

APPENDIX A: PROPOSED SITE PLAN



SITE AREAS
BOUNDARY 1,412,323 S.F.
TOTAL SITE 830,133 S.F.

- EAST SIDE**
- 150 TOTAL APARTMENT UNITS EAST
- 24 TYPE "I" 2-Bd, 2-Ba (1032 S.F.) UNITS
- 18 TYPE "W6E" 2-Bd, 2-Ba (1067 S.F.) UNITS
- 36 TYPE "P4" 2-Bd, 2-Ba (1038 S.F.) UNITS
- 36 TYPE "J" 3-Bd, 2-Ba (1205 S.F.) UNITS
- 36 TYPE "A" 1-Bd, 1-Ba (651 S.F.) UNITS
- 304 TOTAL PARKING STALLS
- 162 STANDARD STALLS
- 120 COMPACT STALLS
- 7 HANDICAP STALLS
- 2 12x19 LOADING AREAS
- 15 GARAGES (1 HANDICAP)
- 42 BICYCLE SPACES IN 7 RACKS (38 REQUIRED)
- 1 40'x50' SPORTS COURT
- 1 30'x30' TOT LOT
- 1 TRASH COMPACTOR / RECYCLE
- 2 PLAY AREAS
- 1 U.S. MAIL BOX AREA
- 1 CLUBHOUSE / MANAGERS OFFICE (PHASE 1)
- 1 SWIMMING POOL (42'x22') (PHASE 1)

- WEST SIDE**
- 60 TOTAL APARTMENT UNITS WEST
- 24 TYPE "HE" 2-Bd, 2-Ba (1010 S.F.) UNITS
- 18 TYPE "W6I" 2-Bd, 2-Ba (1037 S.F.) UNITS
- 18 TYPE "W6E" 2-Bd, 2-Ba (1067 S.F.) UNITS
- 62 TOWNHOUSE UNITS
- 181 TOTAL PARKING STALLS
- 102 STANDARD STALLS
- 70 COMPACT STALLS
- 1 HANDICAP STALLS
- 1 12x19 LOADING AREA
- 8 GARAGES
- 12 BICYCLE SPACES IN 2 RACKS (12 REQUIRED)
- 1 U.S. MAIL BOX AREA

★ THE INDICATED LOWER FLOOR UNITS IN BUILDINGS 5 & 9 ARE TO BE TYPE A UNITS IN ACCORDANCE WITH THE 2014 OSSC SEC. 1107.6.2.1.1 (NOTED ON FLOOR PLANS). ALL OTHER LOWER FLOOR UNITS TO BE TYPE B UNITS IN ACCORDANCE WITH THE 2014 OSSC SEC. 1107.6.2.1.2

- ⊙ - POLE LIGHT MAXIMUM 14' TALL
- ★ - POST LIGHT MAXIMUM 5' TALL
- ▨ - LOCATION OF ELECTRICAL SEPARATION WALL
- ① - MAXIMUM 1:12 SLOPE ON SIDEWALK END RAMP
- ||| - 6 BICYCLE SPACES.

ADA HANDICAP ACCESSIBILITY NOTES:

- ALL ON-SITE WALKWAYS, PEDESTRIAN CONNECTIONS TO THE PUBLIC SIDEWALK AND ROUTES TO BUILDING ENTRANCES ARE ACCESSIBLE WITH RUNNING SLOPES LESS THAN 5% AND CROSS SLOPE LESS THAN 2% MAX. LANDINGS AT BOTTOM OF STAIRS AND EXT. FACE OF ENTRANCE DOORS SHALL HAVE A SLOPE IN THE DIRECTION OF TRAVEL NOT TO EXCEED 2%.
- HANDICAP PARKING STALLS AND ACCESS AISLES ARE TO HAVE SLOPES IN ANY DIRECTION OF LESS THAN 2% MAX. GRAPHIC MARKINGS & SIGNAGE FOR HANDICAP AND VAN ACCESSIBLE STALLS WILL BE PER OSSC 2010 CHPTR. 11 AND ORS. REQUIREMENTS.
- HANDICAP ACCESSIBLE CURB RAMPS SHALL HAVE A RUNNING SLOPE NOT TO EXCEED 1:12 MAX. AND A CROSS SLOPE NOT TO EXCEED 1%.
- THE COMMUNITY BUILDING & ON-SITE LAUNDRY FACILITIES WILL BE FULLY HANDICAP ACCESSIBLE IN ACCORDANCE WITH ANSI A117.1 AND CHAPTER 11 OF THE 2010 OSSC.
- 2% OF THE LIVING UNITS OR (3) UNITS WILL BE TYPE "A" HANDICAP ACCESSIBLE. THESE INCLUDE A 1, 2 AND 3 BEDROOM UNIT AS INDICATED ON THIS SITE PLAN. THE BALANCE OF THE GROUND FLOOR LIVING UNITS WILL BE TYPE "B" ADAPTABLE UNITS IN ACCORDANCE WITH ANSI A117.1.

SITE PLAN

MCKENZIE HEIGHTS PHASE 2

NO CHANGES, MODIFICATIONS OR REPRODUCTIONS TO BE MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM THE DESIGN ENGINEER. DIMENSIONS & NOTES TAKE PRECEDENCE OVER GRAPHICAL REPRESENTATION.

2021-SITE SDR3-SITE

Design: M.D.G.
Drawn: T.N.S.
Checked: M.D.G.
Date: AUG. 2020
Scale: AS SHOWN

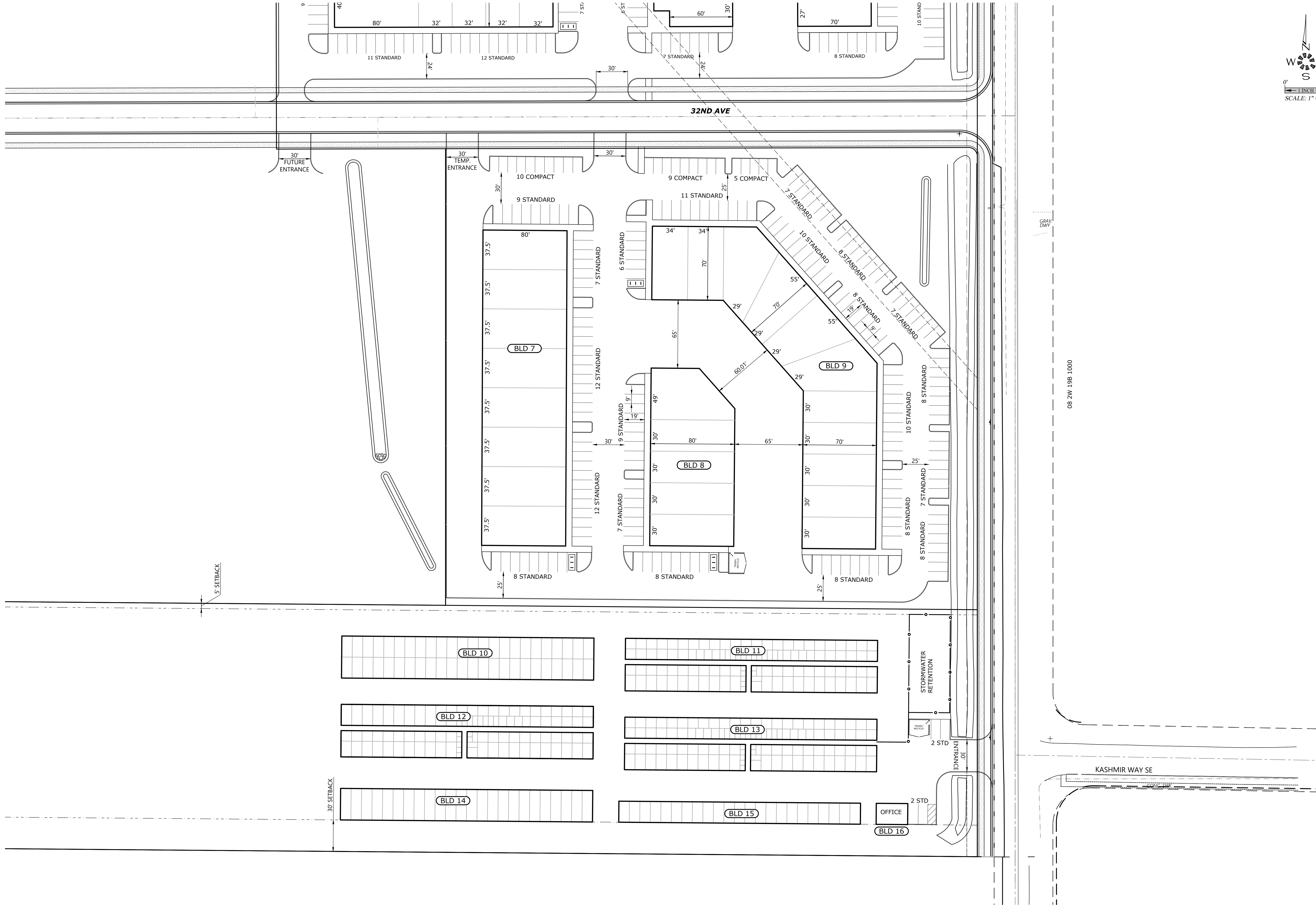
REGISTERED PROFESSIONAL ENGINEER
MARK D. GENT
JULY 14, 1978
OREGON
EXPIRES: 06-30-2023

JOB # 7071

2 TRASH COLLECTION AREAS



J:\7146\7146-BooneRoad\sd3\Draw - 20\7146p-05.dwg, SDR3.2-SITE, 5/17/2021, 1:38:48 PM, T8aul



7146p-05 SDR3.2-SITE.dwg

Design: M.D.G.
Drawn: T.N.S.
Checked: M.D.G.
Date: NOV. 2021
Scale: AS SHOWN

REGISTERED PROFESSIONAL ENGINEER
6546
OREGON
JULY 11, 1978
MARK D. STEAL

EXPIRES 06-30-2023

BOONE ROAD FLEX SPACE & SELF-STORAGE

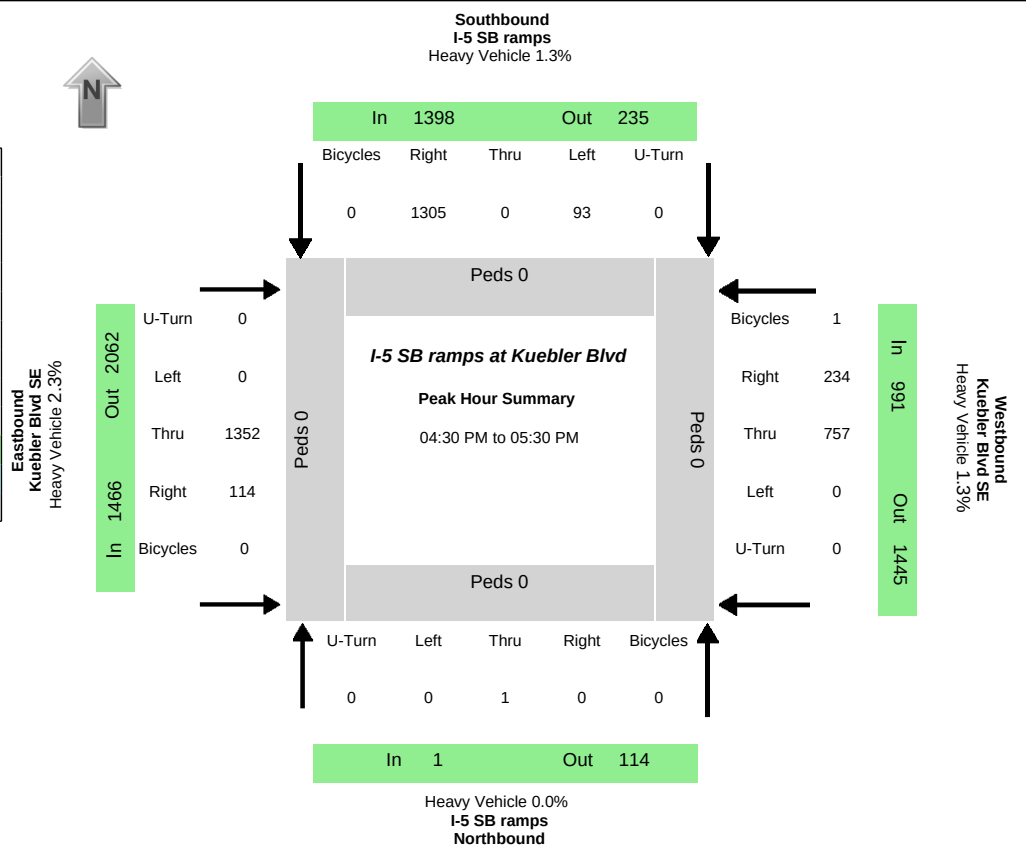
MULTI/TECH

ENGINEERING SERVICES, INC.
1155 13TH ST., S.E. SALEM, OR. 97302
PH. (503) 363 - 9227 FAX (503) 364-1260
www.multi-tech-engineering.com

SITE PLAN SOUTH

APPENDIX B: TRAFFIC COUNTS

Data Provided by K-D-N.com 503-594-4224	
N/S street	I-5 SB ramps
E/W street	Kuebler Blvd SE
City, State	Salem OR
Site Notes	
Location	44.885282 - -123.000451
Start Date	Tuesday, November 19, 2019
Start Time	03:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:30:00 PM
Peak 15 Min Start	04:35:00 PM
PHF (15-Min Int)	0.95



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	1	0	0	93	0	1305	0	0	1352	114	0	0	757	234	0	1	1398	1466	991	114	235	2062	1445
Percent Heavy Vehicles																							
0.0%	0.0%	0.0%	0.0%	4.3%	0.0%	1.1%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	0.8%	3.0%	0.0%	0.0%	1.3%	2.3%	1.3%	0.0%	3.0%	1.0%	2.6%
PHV- Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	
All Vehicle Volumes																							
Time	Northbound I-5 SB ramps				Southbound I-5 SB ramps				Eastbound Kuebler Blvd SE				Westbound Kuebler Blvd SE				15 Min Sum	1 HR Sum					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
03:00:00 PM	0	0	0	0	7	0	53	0	0	120	4	0	0	59	12	0							
03:05:00 PM	0	0	0	0	10	0	79	0	0	92	9	0	0	59	15	0							
03:10:00 PM	0	0	0	0	6	0	93	0	0	98	9	0	0	47	11	0	783						
03:15:00 PM	0	0	0	0	8	0	70	0	0	82	6	0	0	64	18	0	776						
03:20:00 PM	0	0	0	0	7	0	82	0	0	101	8	0	0	66	23	0	799						
03:25:00 PM	0	0	0	0	8	0	102	0	0	81	6	0	0	47	13	0	792						
03:30:00 PM	0	0	0	0	14	0	78	0	0	77	3	0	0	41	14	0	771						
03:35:00 PM	0	0	0	0	11	0	81	0	0	102	13	0	0	73	16	0	780						
03:40:00 PM	0	0	0	0	9	0	87	0	0	112	8	0	0	72	19	0	830						
03:45:00 PM	0	0	0	0	4	0	111	0	0	130	7	0	0	74	16	0	945						
03:50:00 PM	0	0	0	0	8	0	91	0	0	97	5	0	0	47	13	0	910						
03:55:00 PM	0	0	0	0	9	0	90	0	0	90	9	0	0	50	10	0	861	3266					
04:00:00 PM	0	0	0	0	11	0	117	0	0	108	6	0	0	45	14	0	820	3312					
04:05:00 PM	0	0	0	0	9	0	129	0	0	99	8	0	0	47	22	0	873	3362					
04:10:00 PM	0	0	0	0	8	0	96	0	0	101	12	0	0	69	18	0	919	3402					
04:15:00 PM	0	0	0	0	8	0	108	0	0	102	5	0	0	68	20	0	929	3465					
04:20:00 PM	0	0	0	0	10	0	115	0	0	75	18	0	0	60	15	0	908	3471					
04:25:00 PM	0	0	0	0	10	0	100	0	0	102	9	0	0	63	11	0	899	3509					
04:30:00 PM	0	0	0	0	11	0	85	0	0	105	6	0	0	56	12	0	863	3557					
04:35:00 PM	0	0	0	0	13	0	108	0	0	117	14	0	0	61	26	0	909	3600					
04:40:00 PM	0	0	0	0	7	0	115	0	0	116	10	0	0	55	21	0	938	3617					
04:45:00 PM	0	0	0	0	4	0	107	0	0	130	13	0	0	83	17	0	1017	3629					
04:50:00 PM	0	0	0	0	7	0	109	0	0	101	11	0	0	65	17	0	988	3678					
04:55:00 PM	0	1	0	0	12	0	133	0	0	105	6	0	0	53	21	0	995	3751					

