0	0.158	5.0	LOS A	0.6	16.1	0.34	0.20	0.34	28.0
Approach			1025	4.8	1025	4.8	0.760	13.9	LOS B	14.5	374.8	0.70	0.58	1.06	29.6
All Vehicles			1920	3.0	1920	3.0	0.760	11.1	LOS B	14.5	374.8	0.63	0.52	0.83	30.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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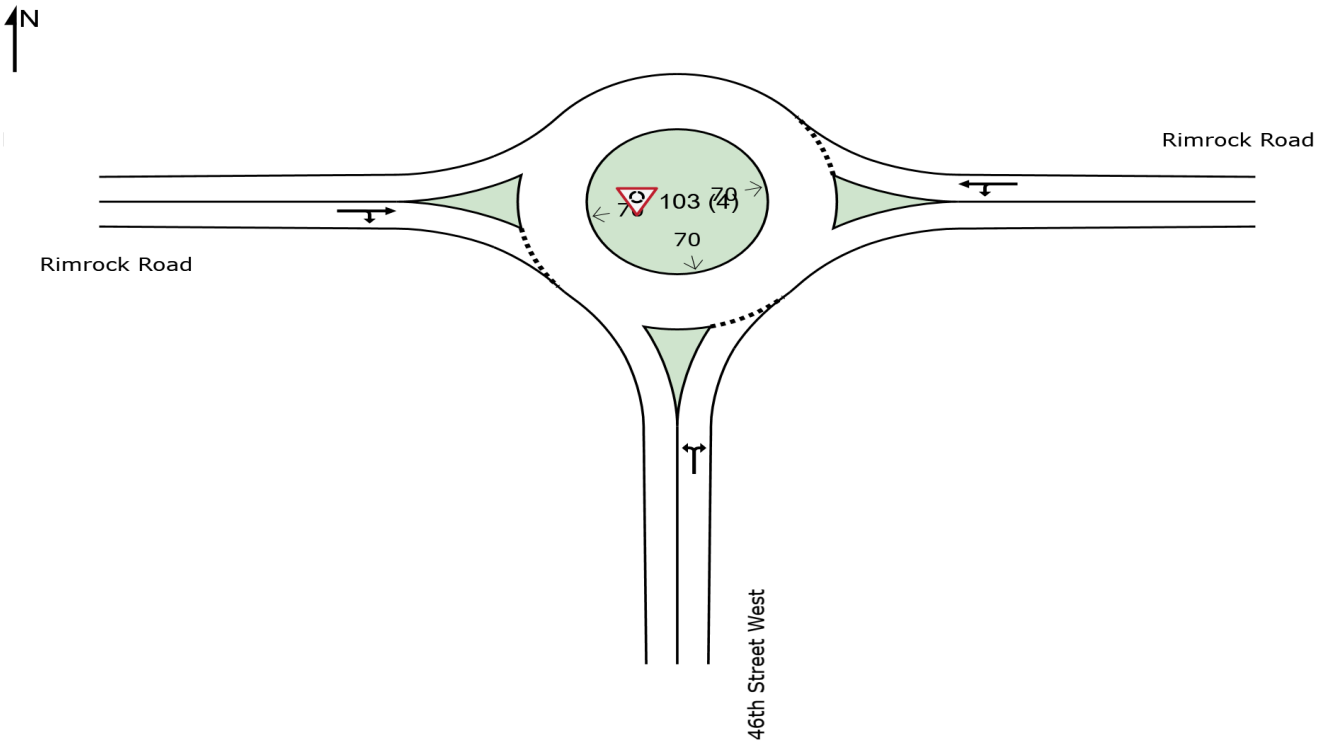
SITE LAYOUT

Site: [103 (4)] Rimrock Rd & 46th St AM Improved (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: SANBELL | Licence: PLUS / 1PC | Created: Thursday, October 9, 2025 2:17:41 PM
Project: P:\23379_Yellowstone_County_West_Billings_Neighborhood_Plan\TRAFFIC\Capacity Calcs\Future 2044\Roundabouts\West Billings RABs Future (2044) Improved.sipx

MOVEMENT SUMMARY

Site: [103 (4)] Rimrock Rd & 46th St AM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
West: Rimrock Road															
2	T1	All MCs	1291	1.7	1291	1.7	1.037	27.3	LOS F	146.5	3714.5	1.00	1.16	1.30	26.4
12	R2	All MCs	66	2.7	66	2.7	1.037	27.4	LOS F	146.5	3714.5	1.00	1.16	1.30	22.0
Approach			1358	1.7	1358	1.7	1.037	27.3	LOS D	146.5	3714.5	1.00	1.16	1.30	26.2
South: 46th Street West															
3	L2	All MCs	14	0.0	14	0.0	0.239	13.2	LOS B	0.8	21.3	0.78	0.78	0.79	24.9
18	R2	All MCs	72	2.5	72	2.5	0.239	14.5	LOS B	0.8	21.3	0.78	0.78	0.79	24.9
Approach			86	2.1	86	2.1	0.239	14.3	LOS B	0.8	21.3	0.78	0.78	0.79	24.9
East: Rimrock Road															
1	L2	All MCs	36	0.0	36	0.0	0.364	5.1	LOS A	2.3	59.2	0.11	0.02	0.11	27.7
6	T1	All MCs	446	3.2	446	3.2	0.364	5.3	LOS A	2.3	59.2	0.11	0.02	0.11	35.2
Approach			482	3.0	482	3.0	0.364	5.3	LOS A	2.3	59.2	0.11	0.02	0.11	34.5
All Vehicles			1925	2.1	1925	2.1	1.037	21.2	LOS C	146.5	3714.5	0.77	0.86	0.98	27.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Organisation: SANBELL | Licence: PLUS / 1PC | Processed: Thursday, October 9, 2025 9:40:32 AM
Project: P:\23379_Yellowstone_County_West_Billings_Neighborhood_Plan\TRAFFIC\Capacity Calcs\Future 2044\Roundabouts\West Billings RABs Future (2044) Improved.sipx

MOVEMENT SUMMARY

Site: [103 (5)] Rimrock Rd & 46th St PM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
West: Rimrock Road															
2	T1	All MCs	579	1.2	579	1.2	0.485	7.7	LOS A	3.6	90.4	0.36	0.15	0.36	34.4
12	R2	All MCs	28	0.0	28	0.0	0.485	7.6	LOS A	3.6	90.4	0.36	0.15	0.36	27.2
Approach			608	1.1	608	1.1	0.485	7.7	LOS A	3.6	90.4	0.36	0.15	0.36	34.0
South: 46th Street West															
3	L2	All MCs	25	0.0	25	0.0	0.081	5.3	LOS A	0.3	7.9	0.56	0.47	0.56	27.1
18	R2	All MCs	34	5.3	34	5.3	0.081	6.2	LOS A	0.3	7.9	0.56	0.47	0.56	26.9
Approach			59	3.0	59	3.0	0.081	5.8	LOS A	0.3	7.9	0.56	0.47	0.56	27.0
East: Rimrock Road															
1	L2	All MCs	84	0.0	84	0.0	0.868	13.1	LOS B	23.6	591.9	0.64	0.16	0.64	25.3
6	T1	All MCs	1083	0.2	1083	0.2	0.868	13.1	LOS B	23.6	591.9	0.64	0.16	0.64	31.7
Approach			1166	0.2	1166	0.2	0.868	13.1	LOS B	23.6	591.9	0.64	0.16	0.64	31.2
All Vehicles			1833	0.6	1833	0.6	0.868	11.1	LOS B	23.6	591.9	0.54	0.17	0.54	31.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Organisation: SANBELL | Licence: PLUS / 1PC | Processed: Thursday, October 9, 2025 9:41:18 AM
Project: P:\23379_Yellowstone_County_West_Billings_Neighborhood_Plan\TRAFFIC\Capacity Calcs\Future 2044\Roundabouts\West Billings RABs Future (2044) Improved.sipx

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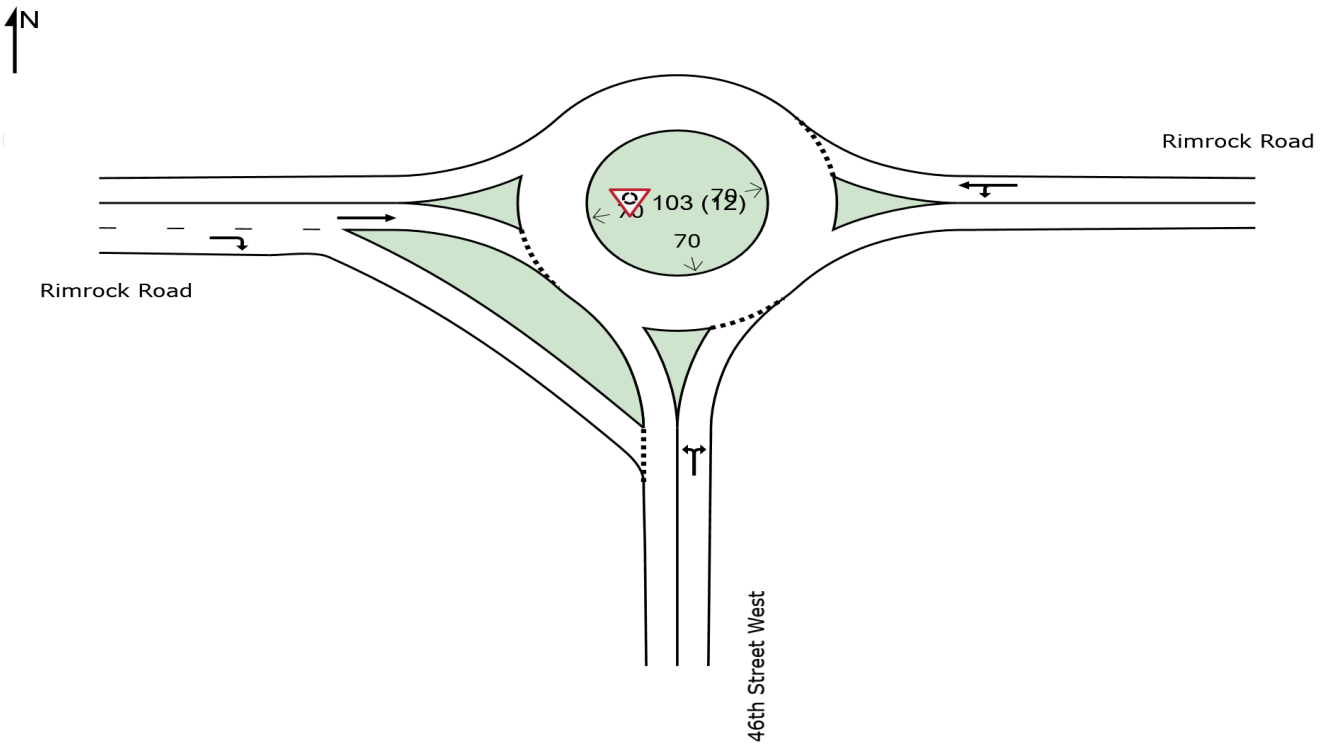
SITE LAYOUT

Site: [103 (12)] Rimrock Rd & 46th St AM Improved EB RT Slip
(Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: SANBELL | Licence: PLUS / 1PC | Created: Thursday, October 9, 2025 2:17:42 PM
Project: P:\23379_Yellowstone_County_West_Billings_Neighborhood_Plan\TRAFFIC\Capacity Calcs\Future 2044\Roundabouts\West Billings RABs Future (2044) Improved.sipx

MOVEMENT SUMMARY

Site: [103 (12)] Rimrock Rd & 46th St AM Improved EB RT Slip

(Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
West: Rimrock Road															
2	T1	All MCs	1291	1.7	1291	1.7	0.956	19.3	LOS C	50.3	1274.7	1.00	0.44	1.02	29.2
12	R2	All MCs	66	2.7	66	2.7	0.051	3.1	LOS A	0.2	5.6	0.13	0.04	0.13	28.8
Approach			1358	1.7	1358	1.7	0.956	18.5	LOS C	50.3	1274.7	0.96	0.42	0.98	29.2
South: 46th Street West															
3	L2	All MCs	14	0.0	14	0.0	0.251	14.0	LOS B	0.9	22.3	0.79	0.80	0.82	24.6
18	R2	All MCs	72	2.5	72	2.5	0.251	15.5	LOS C	0.9	22.3	0.79	0.80	0.82	24.6
Approach			86	2.1	86	2.1	0.251	15.2	LOS C	0.9	22.3	0.79	0.80	0.82	24.6
East: Rimrock Road															
1	L2	All MCs	36	0.0	36	0.0	0.364	5.1	LOS A	2.3	59.2	0.11	0.02	0.11	27.7
6	T1	All MCs	446	3.2	446	3.2	0.364	5.3	LOS A	2.3	59.2	0.11	0.02	0.11	35.2
Approach			482	3.0	482	3.0	0.364	5.3	LOS A	2.3	59.2	0.11	0.02	0.11	34.5
All Vehicles			1925	2.1	1925	2.1	0.956	15.0	LOS C	50.3	1274.7	0.74	0.34	0.75	30.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [103 (13)] Rimrock Rd & 46th St PM Improved EB RT Slip

(Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
West: Rimrock Road															
2	T1	All MCs	579	1.2	579	1.2	0.446	7.0	LOS A	2.9	72.4	0.31	0.12	0.31	34.8
12	R2	All MCs	28	0.0	28	0.0	0.022	3.0	LOS A	0.1	2.4	0.20	0.08	0.20	28.8
Approach			608	1.1	608	1.1	0.446	6.8	LOS A	2.9	72.4	0.30	0.12	0.30	34.5
South: 46th Street West															
3	L2	All MCs	25	0.0	25	0.0	0.081	5.3	LOS A	0.3	7.9	0.56	0.47	0.56	27.1
18	R2	All MCs	34	5.3	34	5.3	0.081	6.2	LOS A	0.3	7.9	0.56	0.47	0.56	26.9
Approach			59	3.0	59	3.0	0.081	5.8	LOS A	0.3	7.9	0.56	0.47	0.56	27.0
East: Rimrock Road															
1	L2	All MCs	84	0.0	84	0.0	0.868	13.1	LOS B	23.6	591.9	0.64	0.16	0.64	25.3
6	T1	All MCs	1083	0.2	1083	0.2	0.868	13.1	LOS B	23.6	591.9	0.64	0.16	0.64	31.7
Approach			1166	0.2	1166	0.2	0.868	13.1	LOS B	23.6	591.9	0.64	0.16	0.64	31.2
All Vehicles			1833	0.6	1833	0.6	0.868	10.8	LOS B	23.6	591.9	0.52	0.16	0.52	32.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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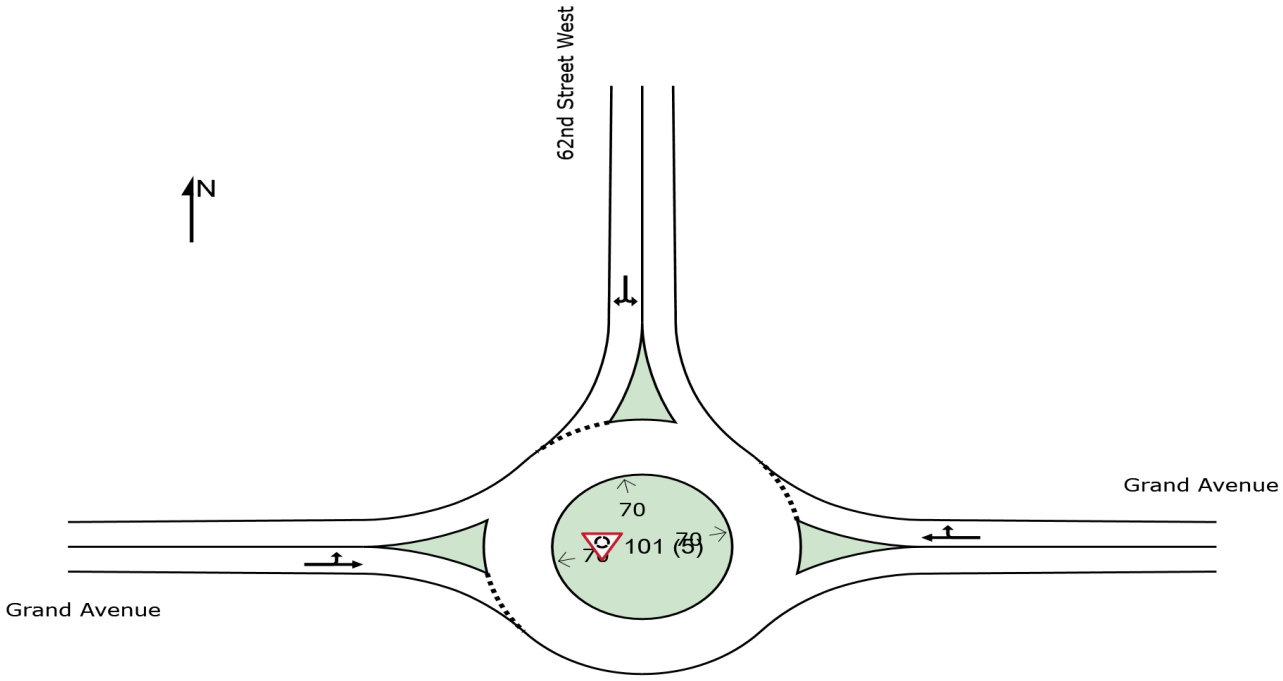
SITE LAYOUT

Site: [101 (5)] Grand Ave & 62nd St AM Improved (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: SANBELL | Licence: PLUS / 1PC | Created: Thursday, October 9, 2025 2:17:42 PM
Project: P:\23379_Yellowstone_County_West_Billings_Neighborhood_Plan\TRAFFIC\Capacity Calcs\Future 2044\Roundabouts\West Billings RABs Future (2044) Improved.sipx

MOVEMENT SUMMARY

Site: [101 (5)] Grand Ave & 62nd St AM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 62nd Street West															
7	L2	All MCs	288	1.2	288	1.2	0.331	6.3	LOS A	1.9	46.7	0.41	0.22	0.41	32.8
14	R2	All MCs	91	0.0	91	0.0	0.331	6.2	LOS A	1.9	46.7	0.41	0.22	0.41	33.3
Approach			379	0.9	379	0.9	0.331	6.3	LOS A	1.9	46.7	0.41	0.22	0.41	32.9
West: Grand Avenue															
5	L2	All MCs	55	0.0	55	0.0	0.333	6.8	LOS A	1.8	44.2	0.52	0.34	0.52	33.9
2	T1	All MCs	282	1.3	282	1.3	0.333	7.0	LOS A	1.8	44.2	0.52	0.34	0.52	34.4
Approach			337	1.1	337	1.1	0.333	6.9	LOS A	1.8	44.2	0.52	0.34	0.52	34.3
East: Grand Avenue															
6	T1	All MCs	162	6.6	162	6.6	0.182	4.4	LOS A	0.9	22.7	0.19	0.07	0.19	35.5
16	R2	All MCs	59	12.1	59	12.1	0.182	4.7	LOS A	0.9	22.7	0.19	0.07	0.19	34.3
Approach			221	8.1	221	8.1	0.182	4.4	LOS A	0.9	22.7	0.19	0.07	0.19	35.1
All Vehicles			937	2.7	937	2.7	0.333	6.1	LOS A	1.9	46.7	0.40	0.23	0.40	33.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: P:\23379_Yellowstone_County_West_Billings_Neighborhood_Plan\TRAFFIC\Capacity Calcs\Future 2044\Roundabouts\West Billings RABs Future (2044) Improved.sipx

MOVEMENT SUMMARY

Site: [101 (6)] Grand Ave & 62nd St PM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 62nd Street West															
7	L2	All MCs	84	0.0	84	0.0	0.160	5.2	LOS A	0.7	18.0	0.47	0.33	0.47	34.0
14	R2	All MCs	73	0.0	73	0.0	0.160	5.2	LOS A	0.7	18.0	0.47	0.33	0.47	34.4
Approach			157	0.0	157	0.0	0.160	5.2	LOS A	0.7	18.0	0.47	0.33	0.47	34.2
West: Grand Avenue															
5	L2	All MCs	98	0.0	98	0.0	0.285	5.2	LOS A	1.6	39.9	0.27	0.11	0.27	34.5
2	T1	All MCs	260	1.4	260	1.4	0.285	5.3	LOS A	1.6	39.9	0.27	0.11	0.27	35.0
Approach			358	1.0	358	1.0	0.285	5.3	LOS A	1.6	39.9	0.27	0.11	0.27	34.8
East: Grand Avenue															
6	T1	All MCs	338	0.0	338	0.0	0.438	7.1	LOS A	3.0	75.0	0.36	0.16	0.36	34.9
16	R2	All MCs	209	0.0	209	0.0	0.438	7.1	LOS A	3.0	75.0	0.36	0.16	0.36	34.7
Approach			547	0.0	547	0.0	0.438	7.1	LOS A	3.0	75.0	0.36	0.16	0.36	34.8
All Vehicles			1061	0.3	1061	0.3	0.438	6.2	LOS A	3.0	75.0	0.34	0.17	0.34	34.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Organisation: SANBELL | Licence: PLUS / 1PC | Processed: Thursday, October 9, 2025 9:49:25 AM
Project: P:\23379_Yellowstone_County_West_Billings_Neighborhood_Plan\TRAFFIC\Capacity Calcs\Future 2044\Roundabouts\West Billings RABs Future (2044) Improved.sipx