05:00:00 PM	0	0	0	0	6	0	87	0	0	105	4	0	0	78	17	0	938	3747
05:05:00 PM	0	0	0	0	3	0	94	0	0	114	10	0	0	60	23	0	932	3737
05:10:00 PM	0	0	0	0	6	0	130	0	0	120	17	0	0	57	25	0	956	3788
05:15:00 PM	0	0	0	0	6	0	93	0	0	140	9	0	0	66	24	0	997	3815
05:20:00 PM	0	0	0	0	7	0	113	0	0	103	5	0	0	61	19	0	1001	3830
05:25:00 PM	0	0	0	0	11	0	131	0	0	96	9	0	0	62	12	0	967	3856
05:30:00 PM	0	0	0	0	4	0	84	0	0	101	10	0	0	61	12	0	901	3853
05:35:00 PM	0	0	0	0	12	0	114	0	0	99	9	0	0	48	24	0	899	3820
05:40:00 PM	0	0	0	0	7	0	117	0	0	114	9	0	0	44	17	0	886	3804
05:45:00 PM	0	0	0	0	7	0	88	0	0	99	5	0	0	58	14	0	885	3721
05:50:00 PM	0	0	0	0	8	0	84	0	0	93	4	0	0	65	5	0	838	3670
05:55:00 PM	0	0	0	0	10	0	73	0	0	93	6	0	0	40	15	0	767	3576

Data Provided by K-D-N.com 503-594-4224	
N/S street	I-5 SB ramps
E/W street	Kuebler Blvd SE
City, State	Salem OR
Site Notes	
Location	44.885282 - -123.000451
Start Date	Tuesday, November 19, 2019
Start Time	06:00:00 AM
Weather	
Study ID #	
Peak Hour Start	07:05:00 AM
Peak 15 Min Start	07:40:00 AM
PHF (15-Min Int)	0.88

Eastbound
Kuebler Blvd SE
Heavy Vehicle 1.9%



In 1800 Out 1365

U-Turn 0
Left 0
Thru 1736
Right 64
Bicycles 1

Peds 0

AM I-5 SB ramps at Kuebler Blvd SE

Peak Hour Summary
07:05 AM to 08:05 AM

Peds 0

U-Turn 0 Left 0 Thru 0 Right 0 Bicycles 0

In 0 Out 64

Heavy Vehicle NaN
I-5 SB ramps
Northbound

Peds 0

Bicycles 1
Right 113
Thru 534
Left 0
U-Turn 0

In 647 Out 1894

Westbound
Kuebler Blvd SE
Heavy Vehicle 6.8%

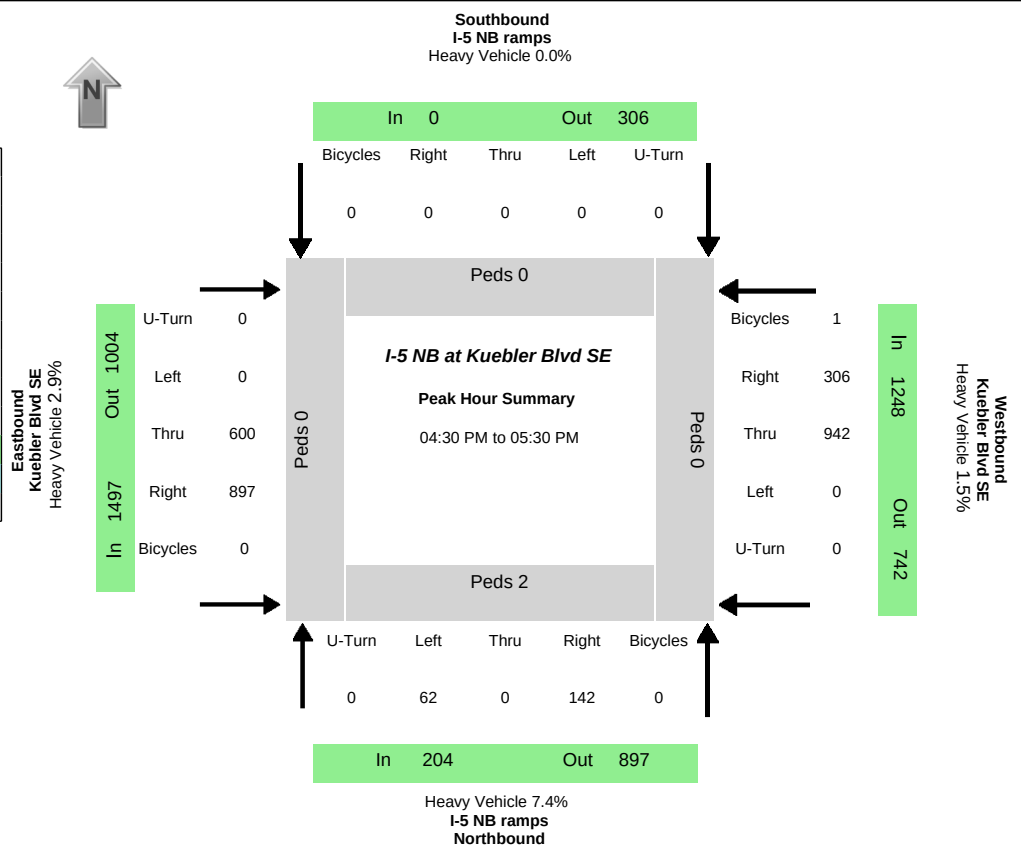
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	158	0	831	0	0	1736	64	0	0	534	113	0	0	989	1800	647	64	113	1365	1894
Percent Heavy Vehicles																							
0.0%	0.0%	0.0%	0.0%	10.1%	0.0%	4.6%	0.0%	0.0%	1.8%	3.1%	0.0%	0.0%	3.6%	22.1%	0.0%	NaN	5.5%	1.9%	6.8%	3.1%	22.1%	4.2%	2.5%

PHV- Bicycles																PHV - Pedestrians					
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB	
0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	0	0	0	0	

All Vehicle Volumes																		
Time	Northbound I-5 SB ramps				Southbound I-5 SB ramps				Eastbound Kuebler Blvd SE				Westbound Kuebler Blvd SE				15 Min	1 HR
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
06:00:00 AM	0	0	0	0	6	0	13	0	0	72	1	0	0	14	12	0		
06:05:00 AM	0	0	0	0	6	0	13	0	0	76	2	0	0	9	14	0		
06:10:00 AM	0	0	0	0	10	0	17	0	0	82	6	0	0	20	7	0	380	
06:15:00 AM	0	0	0	0	4	0	23	0	0	81	6	0	0	22	12	0	410	
06:20:00 AM	0	0	0	0	12	0	21	0	0	74	8	0	0	19	11	0	435	
06:25:00 AM	0	0	0	0	2	0	24	0	0	72	0	0	0	17	10	0	418	
06:30:00 AM	0	0	0	0	4	0	34	0	0	81	1	0	0	20	4	0	414	
06:35:00 AM	0	0	0	0	13	0	33	0	0	112	4	0	0	24	5	0	460	
06:40:00 AM	0	0	0	0	6	0	48	0	0	111	1	0	0	33	8	0	542	
06:45:00 AM	0	0	0	0	8	0	45	0	0	106	4	0	0	33	12	0	606	
06:50:00 AM	0	0	0	0	15	0	58	0	0	105	5	0	0	28	9	0	635	
06:55:00 AM	0	0	0	0	9	0	51	0	0	129	4	0	0	33	6	0	660	2000
07:00:00 AM	0	0	0	0	13	0	33	0	0	131	5	0	0	34	8	0	676	2106
07:05:00 AM	0	0	0	0	10	0	52	0	0	121	3	0	0	29	7	0	678	2208
07:10:00 AM	0	0	0	0	7	0	54	0	0	161	7	0	0	43	4	0	722	2342
07:15:00 AM	0	0	0	0	3	0	60	0	0	135	5	0	0	37	13	0	751	2447
07:20:00 AM	0	0	0	0	13	0	61	0	0	102	3	0	0	52	6	0	766	2539
07:25:00 AM	0	0	0	0	12	0	53	0	0	126	8	0	0	47	12	0	748	2672
07:30:00 AM	0	0	0	0	13	0	68	0	0	157	4	0	0	39	16	0	792	2825
07:35:00 AM	0	0	0	0	12	0	57	0	0	169	6	0	0	43	8	0	850	2929
07:40:00 AM	0	0	0	0	24	0	72	0	0	164	6	0	0	58	12	0	928	3058
07:45:00 AM	0	0	0	0	16	0	90	0	0	175	6	0	0	40	10	0	968	3187
07:50:00 AM	0	0	0	0	10	0	82	0	0	143	5	0	0	55	9	0	977	3271
07:55:00 AM	0	0	0	0	23	0	113	0	0	135	5	0	0	36	3	0	956	3354

08:00:00 AM	0	0	0	0	15	0	69	0	0	148	6	0	0	55	13	0	925	3436
08:05:00 AM	0	0	0	0	6	0	66	0	0	97	3	0	0	41	9	0	843	3436
08:10:00 AM	0	0	0	0	9	0	52	0	0	108	4	0	0	29	12	0	742	3374
08:15:00 AM	0	0	0	0	8	0	57	0	0	107	0	0	0	43	5	0	656	3341
08:20:00 AM	0	0	0	0	6	0	17	0	0	33	2	0	0	4	13	0	509	3179
08:25:00 AM	0	0	0	0	18	0	96	0	0	123	9	0	0	58	11	0	610	3236
08:30:00 AM	0	0	0	0	13	0	64	0	0	97	2	0	0	50	16	0	632	3181
08:35:00 AM	0	0	0	0	9	0	50	0	0	101	5	0	0	50	2	0	774	3103
08:40:00 AM	0	0	0	0	8	0	66	0	0	89	3	0	0	41	5	0	671	2979
08:45:00 AM	0	0	0	0	9	0	49	0	0	114	1	0	0	39	6	0	647	2860
08:50:00 AM	0	0	0	0	7	0	72	0	0	98	7	0	0	52	10	0	676	2802
08:55:00 AM	0	0	0	0	8	0	55	0	0	91	5	0	0	38	11	0	672	2695

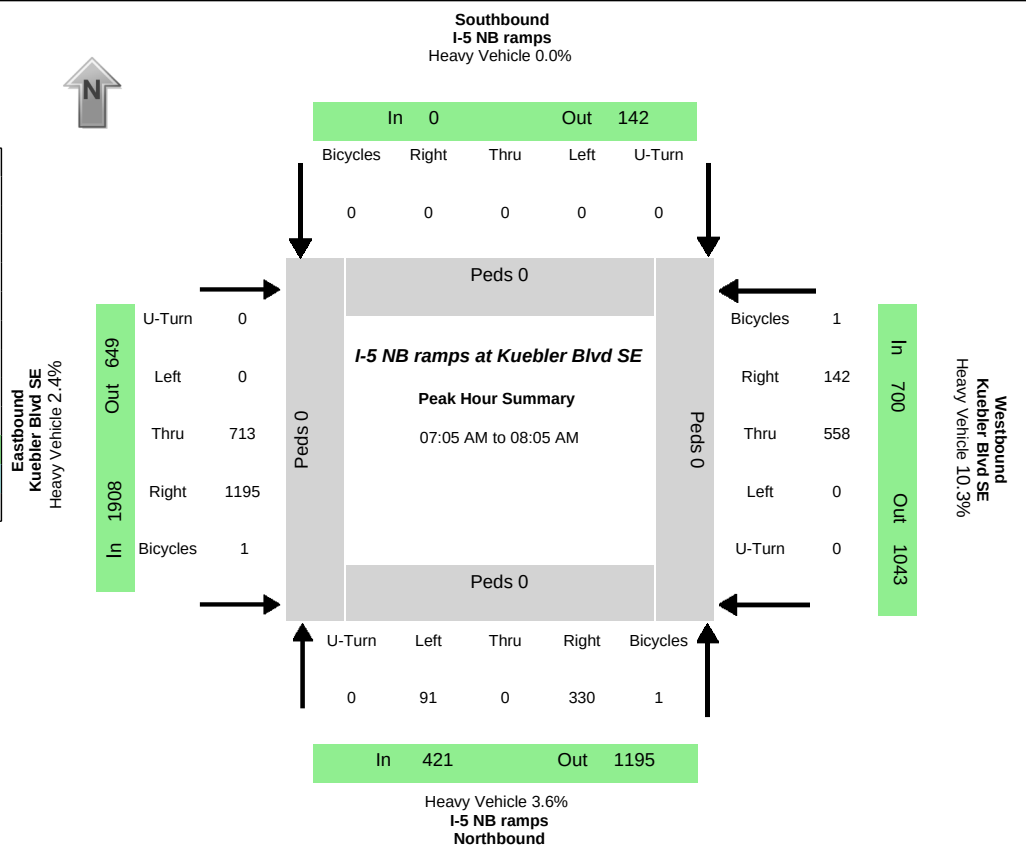
Data Provided by K-D-N.com 503-594-4224	
N/S street	I-5 NB ramps
E/W street	Kuebler Blvd SE
City, State	Salem OR
Site Notes	
Location	44.885045 - -122.996372
Start Date	Tuesday, November 19, 2019
Start Time	03:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:30:00 PM
Peak 15 Min Start	04:35:00 PM
PHF (15-Min Int)	0.95



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
62	0	142	0	0	0	0	0	0	600	897	0	0	942	306	0	204	0	1497	1248	897	306	1004	742
Percent Heavy Vehicles																							
0.0%	0.0%	10.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	2.6%	0.0%	0.0%	1.3%	2.3%	0.0%	7.4%	0.0%	2.9%	1.5%	2.6%	2.3%	1.2%	4.9%
PHV- Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	2	
All Vehicle Volumes																							
Time	Northbound I-5 NB ramps				Southbound I-5 NB ramps				Eastbound Kuebler Blvd SE				Westbound Kuebler Blvd SE				15 Min Sum	1 HR Sum					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
03:00:00 PM	4	0	5	0	0	0	0	0	0	60	74	0	0	66	11	0							
03:05:00 PM	6	0	17	0	0	0	0	0	0	53	50	0	0	71	16	0							
03:10:00 PM	2	0	13	0	0	0	0	0	0	52	54	0	0	61	12	0	627						
03:15:00 PM	3	0	9	0	0	0	0	0	0	46	59	0	0	71	15	0	610						
03:20:00 PM	4	0	13	0	0	0	0	0	0	57	51	0	0	83	13	0	618						
03:25:00 PM	5	0	11	0	0	0	0	0	0	50	43	0	0	54	21	0	608						
03:30:00 PM	4	0	13	0	0	0	0	0	0	41	54	0	0	54	12	0	583						
03:35:00 PM	5	0	15	0	0	0	0	0	0	51	53	0	0	85	20	0	591						
03:40:00 PM	6	0	10	0	0	0	0	0	0	72	71	0	0	88	25	0	679						
03:45:00 PM	4	0	6	0	0	0	0	0	0	72	77	0	0	81	17	0	758						
03:50:00 PM	5	0	10	0	0	0	0	0	0	48	54	0	0	49	13	0	708						
03:55:00 PM	4	0	15	0	0	0	0	0	0	61	61	0	0	55	20	0	652	2566					
04:00:00 PM	8	0	14	0	0	0	0	0	0	62	53	0	0	55	19	0	606	2557					
04:05:00 PM	5	0	10	0	0	0	0	0	0	57	60	0	0	79	29	0	667	2584					
04:10:00 PM	4	0	12	0	0	0	0	0	0	43	73	0	0	79	17	0	679	2618					
04:15:00 PM	2	0	9	0	0	0	0	0	0	39	65	0	0	74	27	0	684	2631					
04:20:00 PM	6	0	19	0	0	0	0	0	0	43	54	0	0	80	21	0	667	2633					
04:25:00 PM	2	0	17	0	0	0	0	0	0	56	50	0	0	62	14	0	640	2650					
04:30:00 PM	4	0	8	0	0	0	0	0	0	61	71	0	0	62	24	0	654	2702					
04:35:00 PM	5	0	17	0	0	0	0	0	0	50	89	0	0	86	21	0	699	2741					
04:40:00 PM	7	0	12	0	0	0	0	0	0	51	66	0	0	81	23	0	738	2709					
04:45:00 PM	4	0	11	0	0	0	0	0	0	52	95	0	0	82	25	0	777	2721					
04:50:00 PM	9	0	13	0	0	0	0	0	0	50	80	0	0	73	27	0	761	2794					
04:55:00 PM	6	0	6	0	0	0	0	0	0	45	59	0	0	82	13	0	732	2789					

05:00:00 PM	3	0	10	0	0	0	0	0	0	51	71	0	0	76	24	0	698	2813
05:05:00 PM	7	0	13	0	0	0	0	0	0	51	60	0	0	73	38	0	688	2815
05:10:00 PM	4	0	11	0	0	0	0	0	0	37	82	0	0	89	28	0	728	2838
05:15:00 PM	3	0	15	0	0	0	0	0	0	53	86	0	0	95	30	0	775	2904
05:20:00 PM	3	0	13	0	0	0	0	0	0	52	65	0	0	67	43	0	776	2924
05:25:00 PM	7	0	13	0	0	0	0	0	0	47	73	0	0	76	10	0	751	2949
05:30:00 PM	8	1	16	0	0	2	0	0	1	42	58	0	0	57	12	0	666	2916
05:35:00 PM	4	0	13	0	0	0	0	0	0	51	63	0	0	63	19	0	636	2861
05:40:00 PM	5	0	16	0	0	0	0	0	0	59	66	0	0	65	14	0	635	2846
05:45:00 PM	4	0	14	0	0	0	0	0	0	49	49	0	0	78	6	0	638	2777
05:50:00 PM	7	0	15	0	0	0	0	0	0	62	52	0	0	47	19	0	627	2727
05:55:00 PM	1	0	11	0	0	0	0	0	0	58	50	0	0	55	12	0	589	2703