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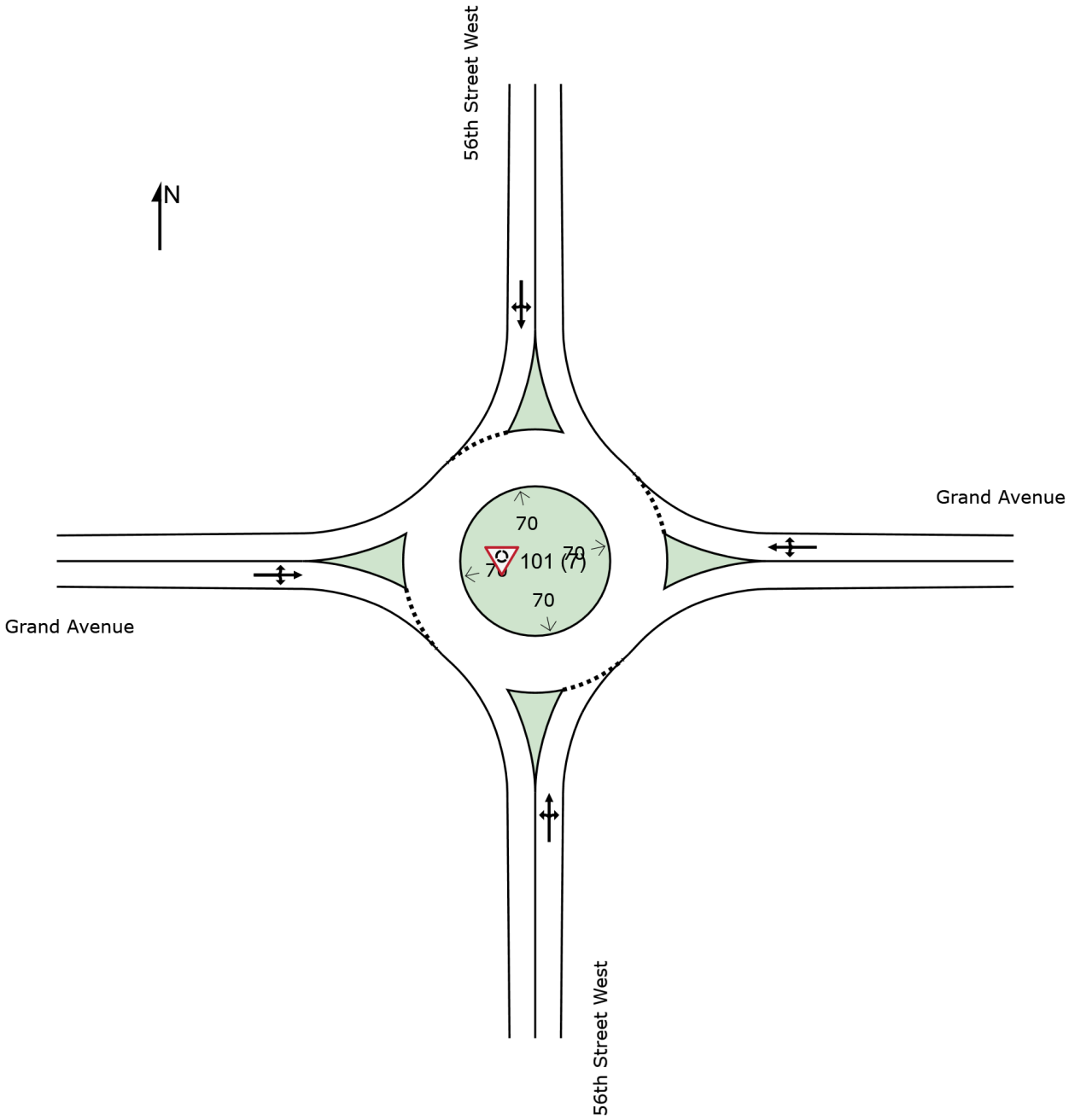
SITE LAYOUT

Site: [101 (7)] Grand Ave & 56th St AM Improved 1LN (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (7)] Grand Ave & 56th St AM Improved 1LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.5	0.58	0.41	0.58	29.3
4	T1	All MCs	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.5	0.58	0.41	0.58	29.7
14	R2	All MCs	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.5	0.58	0.41	0.58	29.5
Approach			3	0.0	3	0.0	0.005	5.5	LOS A	0.0	0.5	0.58	0.41	0.58	29.5
West: Grand Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.962	33.3	LOS D	51.7	1308.5	1.00	1.62	2.26	21.8
2	T1	All MCs	855	1.0	855	1.0	0.962	33.4	LOS D	51.7	1308.5	1.00	1.62	2.26	22.0
12	R2	All MCs	239	3.7	239	3.7	0.962	33.8	LOS D	51.7	1308.5	1.00	1.62	2.26	21.9
Approach			1096	1.6	1096	1.6	0.962	33.5	LOS D	51.7	1308.5	1.00	1.62	2.26	22.0
South: 56th Street West															
3	L2	All MCs	50	10.7	50	10.7	0.471	16.6	LOS C	2.1	57.0	0.76	0.82	1.02	25.7
8	T1	All MCs	1	0.0	1	0.0	0.471	13.7	LOS B	2.1	57.0	0.76	0.82	1.02	26.1
18	R2	All MCs	175	9.2	175	9.2	0.471	16.1	LOS C	2.1	57.0	0.76	0.82	1.02	25.9
Approach			226	9.5	226	9.5	0.471	16.2	LOS C	2.1	57.0	0.76	0.82	1.02	25.9
East: Grand Avenue															
1	L2	All MCs	157	8.0	157	8.0	0.515	8.3	LOS A	4.0	103.5	0.31	0.11	0.31	28.4
6	T1	All MCs	488	2.6	488	2.6	0.515	7.8	LOS A	4.0	103.5	0.31	0.11	0.31	28.9
16	R2	All MCs	1	0.0	1	0.0	0.515	7.6	LOS A	4.0	103.5	0.31	0.11	0.31	28.8
Approach			646	3.9	646	3.9	0.515	7.9	LOS A	4.0	103.5	0.31	0.11	0.31	28.8
All Vehicles			1971	3.3	1971	3.3	0.962	23.1	LOS C	51.7	1308.5	0.75	1.03	1.47	24.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (8)] Grand Ave & 56th St PM Improved 1LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	1	0.0	1	0.0	0.006	6.9	LOS A	0.0	0.6	0.63	0.50	0.63	28.8
4	T1	All MCs	1	0.0	1	0.0	0.006	6.9	LOS A	0.0	0.6	0.63	0.50	0.63	29.2
14	R2	All MCs	1	0.0	1	0.0	0.006	6.9	LOS A	0.0	0.6	0.63	0.50	0.63	29.0
Approach			3	0.0	3	0.0	0.006	6.9	LOS A	0.0	0.6	0.63	0.50	0.63	29.0
West: Grand Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.576	10.0	LOS B	4.4	110.7	0.60	0.34	0.60	28.1
2	T1	All MCs	535	0.7	535	0.7	0.576	10.1	LOS B	4.4	110.7	0.60	0.34	0.60	28.5
12	R2	All MCs	109	1.6	109	1.6	0.576	10.2	LOS B	4.4	110.7	0.60	0.34	0.60	28.4
Approach			645	0.9	645	0.9	0.576	10.1	LOS B	4.4	110.7	0.60	0.34	0.60	28.5
South: 56th Street West															
3	L2	All MCs	136	1.3	136	1.3	0.585	13.7	LOS B	4.8	121.4	0.78	0.80	1.19	26.4
8	T1	All MCs	1	0.0	1	0.0	0.585	13.4	LOS B	4.8	121.4	0.78	0.80	1.19	26.7
18	R2	All MCs	310	3.4	310	3.4	0.585	14.0	LOS B	4.8	121.4	0.78	0.80	1.19	26.6
Approach			447	2.8	447	2.8	0.585	13.9	LOS B	4.8	121.4	0.78	0.80	1.19	26.5
East: Grand Avenue															
1	L2	All MCs	190	1.9	190	1.9	0.672	12.0	LOS B	6.6	165.5	0.63	0.32	0.63	27.2
6	T1	All MCs	608	0.3	608	0.3	0.672	11.8	LOS B	6.6	165.5	0.63	0.32	0.63	27.6
16	R2	All MCs	1	0.0	1	0.0	0.672	11.8	LOS B	6.6	165.5	0.63	0.32	0.63	27.4
Approach			799	0.7	799	0.7	0.672	11.9	LOS B	6.6	165.5	0.63	0.32	0.63	27.5
All Vehicles			1893	1.2	1893	1.2	0.672	11.7	LOS B	6.6	165.5	0.66	0.44	0.75	27.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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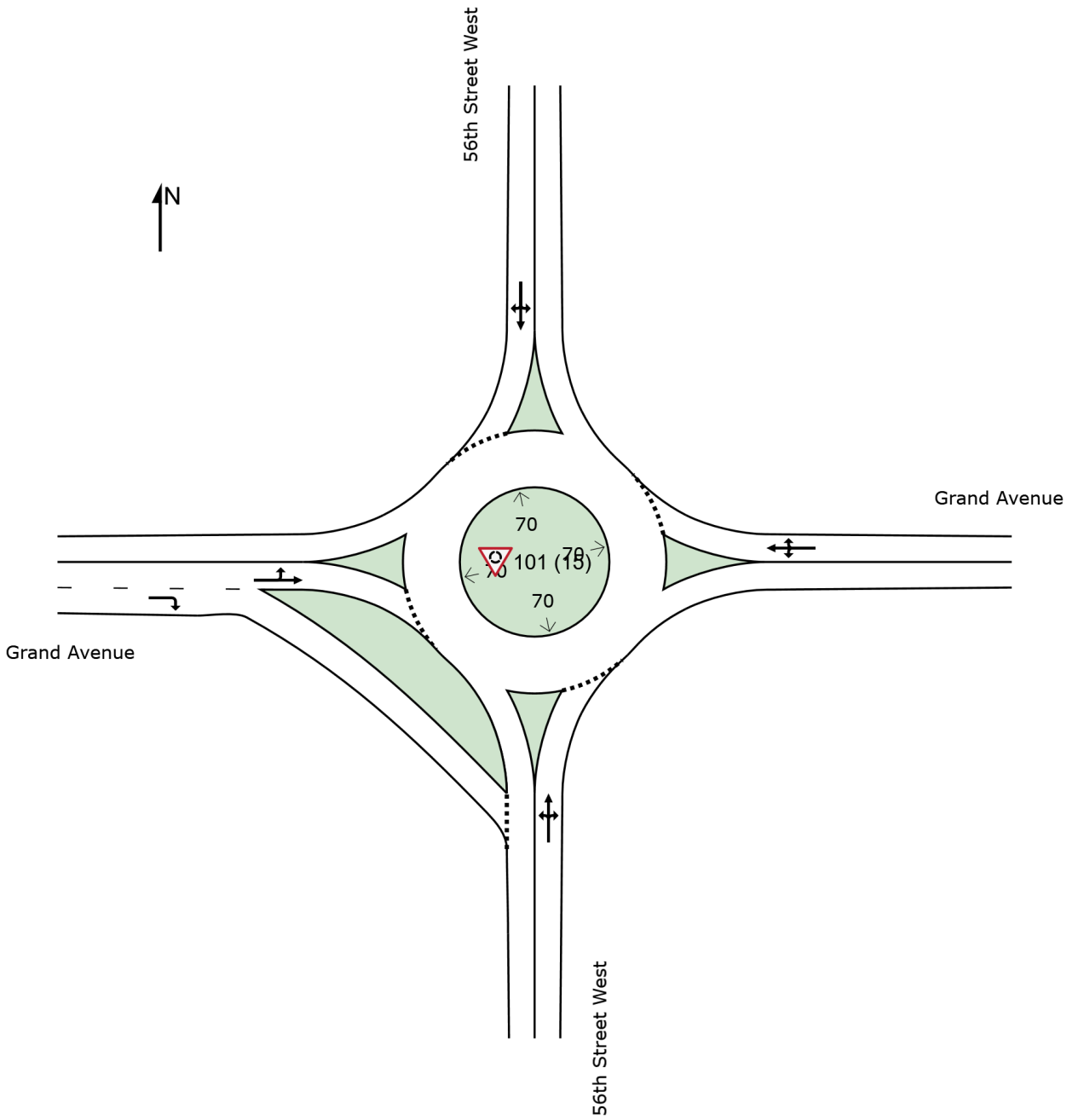
SITE LAYOUT

Site: [101 (15)] Grand Ave & 56th St AM Improved 1LN EB RT

Slip (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (15)] Grand Ave & 56th St AM Improved 1LN EB RT

Slip (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.5	0.58	0.41	0.58	29.3
4	T1	All MCs	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.5	0.58	0.41	0.58	29.7
14	R2	All MCs	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.5	0.58	0.41	0.58	29.5
Approach			3	0.0	3	0.0	0.005	5.5	LOS A	0.0	0.5	0.58	0.41	0.58	29.5
West: Grand Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.713	13.0	LOS B	9.5	240.0	0.69	0.45	0.82	27.1
2	T1	All MCs	855	1.0	855	1.0	0.713	13.1	LOS B	9.5	240.0	0.69	0.45	0.82	27.5
12	R2	All MCs	239	3.7	239	3.7	0.214	5.1	LOS A	1.0	26.5	0.36	0.19	0.36	30.2
Approach			1096	1.6	1096	1.6	0.713	11.4	LOS B	9.5	240.0	0.62	0.40	0.72	28.1
South: 56th Street West															
3	L2	All MCs	50	10.7	50	10.7	0.471	16.6	LOS C	2.2	58.2	0.76	0.83	1.05	25.7
8	T1	All MCs	1	0.0	1	0.0	0.471	13.7	LOS B	2.2	58.2	0.76	0.83	1.05	26.1
18	R2	All MCs	175	9.2	175	9.2	0.471	16.1	LOS C	2.2	58.2	0.76	0.83	1.05	25.9
Approach			226	9.5	226	9.5	0.471	16.2	LOS C	2.2	58.2	0.76	0.83	1.05	25.9
East: Grand Avenue															
1	L2	All MCs	157	8.0	157	8.0	0.515	8.3	LOS A	4.0	103.5	0.31	0.11	0.31	28.4
6	T1	All MCs	488	2.6	488	2.6	0.515	7.8	LOS A	4.0	103.5	0.31	0.11	0.31	28.9
16	R2	All MCs	1	0.0	1	0.0	0.515	7.6	LOS A	4.0	103.5	0.31	0.11	0.31	28.8
Approach			646	3.9	646	3.9	0.515	7.9	LOS A	4.0	103.5	0.31	0.11	0.31	28.8
All Vehicles			1971	3.3	1971	3.3	0.713	10.8	LOS B	9.5	240.0	0.53	0.35	0.62	28.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (16)] Grand Ave & 56th St PM Improved 1LN EB RT

Slip (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	1	0.0	1	0.0	0.006	6.9	LOS A	0.0	0.6	0.63	0.50	0.63	28.8
4	T1	All MCs	1	0.0	1	0.0	0.006	6.9	LOS A	0.0	0.6	0.63	0.50	0.63	29.2
14	R2	All MCs	1	0.0	1	0.0	0.006	6.9	LOS A	0.0	0.6	0.63	0.50	0.63	29.0
Approach			3	0.0	3	0.0	0.006	6.9	LOS A	0.0	0.6	0.63	0.50	0.63	29.0
West: Grand Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.455	7.7	LOS A	2.7	69.1	0.47	0.26	0.47	29.0
2	T1	All MCs	535	0.7	535	0.7	0.455	7.7	LOS A	2.7	69.1	0.47	0.26	0.47	29.4
12	R2	All MCs	109	1.6	109	1.6	0.098	4.1	LOS A	0.4	10.8	0.34	0.20	0.34	30.7
Approach			645	0.9	645	0.9	0.455	7.1	LOS A	2.7	69.1	0.45	0.25	0.45	29.6
South: 56th Street West															
3	L2	All MCs	136	1.3	136	1.3	0.585	13.7	LOS B	4.8	122.2	0.78	0.81	1.19	26.4
8	T1	All MCs	1	0.0	1	0.0	0.585	13.4	LOS B	4.8	122.2	0.78	0.81	1.19	26.7
18	R2	All MCs	310	3.4	310	3.4	0.585	14.0	LOS B	4.8	122.2	0.78	0.81	1.19	26.6
Approach			447	2.8	447	2.8	0.585	13.9	LOS B	4.8	122.2	0.78	0.81	1.19	26.5
East: Grand Avenue															
1	L2	All MCs	190	1.9	190	1.9	0.672	12.0	LOS B	6.6	165.5	0.63	0.32	0.63	27.2
6	T1	All MCs	608	0.3	608	0.3	0.672	11.8	LOS B	6.6	165.5	0.63	0.32	0.63	27.6
16	R2	All MCs	1	0.0	1	0.0	0.672	11.8	LOS B	6.6	165.5	0.63	0.32	0.63	27.4
Approach			799	0.7	799	0.7	0.672	11.9	LOS B	6.6	165.5	0.63	0.32	0.63	27.5
All Vehicles			1893	1.2	1893	1.2	0.672	10.7	LOS B	6.6	165.5	0.60	0.41	0.70	27.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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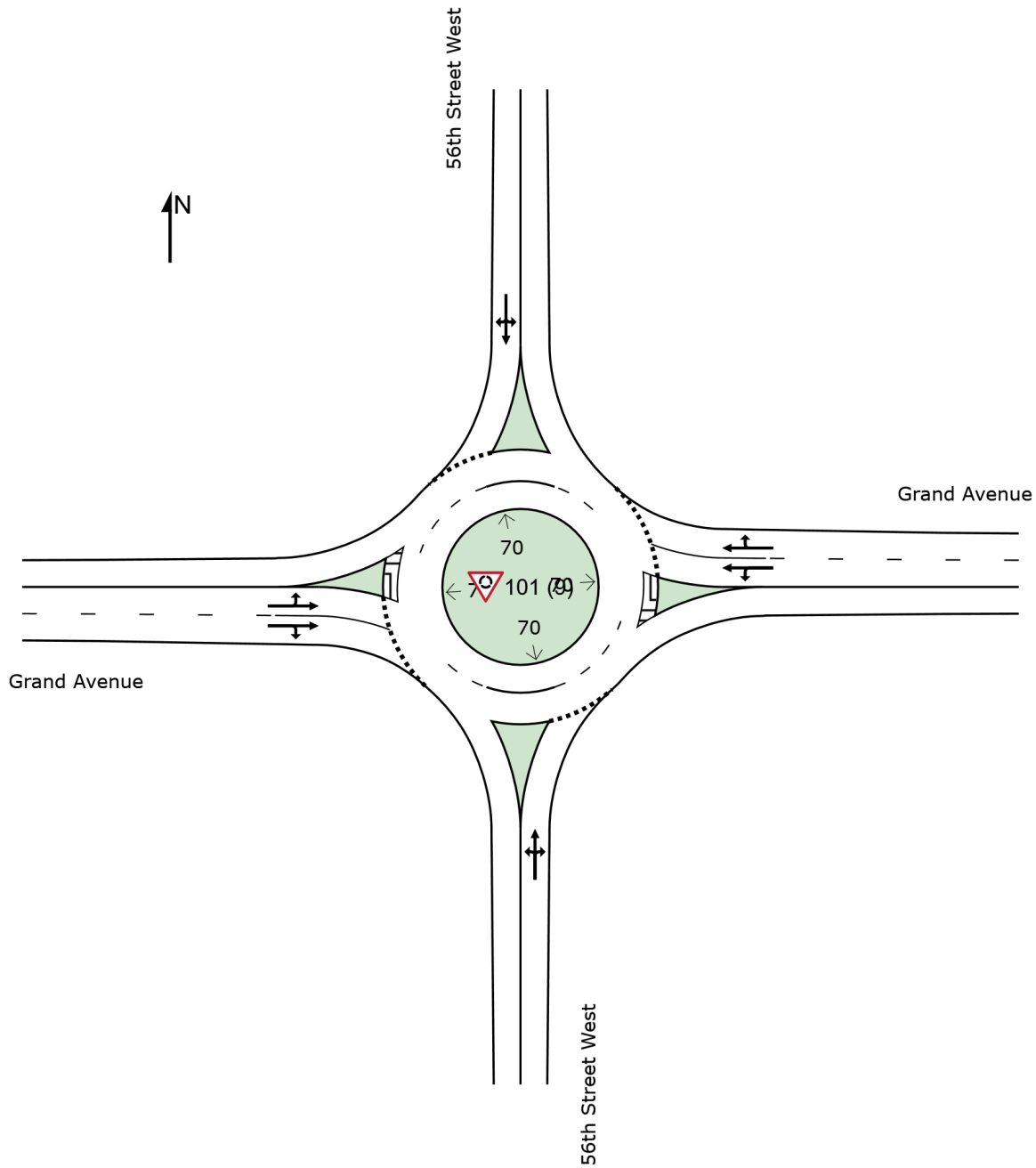
SITE LAYOUT