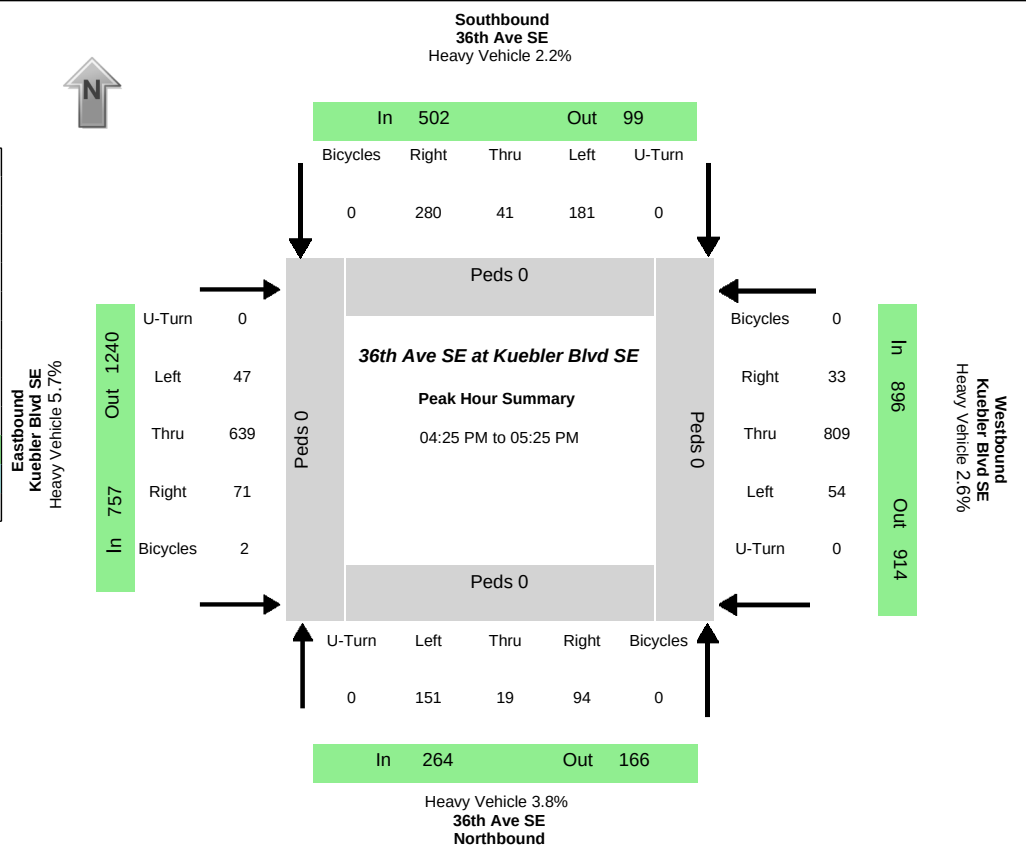
Data Provided by K-D-N.com 503-594-4224	
N/S street	I-5 NB ramps
E/W street	Kuebler Blvd SE
City, State	Salem OR
Site Notes	
Location	44.885045 - -122.996372
Start Date	Wednesday, November 20, 2019
Start Time	06:00:00 AM
Weather	
Study ID #	
Peak Hour Start	07:05:00 AM
Peak 15 Min Start	07:35:00 AM
PHF (15-Min Int)	0.88



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
91	0	330	0	0	0	0	0	0	713	1195	0	0	558	142	0	421	0	1908	700	1195	142	649	1043
Percent Heavy Vehicles																							
0.0%	0.0%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	1.4%	0.0%	0.0%	8.1%	19.0%	0.0%	3.6%	0.0%	2.4%	10.3%	1.4%	19.0%	6.9%	4.1%
PHV- Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	3	0	0	0	0	0		
All Vehicle Volumes																							
Time	Northbound I-5 NB ramps				Southbound I-5 NB ramps				Eastbound Kuebler Blvd SE				Westbound Kuebler Blvd SE				15 Min Sum	1 HR Sum					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
06:00:00 AM	0	0	15	0	0	0	0	0	0	31	48	0	0	26	12	0							
06:05:00 AM	0	0	5	0	0	0	0	0	0	39	46	0	0	26	9	0							
06:10:00 AM	4	0	14	0	0	0	0	0	0	46	50	0	0	18	7	0	396						
06:15:00 AM	3	0	16	0	0	0	0	0	0	25	52	0	0	31	6	0	397						
06:20:00 AM	4	0	15	0	0	0	0	0	0	33	56	0	0	27	10	0	417						
06:25:00 AM	3	0	18	0	0	0	0	0	0	20	57	0	0	23	16	0	415						
06:30:00 AM	6	0	17	0	0	0	0	0	0	26	51	0	0	20	7	0	409						
06:35:00 AM	2	0	16	0	0	0	0	0	0	60	64	0	0	27	9	0	442						
06:40:00 AM	6	0	18	0	0	0	0	0	0	51	67	0	0	31	14	0	492						
06:45:00 AM	3	0	19	0	0	0	0	0	0	41	82	0	0	43	6	0	559						
06:50:00 AM	6	0	26	0	0	0	0	0	0	44	78	0	0	36	7	0	578						
06:55:00 AM	7	0	22	0	0	0	0	0	0	56	76	0	0	27	7	0	586	1889					
07:00:00 AM	3	1	18	0	0	0	0	0	0	57	85	0	0	37	7	0	600	1965					
07:05:00 AM	4	0	19	0	0	0	0	0	0	46	75	0	0	34	11	0	592	2029					
07:10:00 AM	5	0	29	0	0	0	0	0	0	64	95	0	0	42	10	0	642	2135					
07:15:00 AM	5	0	29	0	0	0	0	0	0	35	116	0	0	49	14	0	682	2250					
07:20:00 AM	11	0	25	0	0	0	0	0	0	36	74	0	0	51	13	0	703	2315					
07:25:00 AM	6	0	34	0	0	0	0	0	0	55	78	0	0	44	18	0	693	2413					
07:30:00 AM	4	0	33	0	0	0	0	0	0	68	99	0	0	55	3	0	707	2548					
07:35:00 AM	11	0	41	0	0	0	0	0	0	51	124	0	0	37	8	0	769	2642					
07:40:00 AM	7	0	29	0	0	0	0	0	0	68	121	0	0	58	13	0	830	2751					
07:45:00 AM	6	0	30	0	0	0	0	0	0	77	122	0	0	42	14	0	859	2848					
07:50:00 AM	18	0	18	0	0	0	0	0	0	69	101	0	0	49	13	0	855	2919					
07:55:00 AM	7	0	25	0	0	0	0	0	0	79	92	0	0	42	11	0	815	2980					

08:00:00 AM	7	0	18	0	0	0	0	0	0	65	98	0	0	55	14	0	781	3029
08:05:00 AM	6	0	17	0	0	0	0	0	0	34	81	0	0	40	10	0	701	3028
08:10:00 AM	7	0	16	0	0	0	0	0	0	42	79	0	0	35	5	0	629	2967
08:15:00 AM	3	0	11	0	0	0	0	0	0	41	73	0	0	41	10	0	551	2898
08:20:00 AM	9	0	12	0	0	0	3	0	0	23	27	0	0	50	8	0	495	2820
08:25:00 AM	8	0	12	0	0	0	0	0	0	59	86	0	0	36	10	0	522	2796
08:30:00 AM	9	0	9	0	0	0	0	0	0	53	56	0	0	48	16	0	534	2725
08:35:00 AM	4	0	20	0	0	0	0	0	0	48	66	0	0	49	13	0	602	2653
08:40:00 AM	9	0	22	0	0	0	0	0	0	38	71	0	0	42	14	0	587	2553
08:45:00 AM	2	0	15	0	0	0	0	0	0	49	62	0	0	48	11	0	583	2449
08:50:00 AM	5	0	13	0	0	0	0	0	0	55	62	0	0	50	9	0	577	2375
08:55:00 AM	7	0	20	0	0	0	0	0	0	39	57	0	0	43	8	0	555	2293

Data Provided by K-D-N.com 503-594-4224	
N/S street	36th Ave SE
E/W street	Kuebler Blvd SE
City, State	Salem OR
Site Notes	
Location	44.88479 - -122.988674
Start Date	Tuesday, November 19, 2019
Start Time	03:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:25:00 PM
Peak 15 Min Start	05:05:00 PM
PHF (15-Min Int)	0.92



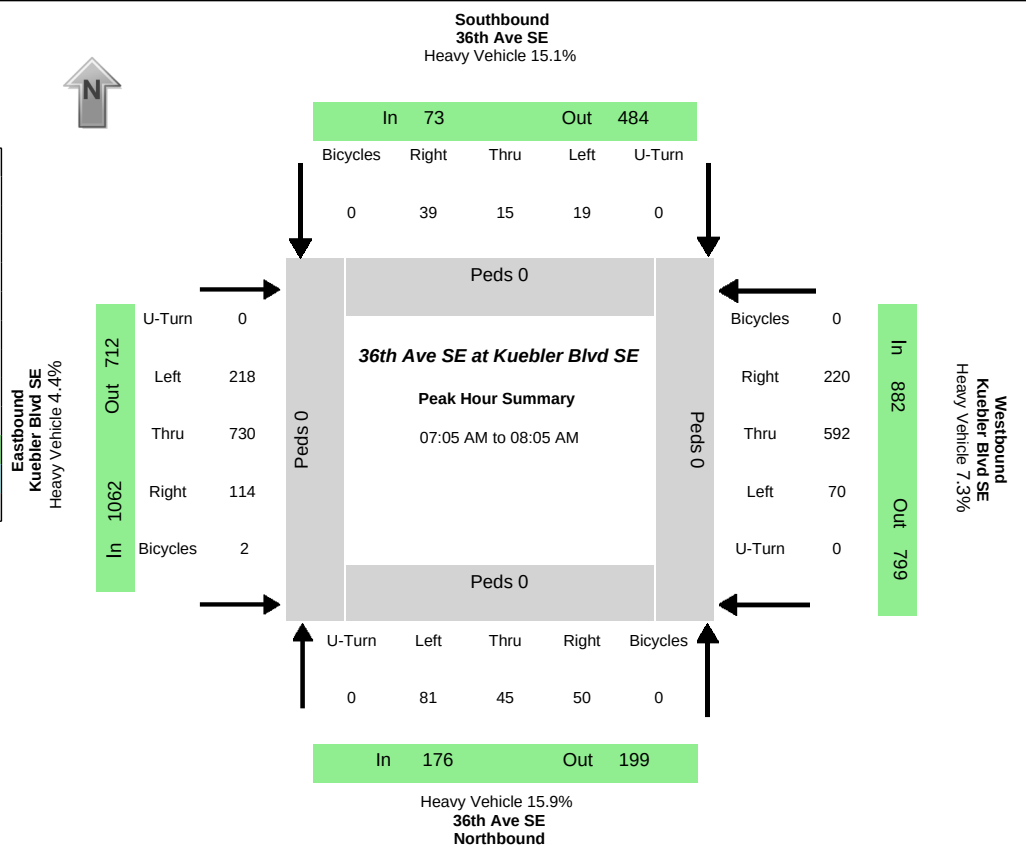
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
151	19	94	0	181	41	280	0	47	639	71	0	54	809	33	0	264	502	757	896	166	99	1240	914
Percent Heavy Vehicles																							
5.3%	0.0%	2.1%	0.0%	0.6%	14.6%	1.4%	0.0%	31.9%	3.9%	4.2%	0.0%	9.3%	2.0%	6.1%	0.0%	3.8%	2.2%	5.7%	2.6%	8.4%	17.2%	2.3%	3.1%

PHV- Bicycles																PHV - Pedestrians					
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0

All Vehicle Volumes																		
Time	Northbound 36th Ave SE				Southbound 36th Ave SE				Eastbound Kuebler Blvd SE				Westbound Kuebler Blvd SE				15 Min	1 HR
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
03:00:00 PM	7	2	5	0	7	1	8	0	4	42	7	0	4	60	8	0		
03:05:00 PM	1	1	6	0	8	5	15	0	5	55	4	0	4	69	5	0		
03:10:00 PM	6	1	2	0	9	1	8	0	3	63	6	0	4	69	7	0	512	
03:15:00 PM	8	1	3	0	11	5	13	0	9	45	5	0	6	68	4	0	535	
03:20:00 PM	9	3	6	0	3	2	21	0	3	46	10	0	3	58	5	0	526	
03:25:00 PM	9	2	4	0	3	3	16	0	1	62	7	0	8	55	3	0	520	
03:30:00 PM	8	2	5	0	9	3	13	0	6	36	17	0	7	52	4	0	504	
03:35:00 PM	9	1	6	0	8	2	25	0	6	51	8	0	6	63	5	0	525	
03:40:00 PM	11	1	9	0	13	1	12	0	3	58	13	0	3	91	5	0	572	
03:45:00 PM	7	2	5	0	5	0	11	0	3	67	6	0	6	77	6	0	605	
03:50:00 PM	13	6	2	0	4	1	12	0	6	59	6	1	4	50	5	0	584	
03:55:00 PM	6	2	4	0	5	6	8	0	3	57	17	0	6	54	6	0	538	2142
04:00:00 PM	8	1	5	0	12	5	15	0	4	52	12	0	4	57	5	0	523	2167
04:05:00 PM	8	2	6	0	15	0	31	0	1	63	13	0	4	63	4	0	564	2199
04:10:00 PM	7	3	8	0	14	7	20	0	1	38	2	0	4	57	5	0	556	2186
04:15:00 PM	11	1	5	0	5	5	15	0	2	34	8	0	10	64	1	0	537	2169
04:20:00 PM	7	2	2	0	12	2	26	0	3	54	6	0	12	66	5	0	524	2197
04:25:00 PM	7	2	8	0	9	6	24	0	7	52	3	0	5	47	1	0	529	2195
04:30:00 PM	10	1	6	0	10	3	25	0	6	65	5	0	3	54	2	0	558	2223
04:35:00 PM	13	1	6	0	19	5	26	0	3	60	7	0	5	75	3	0	584	2256
04:40:00 PM	19	2	8	0	17	0	19	0	3	48	8	0	2	62	7	0	608	2231
04:45:00 PM	7	1	7	0	13	8	21	0	3	48	7	0	3	81	1	0	618	2236
04:50:00 PM	9	2	5	0	11	1	27	0	3	56	12	0	2	62	5	0	590	2262
04:55:00 PM	8	0	7	0	14	2	14	0	7	44	9	0	8	75	1	0	584	2277

05:00:00 PM	23	2	7	0	19	5	22	0	4	36	5	0	6	54	3	0	570	2283
05:05:00 PM	18	3	12	0	21	2	26	0	6	63	4	0	3	70	4	0	607	2305
05:10:00 PM	12	1	12	0	15	4	21	0	0	53	4	0	5	88	0	0	633	2354
05:15:00 PM	19	2	11	0	19	3	35	0	0	46	1	0	7	62	2	0	654	2400
05:20:00 PM	6	2	5	0	14	2	20	0	5	68	6	0	5	79	4	0	638	2419
05:25:00 PM	8	0	5	0	3	0	8	0	2	55	7	0	8	62	2	0	583	2408
05:30:00 PM	15	6	11	0	10	0	13	0	3	45	3	0	3	43	1	0	529	2371
05:35:00 PM	7	4	6	0	6	0	17	0	3	58	7	0	2	63	3	0	489	2324
05:40:00 PM	9	0	2	0	9	6	8	0	2	67	6	0	3	50	6	0	497	2297
05:45:00 PM	12	1	4	0	6	1	8	0	1	58	4	0	3	67	1	0	510	2263
05:50:00 PM	3	0	6	0	3	1	11	0	2	66	5	0	2	58	3	0	494	2228
05:55:00 PM	1	2	10	0	2	2	7	0	2	65	11	0	3	50	2	0	483	2196

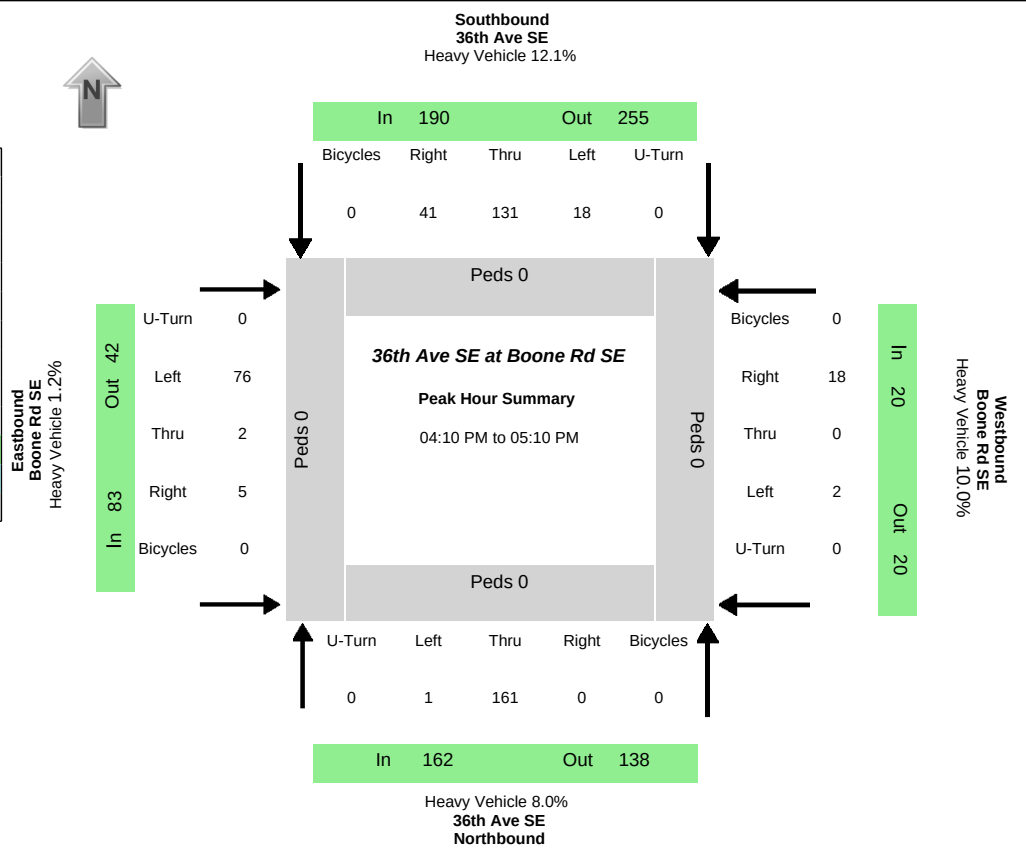
Data Provided by K-D-N.com 503-594-4224	
N/S street	36th Ave SE
E/W street	Kuebler Blvd SE
City, State	Salem OR
Site Notes	
Location	44.88479 - -122.988674
Start Date	Wednesday, November 20, 2019
Start Time	06:00:00 AM
Weather	
Study ID #	
Peak Hour Start	07:05:00 AM
Peak 15 Min Start	07:50:00 AM
PHF (15-Min Int)	0.89