Site: [101 (9)] Grand Ave & 56th St AM Improved 2LN (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (9)] Grand Ave & 56th St AM Improved 2LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	1	0.0	1	0.0	0.004	4.7	LOS A	0.0	0.4	0.52	0.36	0.52	29.6
4	T1	All MCs	1	0.0	1	0.0	0.004	4.7	LOS A	0.0	0.4	0.52	0.36	0.52	30.0
14	R2	All MCs	1	0.0	1	0.0	0.004	4.7	LOS A	0.0	0.4	0.52	0.36	0.52	29.8
Approach			3	0.0	3	0.0	0.004	4.7	LOS A	0.0	0.4	0.52	0.36	0.52	29.8
West: Grand Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.713	13.0	LOS B	9.5	240.2	0.69	0.45	0.82	27.1
2	T1	All MCs	855	1.0	855	1.0	0.713	13.1	LOS B	9.5	240.2	0.69	0.45	0.82	27.5
12	R2	All MCs	239	3.7	239	3.7	0.205	4.9	LOS A	0.9	23.3	0.33	0.18	0.33	30.1
Approach			1096	1.6	1096	1.6	0.713	11.3	LOS B	9.5	240.2	0.61	0.39	0.71	28.0
South: 56th Street West															
3	L2	All MCs	50	10.7	50	10.7	0.413	13.5	LOS B	1.6	43.5	0.69	0.73	0.91	26.6
8	T1	All MCs	1	0.0	1	0.0	0.413	10.4	LOS B	1.6	43.5	0.69	0.73	0.91	27.1
18	R2	All MCs	175	9.2	175	9.2	0.413	13.0	LOS B	1.6	43.5	0.69	0.73	0.91	26.9
Approach			226	9.5	226	9.5	0.413	13.1	LOS B	1.6	43.5	0.69	0.73	0.91	26.8
East: Grand Avenue															
1	L2	All MCs	157	8.0	157	8.0	0.413	6.8	LOS A	2.5	64.3	0.24	0.08	0.24	28.9
6	T1	All MCs	488	2.6	488	2.6	0.413	5.7	LOS A	2.5	64.3	0.22	0.08	0.22	29.8
16	R2	All MCs	1	0.0	1	0.0	0.086	3.2	LOS A	0.3	8.9	0.16	0.06	0.16	30.9
Approach			646	3.9	646	3.9	0.413	5.9	LOS A	2.5	64.3	0.22	0.08	0.22	29.6
All Vehicles			1971	3.3	1971	3.3	0.713	9.7	LOS A	9.5	240.2	0.49	0.33	0.57	28.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (10)] Grand Ave & 56th St PM Improved 2LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 56th Street West															
7	L2	All MCs	1	0.0	1	0.0	0.005	5.7	LOS A	0.0	0.4	0.57	0.44	0.57	29.2
4	T1	All MCs	1	0.0	1	0.0	0.005	5.7	LOS A	0.0	0.4	0.57	0.44	0.57	29.6
14	R2	All MCs	1	0.0	1	0.0	0.005	5.7	LOS A	0.0	0.4	0.57	0.44	0.57	29.5
Approach			3	0.0	3	0.0	0.005	5.7	LOS A	0.0	0.4	0.57	0.44	0.57	29.4
West: Grand Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.454	7.6	LOS A	2.7	68.8	0.47	0.26	0.47	29.0
2	T1	All MCs	535	0.7	535	0.7	0.454	7.7	LOS A	2.7	68.8	0.47	0.26	0.47	29.4
12	R2	All MCs	109	1.6	109	1.6	0.095	3.9	LOS A	0.4	9.6	0.31	0.18	0.31	30.6
Approach			645	0.9	645	0.9	0.454	7.1	LOS A	2.7	68.8	0.44	0.25	0.44	29.6
South: 56th Street West															
3	L2	All MCs	136	1.3	136	1.3	0.523	11.0	LOS B	3.5	90.5	0.68	0.67	0.98	27.2
8	T1	All MCs	1	0.0	1	0.0	0.523	10.7	LOS B	3.5	90.5	0.68	0.67	0.98	27.6
18	R2	All MCs	310	3.4	310	3.4	0.523	11.4	LOS B	3.5	90.5	0.68	0.67	0.98	27.4
Approach			447	2.8	447	2.8	0.523	11.3	LOS B	3.5	90.5	0.68	0.67	0.98	27.4
East: Grand Avenue															
1	L2	All MCs	190	1.9	190	1.9	0.533	8.7	LOS A	3.8	95.0	0.45	0.23	0.45	28.2
6	T1	All MCs	608	0.3	608	0.3	0.533	7.5	LOS A	3.8	95.0	0.41	0.20	0.41	29.1
16	R2	All MCs	1	0.0	1	0.0	0.111	3.8	LOS A	0.5	11.7	0.27	0.13	0.27	30.8
Approach			799	0.7	799	0.7	0.533	7.8	LOS A	3.8	95.0	0.42	0.21	0.42	28.9
All Vehicles			1893	1.2	1893	1.2	0.533	8.3	LOS A	3.8	95.0	0.49	0.33	0.56	28.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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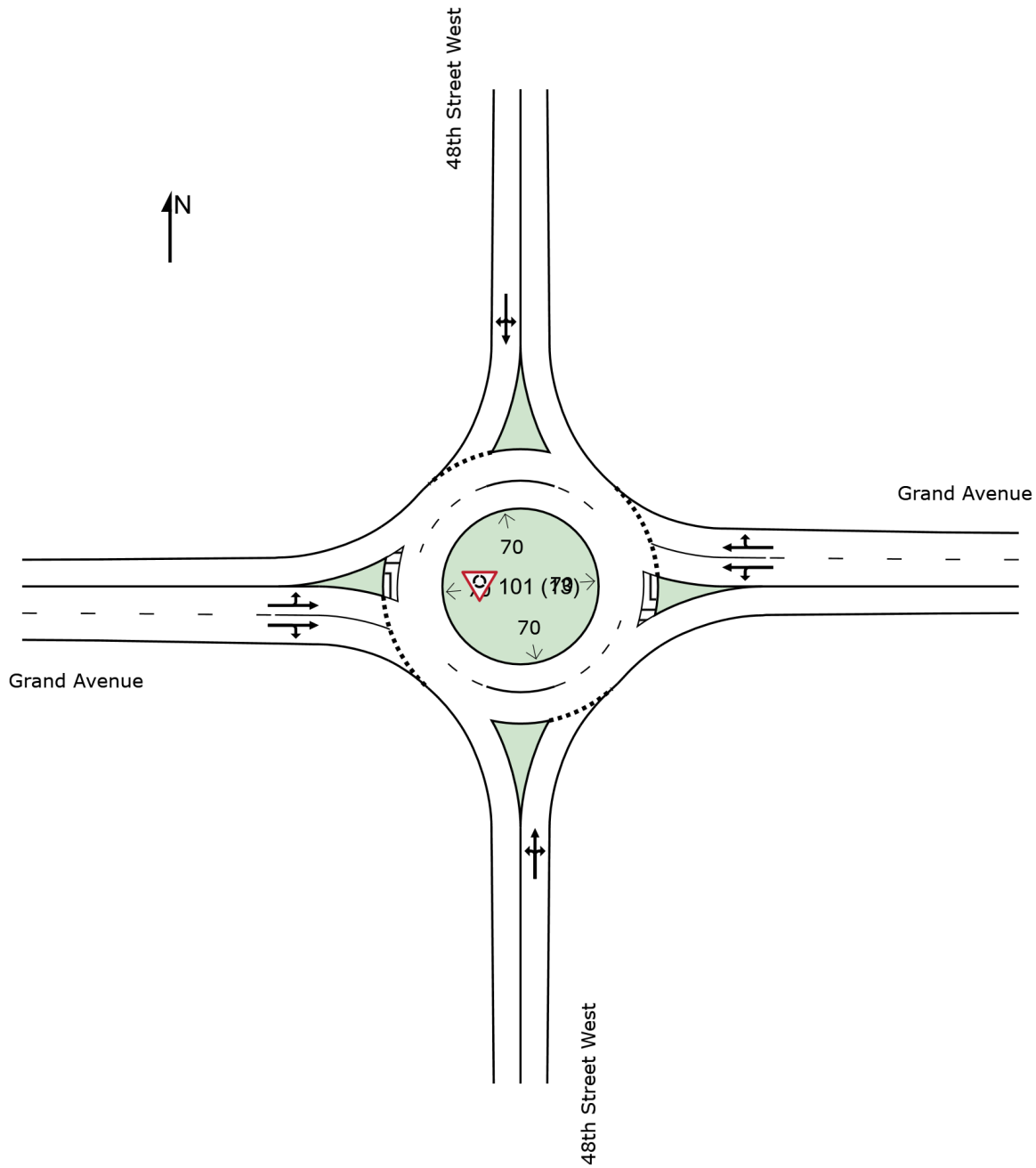
SITE LAYOUT

Site: [101 (13)] Grand Ave & 48th St AM Improved 2LN (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (13)] Grand Ave & 48th St AM Improved 2LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	16	0.0	16	0.0	0.031	4.5	LOS A	0.1	2.7	0.49	0.39	0.49	25.6
4	T1	All MCs	9	0.0	9	0.0	0.031	4.5	LOS A	0.1	2.7	0.49	0.39	0.49	25.9
14	R2	All MCs	1	0.0	1	0.0	0.031	4.5	LOS A	0.1	2.7	0.49	0.39	0.49	25.8
Approach			26	0.0	26	0.0	0.031	4.5	LOS A	0.1	2.7	0.49	0.39	0.49	25.7
West: Grand Avenue															
5	L2	All MCs	37	0.0	37	0.0	0.837	18.2	LOS C	21.9	551.3	0.92	0.69	1.26	22.6
2	T1	All MCs	1023	1.2	1023	1.2	0.837	17.9	LOS C	21.9	551.3	0.90	0.67	1.23	25.9
12	R2	All MCs	184	1.0	184	1.0	0.175	4.4	LOS A	0.8	19.5	0.29	0.15	0.29	30.4
Approach			1243	1.1	1243	1.1	0.837	15.9	LOS C	21.9	551.3	0.81	0.59	1.09	26.4
South: 48th Street West															
3	L2	All MCs	47	15.4	47	15.4	0.440	21.0	LOS C	1.8	46.4	0.73	0.81	0.96	26.2
8	T1	All MCs	16	0.0	16	0.0	0.440	13.1	LOS B	1.8	46.4	0.73	0.81	0.96	23.4
18	R2	All MCs	162	0.0	162	0.0	0.440	13.1	LOS B	1.8	46.4	0.73	0.81	0.96	26.6
Approach			225	3.2	225	3.2	0.440	14.6	LOS B	1.8	46.4	0.73	0.81	0.96	26.2
East: Grand Avenue															
1	L2	All MCs	117	1.5	117	1.5	0.402	6.5	LOS A	2.3	59.8	0.33	0.15	0.33	29.0
6	T1	All MCs	422	3.8	422	3.8	0.402	6.4	LOS A	2.3	59.8	0.32	0.14	0.32	29.5
16	R2	All MCs	67	0.0	67	0.0	0.084	3.4	LOS A	0.3	8.6	0.22	0.10	0.22	26.6
Approach			607	2.9	607	2.9	0.402	6.1	LOS A	2.3	59.8	0.31	0.14	0.31	29.1
All Vehicles			2101	1.9	2101	1.9	0.837	12.8	LOS B	21.9	551.3	0.65	0.48	0.84	27.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (14)] Grand Ave & 48th St PM Improved 2LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	5	0.0	5	0.0	0.019	8.3	LOS A	0.1	1.5	0.69	0.67	0.69	24.5
4	T1	All MCs	2	0.0	2	0.0	0.019	8.3	LOS A	0.1	1.5	0.69	0.67	0.69	24.8
14	R2	All MCs	1	0.0	1	0.0	0.019	8.3	LOS A	0.1	1.5	0.69	0.67	0.69	24.7
Approach			9	0.0	9	0.0	0.019	8.3	LOS A	0.1	1.5	0.69	0.67	0.69	24.6
West: Grand Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.444	7.6	LOS A	2.6	65.9	0.47	0.27	0.47	25.4
2	T1	All MCs	525	0.7	525	0.7	0.444	7.6	LOS A	2.6	65.9	0.47	0.27	0.47	29.5
12	R2	All MCs	100	0.0	100	0.0	0.093	3.8	LOS A	0.4	9.4	0.32	0.19	0.32	30.6
Approach			626	0.6	626	0.6	0.444	7.0	LOS A	2.6	65.9	0.45	0.26	0.45	29.6
South: 48th Street West															
3	L2	All MCs	151	1.2	151	1.2	0.290	7.2	LOS A	1.2	30.3	0.55	0.45	0.55	28.3
8	T1	All MCs	1	0.0	1	0.0	0.290	7.0	LOS A	1.2	30.3	0.55	0.45	0.55	25.0
18	R2	All MCs	105	0.0	105	0.0	0.290	7.0	LOS A	1.2	30.3	0.55	0.45	0.55	28.5
Approach			258	0.7	258	0.7	0.290	7.1	LOS A	1.2	30.3	0.55	0.45	0.55	28.3
East: Grand Avenue															
1	L2	All MCs	200	0.0	200	0.0	0.815	17.1	LOS C	19.4	485.3	0.87	0.66	1.20	25.6
6	T1	All MCs	1007	0.0	1007	0.0	0.815	14.6	LOS B	19.4	485.3	0.76	0.56	1.02	26.8
16	R2	All MCs	9	0.0	9	0.0	0.170	4.3	LOS A	0.8	18.9	0.30	0.15	0.30	26.5
Approach			1215	0.0	1215	0.0	0.815	14.9	LOS B	19.4	485.3	0.77	0.57	1.04	26.6
All Vehicles			2108	0.3	2108	0.3	0.815	11.6	LOS B	19.4	485.3	0.65	0.46	0.80	27.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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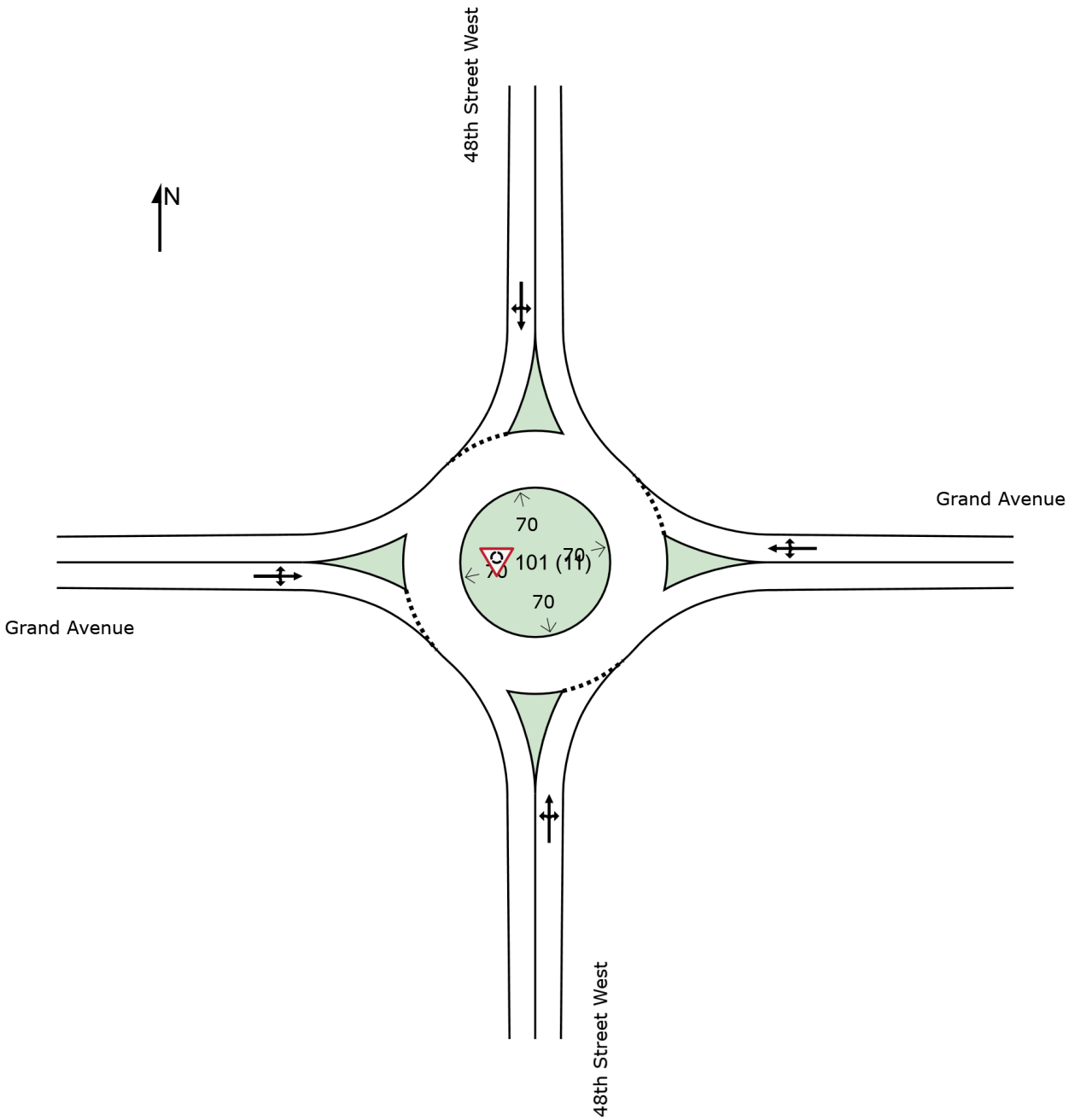
SITE LAYOUT

Site: [101 (11)] Grand Ave & 48th St AM Improved 1LN (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [101 (11)] Grand Ave & 48th St AM Improved 1LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	16	0.0	16	0.0	0.035	5.2	LOS A	0.1	3.4	0.55	0.45	0.55	25.4
4	T1	All MCs	9	0.0	9	0.0	0.035	5.2	LOS A	0.1	3.4	0.55	0.45	0.55	25.7
14	R2	All MCs	1	0.0	1	0.0	0.035	5.2	LOS A	0.1	3.4	0.55	0.45	0.55	25.6
Approach			26	0.0	26	0.0	0.035	5.2	LOS A	0.1	3.4	0.55	0.45	0.55	25.5
West: Grand Avenue															
5	L2	All MCs	37	0.0	37	0.0	1.056	53.1	LOS F	82.5	2081.6	1.00	2.13	2.72	16.7
2	T1	All MCs	1023	1.2	1023	1.2	1.056	53.2	LOS F	82.5	2081.6	1.00	2.13	2.72	18.4
12	R2	All MCs	184	1.0	184	1.0	1.056	53.2	LOS F	82.5	2081.6	1.00	2.13	2.72	18.4
Approach			1243	1.1	1243	1.1	1.056	53.2	LOS F	82.5	2081.6	1.00	2.13	2.72	18.4
South: 48th Street West															
3	L2	All MCs	47	15.4	47	15.4	0.500	23.3	LOS C	2.3	59.9	0.79	0.87	1.05	25.1
8	T1	All MCs	16	0.0	16	0.0	0.500	16.9	LOS C	2.3	59.9	0.79	0.87	1.05	22.6
18	R2	All MCs	162	0.0	162	0.0	0.500	16.9	LOS C	2.3	59.9	0.79	0.87	1.05	25.5
Approach			225	3.2	225	3.2	0.500	18.1	LOS C	2.3	59.9	0.79	0.87	1.05	25.2
East: Grand Avenue															
1	L2	All MCs	117	1.5	117	1.5	0.504	8.1	LOS A	3.7	94.5	0.41	0.19	0.41	28.5
6	T1	All MCs	422	3.8	422	3.8	0.504	8.3	LOS A	3.7	94.5	0.41	0.19	0.41	28.9
16	R2	All MCs	67	0.0	67	0.0	0.504	8.0	LOS A	3.7	94.5	0.41	0.19	0.41	25.1
Approach			607	2.9	607	2.9	0.504	8.2	LOS A	3.7	94.5	0.41	0.19	0.41	28.3
All Vehicles			2101	1.9	2101	1.9	1.056	35.9	LOS E	82.5	2081.6	0.80	1.41	1.85	21.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [101 (12)] Grand Ave & 48th St PM Improved 1LN (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	5	0.0	5	0.0	0.024	10.4	LOS B	0.1	2.1	0.75	0.74	0.75	24.0
4	T1	All MCs	2	0.0	2	0.0	0.024	10.4	LOS B	0.1	2.1	0.75	0.74	0.75	24.3
14	R2	All MCs	1	0.0	1	0.0	0.024	10.4	LOS B	0.1	2.1	0.75	0.74	0.75	24.1
Approach			9	0.0	9	0.0	0.024	10.4	LOS B	0.1	2.1	0.75	0.74	0.75	24.1
West: Grand Avenue															
5	L2	All MCs	1	0.0	1	0.0	0.561	9.8	LOS A	4.2	104.9	0.59	0.34	0.59	24.7
2	T1	All MCs	525	0.7	525	0.7	0.561	9.9	LOS A	4.2	104.9	0.59	0.34	0.59	28.6
12	R2	All MCs	100	0.0	100	0.0	0.561	9.8	LOS A	4.2	104.9	0.59	0.34	0.59	28.5
Approach			626	0.6	626	0.6	0.561	9.9	LOS A	4.2	104.9	0.59	0.34	0.59	28.6
South: 48th Street West															
3	L2	All MCs	151	1.2	151	1.2	0.326	8.4	LOS A	1.5	38.6	0.63	0.52	0.63	27.8
8	T1	All MCs	1	0.0	1	0.0	0.326	8.2	LOS A	1.5	38.6	0.63	0.52	0.63	24.7
18	R2	All MCs	105	0.0	105	0.0	0.326	8.2	LOS A	1.5	38.6	0.63	0.52	0.63	28.1
Approach			258	0.7	258	0.7	0.326	8.3	LOS A	1.5	38.6	0.63	0.52	0.63	27.9
East: Grand Avenue															
1	L2	All MCs	200	0.0	200	0.0	1.032	47.1	LOS F	74.8	1871.2	1.00	2.04	2.63	19.2
6	T1	All MCs	1007	0.0	1007	0.0	1.032	47.1	LOS F	74.8	1871.2	1.00	2.04	2.63	19.4
16	R2	All MCs	9	0.0	9	0.0	1.032	47.1	LOS F	74.8	1871.2	1.00	2.04	2.63	17.6
Approach			1215	0.0	1215	0.0	1.032	47.1	LOS E	74.8	1871.2	1.00	2.04	2.63	19.3
All Vehicles			2108	0.3	2108	0.3	1.032	31.1	LOS D	74.8	1871.2	0.83	1.35	1.77	22.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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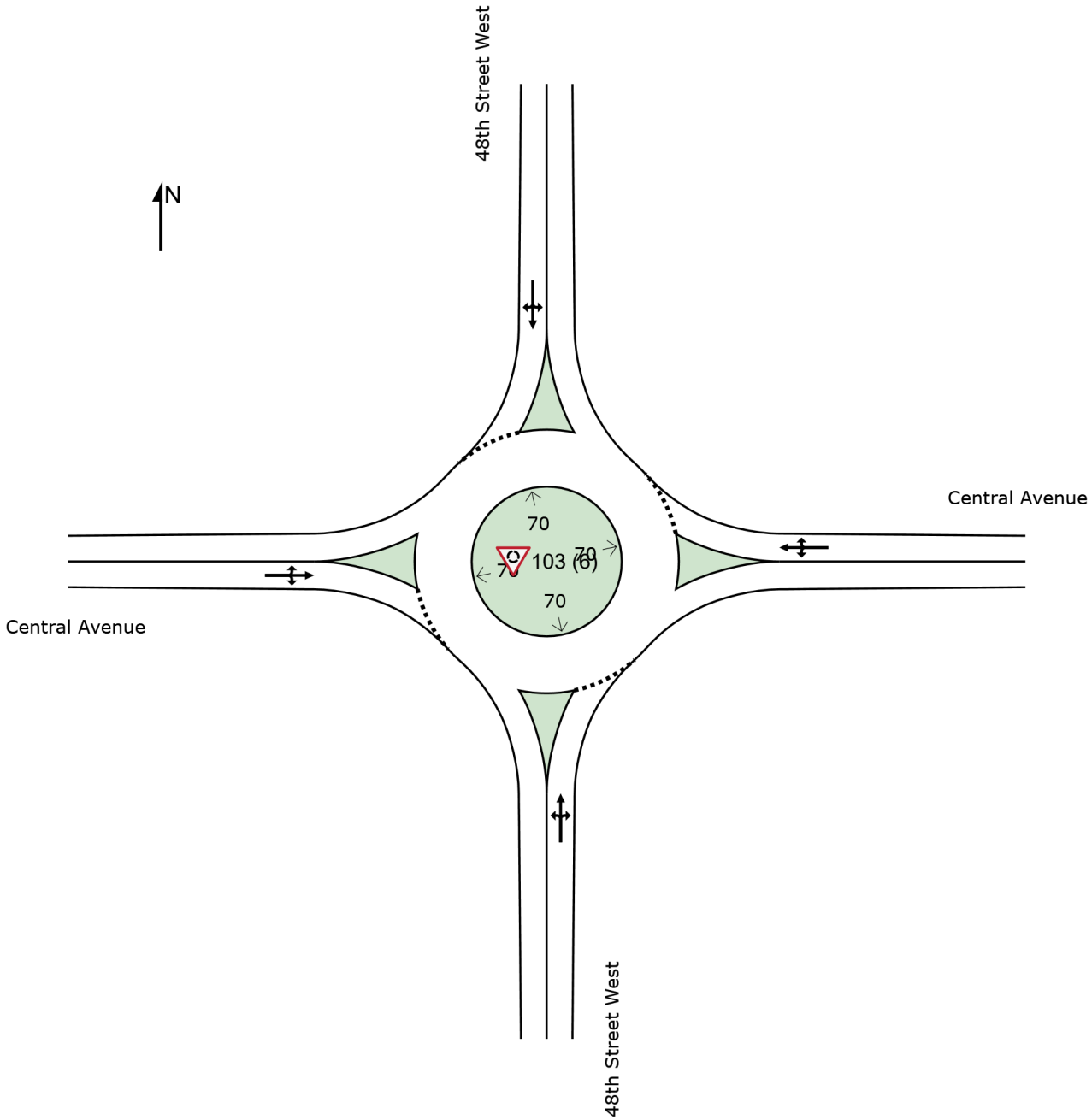
SITE LAYOUT