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
81	45	50	0	19	15	39	0	218	730	114	0	70	592	220	0	176	73	1062	882	199	483	712	799
Percent Heavy Vehicles																							
18.5%	8.9%	18.0%	0.0%	0.0%	0.0%	28.2%	0.0%	4.1%	4.9%	1.8%	0.0%	5.7%	9.6%	1.4%	0.0%	15.9%	15.1%	4.4%	7.3%	3.0%	3.3%	11.7%	5.6%
PHV- Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	
All Vehicle Volumes																							
Time	Northbound 36th Ave SE				Southbound 36th Ave SE				Eastbound Kuebler Blvd SE				Westbound Kuebler Blvd SE				15 Min Sum	1 HR Sum					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
06:00:00 AM	2	3	0	0	1	2	1	0	8	26	10	0	3	37	3	0							
06:05:00 AM	5	0	5	0	1	0	3	0	3	31	4	0	3	27	8	0							
06:10:00 AM	3	0	2	0	4	1	1	0	3	48	6	0	3	24	7	0	288						
06:15:00 AM	6	1	1	0	1	0	1	0	10	36	3	0	3	28	5	0	287						
06:20:00 AM	5	0	3	0	4	0	2	0	4	36	6	0	4	28	3	0	292						
06:25:00 AM	11	0	3	0	1	0	1	0	7	27	7	0	9	27	11	0	294						
06:30:00 AM	2	0	2	0	1	0	3	0	12	28	4	0	6	25	14	0	296						
06:35:00 AM	5	4	1	0	3	3	6	0	8	54	11	0	7	30	5	0	338						
06:40:00 AM	7	5	7	0	0	0	5	0	14	46	10	0	8	27	20	0	383						
06:45:00 AM	5	1	4	0	1	1	1	0	10	44	7	0	6	43	15	0	424						
06:50:00 AM	3	1	4	0	1	0	5	0	23	48	8	0	13	37	22	0	452						
06:55:00 AM	1	3	3	0	1	2	1	0	11	51	12	0	12	31	17	0	448	1413					
07:00:00 AM	8	3	3	0	0	0	2	0	10	45	16	0	8	33	10	0	448	1455					
07:05:00 AM	7	4	3	0	0	2	4	0	14	54	11	0	12	38	5	0	437	1519					
07:10:00 AM	4	1	1	0	0	0	2	0	11	54	8	0	8	49	13	0	443	1568					
07:15:00 AM	10	4	4	0	1	0	2	0	16	49	7	0	8	50	19	0	475	1643					
07:20:00 AM	10	5	3	0	4	0	5	0	18	45	4	0	4	47	10	0	476	1703					
07:25:00 AM	7	6	1	0	1	1	6	0	19	56	4	0	5	51	14	0	496	1770					
07:30:00 AM	8	4	1	0	1	1	3	0	17	63	12	0	5	51	23	0	515	1862					
07:35:00 AM	11	3	8	0	2	2	1	0	18	70	8	0	4	42	14	0	543	1908					
07:40:00 AM	4	0	9	0	0	1	1	0	27	65	14	0	2	57	22	0	574	1961					
07:45:00 AM	6	5	8	0	1	1	0	0	13	76	9	0	4	60	22	0	590	2028					
07:50:00 AM	6	1	3	0	6	5	4	0	18	60	10	0	5	40	25	0	590	2046					
07:55:00 AM	4	8	6	0	2	1	4	0	23	75	14	0	10	44	31	0	610	2123					

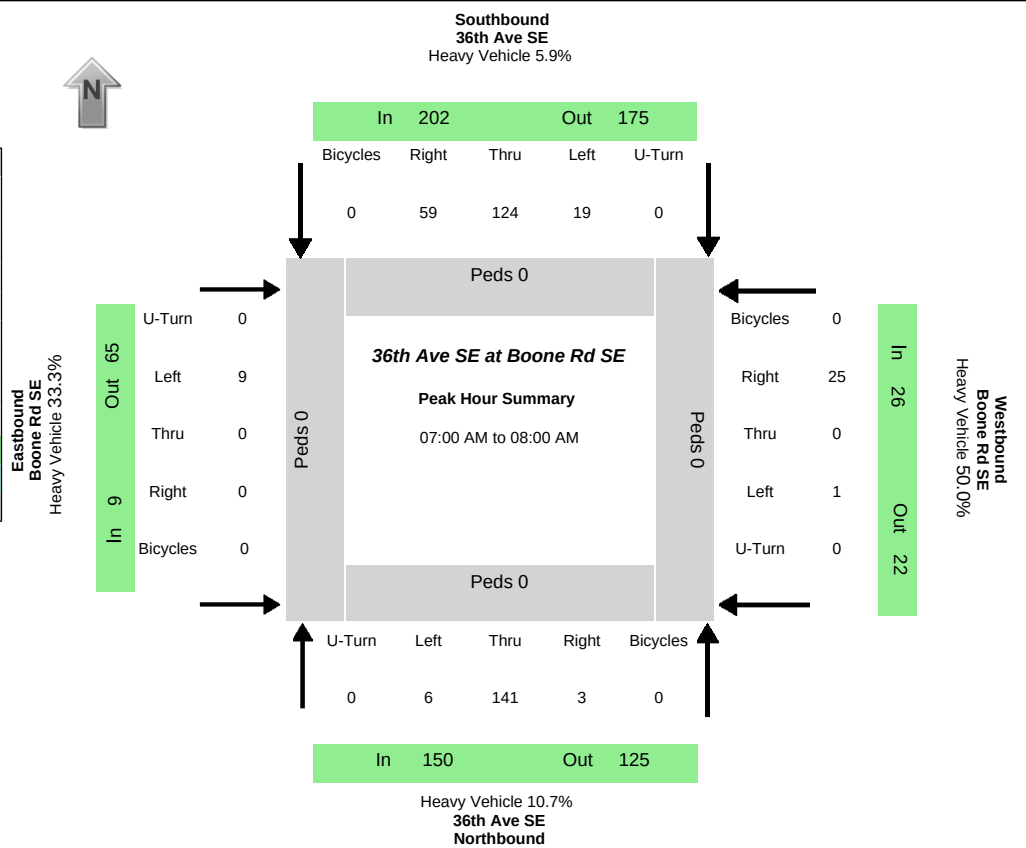
08:00:00 AM	4	4	3	0	1	1	7	0	24	63	13	0	3	63	22	0	613	2193
08:05:00 AM	4	0	4	0	5	1	1	0	10	35	7	0	4	38	18	0	557	2166
08:10:00 AM	4	1	4	0	2	2	2	0	6	58	2	0	1	46	9	0	472	2152
08:15:00 AM	4	0	3	0	6	1	1	0	7	33	4	0	4	38	12	0	377	2095
08:20:00 AM	5	1	1	0	3	3	4	0	6	30	2	0	6	48	20	0	379	2069
08:25:00 AM	1	2	1	0	5	2	6	0	20	49	7	0	5	42	15	0	397	2053
08:30:00 AM	6	0	4	0	5	0	5	0	14	42	2	0	3	57	10	0	432	2012
08:35:00 AM	8	3	4	0	4	1	7	0	10	52	7	0	4	38	5	0	446	1972
08:40:00 AM	5	1	2	0	7	1	4	0	13	41	7	0	1	49	10	0	432	1911
08:45:00 AM	6	0	4	0	2	1	4	0	10	51	4	0	3	55	11	0	435	1857
08:50:00 AM	6	3	4	0	4	3	6	0	4	52	7	0	3	51	9	0	444	1826
08:55:00 AM	5	0	3	0	5	2	4	0	10	47	6	0	1	32	8	0	426	1727

Data Provided by K-D-N.com 503-594-4224	
N/S street	36th Ave SE
E/W street	Boone Rd SE
City, State	Salem OR
Site Notes	
Location	44.882784 - -122.98875
Start Date	Tuesday, November 19, 2019
Start Time	03:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:10:00 PM
Peak 15 Min Start	04:55:00 PM
PHF (15-Min Int)	0.84



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
1	161	0	0	18	131	41	0	76	2	5	0	2	0	18	0	162	190	83	20	138	255	42	20
Percent Heavy Vehicles																							
0.0%	8.1%	0.0%	0.0%	66.7%	8.4%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	50.0%	0.0%	5.6%	0.0%	8.0%	12.1%	1.2%	10.0%	8.7%	5.9%	0.0%	60.0%
PHV - Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All Vehicle Volumes																							
Time	Northbound 36th Ave SE				Southbound 36th Ave SE				Eastbound Boone Rd SE				Westbound Boone Rd SE				15 Min Sum	1 HR Sum					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
03:00:00 PM	1	9	1	0	2	8	2	0	6	0	0	0	0	0	1	0							
03:05:00 PM	0	7	1	0	0	10	2	0	2	0	1	0	0	0	1	0							
03:10:00 PM	0	1	1	0	3	8	2	0	4	0	0	0	1	0	0	0	74						
03:15:00 PM	0	9	0	0	4	9	4	0	2	0	0	0	0	0	3	0	75						
03:20:00 PM	0	11	0	0	4	5	3	0	6	0	0	0	0	0	1	0	81						
03:25:00 PM	0	13	1	0	1	10	6	0	2	0	0	0	0	0	5	0	99						
03:30:00 PM	0	7	0	0	8	10	9	0	4	1	1	0	0	0	3	0	111						
03:35:00 PM	2	14	0	0	1	11	5	0	2	0	0	0	0	1	4	0	121						
03:40:00 PM	0	10	0	0	2	12	4	0	5	1	0	0	0	0	3	0	120						
03:45:00 PM	0	13	0	0	2	6	4	0	4	0	1	0	0	0	2	0	109						
03:50:00 PM	0	5	0	0	1	6	5	0	8	0	0	0	0	0	2	0	96						
03:55:00 PM	0	6	0	0	0	14	8	0	4	0	0	0	1	0	2	0	94	387					
04:00:00 PM	0	7	1	0	5	14	0	0	4	0	0	0	0	0	4	0	97	392					
04:05:00 PM	0	8	0	0	1	10	6	0	6	0	0	0	0	0	2	0	103	401					
04:10:00 PM	0	11	0	0	2	11	4	0	4	0	0	0	0	0	3	0	103	416					
04:15:00 PM	0	12	0	0	7	13	4	0	6	0	0	0	1	0	2	0	113	430					
04:20:00 PM	1	4	0	0	0	16	5	0	3	2	0	0	0	0	2	0	113	433					
04:25:00 PM	0	13	0	0	0	10	3	0	3	0	1	0	0	0	2	0	110	427					
04:30:00 PM	0	15	0	0	3	3	4	0	4	0	1	0	1	0	4	0	100	419					
04:35:00 PM	0	9	0	0	1	15	3	0	7	0	0	0	0	0	0	0	102	414					
04:40:00 PM	0	15	0	0	0	6	5	0	10	0	0	0	0	0	2	0	108	415					
04:45:00 PM	0	12	0	0	1	14	3	0	5	0	0	0	0	0	0	0	108	418					
04:50:00 PM	0	9	0	0	2	12	3	0	5	0	1	0	0	0	0	0	105	423					
04:55:00 PM	0	11	0	0	1	12	5	0	5	0	0	0	0	0	2	0	103	424					

Data Provided by K-D-N.com 503-594-4224	
N/S street	36th Ave SE
E/W street	Boone Rd SE
City, State	Salem OR
Site Notes	
Location	44.882784 - -122.98875
Start Date	Wednesday, November 20, 2019
Start Time	06:00:00 AM
Weather	
Study ID #	
Peak Hour Start	07:00:00 AM
Peak 15 Min Start	07:45:00 AM
PHF (15-Min Int)	0.91

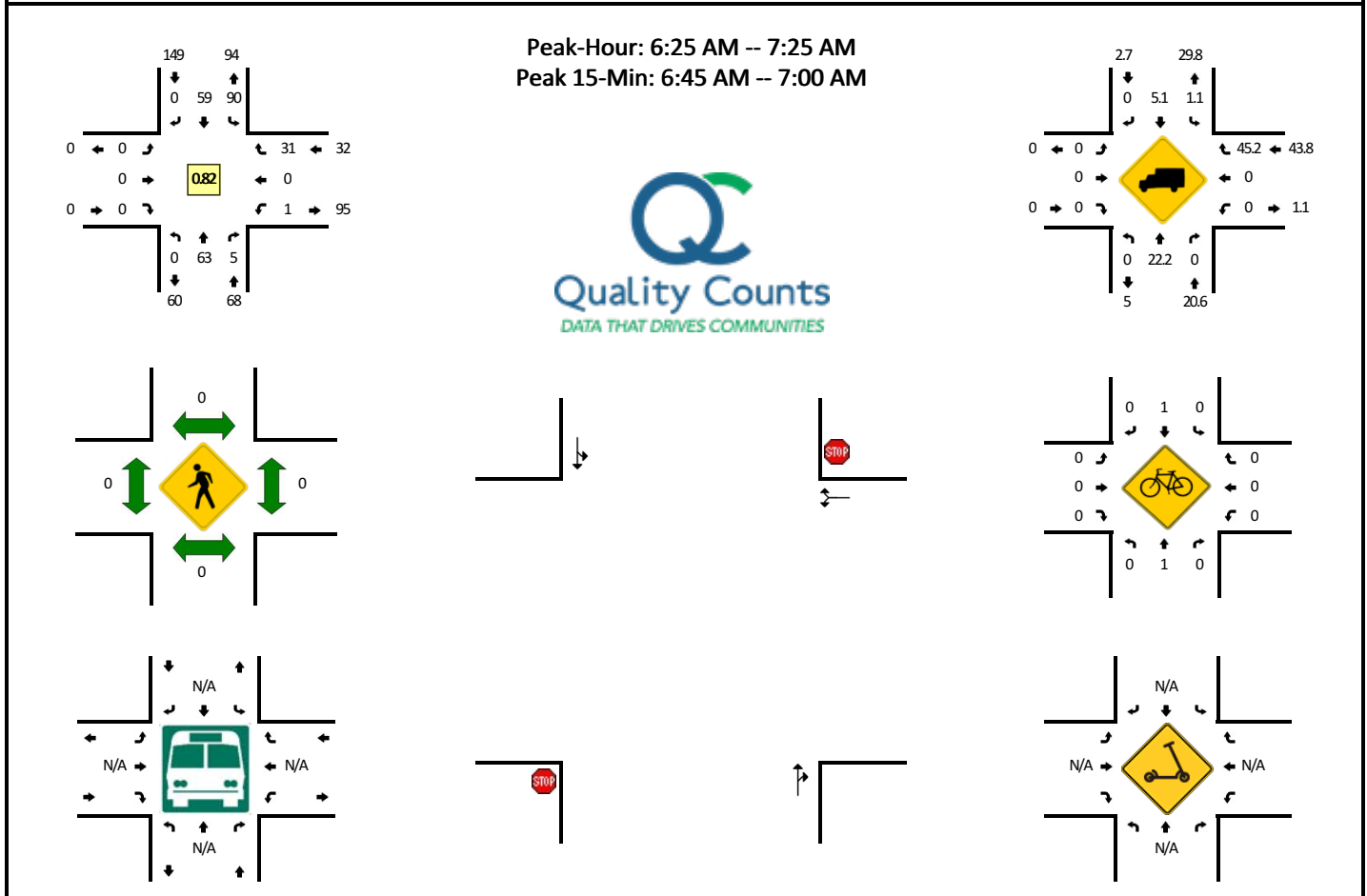


Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
6	141	3	0	19	124	59	0	9	0	0	0	1	0	25	0	150	202	9	26	125	175	65	22
Percent Heavy Vehicles																							
0.0%	11.3%	0.0%	0.0%	15.8%	6.5%	1.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	52.0%	0.0%	10.7%	5.9%	33.3%	50.0%	6.4%	18.3%	1.5%	13.6%
PHV- Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All Vehicle Volumes																							
Time	Northbound 36th Ave SE				Southbound 36th Ave SE				Eastbound Boone Rd SE				Westbound Boone Rd SE				15 Min	1 HR					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum					
06:00:00 AM	0	5	0	0	3	10	3	0	1	0	0	0	0	0	0	0	0						
06:05:00 AM	0	6	0	0	0	4	2	0	3	1	0	0	0	0	0	0	0						
06:10:00 AM	0	2	0	0	2	8	1	0	1	0	0	0	0	0	2	0	54						
06:15:00 AM	0	3	0	0	1	4	2	0	2	0	0	0	0	0	2	0	46						
06:20:00 AM	0	2	0	0	0	9	1	0	3	0	0	0	0	0	3	0	48						
06:25:00 AM	0	4	0	0	0	14	0	0	2	0	0	0	1	0	7	0	60						
06:30:00 AM	0	4	0	0	2	10	0	0	1	0	0	0	0	0	0	0	63						
06:35:00 AM	0	12	0	0	3	12	3	0	2	0	0	0	0	0	4	0	81						
06:40:00 AM	1	11	0	0	3	15	2	0	1	0	1	0	0	0	1	0	88						
06:45:00 AM	0	6	0	0	1	14	0	0	0	0	0	0	0	0	1	0	93						
06:50:00 AM	0	8	0	0	0	17	3	0	0	0	0	0	0	0	0	0	85						
06:55:00 AM	0	8	0	0	2	21	4	0	1	0	0	0	0	0	1	0	87	289					
07:00:00 AM	0	12	0	0	4	20	0	0	0	0	0	0	0	0	0	0	101	303					
07:05:00 AM	0	13	0	0	0	22	3	0	1	0	0	0	0	0	2	0	114	328					
07:10:00 AM	0	11	1	0	3	9	2	0	0	0	0	0	0	0	0	0	103	338					
07:15:00 AM	0	12	0	0	3	11	2	0	1	0	0	0	0	0	2	0	98	355					
07:20:00 AM	0	6	1	0	0	5	6	0	1	0	0	0	1	0	4	0	81	361					
07:25:00 AM	0	10	0	0	0	6	4	0	1	0	0	0	0	0	3	0	79	357					
07:30:00 AM	0	14	0	0	3	13	2	0	2	0	0	0	0	0	1	0	83	375					
07:35:00 AM	0	16	0	0	2	7	5	0	0	0	0	0	0	0	2	0	91	371					
07:40:00 AM	1	9	1	0	1	12	3	0	1	0	0	0	0	0	4	0	99	368					
07:45:00 AM	1	16	0	0	0	4	9	0	0	0	0	0	0	0	3	0	97	379					
07:50:00 AM	3	8	0	0	2	5	13	0	1	0	0	0	0	0	2	0	99	385					
07:55:00 AM	1	14	0	0	1	10	10	0	1	0	0	0	0	0	2	0	106	387					

08:00:00 AM	0	11	0	0	1	8	2	0	1	0	0	0	0	0	0	0	96	374
08:05:00 AM	0	6	1	0	2	6	6	0	0	0	0	0	0	0	0	0	83	354
08:10:00 AM	0	5	0	0	1	3	1	0	4	0	0	0	0	0	2	0	60	344
08:15:00 AM	0	3	0	0	1	3	4	0	0	0	0	0	0	0	2	0	50	326
08:20:00 AM	0	7	0	0	0	8	3	0	0	0	0	0	0	0	1	0	48	321
08:25:00 AM	0	3	0	0	3	8	4	0	3	0	0	0	0	0	1	0	54	319
08:30:00 AM	0	9	0	0	0	1	2	0	0	0	0	0	0	0	2	0	55	298
08:35:00 AM	0	10	0	0	3	6	4	0	0	0	0	0	0	0	0	0	59	289
08:40:00 AM	0	5	0	0	3	3	3	0	0	0	0	0	0	0	2	0	53	273
08:45:00 AM	0	10	0	0	2	2	4	0	2	0	1	0	0	0	1	0	61	262
08:50:00 AM	0	6	0	0	1	6	5	0	4	1	0	0	0	0	1	0	62	252
08:55:00 AM	0	4	0	0	0	3	6	0	1	0	0	0	0	0	2	0	62	229

LOCATION: 36th Ave SE -- Kashmir Way SE
CITY/STATE: Salem, OR

QC JOB #: 15621701
DATE: Tue, Nov 9 2021

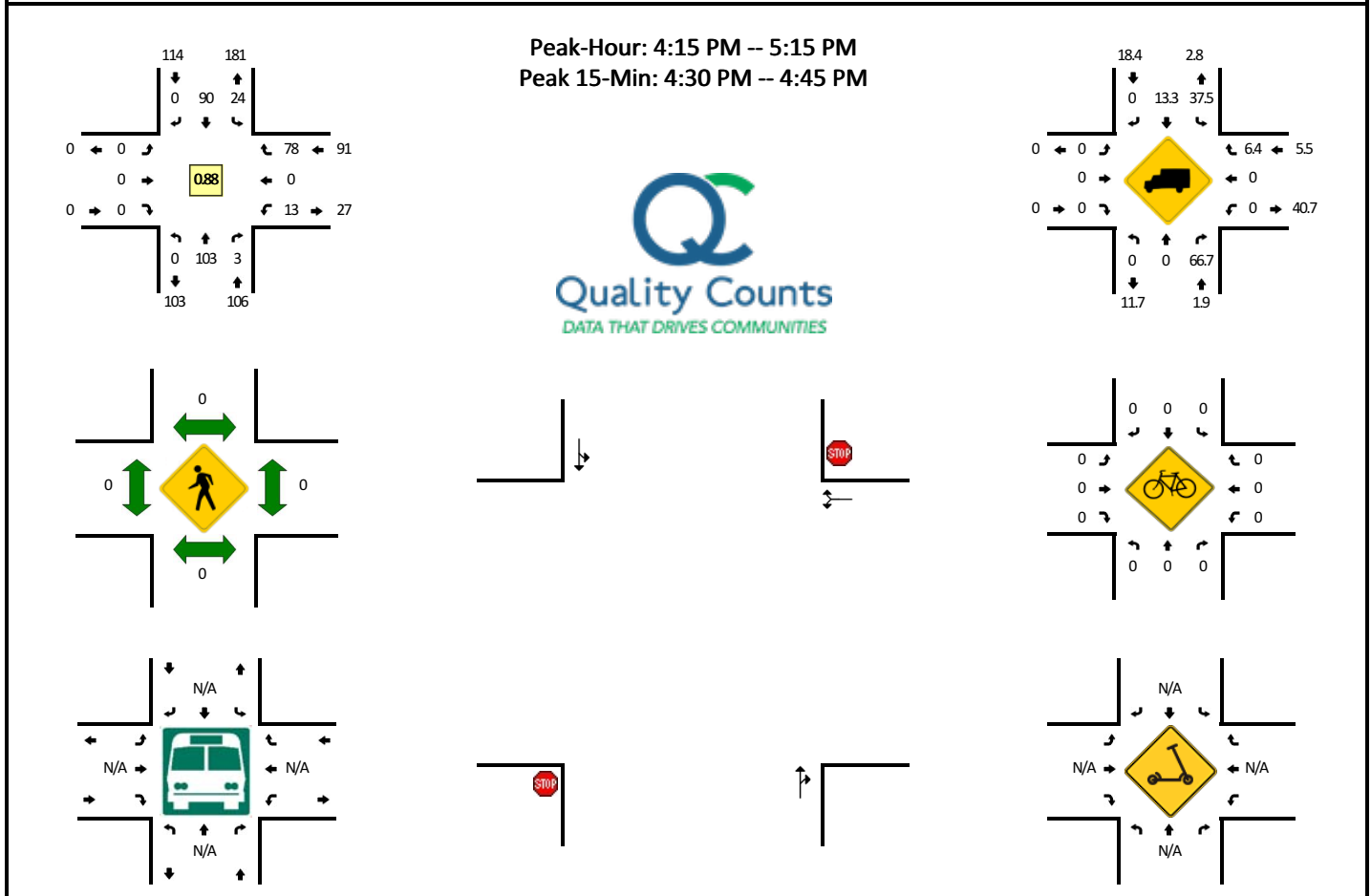


5-Min Count Period Beginning At	36th Ave SE (Northbound)				36th Ave SE (Southbound)				Kashmir Way SE (Eastbound)				Kashmir Way SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8	
6:05 AM	0	7	0	0	6	2	0	0	0	0	0	0	0	0	1	0	16	
6:10 AM	0	2	0	0	2	2	0	0	0	0	0	0	0	0	3	0	9	
6:15 AM	0	5	0	0	1	10	0	0	0	0	0	0	0	0	3	0	19	
6:20 AM	0	4	0	0	2	5	0	0	0	0	0	0	0	0	0	0	11	
6:25 AM	0	5	1	0	10	7	0	0	0	0	0	0	0	0	2	0	25	
6:30 AM	0	7	0	0	6	5	0	0	0	0	0	0	0	0	1	0	19	
6:35 AM	0	5	0	0	3	6	0	0	0	0	0	0	0	0	2	0	16	
6:40 AM	0	6	0	0	10	2	0	0	0	0	0	0	0	0	0	0	18	
6:45 AM	0	6	2	0	11	8	0	0	0	0	0	0	0	0	1	0	28	
6:50 AM	0	4	0	0	10	2	0	0	0	0	0	0	0	0	5	0	21	
6:55 AM	0	2	1	0	13	9	0	0	0	0	0	0	0	0	2	0	27	217
7:00 AM	0	5	0	0	10	8	0	0	0	0	0	0	0	0	2	0	25	234
7:05 AM	0	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	8	226
7:10 AM	0	4	0	0	3	4	0	0	0	0	0	0	0	0	2	0	13	230
7:15 AM	0	5	0	0	10	5	0	0	0	0	0	0	0	0	3	0	23	234
7:20 AM	0	10	1	0	2	1	0	0	0	0	0	0	1	0	11	0	26	249
7:25 AM	0	6	0	0	2	4	0	0	0	0	0	0	0	0	4	0	16	240
7:30 AM	0	8	0	0	3	1	0	0	0	0	0	0	0	0	1	0	13	234
7:35 AM	0	7	0	0	4	0	0	0	0	0	0	0	0	0	3	0	14	232
7:40 AM	0	4	1	0	3	3	0	0	0	0	0	0	0	0	1	0	12	226
7:45 AM	0	13	1	0	5	5	0	0	0	0	0	0	0	0	2	0	26	224
7:50 AM	0	5	1	0	1	6	0	0	0	0	0	0	3	0	3	0	19	222
7:55 AM	0	5	1	0	9	1	0	0	0	0	0	0	1	0	5	0	22	217
8:00 AM	0	5	0	0	2	3	0	0	0	0	0	0	0	0	5	0	15	207
8:05 AM	0	5	0	0	3	3	0	0	0	0	0	0	0	0	3	0	14	213
8:10 AM	0	6	0	0	1	2	0	0	0	0	0	0	0	0	9	0	18	218
8:15 AM	0	4	0	0	7	6	0	0	0	0	0	0	0	0	2	0	19	214
8:20 AM	0	5	0	0	3	5	0	0	0	0	0	0	2	0	4	0	19	207
8:25 AM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	5	0	12	203
8:30 AM	0	5	0	0	5	4	0	0	0	0	0	0	0	0	1	0	15	205
8:35 AM	0	3	1	0	3	5	0	0	0	0	0	0	1	0	2	0	15	206
8:40 AM	0	2	1	0	4	1	0	0	0	0	0	0	0	0	1	0	9	203
8:45 AM	0	3	0	0	3	3	0	0	0	0	0	0	0	0	3	0	12	189
8:50 AM	0	5	0	0	1	5	0	0	0	0	0	0	1	0	2	0	14	184
8:55 AM	0	3	0	0	3	2	0	0	0	0	0	0	0	0	3	0	11	173

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	48	12	0	136	76	0	0	0	0	0	0	0	0	32	0	304
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	0	16		20
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	
<i>Comments:</i>																	

LOCATION: 36th Ave SE -- Kashmir Way SE
CITY/STATE: Salem, OR

QC JOB #: 15621702
DATE: Tue, Nov 9 2021



5-Min Count Period Beginning At	36th Ave SE (Northbound)				36th Ave SE (Southbound)				Kashmir Way SE (Eastbound)				Kashmir Way SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	3	0	0	3	3	0	0	0	0	0	0	0	0	2	0	11	
3:05 PM	0	5	0	0	2	5	0	0	0	0	0	0	0	0	6	0	18	
3:10 PM	0	9	0	0	1	5	0	0	0	0	0	0	1	0	3	0	19	
3:15 PM	0	6	0	0	3	4	0	0	0	0	0	0	0	0	4	0	17	
3:20 PM	0	5	0	0	0	10	0	0	0	0	0	0	1	0	1	0	17	
3:25 PM	0	5	1	0	2	7	0	0	0	0	0	0	0	0	4	0	19	
3:30 PM	0	2	0	0	4	5	0	0	0	0	0	0	0	0	3	0	14	
3:35 PM	0	2	0	0	0	10	0	0	0	0	0	0	0	0	1	0	13	
3:40 PM	0	4	0	0	1	7	0	0	0	0	0	0	0	0	3	0	15	
3:45 PM	0	6	1	0	2	14	0	0	0	0	0	0	1	0	0	0	24	
3:50 PM	0	4	0	0	2	9	0	0	0	0	0	0	1	0	1	0	17	
3:55 PM	0	10	0	0	4	8	0	0	0	0	0	0	0	0	5	0	27	
4:00 PM	0	2	0	0	6	6	0	0	0	0	0	0	0	0	10	0	24	211
4:05 PM	0	7	0	0	5	6	0	0	0	0	0	0	1	0	3	0	22	228
4:10 PM	0	8	0	0	5	4	0	0	0	0	0	0	1	0	1	0	19	228
4:15 PM	0	5	0	0	3	4	0	0	0	0	0	0	1	0	10	0	23	234
4:20 PM	0	7	0	0	5	8	0	0	0	0	0	0	2	0	4	0	26	243
4:25 PM	0	4	0	0	1	7	0	0	0	0	0	0	2	0	6	0	20	244
4:30 PM	0	13	1	0	3	11	0	0	0	0	0	0	0	0	7	0	35	265
4:35 PM	0	10	1	0	2	8	0	0	0	0	0	0	1	0	2	0	24	276
4:40 PM	0	13	0	0	2	10	0	0	0	0	0	0	0	0	4	0	29	290
4:45 PM	0	7	1	0	1	5	0	0	0	0	0	0	1	0	7	0	22	288
4:50 PM	0	10	0	0	7	4	0	0	0	0	0	0	0	0	8	0	29	300
4:55 PM	0	9	0	0	0	11	0	0	0	0	0	0	2	0	3	0	25	298
5:00 PM	0	6	0	0	0	5	0	0	0	0	0	0	3	0	8	0	22	296
5:05 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	15	0	25	299
5:10 PM	0	14	0	0	0	12	0	0	0	0	0	0	1	0	4	0	31	311
5:15 PM	0	3	0	0	1	6	0	0	0	0	0	0	0	0	3	0	13	301
5:20 PM	0	4	1	0	0	8	0	0	0	0	0	0	0	0	2	0	15	290
5:25 PM	0	1	0	0	2	4	0	0	0	0	0	0	1	0	2	0	10	280
5:30 PM	0	5	0	0	2	8	0	0	0	0	0	0	1	0	2	0	18	263
5:35 PM	0	2	0	0	0	13	0	0	0	0	0	0	0	0	1	0	16	255
5:40 PM	0	5	1	0	0	4	0	0	0	0	0	0	0	0	2	0	12	238
5:45 PM	0	4	0	0	2	1	0	0	0	0	0	0	0	0	0	0	7	223
5:50 PM	0	2	0	0	2	3	0	0	0	0	0	0	0	0	1	0	8	202
5:55 PM	0	2	0	0	2	5	0	0	0	0	0	0	0	0	2	0	11	188

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	144	8	0	28	116	0	0	0	0	0	0	4	0	52	0	352
Heavy Trucks	0	0	8		0	16	0		0	0	0		0	0	4		28
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	
<i>Comments:</i>																	

APPENDIX C:

SYNCHRO REPORTS – 2021 EXISTING AM + PM

HCM Signalized Intersection Capacity Analysis

1: I-5 SB & Kuelber Blvd/Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↘		↗↗
Traffic Volume (vph)	0	1771	65	0	545	115	0	0	0	161	0	848
Future Volume (vph)	0	1771	65	0	545	115	0	0	0	161	0	848
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	6.0		6.0	6.0				5.0		5.0
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3353	1500		3320	1485				1629		2565
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3353	1500		3320	1485				1629		2565
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	2012	74	0	619	131	0	0	0	183	0	964
RTOR Reduction (vph)	0	0	23	0	0	41	0	0	0	0	0	413
Lane Group Flow (vph)	0	2013	51	0	619	90	0	0	0	183	0	551
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Turn Type		NA	Prot		NA	Prot				Perm		Perm
Protected Phases		2	2		6	6						
Permitted Phases										8		8
Actuated Green, G (s)		89.1	89.1		89.1	89.1				29.9		29.9
Effective Green, g (s)		89.1	89.1		89.1	89.1				29.9		29.9
Actuated g/C Ratio		0.69	0.69		0.69	0.69				0.23		0.23
Clearance Time (s)		6.0	6.0		6.0	6.0				5.0		5.0
Vehicle Extension (s)		0.5	0.5		0.5	0.5				0.5		0.5
Lane Grp Cap (vph)		2298	1028		2275	1017				374		589
v/s Ratio Prot		c0.60	0.03		0.19	0.06						
v/s Ratio Perm										0.11		c0.21
v/c Ratio		0.88	0.05		0.27	0.09				0.49		0.93
Uniform Delay, d1		16.1	6.7		7.9	6.8				43.4		49.1
Progression Factor		1.00	1.00		0.47	0.46				1.00		1.00
Incremental Delay, d2		5.1	0.1		0.3	0.2				0.4		21.9
Delay (s)		21.2	6.7		4.0	3.3				43.8		71.0
Level of Service		C	A		A	A				D		E
Approach Delay (s)		20.7			3.9			0.0			66.6	
Approach LOS		C			A			A			E	
Intersection Summary												
HCM 2000 Control Delay			30.7									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			130.0							11.0		
Intersection Capacity Utilization			69.4%									ICU Level of Service C
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: I-5 SB & Kuelber Blvd/Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑	↑				↑		↑↑
Traffic Volume (vph)	0	1379	116	0	772	239	0	0	0	95	0	1331
Future Volume (vph)	0	1379	116	0	772	239	0	0	0	95	0	1331
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	6.0		6.0	6.0				5.5		5.5
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3353	1500		3386	1515				1693		2666
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3353	1500		3386	1515				1693		2666
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1452	122	0	813	252	0	0	0	100	0	1401
RTOR Reduction (vph)	0	0	45	0	0	93	0	0	0	0	0	255
Lane Group Flow (vph)	0	1452	77	0	813	159	0	0	0	100	0	1146
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Prot		NA	Prot				Prot		Prot
Protected Phases		2	2		6	6				8		8
Permitted Phases												
Actuated Green, G (s)		82.0	82.0		82.0	82.0				36.5		36.5
Effective Green, g (s)		82.0	82.0		82.0	82.0				36.5		36.5
Actuated g/C Ratio		0.63	0.63		0.63	0.63				0.28		0.28
Clearance Time (s)		6.0	6.0		6.0	6.0				5.5		5.5
Vehicle Extension (s)		0.5	0.5		0.5	0.5				3.0		3.0
Lane Grp Cap (vph)		2114	946		2135	955				475		748
v/s Ratio Prot		c0.43	0.05		0.24	0.10				0.06		c0.43
v/s Ratio Perm												
v/c Ratio		0.69	0.08		0.38	0.17				0.21		1.53
Uniform Delay, d1		15.6	9.3		11.7	9.9				35.7		46.8
Progression Factor		1.00	1.00		1.88	7.55				1.00		1.00
Incremental Delay, d2		1.8	0.2		0.4	0.3				0.2		246.0
Delay (s)		17.5	9.5		22.4	75.1				36.0		292.7
Level of Service		B	A		C	E				D		F
Approach Delay (s)		16.9			34.8			0.0			275.6	
Approach LOS		B			C			A			F	
Intersection Summary												
HCM 2000 Control Delay		115.3			HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio		0.95										
Actuated Cycle Length (s)		130.0			Sum of lost time (s)			11.5				
Intersection Capacity Utilization		81.3%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: I-5 NB & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑			↗	↗			
Traffic Volume (vph)	0	727	1219	0	569	145	93	1	337	0	0	0
Future Volume (vph)	0	727	1219	0	569	145	93	1	337	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	6.0		6.0			5.0	5.0			
Lane Util. Factor		0.95	1.00		0.95			1.00	1.00			
Frt		1.00	0.85		0.97			1.00	0.85			
Flt Protected		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (prot)		3353	1500		3014			1484	1471			
Flt Permitted		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (perm)		3353	1500		3014			1484	1471			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	826	1385	0	647	165	106	1	383	0	0	0
RTOR Reduction (vph)	0	0	238	0	14	0	0	0	213	0	0	0
Lane Group Flow (vph)	0	826	1147	0	798	0	0	107	170	0	0	0
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	4%	4%	4%	2%	2%	2%
Parking (#/hr)								0				
Turn Type		NA	Perm		NA		Perm	NA	Perm			
Protected Phases		2			6			8				
Permitted Phases			2				8		8			
Actuated Green, G (s)		101.7	101.7		101.7			17.3	17.3			
Effective Green, g (s)		101.7	101.7		101.7			17.3	17.3			
Actuated g/C Ratio		0.78	0.78		0.78			0.13	0.13			
Clearance Time (s)		6.0	6.0		6.0			5.0	5.0			
Vehicle Extension (s)		0.5	0.5		0.5			0.5	0.5			
Lane Grp Cap (vph)		2623	1173		2357			197	195			
v/s Ratio Prot		0.25			0.26							
v/s Ratio Perm			c0.76					0.07	c0.12			
v/c Ratio		0.31	0.98		0.34			0.54	0.87			
Uniform Delay, d1		4.1	13.1		4.2			52.7	55.3			
Progression Factor		1.14	6.43		0.15			1.00	1.00			
Incremental Delay, d2		0.2	14.6		0.0			1.6	31.0			
Delay (s)		4.8	99.0		0.7			54.3	86.3			
Level of Service		A	F		A			D	F			
Approach Delay (s)		63.8			0.7			79.3			0.0	
Approach LOS		E			A			E			A	
Intersection Summary												
HCM 2000 Control Delay			51.4									
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			130.0									
Intersection Capacity Utilization			84.7%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: I-5 NB & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑			↗	↗			
Traffic Volume (vph)	0	612	915	0	961	312	63	1	145	0	0	0
Future Volume (vph)	0	612	915	0	961	312	63	1	145	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	4.0		6.0			5.0	5.0			
Lane Util. Factor		0.95	1.00		0.95			1.00	1.00			
Frt		1.00	0.85		0.96			1.00	0.85			
Flt Protected		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (prot)		3320	1485		3230			1443	1430			
Flt Permitted		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (perm)		3320	1485		3230			1443	1430			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	644	963	0	1012	328	66	1	153	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	142	0	0	0
Lane Group Flow (vph)	0	644	963	0	1329	0	0	67	11	0	0	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Parking (#/hr)								0				
Turn Type		NA	Free		NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases			Free						8			
Actuated Green, G (s)		109.6	130.0		109.6			9.4	9.4			
Effective Green, g (s)		109.6	130.0		109.6			9.4	9.4			
Actuated g/C Ratio		0.84	1.00		0.84			0.07	0.07			
Clearance Time (s)		6.0			6.0			5.0	5.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		2799	1485		2723			104	103			
v/s Ratio Prot		0.19			0.41			0.05				
v/s Ratio Perm			c0.65						0.01			
v/c Ratio		0.23	0.65		0.49			0.64	0.11			
Uniform Delay, d1		2.0	0.0		2.7			58.7	56.4			
Progression Factor		1.87	1.00		3.98			1.00	1.00			
Incremental Delay, d2		0.1	1.7		0.1			9.8	0.2			
Delay (s)		3.9	1.7		10.9			68.5	56.5			
Level of Service		A	A		B			E	E			
Approach Delay (s)		2.6			10.9			60.2			0.0	
Approach LOS		A			B			E			A	
Intersection Summary												
HCM 2000 Control Delay			10.1		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			130.0		Sum of lost time (s)					11.0		
Intersection Capacity Utilization			52.7%		ICU Level of Service					A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: 36th Ave SE & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	745	116	71	604	224	83	46	51	19	15	40
Future Volume (vph)	222	745	116	71	604	224	83	46	51	19	15	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	5.0	5.0	4.5	5.0		4.5	4.0		4.5	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1480	1558	1324	1438	1453		1327	1287		1338	1409	1197
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1480	1558	1324	1438	1453		1327	1287		1338	1409	1197
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	249	837	130	80	679	252	93	52	57	21	17	45
RTOR Reduction (vph)	0	0	50	0	9	0	0	23	0	0	0	33
Lane Group Flow (vph)	249	837	80	80	922	0	93	86	0	21	17	12
Heavy Vehicles (%)	4%	4%	4%	7%	7%	7%	16%	16%	16%	15%	15%	15%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	27.5	52.5	52.5	11.2	36.2		14.4	43.0		5.3	33.9	33.9
Effective Green, g (s)	27.5	52.5	52.5	11.2	36.2		14.4	43.0		5.3	33.9	33.9
Actuated g/C Ratio	0.21	0.40	0.40	0.09	0.28		0.11	0.33		0.04	0.26	0.26
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0		4.5	4.0		4.5	4.0	4.0
Vehicle Extension (s)	3.0	0.5	0.5	3.0	0.5		3.0	0.5		3.0	0.5	0.5
Lane Grp Cap (vph)	313	629	534	123	404		146	425		54	367	312
v/s Ratio Prot	c0.17	c0.54		0.06	c0.63		c0.07	c0.07		0.02	0.01	
v/s Ratio Perm			0.06									0.01
v/c Ratio	0.80	1.33	0.15	0.65	2.28		0.64	0.20		0.39	0.05	0.04
Uniform Delay, d1	48.6	38.8	24.6	57.5	46.9		55.3	31.2		60.8	36.0	35.9
Progression Factor	0.96	1.03	1.10	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	11.9	158.5	0.5	11.7	585.2		8.8	0.1		4.6	0.2	0.2
Delay (s)	58.5	198.5	27.5	69.2	632.1		64.1	31.3		65.4	36.2	36.1
Level of Service	E	F	C	E	F		E	C		E	D	D
Approach Delay (s)		151.5			587.5			46.4			43.5	
Approach LOS		F			F			D			D	
Intersection Summary												
HCM 2000 Control Delay			315.0			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)				18.0		
Intersection Capacity Utilization			91.0%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: 36th Ave SE & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	655	77	58	840	35	155	17	93	179	36	269
Future Volume (vph)	43	655	77	58	840	35	155	17	93	179	36	269
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	5.0	5.0	4.0	5.0		4.5	4.0		4.0	4.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1452	1528	1299	1494	1563		1480	1418		1509	1588	1350
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1452	1528	1299	1494	1563		1480	1418		1509	1588	1350
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	712	84	63	913	38	168	68	101	195	39	292
RTOR Reduction (vph)	0	0	50	0	1	0	0	36	0	0	0	181
Lane Group Flow (vph)	47	712	34	63	950	0	168	133	0	195	39	111
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	4%	4%	4%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									6
Actuated Green, G (s)	8.5	48.3	48.3	9.7	49.5		20.1	32.9		22.1	34.4	49.5
Effective Green, g (s)	8.5	48.3	48.3	9.7	49.5		20.1	32.9		22.1	34.4	49.5
Actuated g/C Ratio	0.07	0.37	0.37	0.07	0.38		0.15	0.25		0.17	0.26	0.38
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.5	4.0		4.0	4.0	5.0
Vehicle Extension (s)	3.0	0.5	0.5	3.0	0.5		3.0	0.5		3.0	0.5	0.5
Lane Grp Cap (vph)	94	567	482	111	595		228	358		256	420	514
v/s Ratio Prot	0.03	0.47		c0.04	c0.61		0.11	c0.09		c0.13	0.02	
v/s Ratio Perm			0.03									0.08
v/c Ratio	0.50	1.26	0.07	0.57	1.60		0.74	0.37		0.76	0.09	0.22
Uniform Delay, d1	58.7	40.9	26.4	58.1	40.2		52.4	40.0		51.4	36.0	27.2
Progression Factor	0.77	1.46	2.52	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.1	128.8	0.3	6.5	276.6		11.7	0.2		12.6	0.4	1.0
Delay (s)	49.1	188.5	66.7	64.6	316.9		64.1	40.3		64.0	36.5	28.1
Level of Service	D	F	E	E	F		E	D		E	D	C
Approach Delay (s)		168.6			301.2			52.2			42.0	
Approach LOS		F			F			D			D	
Intersection Summary												
HCM 2000 Control Delay			179.1			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)				17.5		
Intersection Capacity Utilization			95.6%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
5: 36th Ave SE & Boone Rd SE

11/17/2021

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	1	1	1	26	6	143	3	16	114	62
Future Vol, veh/h	10	1	1	1	1	26	6	143	3	16	114	62
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	17	17	17	7	7	7	10	10	10
Mvmt Flow	12	1	1	1	1	32	7	174	4	20	139	76
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	424	409	177	408	445	176	215	0	0	178	0	0
Stage 1	217	217	-	190	190	-	-	-	-	-	-	-
Stage 2	207	192	-	218	255	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.27	6.67	6.37	4.17	-	-	4.2	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.653	4.153	3.453	2.263	-	-	2.29	-	-
Pot Cap-1 Maneuver	542	534	869	528	486	830	1326	-	-	1351	-	-
Stage 1	788	725	-	778	716	-	-	-	-	-	-	-
Stage 2	797	743	-	751	670	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	511	522	869	517	475	830	1326	-	-	1351	-	-
Mov Cap-2 Maneuver	511	522	-	517	475	-	-	-	-	-	-	-
Stage 1	783	713	-	773	712	-	-	-	-	-	-	-
Stage 2	761	739	-	736	659	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12		9.8		0.3		0.6					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1326	-	-	530	792	1351	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.028	0.043	0.014	-	-				
HCM Control Delay (s)	7.7	0	-	12	9.8	7.7	0	-				
HCM Lane LOS	A	A	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

HCM 6th TWSC
5: 36th Ave SE & Boone Rd SE

11/16/2021

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	126	1	8	1	1	12	4	173	1	12	126	92
Future Vol, veh/h	126	1	8	1	1	12	4	173	1	12	126	92
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	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	1	1	1	17	17	17	7	7	7	10	10	10
Mvmt Flow	156	1	10	1	1	15	5	214	1	15	156	114
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	476	468	213	474	525	215	270	0	0	215	0	0
Stage 1	243	243	-	225	225	-	-	-	-	-	-	-
Stage 2	233	225	-	249	300	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.27	6.67	6.37	4.17	-	-	4.2	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.653	4.153	3.453	2.263	-	-	2.29	-	-
Pot Cap-1 Maneuver	501	494	830	477	437	789	1265	-	-	1309	-	-
Stage 1	763	707	-	745	691	-	-	-	-	-	-	-
Stage 2	772	719	-	723	639	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	484	485	830	464	429	789	1265	-	-	1309	-	-
Mov Cap-2 Maneuver	484	485	-	464	429	-	-	-	-	-	-	-
Stage 1	760	697	-	742	688	-	-	-	-	-	-	-
Stage 2	753	716	-	703	630	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	15.9		10.2			0.2			0.4			
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1265	-	-	496	711	1309	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.336	0.024	0.011	-	-				
HCM Control Delay (s)	7.9	0	-	15.9	10.2	7.8	0	-				
HCM Lane LOS	A	A	-	C	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	1.5	0.1	0	-	-				

HCM 6th TWSC
8: 36th Ave SE & Kashmir Way SE

11/16/2021

Intersection						
Int Delay, s/veh	3.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	76	5	46	35
Future Vol, veh/h	5	40	76	5	46	35
Conflicting Peds, #/hr	0	0	0	2	2	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	77	77	77	77	77	77
Heavy Vehicles, %	31	31	17	17	6	6
Mvmt Flow	6	52	99	6	60	45
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	269	104	0	0	107	0
Stage 1	104	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.71	6.51	-	-	4.16	-
Critical Hdwy Stg 1	5.71	-	-	-	-	-
Critical Hdwy Stg 2	5.71	-	-	-	-	-
Follow-up Hdwy	3.779	3.579	-	-	2.254	-
Pot Cap-1 Maneuver	662	877	-	-	1459	-
Stage 1	853	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	633	875	-	-	1456	-
Mov Cap-2 Maneuver	633	-	-	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.6	0	4.3			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	839	1456	-	
HCM Lane V/C Ratio	-	-	0.07	0.041	-	
HCM Control Delay (s)	-	-	9.6	7.6	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-	

HCM 6th TWSC
8: 36th Ave SE & Kashmir Way SE

11/16/2021

Intersection

Int Delay, s/veh 2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	66	101	4	18	94
Future Vol, veh/h	9	66	101	4	18	94
Conflicting Peds, #/hr	0	0	0	2	2	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	80	80	80	80	80	80
Heavy Vehicles, %	4	4	3	3	15	15
Mvmt Flow	11	83	126	5	23	118

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	295	131	0
Stage 1	131	-	-
Stage 2	164	-	-
Critical Hdwy	6.44	6.24	-
Critical Hdwy Stg 1	5.44	-	-
Critical Hdwy Stg 2	5.44	-	-
Follow-up Hdwy	3.536	3.336	-
Pot Cap-1 Maneuver	692	913	-
Stage 1	890	-	-
Stage 2	860	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	678	911	-
Mov Cap-2 Maneuver	678	-	-
Stage 1	888	-	-
Stage 2	845	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	875	1372
HCM Lane V/C Ratio	-	-	0.107	0.016
HCM Control Delay (s)	-	-	9.6	7.7
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1

APPENDIX D: CRASH DATA REPORTS

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

KUEBLER BLVD at SB EF KUEBLER BV C5, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2016														
REAR-END	0	1	0	1	0	1	1	0	1	0	1	1	0	0
YEAR 2016 TOTAL	0	1	0	1	0	1	1	0	1	0	1	1	0	0
YEAR: 2015														
REAR-END	0	1	0	1	0	2	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	4	1	2	0	2	0	2	0	0
YEAR 2015 TOTAL	0	3	0	3	0	6	1	3	0	3	0	3	0	0
FINAL TOTAL	0	4	0	4	0	7	2	3	1	3	1	4	0	0