Site: [103 (6)] Central Ave & 48th St AM Improved (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [103 (6)] Central Ave & 48th St AM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	125	0.0	125	0.0	0.245	5.5	LOS A	1.2	31.0	0.41	0.24	0.41	35.0
4	T1	All MCs	125	0.0	125	0.0	0.245	5.5	LOS A	1.2	31.0	0.41	0.24	0.41	35.6
14	R2	All MCs	22	0.0	22	0.0	0.245	5.5	LOS A	1.2	31.0	0.41	0.24	0.41	35.3
Approach			272	0.0	272	0.0	0.245	5.5	LOS A	1.2	31.0	0.41	0.24	0.41	35.3
West: Central Avenue															
5	L2	All MCs	20	0.0	20	0.0	0.428	8.0	LOS A	2.5	63.6	0.56	0.36	0.56	34.5
2	T1	All MCs	357	0.5	357	0.5	0.428	8.1	LOS A	2.5	63.6	0.56	0.36	0.56	36.2
12	R2	All MCs	66	2.7	66	2.7	0.428	8.3	LOS A	2.5	63.6	0.56	0.36	0.56	35.6
Approach			442	0.8	442	0.8	0.428	8.1	LOS A	2.5	63.6	0.56	0.36	0.56	36.0
South: 48th Street West															
3	L2	All MCs	14	12.5	14	12.5	0.219	8.2	LOS A	0.9	23.8	0.58	0.46	0.58	34.3
8	T1	All MCs	70	5.1	70	5.1	0.219	7.1	LOS A	0.9	23.8	0.58	0.46	0.58	35.1
18	R2	All MCs	87	2.0	87	2.0	0.219	6.7	LOS A	0.9	23.8	0.58	0.46	0.58	36.3
Approach			171	4.1	171	4.1	0.219	7.0	LOS A	0.9	23.8	0.58	0.46	0.58	35.6
East: Central Avenue															
1	L2	All MCs	25	0.0	25	0.0	0.179	4.3	LOS A	0.8	21.8	0.27	0.12	0.27	37.5
6	T1	All MCs	167	3.2	167	3.2	0.179	4.5	LOS A	0.8	21.8	0.27	0.12	0.27	37.7
16	R2	All MCs	20	18.2	20	18.2	0.179	5.6	LOS A	0.8	21.8	0.27	0.12	0.27	34.1
Approach			212	4.2	212	4.2	0.179	4.5	LOS A	0.8	21.8	0.27	0.12	0.27	37.3
All Vehicles			1097	1.8	1097	1.8	0.428	6.6	LOS A	2.5	63.6	0.47	0.30	0.47	36.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [103 (7)] Central Ave & 48th St PM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	64	0.0	64	0.0	0.282	7.9	LOS A	1.3	31.8	0.63	0.53	0.63	34.0
4	T1	All MCs	130	1.4	130	1.4	0.282	8.1	LOS A	1.3	31.8	0.63	0.53	0.63	34.5
14	R2	All MCs	17	0.0	17	0.0	0.282	7.9	LOS A	1.3	31.8	0.63	0.53	0.63	34.4
Approach			212	0.9	212	0.9	0.282	8.0	LOS A	1.3	31.8	0.63	0.53	0.63	34.3
West: Central Avenue															
5	L2	All MCs	27	0.0	27	0.0	0.302	6.1	LOS A	1.5	39.6	0.47	0.29	0.47	35.4
2	T1	All MCs	253	2.8	253	2.8	0.302	6.4	LOS A	1.5	39.6	0.47	0.29	0.47	36.8
12	R2	All MCs	34	5.3	34	5.3	0.302	6.7	LOS A	1.5	39.6	0.47	0.29	0.47	36.0
Approach			314	2.8	314	2.8	0.302	6.4	LOS A	1.5	39.6	0.47	0.29	0.47	36.6
South: 48th Street West															
3	L2	All MCs	82	0.0	82	0.0	0.284	6.6	LOS A	1.4	35.2	0.53	0.38	0.53	35.8
8	T1	All MCs	150	0.0	150	0.0	0.284	6.6	LOS A	1.4	35.2	0.53	0.38	0.53	35.5
18	R2	All MCs	42	0.0	42	0.0	0.284	6.6	LOS A	1.4	35.2	0.53	0.38	0.53	36.2
Approach			274	0.0	274	0.0	0.284	6.6	LOS A	1.4	35.2	0.53	0.38	0.53	35.7
East: Central Avenue															
1	L2	All MCs	50	0.0	50	0.0	0.566	10.4	LOS B	4.9	122.8	0.65	0.45	0.75	34.2
6	T1	All MCs	449	0.4	449	0.4	0.566	10.4	LOS B	4.9	122.8	0.65	0.45	0.75	34.8
16	R2	All MCs	95	3.8	95	3.8	0.566	10.8	LOS B	4.9	122.8	0.65	0.45	0.75	33.1
Approach			593	0.9	593	0.9	0.566	10.5	LOS B	4.9	122.8	0.65	0.45	0.75	34.5
All Vehicles			1393	1.2	1393	1.2	0.566	8.4	LOS A	4.9	122.8	0.58	0.41	0.62	35.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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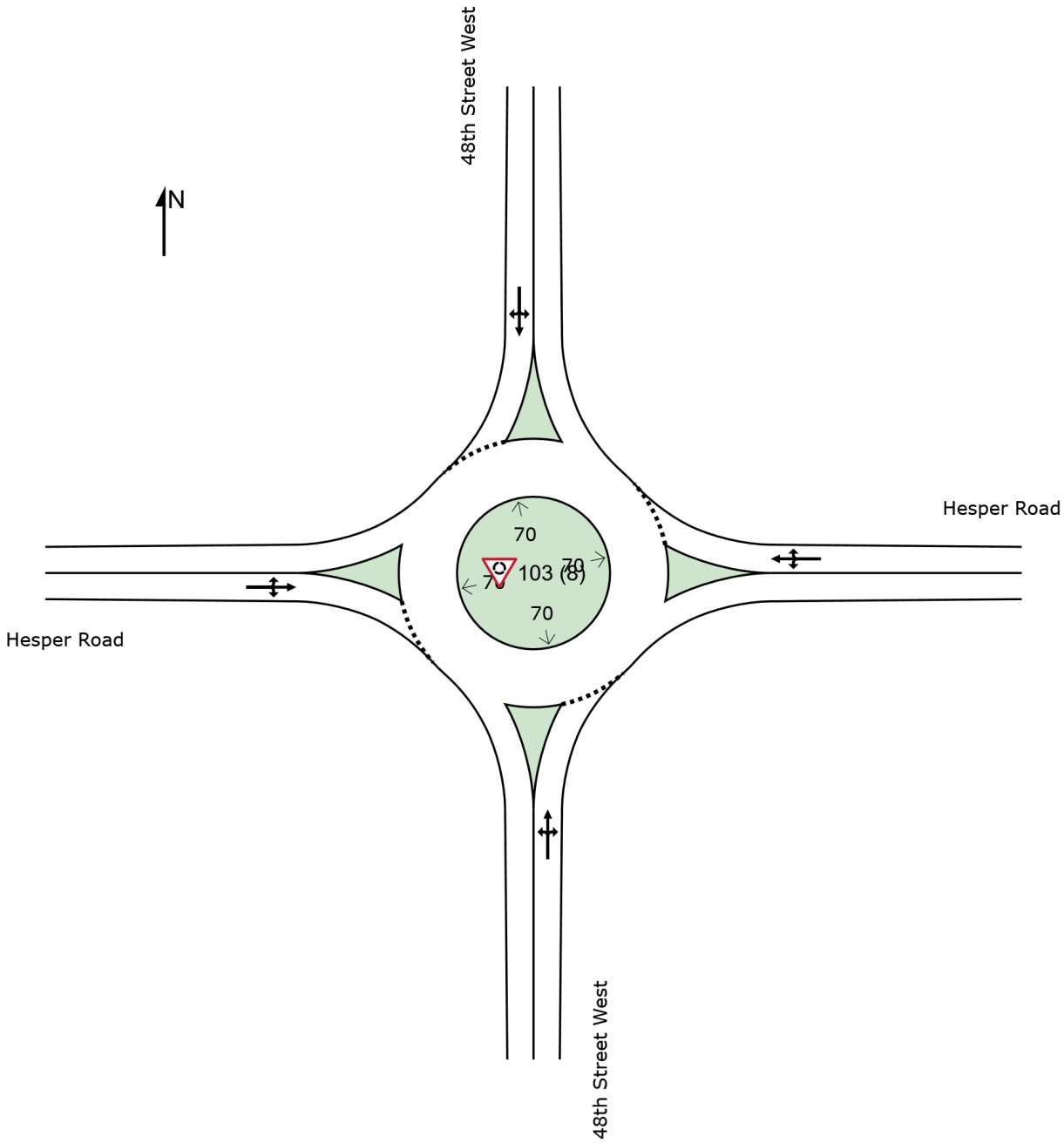
SITE LAYOUT