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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
KUEBLER BLVD at SB EF KUEBLER EB C9, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	NON -	PROPERTY	TOTAL	PEOPLE	PEOPLE	TRUCKS	DRY	WET	DAY	DARK	INTER -	SECTION	OFF -
	CRASHES	FATAL	DAMAGE											
FINAL TOTAL		CRASHES	ONLY	CRASHES	KILLED	INJURED		SURF	SURF			SECTION	RELATED	ROAD

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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
KUEBLER BLVD at SB EF KUEBLER WB C8, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	NON -	PROPERTY	TOTAL	PEOPLE	PEOPLE	TRUCKS	DRY	WET	DAY	DARK	INTER-	INTER-	OFF -
	CRASHES	FATAL	DAMAGE										SECTION	
FINAL TOTAL	CRASHES	CRASHES	ONLY	CRASHES	KILLED	INJURED		SURF	SURF			SECTION	RELATED	ROAD

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

KUEBLER BLVD at SB EX KUEBLER BV C4, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
YEAR: 2016														
REAR-END	0	0	2	2	0	0	0	1	1	1	1	2	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	2	0	2	0	2	0	0
YEAR 2016 TOTAL	0	1	3	4	0	1	0	3	1	3	1	4	0	0
YEAR: 2015														
REAR-END	0	6	3	9	0	11	0	9	0	7	2	9	0	0
YEAR 2015 TOTAL	0	6	3	9	0	11	0	9	0	7	2	9	0	0
FINAL TOTAL	0	7	6	13	0	12	0	12	1	10	3	13	0	0

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11/16/2021

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

KUEBLER BLVD at SB EX KUEBLER BV C7, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2019														
REAR-END	0	2	1	3	0	2	0	2	1	1	2	3	0	0
YEAR 2019 TOTAL	0	2	1	3	0	2	0	2	1	1	2	3	0	0
YEAR: 2018														
REAR-END	0	3	2	5	0	6	0	5	0	4	1	5	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2018 TOTAL	0	3	3	6	0	6	0	6	0	5	1	6	0	0
YEAR: 2017														
REAR-END	0	2	2	4	0	2	0	3	1	3	1	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2017 TOTAL	0	2	3	5	0	2	0	4	1	4	1	5	0	0
FINAL TOTAL	0	7	7	14	0	10	0	12	2	10	4	14	0	0

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11/16/2021

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

KUEBLER BLVD at NB EF KUEBLER WB C6, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
YEAR: 2019														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2019 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR: 2017														
REAR-END	0	1	1	2	0	4	0	2	0	1	1	2	0	0
YEAR 2017 TOTAL	0	1	1	2	0	4	0	2	0	1	1	2	0	0
FINAL TOTAL	0	2	1	3	0	5	0	3	0	2	1	3	0	0

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11/16/2021

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

KUEBLER BLVD at NB EX KUEBLER BV C1, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2019														
REAR-END	0	2	2	4	0	3	0	2	2	2	2	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2019 TOTAL	0	2	3	5	0	3	0	3	2	3	2	5	0	0
YEAR: 2018														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2018 TOTAL	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR: 2017														
REAR-END	0	2	0	2	0	5	0	2	0	1	1	2	0	0
YEAR 2017 TOTAL	0	2	0	2	0	5	0	2	0	1	1	2	0	0
YEAR: 2016														
REAR-END	0	1	1	2	0	1	0	1	0	2	0	2	0	0
YEAR 2016 TOTAL	0	1	1	2	0	1	0	1	0	2	0	2	0	0
YEAR: 2015														
REAR-END	0	1	0	1	0	1	0	0	1	1	0	1	0	0
TURNING MOVEMENTS	0	1	2	3	0	4	0	3	0	2	1	3	0	0
YEAR 2015 TOTAL	0	2	2	4	0	5	0	3	1	3	1	4	0	0
FINAL TOTAL	0	8	6	14	0	15	0	10	3	9	5	14	0	0

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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
KUEBLER BLVD at NB EF KUEBLER EB C3, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
FINAL TOTAL														

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

KUEBLER BLVD at 36TH AVE, City of Salem, Marion County, 01/01/2015 to 12/31/2019

[illegible]

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

KUEBLER BLVD at 36TH AVE, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON -	PROPERTY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
		FATAL CRASHES	DAMAGE ONLY											
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	0	2	1	3	0	2	0	3	0	3	0	3	0	0
FINAL TOTAL	0	12	7	19	0	18	0	15	4	14	5	19	0	1

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

36TH AVE at BOONE RD, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2019														
TURNING MOVEMENTS	0	0	1	1	0	0	1	0	1	1	0	1	0	0
YEAR 2019 TOTAL	0	0	1	1	0	0	1	0	1	1	0	1	0	0
YEAR: 2016														
ANGLE	0	0	1	1	0	0	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2016 TOTAL	0	0	2	2	0	0	0	1	1	1	1	2	0	0
YEAR: 2015														
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	0	1	0	1	0	2	0	1	0	1	0	1	0	0
FINAL TOTAL	0	1	3	4	0	2	1	2	2	3	1	4	0	0

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
36TH AVE at KASHMIR WY, City of Salem, Marion County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
FINAL TOTAL														

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

APPENDIX E:
SYNCHRO REPORTS – 2025 BACKGROUND AM + PM

HCM Signalized Intersection Capacity Analysis

1: I-5 SB & Kuelber Blvd/Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↗		↗↗
Traffic Volume (vph)	0	1846	68	0	577	124	0	0	0	174	0	882
Future Volume (vph)	0	1846	68	0	577	124	0	0	0	174	0	882
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	6.0		6.0	6.0				5.0		5.0
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3353	1500		3320	1485				1629		2565
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3353	1500		3320	1485				1629		2565
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	2098	77	0	656	141	0	0	0	198	0	1002
RTOR Reduction (vph)	0	0	26	0	0	48	0	0	0	0	0	369
Lane Group Flow (vph)	0	2098	51	0	656	93	0	0	0	198	0	633
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Turn Type		NA	Prot		NA	Prot				Perm		Perm
Protected Phases		2	2		6	6						
Permitted Phases										8		8
Actuated Green, G (s)		85.5	85.5		85.5	85.5				33.5		33.5
Effective Green, g (s)		85.5	85.5		85.5	85.5				33.5		33.5
Actuated g/C Ratio		0.66	0.66		0.66	0.66				0.26		0.26
Clearance Time (s)		6.0	6.0		6.0	6.0				5.0		5.0
Vehicle Extension (s)		0.5	0.5		0.5	0.5				0.5		0.5
Lane Grp Cap (vph)		2205	986		2183	976				419		660
v/s Ratio Prot		0.63	0.03		0.20	0.06						
v/s Ratio Perm										0.12		0.25
v/c Ratio		0.95	0.05		0.30	0.10				0.47		0.96
Uniform Delay, d1		20.4	7.9		9.5	8.1				40.8		47.6
Progression Factor		1.00	1.00		0.46	0.70				1.00		1.00
Incremental Delay, d2		10.7	0.1		0.3	0.2				0.3		24.8
Delay (s)		31.1	8.0		4.7	5.9				41.1		72.4
Level of Service		C	A		A	A				D		E
Approach Delay (s)		30.3			4.9			0.0			67.2	
Approach LOS		C			A			A			E	
Intersection Summary												
HCM 2000 Control Delay			36.1									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			130.0							11.0		
Intersection Capacity Utilization			72.4%									ICU Level of Service C
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: I-5 SB & Kuelber Blvd/Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑	↑				↑		↑↑
Traffic Volume (vph)	0	1652	147	0	866	251	0	0	0	116	0	1582
Future Volume (vph)	0	1652	147	0	866	251	0	0	0	116	0	1582
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	6.0		6.0	6.0				5.5		5.5
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3353	1500		3386	1515				1693		2666
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3353	1500		3386	1515				1693		2666
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1739	155	0	912	264	0	0	0	122	0	1665
RTOR Reduction (vph)	0	0	57	0	0	97	0	0	0	0	0	206
Lane Group Flow (vph)	0	1739	98	0	912	167	0	0	0	122	0	1459
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Prot		NA	Prot				Prot		Prot
Protected Phases		2	2		6	6				8		8
Permitted Phases												
Actuated Green, G (s)		82.0	82.0		82.0	82.0				36.5		36.5
Effective Green, g (s)		82.0	82.0		82.0	82.0				36.5		36.5
Actuated g/C Ratio		0.63	0.63		0.63	0.63				0.28		0.28
Clearance Time (s)		6.0	6.0		6.0	6.0				5.5		5.5
Vehicle Extension (s)		0.5	0.5		0.5	0.5				3.0		3.0
Lane Grp Cap (vph)		2114	946		2135	955				475		748
v/s Ratio Prot		c0.52	0.07		0.27	0.11				0.07		c0.55
v/s Ratio Perm												
v/c Ratio		0.82	0.10		0.43	0.17				0.26		1.95
Uniform Delay, d1		18.4	9.5		12.1	10.0				36.2		46.8
Progression Factor		1.00	1.00		2.04	8.18				1.00		1.00
Incremental Delay, d2		3.8	0.2		0.5	0.3				0.3		432.4
Delay (s)		22.2	9.7		25.3	81.8				36.5		479.1
Level of Service		C	A		C	F				D		F
Approach Delay (s)		21.2			38.0			0.0			448.9	
Approach LOS		C			D			A			F	
Intersection Summary												
HCM 2000 Control Delay		182.6			HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio		1.17										
Actuated Cycle Length (s)		130.0			Sum of lost time (s)			11.5				
Intersection Capacity Utilization		93.3%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: I-5 NB & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑			↗	↗			
Traffic Volume (vph)	0	766	1268	0	607	168	97	1	351	0	0	0
Future Volume (vph)	0	766	1268	0	607	168	97	1	351	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	6.0		6.0			5.0	5.0			
Lane Util. Factor		0.95	1.00		0.95			1.00	1.00			
Frt		1.00	0.85		0.97			1.00	0.85			
Flt Protected		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (prot)		3353	1500		3008			1484	1471			
Flt Permitted		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (perm)		3353	1500		3008			1484	1471			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	870	1441	0	690	191	110	1	399	0	0	0
RTOR Reduction (vph)	0	0	258	0	17	0	0	0	192	0	0	0
Lane Group Flow (vph)	0	870	1183	0	864	0	0	111	207	0	0	0
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	4%	4%	4%	2%	2%	2%
Parking (#/hr)								0				
Turn Type		NA	Perm		NA		Perm	NA	Perm			
Protected Phases		2			6			8				
Permitted Phases			2				8		8			
Actuated Green, G (s)		99.2	99.2		99.2			19.8	19.8			
Effective Green, g (s)		99.2	99.2		99.2			19.8	19.8			
Actuated g/C Ratio		0.76	0.76		0.76			0.15	0.15			
Clearance Time (s)		6.0	6.0		6.0			5.0	5.0			
Vehicle Extension (s)		0.5	0.5		0.5			0.5	0.5			
Lane Grp Cap (vph)		2558	1144		2295			226	224			
v/s Ratio Prot		0.26			0.29							
v/s Ratio Perm			c0.79					0.07	c0.14			
v/c Ratio		0.34	1.03		0.38			0.49	0.92			
Uniform Delay, d1		4.9	15.4		5.1			50.5	54.3			
Progression Factor		1.19	6.01		0.14			1.00	1.00			
Incremental Delay, d2		0.1	26.5		0.0			0.6	38.7			
Delay (s)		6.0	119.1		0.8			51.1	93.1			
Level of Service		A	F		A			D	F			
Approach Delay (s)		76.5			0.8			83.9			0.0	
Approach LOS		E			A			F			A	
Intersection Summary												
HCM 2000 Control Delay			59.5		HCM 2000 Level of Service					E		
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			130.0		Sum of lost time (s)					11.0		
Intersection Capacity Utilization			87.9%		ICU Level of Service					E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: I-5 NB & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑			↗	↗			
Traffic Volume (vph)	0	692	1133	0	1035	336	91	1	155	0	0	0
Future Volume (vph)	0	692	1133	0	1035	336	91	1	155	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	4.0		6.0			5.0	5.0			
Lane Util. Factor		0.95	1.00		0.95			1.00	1.00			
Frt		1.00	0.85		0.96			1.00	0.85			
Flt Protected		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (prot)		3320	1485		3230			1443	1430			
Flt Permitted		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (perm)		3320	1485		3230			1443	1430			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	728	1193	0	1089	354	96	1	163	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	148	0	0	0
Lane Group Flow (vph)	0	728	1193	0	1430	0	0	97	15	0	0	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Parking (#/hr)								0				
Turn Type		NA	Free		NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases			Free						8			
Actuated Green, G (s)		107.2	130.0		107.2			11.8	11.8			
Effective Green, g (s)		107.2	130.0		107.2			11.8	11.8			
Actuated g/C Ratio		0.82	1.00		0.82			0.09	0.09			
Clearance Time (s)		6.0			6.0			5.0	5.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		2737	1485		2663			130	129			
v/s Ratio Prot		0.22			0.44			0.07				
v/s Ratio Perm			c0.80						0.01			
v/c Ratio		0.27	0.80		0.54			0.75	0.11			
Uniform Delay, d1		2.6	0.0		3.6			57.6	54.3			
Progression Factor		2.69	1.00		1.25			1.00	1.00			
Incremental Delay, d2		0.0	0.4		0.5			18.2	0.1			
Delay (s)		6.9	0.4		5.0			75.9	54.4			
Level of Service		A	A		A			E	D			
Approach Delay (s)		2.9			5.0			62.4			0.0	
Approach LOS		A			A			E			A	
Intersection Summary												
HCM 2000 Control Delay			8.0									
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			130.0									
Intersection Capacity Utilization			56.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: 36th Ave SE & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	231	774	132	78	628	233	118	56	65	20	19	41
Future Volume (vph)	231	774	132	78	628	233	118	56	65	20	19	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	5.0	5.0	4.5	5.0		4.5	4.0		4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1480	2960	1324	1438	2760		1327	1284		1338	1409	1197
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1480	2960	1324	1438	2760		1327	1284		1338	1409	1197
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	260	870	148	88	706	262	133	63	73	22	21	46
RTOR Reduction (vph)	0	0	91	0	25	0	0	25	0	0	0	35
Lane Group Flow (vph)	260	870	57	88	943	0	133	111	0	22	21	11
Heavy Vehicles (%)	4%	4%	4%	7%	7%	7%	16%	16%	16%	15%	15%	15%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	28.4	50.3	50.3	13.4	35.3		18.3	42.9		5.4	30.0	30.0
Effective Green, g (s)	28.4	50.3	50.3	13.4	35.3		18.3	42.9		5.4	30.0	30.0
Actuated g/C Ratio	0.22	0.39	0.39	0.10	0.27		0.14	0.33		0.04	0.23	0.23
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0		4.5	4.0		4.5	4.0	4.0
Vehicle Extension (s)	3.0	0.5	0.5	3.0	0.5		3.0	0.5		3.0	0.5	0.5
Lane Grp Cap (vph)	323	1145	512	148	749		186	423		55	325	276
v/s Ratio Prot	c0.18	0.29		0.06	c0.34		c0.10	c0.09		0.02	0.01	
v/s Ratio Perm			0.04									0.01
v/c Ratio	0.80	0.76	0.11	0.59	1.26		0.72	0.26		0.40	0.06	0.04
Uniform Delay, d1	48.2	34.6	25.5	55.7	47.4		53.4	32.0		60.7	39.0	38.8
Progression Factor	0.98	1.00	1.49	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.1	4.2	0.4	6.3	127.0		12.3	0.1		4.7	0.4	0.3
Delay (s)	59.1	38.9	38.5	62.0	174.3		65.6	32.1		65.4	39.4	39.1
Level of Service	E	D	D	E	F		E	C		E	D	D
Approach Delay (s)		43.0			165.0			48.7			45.7	
Approach LOS		D			F			D			D	
Intersection Summary												
HCM 2000 Control Delay			91.5			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			71.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: 36th Ave SE & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	45	709	112	72	900	36	182	23	104	186	45	280
Future Volume (vph)	45	709	112	72	900	36	182	23	104	186	45	280
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	5.0	5.0	4.0	5.0		4.5	4.0		4.0	4.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1452	2904	1299	1494	2971		1480	1429		1509	1588	1350
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1452	2904	1299	1494	2971		1480	1429		1509	1588	1350
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	771	122	78	978	39	198	92	113	202	49	304
RTOR Reduction (vph)	0	0	62	0	1	0	0	30	0	0	0	189
Lane Group Flow (vph)	49	771	60	78	1016	0	198	175	0	202	49	115
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	4%	4%	4%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									6
Actuated Green, G (s)	8.7	47.2	47.2	10.8	49.3		22.7	32.3		22.7	31.8	49.3
Effective Green, g (s)	8.7	47.2	47.2	10.8	49.3		22.7	32.3		22.7	31.8	49.3
Actuated g/C Ratio	0.07	0.36	0.36	0.08	0.38		0.17	0.25		0.17	0.24	0.38
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.5	4.0		4.0	4.0	5.0
Vehicle Extension (s)	3.0	0.5	0.5	3.0	0.5		3.0	0.5		3.0	0.5	0.5
Lane Grp Cap (vph)	97	1054	471	124	1126		258	355		263	388	511
v/s Ratio Prot	0.03	0.27		c0.05	c0.34		0.13	c0.12		c0.13	0.03	
v/s Ratio Perm			0.05									0.09
v/c Ratio	0.51	0.73	0.13	0.63	0.90		0.77	0.49		0.77	0.13	0.23
Uniform Delay, d1	58.6	35.9	27.6	57.7	38.1		51.1	41.8		51.1	38.3	27.4
Progression Factor	0.70	1.37	1.94	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.0	4.4	0.5	9.6	11.6		12.8	0.4		12.6	0.7	1.0
Delay (s)	44.7	53.5	54.1	67.3	49.7		63.9	42.2		63.8	38.9	28.4
Level of Service	D	D	D	E	D		E	D		E	D	C
Approach Delay (s)		53.1			51.0			52.9			42.2	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			50.3			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)				17.5		
Intersection Capacity Utilization			74.3%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
4: 32th Ave SE/32nd Ave SE & Boone Rd SE