Site: [103 (8)] Hesper Rd & 48th St AM Improved (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [103 (8)] Hesper Rd & 48th St AM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	116	1.5	116	1.5	0.170	4.6	LOS A	0.8	20.0	0.36	0.20	0.36	35.8
4	T1	All MCs	50	3.6	50	3.6	0.170	4.8	LOS A	0.8	20.0	0.36	0.20	0.36	36.2
14	R2	All MCs	22	8.3	22	8.3	0.170	5.2	LOS A	0.8	20.0	0.36	0.20	0.36	35.2
Approach			188	2.8	188	2.8	0.170	4.7	LOS A	0.8	20.0	0.36	0.20	0.36	35.9
West: Hesper Road															
5	L2	All MCs	30	5.9	30	5.9	0.431	7.9	LOS A	2.6	67.3	0.48	0.27	0.48	34.8
2	T1	All MCs	426	5.4	426	5.4	0.431	7.9	LOS A	2.6	67.3	0.48	0.27	0.48	35.6
12	R2	All MCs	9	0.0	9	0.0	0.431	7.4	LOS A	2.6	67.3	0.48	0.27	0.48	36.0
Approach			465	5.3	465	5.3	0.431	7.9	LOS A	2.6	67.3	0.48	0.27	0.48	35.6
South: 48th Street West															
3	L2	All MCs	9	20.0	9	20.0	0.120	9.0	LOS A	0.4	11.7	0.58	0.49	0.58	33.4
8	T1	All MCs	50	3.6	50	3.6	0.120	6.2	LOS A	0.4	11.7	0.58	0.49	0.58	36.5
18	R2	All MCs	23	7.7	23	7.7	0.120	6.8	LOS A	0.4	11.7	0.58	0.49	0.58	35.6
Approach			82	6.5	82	6.5	0.120	6.6	LOS A	0.4	11.7	0.58	0.49	0.58	35.9
East: Hesper Road															
1	L2	All MCs	14	0.0	14	0.0	0.166	4.0	LOS A	0.7	20.0	0.25	0.11	0.25	37.6
6	T1	All MCs	148	9.6	148	9.6	0.166	4.6	LOS A	0.7	20.0	0.25	0.11	0.25	37.0
16	R2	All MCs	30	5.9	30	5.9	0.166	4.3	LOS A	0.7	20.0	0.25	0.11	0.25	37.1
Approach			192	8.3	192	8.3	0.166	4.5	LOS A	0.7	20.0	0.25	0.11	0.25	37.0
All Vehicles			927	5.5	927	5.5	0.431	6.4	LOS A	2.6	67.3	0.41	0.24	0.41	35.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [103 (9)] Hesper Rd & 48th St PM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: 48th Street West															
7	L2	All MCs	34	5.3	34	5.3	0.131	6.7	LOS A	0.5	13.4	0.57	0.48	0.57	35.2
4	T1	All MCs	48	0.0	48	0.0	0.131	5.9	LOS A	0.5	13.4	0.57	0.48	0.57	36.7
14	R2	All MCs	16	0.0	16	0.0	0.131	5.9	LOS A	0.5	13.4	0.57	0.48	0.57	36.4
Approach			98	1.8	98	1.8	0.131	6.2	LOS A	0.5	13.4	0.57	0.48	0.57	36.1
West: Hesper Road															
5	L2	All MCs	14	12.5	14	12.5	0.249	6.0	LOS A	1.3	32.7	0.32	0.16	0.32	35.2
2	T1	All MCs	278	1.9	278	1.9	0.249	5.2	LOS A	1.3	32.7	0.32	0.16	0.32	37.7
12	R2	All MCs	2	0.0	2	0.0	0.249	5.1	LOS A	1.3	32.7	0.32	0.16	0.32	37.7
Approach			295	2.4	295	2.4	0.249	5.2	LOS A	1.3	32.7	0.32	0.16	0.32	37.6
South: 48th Street West															
3	L2	All MCs	3	0.0	3	0.0	0.112	4.7	LOS A	0.5	12.1	0.45	0.31	0.45	37.7
8	T1	All MCs	73	0.0	73	0.0	0.112	4.7	LOS A	0.5	12.1	0.45	0.31	0.45	38.5
18	R2	All MCs	34	0.0	34	0.0	0.112	4.7	LOS A	0.5	12.1	0.45	0.31	0.45	38.1
Approach			110	0.0	110	0.0	0.112	4.7	LOS A	0.5	12.1	0.45	0.31	0.45	38.3
East: Hesper Road															
1	L2	All MCs	45	0.0	45	0.0	0.513	8.1	LOS A	4.0	99.7	0.39	0.17	0.39	35.5
6	T1	All MCs	522	0.7	522	0.7	0.513	8.1	LOS A	4.0	99.7	0.39	0.17	0.39	36.1
16	R2	All MCs	75	0.0	75	0.0	0.513	8.1	LOS A	4.0	99.7	0.39	0.17	0.39	35.9
Approach			641	0.6	641	0.6	0.513	8.1	LOS A	4.0	99.7	0.39	0.17	0.39	36.0
All Vehicles			1143	1.1	1143	1.1	0.513	6.9	LOS A	4.0	99.7	0.40	0.21	0.40	36.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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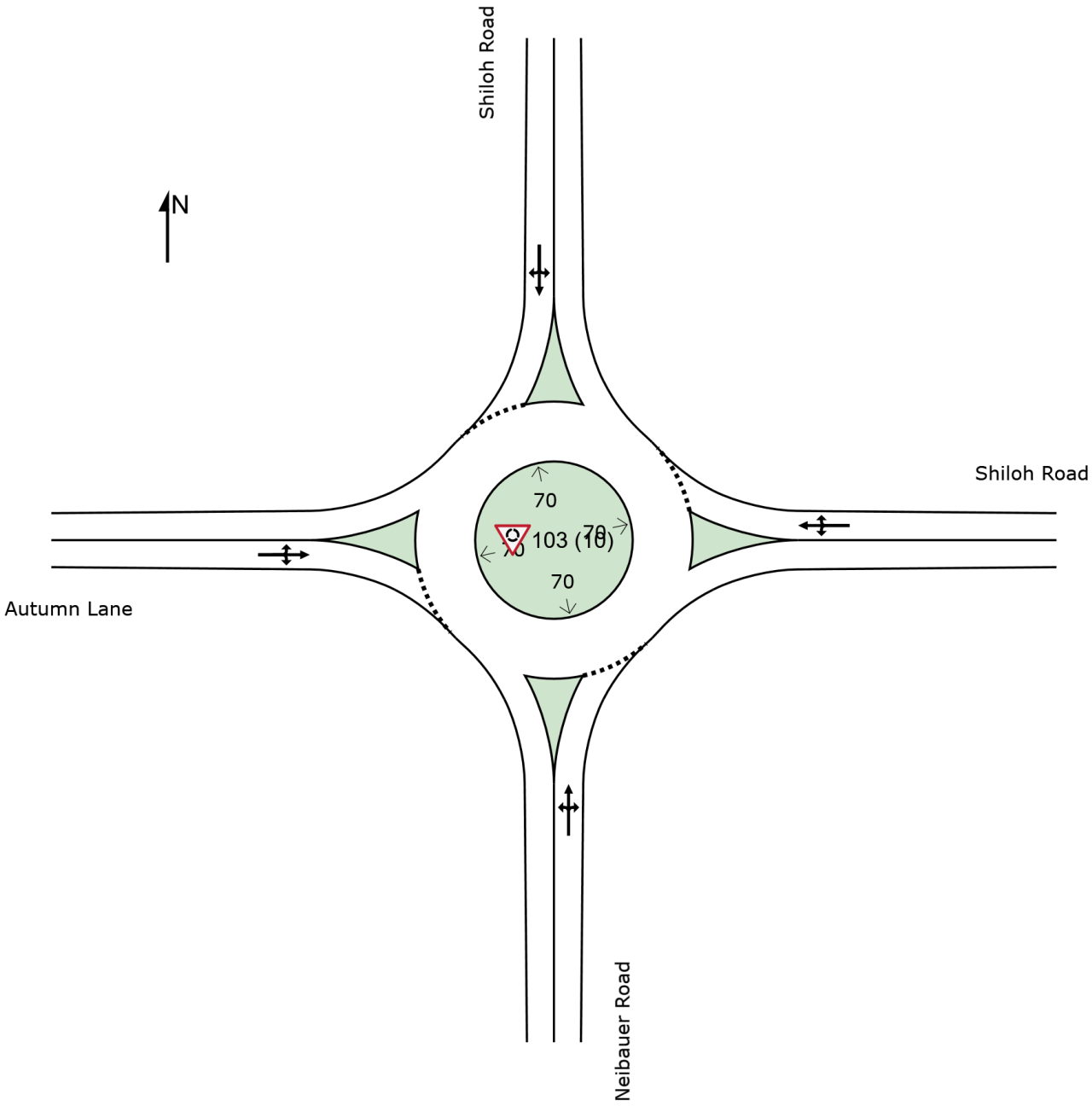
SITE LAYOUT

Site: [103 (10)] Neibauer Rd & Shiloh Rd AM Improved (Future (2044) w/ Improvements)

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [103 (10)] Neibauer Rd & Shiloh Rd AM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: Shiloh Road															
7	L2	All MCs	142	2.5	142	2.5	0.303	5.6	LOS A	1.5	41.4	0.36	0.18	0.36	33.3
4	T1	All MCs	187	15.0	187	15.0	0.303	6.6	LOS A	1.5	41.4	0.36	0.18	0.36	32.4
14	R2	All MCs	1	0.0	1	0.0	0.303	5.4	LOS A	1.5	41.4	0.36	0.18	0.36	34.0
Approach			330	9.6	330	9.6	0.303	6.2	LOS A	1.5	41.4	0.36	0.18	0.36	32.8
West: Autumn Lane															
5	L2	All MCs	1	0.0	1	0.0	0.004	4.4	LOS A	0.0	0.4	0.50	0.31	0.50	34.9
2	T1	All MCs	1	0.0	1	0.0	0.004	4.4	LOS A	0.0	0.4	0.50	0.31	0.50	35.6
12	R2	All MCs	1	0.0	1	0.0	0.004	4.4	LOS A	0.0	0.4	0.50	0.31	0.50	35.3
Approach			3	0.0	3	0.0	0.004	4.4	LOS A	0.0	0.4	0.50	0.31	0.50	35.3
South: Neibauer Road															
3	L2	All MCs	1	0.0	1	0.0	0.485	7.9	LOS A	3.1	83.7	0.47	0.24	0.47	33.5
8	T1	All MCs	374	10.0	374	10.0	0.485	8.8	LOS A	3.1	83.7	0.47	0.24	0.47	32.8
18	R2	All MCs	153	4.7	153	4.7	0.485	8.3	LOS A	3.1	83.7	0.47	0.24	0.47	33.2
Approach			528	8.4	528	8.4	0.485	8.6	LOS A	3.1	83.7	0.47	0.24	0.47	33.0
East: Shiloh Road															
1	L2	All MCs	120	13.4	120	13.4	0.457	11.2	LOS B	2.8	73.8	0.66	0.54	0.78	30.5
6	T1	All MCs	1	0.0	1	0.0	0.457	9.3	LOS A	2.8	73.8	0.66	0.54	0.78	32.8
16	R2	All MCs	268	0.7	268	0.7	0.457	9.4	LOS A	2.8	73.8	0.66	0.54	0.78	32.5
Approach			389	4.6	389	4.6	0.457	9.9	LOS A	2.8	73.8	0.66	0.54	0.78	31.9
All Vehicles			1251	7.5	1251	7.5	0.485	8.4	LOS A	3.1	83.7	0.50	0.32	0.54	32.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [103 (11)] Neibauer Rd & Shiloh Rd PM Improved (Future (2044) w/ Improvements)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
North: Shiloh Road															
7	L2	All MCs	260	0.0	260	0.0	0.513	8.2	LOS A	3.9	97.9	0.43	0.20	0.43	32.7
4	T1	All MCs	371	0.5	371	0.5	0.513	8.3	LOS A	3.9	97.9	0.43	0.20	0.43	33.3
14	R2	All MCs	1	0.0	1	0.0	0.513	8.2	LOS A	3.9	97.9	0.43	0.20	0.43	33.1
Approach			632	0.3	632	0.3	0.513	8.3	LOS A	3.9	97.9	0.43	0.20	0.43	33.0
West: Autumn Lane															
5	L2	All MCs	1	0.0	1	0.0	0.005	5.6	LOS A	0.0	0.5	0.58	0.42	0.58	34.2
2	T1	All MCs	1	0.0	1	0.0	0.005	5.6	LOS A	0.0	0.5	0.58	0.42	0.58	34.9
12	R2	All MCs	1	0.0	1	0.0	0.005	5.6	LOS A	0.0	0.5	0.58	0.42	0.58	34.6
Approach			3	0.0	3	0.0	0.005	5.6	LOS A	0.0	0.5	0.58	0.42	0.58	34.6
South: Neibauer Road															
3	L2	All MCs	1	0.0	1	0.0	0.313	6.3	LOS A	1.6	41.0	0.48	0.31	0.48	34.5
8	T1	All MCs	229	5.4	229	5.4	0.313	6.8	LOS A	1.6	41.0	0.48	0.31	0.48	34.4
18	R2	All MCs	86	0.0	86	0.0	0.313	6.3	LOS A	1.6	41.0	0.48	0.31	0.48	34.8
Approach			316	3.9	316	3.9	0.313	6.7	LOS A	1.6	41.0	0.48	0.31	0.48	34.5
East: Shiloh Road															
1	L2	All MCs	105	1.7	105	1.7	0.727	15.0	LOS C	12.5	316.9	0.82	0.71	1.26	30.1
6	T1	All MCs	1	0.0	1	0.0	0.727	14.8	LOS B	12.5	316.9	0.82	0.71	1.26	30.8
16	R2	All MCs	661	1.6	661	1.6	0.727	15.0	LOS C	12.5	316.9	0.82	0.71	1.26	30.4
Approach			767	1.6	767	1.6	0.727	15.0	LOS C	12.5	316.9	0.82	0.71	1.26	30.4
All Vehicles			1718	1.5	1718	1.5	0.727	11.0	LOS B	12.5	316.9	0.61	0.44	0.81	32.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c >1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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