11/16/2021

Intersection

Int Delay, s/veh 5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	1	1	36	1	1
Future Vol, veh/h	56	1	1	36	1	1
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, %	2	2	2	2	2	2
Mvmt Flow	61	1	1	39	1	1

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	24	21	0
Stage 1	21	-	-
Stage 2	3	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	992	1056	-
Stage 1	1002	-	-
Stage 2	1020	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	991	1056	-
Mov Cap-2 Maneuver	991	-	-
Stage 1	1002	-	-
Stage 2	1019	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	3.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	992	1570
HCM Lane V/C Ratio	-	-	0.062	0.001
HCM Control Delay (s)	-	-	8.9	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
4: 32th Ave SE/32nd Ave SE & Boone Rd SE

11/16/2021

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	1	1	56	1	1
Future Vol, veh/h	20	1	1	56	1	1
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, %	2	2	2	2	2	2
Mvmt Flow	22	1	1	61	1	1
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	35	32	0	0	62	0
Stage 1	32	-	-	-	-	-
Stage 2	3	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	978	1042	-	-	1541	-
Stage 1	991	-	-	-	-	-
Stage 2	1020	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	977	1042	-	-	1541	-
Mov Cap-2 Maneuver	977	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.8	0		3.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	980	1541	-	
HCM Lane V/C Ratio	-	-	0.023	0.001	-	
HCM Control Delay (s)	-	-	8.8	7.3	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	126	1	8	1	1	12	4	173	1	12	126	92
Future Vol, veh/h	126	1	8	1	1	12	4	173	1	12	126	92
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	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	1	1	1	17	17	17	7	7	7	10	10	10
Mvmt Flow	156	1	10	1	1	15	5	214	1	15	156	114
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	476	468	213	474	525	215	270	0	0	215	0	0
Stage 1	243	243	-	225	225	-	-	-	-	-	-	-
Stage 2	233	225	-	249	300	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.27	6.67	6.37	4.17	-	-	4.2	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.653	4.153	3.453	2.263	-	-	2.29	-	-
Pot Cap-1 Maneuver	501	494	830	477	437	789	1265	-	-	1309	-	-
Stage 1	763	707	-	745	691	-	-	-	-	-	-	-
Stage 2	772	719	-	723	639	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	484	485	830	464	429	789	1265	-	-	1309	-	-
Mov Cap-2 Maneuver	484	485	-	464	429	-	-	-	-	-	-	-
Stage 1	760	697	-	742	688	-	-	-	-	-	-	-
Stage 2	753	716	-	703	630	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	15.9		10.2		0.2		0.4					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1265	-	-	496	711	1309	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.336	0.024	0.011	-	-				
HCM Control Delay (s)	7.9	0	-	15.9	10.2	7.8	0	-				
HCM Lane LOS	A	A	-	C	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	1.5	0.1	0	-	-				

HCM 6th TWSC
5: 36th Ave SE & Boone Rd SE

11/17/2021

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	1	4	1	1	27	8	149	3	17	119	83
Future Vol, veh/h	63	1	4	1	1	27	8	149	3	17	119	83
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	17	17	17	7	7	7	10	10	10
Mvmt Flow	77	1	5	1	1	33	10	182	4	21	145	101
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	459	444	196	445	492	184	246	0	0	186	0	0
Stage 1	238	238	-	204	204	-	-	-	-	-	-	-
Stage 2	221	206	-	241	288	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.27	6.67	6.37	4.17	-	-	4.2	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.653	4.153	3.453	2.263	-	-	2.29	-	-
Pot Cap-1 Maneuver	514	510	848	499	457	821	1291	-	-	1342	-	-
Stage 1	768	710	-	765	706	-	-	-	-	-	-	-
Stage 2	784	733	-	730	647	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	482	496	848	485	445	821	1291	-	-	1342	-	-
Mov Cap-2 Maneuver	482	496	-	485	445	-	-	-	-	-	-	-
Stage 1	761	697	-	758	700	-	-	-	-	-	-	-
Stage 2	744	726	-	711	635	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.7		9.8		0.4		0.6					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1291	-	-	495	780	1342	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.168	0.045	0.015	-	-				
HCM Control Delay (s)	7.8	0	-	13.7	9.8	7.7	0	-				
HCM Lane LOS	A	A	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.6	0.1	0	-	-				

HCM 6th TWSC
8: 36th Ave SE & Kashmir Way SE

11/16/2021

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	41	80	5	47	40
Future Vol, veh/h	5	41	80	5	47	40
Conflicting Peds, #/hr	0	0	0	2	2	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	77	77	77	77	77	77
Heavy Vehicles, %	31	31	17	17	6	6
Mvmt Flow	6	53	104	6	61	52
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	283	109	0	0	112	0
Stage 1	109	-	-	-	-	-
Stage 2	174	-	-	-	-	-
Critical Hdwy	6.71	6.51	-	-	4.16	-
Critical Hdwy Stg 1	5.71	-	-	-	-	-
Critical Hdwy Stg 2	5.71	-	-	-	-	-
Follow-up Hdwy	3.779	3.579	-	-	2.254	-
Pot Cap-1 Maneuver	650	871	-	-	1453	-
Stage 1	848	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	621	869	-	-	1450	-
Mov Cap-2 Maneuver	621	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.7	0		4.1		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	833	1450	-	
HCM Lane V/C Ratio	-	-	0.072	0.042	-	
HCM Control Delay (s)	-	-	9.7	7.6	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-	

HCM 6th TWSC
8: 36th Ave SE & Kashmir Way SE

11/16/2021

Intersection

Int Delay, s/veh 2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	66	101	4	18	94
Future Vol, veh/h	9	66	101	4	18	94
Conflicting Peds, #/hr	0	0	0	2	2	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	80	80	80	80	80	80
Heavy Vehicles, %	4	4	3	3	15	15
Mvmt Flow	11	83	126	5	23	118

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	295	131	0
Stage 1	131	-	-
Stage 2	164	-	-
Critical Hdwy	6.44	6.24	-
Critical Hdwy Stg 1	5.44	-	-
Critical Hdwy Stg 2	5.44	-	-
Follow-up Hdwy	3.536	3.336	-
Pot Cap-1 Maneuver	692	913	-
Stage 1	890	-	-
Stage 2	860	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	678	911	-
Mov Cap-2 Maneuver	678	-	-
Stage 1	888	-	-
Stage 2	845	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	875	1372
HCM Lane V/C Ratio	-	-	0.107	0.016
HCM Control Delay (s)	-	-	9.6	7.7
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 1: I-5 SB & Kuelber Blvd/Kuebler Blvd

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	T	T	L	R	R
Maximum Queue (ft)	1301	1337	575	82	120	308	370	337
Average Queue (ft)	1252	1277	178	30	56	152	232	199
95th Queue (ft)	1488	1440	616	74	103	262	330	307
Link Distance (ft)	1267	1267		976	976		1371	
Upstream Blk Time (%)	15	50						
Queuing Penalty (veh)	0	0						
Storage Bay Dist (ft)			550			550		550
Storage Blk Time (%)		35	0					
Queuing Penalty (veh)		24	1					

Intersection: 2: I-5 NB & Kuebler Blvd

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	T	TR	LT	R
Maximum Queue (ft)	167	475	121	16	22	405	155
Average Queue (ft)	49	58	16	1	2	133	110
95th Queue (ft)	123	236	82	8	13	298	176
Link Distance (ft)	976	976		193	193	2010	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			100				130
Storage Blk Time (%)		0	0			9	8
Queuing Penalty (veh)		3	0			31	8

Intersection: 3: 36th Ave SE & Kuebler Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	309	329	337	114	255	1043	1077	198	266	97	68	88
Average Queue (ft)	174	188	209	25	129	623	666	106	90	25	18	25
95th Queue (ft)	288	289	309	77	273	1145	1200	191	204	66	54	62
Link Distance (ft)		1688	1688			2082	2082		675			831
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350			350	230			175		130		140
Storage Blk Time (%)	0	0	0		0	44		3	1	0		
Queuing Penalty (veh)	0	0	0		1	35		4	1	0		

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 4: 32th Ave SE/32nd Ave SE & Boone Rd SE

Movement	WB
Directions Served	LR
Maximum Queue (ft)	35
Average Queue (ft)	16
95th Queue (ft)	44
Link Distance (ft)	1712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: 36th Ave SE & Boone Rd SE

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	70	80	46	36
Average Queue (ft)	35	27	3	2
95th Queue (ft)	61	61	23	18
Link Distance (ft)	1712	2012	1295	675
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: 36th Ave SE & Kashmir Way SE

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	89	46
Average Queue (ft)	35	5
95th Queue (ft)	75	28
Link Distance (ft)	2130	1295
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 109

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 1: I-5 SB & Kuelber Blvd/Kuebler Blvd

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	T	T	L	R	R
Maximum Queue (ft)	1305	1331	575	326	338	511	548	544
Average Queue (ft)	1261	1282	316	203	218	501	513	513
95th Queue (ft)	1413	1412	787	301	312	594	527	525
Link Distance (ft)	1266	1266		978	978		492	
Upstream Blk Time (%)	15	53				62	91	77
Queuing Penalty (veh)	0	0				0	0	0
Storage Bay Dist (ft)			550			550		550
Storage Blk Time (%)		37	0			62	91	77
Queuing Penalty (veh)		54	3			981	825	700

Intersection: 2: I-5 NB & Kuebler Blvd

Movement	EB	EB	EB	WB	WB	B23	B23	NB	NB
Directions Served	T	T	R	T	TR	T	T	LT	R
Maximum Queue (ft)	133	250	123	208	266	19	66	269	155
Average Queue (ft)	44	51	25	83	145	1	3	104	70
95th Queue (ft)	102	150	103	169	261	10	29	200	142
Link Distance (ft)	978	978		192	192	1688	1688	1010	
Upstream Blk Time (%)				0	2				
Queuing Penalty (veh)				1	15				
Storage Bay Dist (ft)			100						130
Storage Blk Time (%)		0	0					8	0
Queuing Penalty (veh)		2	0					13	0

Intersection: 3: 36th Ave SE & Kuebler Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	221	393	448	314	255	583	584	199	396	154	579	165
Average Queue (ft)	46	238	259	37	99	315	327	145	106	115	152	114
95th Queue (ft)	126	364	393	146	224	535	542	216	299	174	412	182
Link Distance (ft)		1688	1688			2082	2082		675		831	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350			350	230			175		130		140
Storage Blk Time (%)		1	2	0	0	20		10	1	15	0	10
Queuing Penalty (veh)		0	2	0	0	15		14	2	50	0	25

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 4: 32th Ave SE/32nd Ave SE & Boone Rd SE

Movement	WB
Directions Served	LR
Maximum Queue (ft)	68
Average Queue (ft)	32
95th Queue (ft)	58
Link Distance (ft)	1712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: 36th Ave SE & Boone Rd SE

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	132	70	42	35
Average Queue (ft)	49	12	2	3
95th Queue (ft)	90	42	30	19
Link Distance (ft)	1712	2012	1295	675
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: 36th Ave SE & Kashmir Way SE

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	71	20
Average Queue (ft)	33	1
95th Queue (ft)	58	13
Link Distance (ft)	2130	1295
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2705

APPENDIX F:

SYNCHRO REPORTS – 2025 TOTAL AM + PM

HCM Signalized Intersection Capacity Analysis

1: I-5 SB & Kuelber Blvd/Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↘		↗↗
Traffic Volume (vph)	0	1876	68	0	591	164	0	0	0	279	0	882
Future Volume (vph)	0	1876	68	0	591	164	0	0	0	279	0	882
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	6.0		6.0	6.0				5.0		5.0
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3353	1500		3320	1485				1629		2565
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3353	1500		3320	1485				1629		2565
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	2132	77	0	672	186	0	0	0	317	0	1002
RTOR Reduction (vph)	0	0	27	0	0	64	0	0	0	0	0	354
Lane Group Flow (vph)	0	2132	50	0	672	122	0	0	0	317	0	648
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Turn Type		NA	Prot		NA	Prot				Perm		Perm
Protected Phases		2	2		6	6						
Permitted Phases										8		8
Actuated Green, G (s)		85.0	85.0		85.0	85.0				34.0		34.0
Effective Green, g (s)		85.0	85.0		85.0	85.0				34.0		34.0
Actuated g/C Ratio		0.65	0.65		0.65	0.65				0.26		0.26
Clearance Time (s)		6.0	6.0		6.0	6.0				5.0		5.0
Vehicle Extension (s)		0.5	0.5		0.5	0.5				0.5		0.5
Lane Grp Cap (vph)		2192	980		2170	970				426		670
v/s Ratio Prot		c0.64	0.03		0.20	0.08						
v/s Ratio Perm										0.19		c0.25
v/c Ratio		0.97	0.05		0.31	0.13				0.74		0.97
Uniform Delay, d1		21.4	8.1		9.8	8.5				44.0		47.4
Progression Factor		1.00	1.00		0.56	1.15				1.00		1.00
Incremental Delay, d2		13.8	0.1		0.3	0.2				6.1		26.2
Delay (s)		35.2	8.2		5.8	10.0				50.1		73.7
Level of Service		D	A		A	A				D		E
Approach Delay (s)		34.2			6.7			0.0			68.0	
Approach LOS		C			A			A			E	
Intersection Summary												
HCM 2000 Control Delay			39.0									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			130.0							11.0		
Intersection Capacity Utilization			79.4%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: I-5 SB & Kuelber Blvd/Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↘		↗↗
Traffic Volume (vph)	0	1670	147	0	895	337	0	0	0	178	0	1582
Future Volume (vph)	0	1670	147	0	895	337	0	0	0	178	0	1582
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	4.0		6.0	4.0				5.5		5.5
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3353	1500		3386	1515				1693		2666
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3353	1500		3386	1515				1693		2666
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1758	155	0	942	355	0	0	0	187	0	1665
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	193
Lane Group Flow (vph)	0	1758	155	0	942	355	0	0	0	187	0	1472
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free		NA	Free				Prot		Prot
Protected Phases		2			6					8		8
Permitted Phases			Free			Free						
Actuated Green, G (s)		82.0	130.0		82.0	130.0				36.5		36.5
Effective Green, g (s)		82.0	130.0		82.0	130.0				36.5		36.5
Actuated g/C Ratio		0.63	1.00		0.63	1.00				0.28		0.28
Clearance Time (s)		6.0			6.0					5.5		5.5
Vehicle Extension (s)		0.5			0.5					3.0		3.0
Lane Grp Cap (vph)		2114	1500		2135	1515				475		748
v/s Ratio Prot		c0.52			0.28					0.11		c0.55
v/s Ratio Perm			0.10			0.23						
v/c Ratio		0.83	0.10		0.44	0.23				0.39		1.97
Uniform Delay, d1		18.6	0.0		12.3	0.0				37.8		46.8
Progression Factor		1.00	1.00		1.69	1.00				1.00		1.00
Incremental Delay, d2		4.0	0.1		0.5	0.3				0.5		440.1
Delay (s)		22.6	0.1		21.3	0.3				38.3		486.9
Level of Service		C	A		C	A				D		F
Approach Delay (s)		20.8			15.5			0.0			441.6	
Approach LOS		C			B			A			F	
Intersection Summary												
HCM 2000 Control Delay			173.4		HCM 2000 Level of Service					F		
HCM 2000 Volume to Capacity ratio			1.18									
Actuated Cycle Length (s)			130.0		Sum of lost time (s)					11.5		
Intersection Capacity Utilization			94.1%		ICU Level of Service					F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: I-5 NB & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑			↗	↗			
Traffic Volume (vph)	0	901	1268	0	661	251	97	1	439	0	0	0
Future Volume (vph)	0	901	1268	0	661	251	97	1	439	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	4.0		6.0			5.0	5.0			
Lane Util. Factor		0.95	1.00		0.95			1.00	1.00			
Frt		1.00	0.85		0.96			1.00	0.85			
Flt Protected		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (prot)		3353	1500		2981			1484	1471			
Flt Permitted		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (perm)		3353	1500		2981			1484	1471			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	1024	1441	0	751	285	110	1	499	0	0	0
RTOR Reduction (vph)	0	0	0	0	30	0	0	0	137	0	0	0
Lane Group Flow (vph)	0	1024	1441	0	1006	0	0	111	362	0	0	0
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	4%	4%	4%	2%	2%	2%
Parking (#/hr)								0				
Turn Type		NA	Free		NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases			Free						8			
Actuated Green, G (s)		94.0	130.0		94.0			25.0	25.0			
Effective Green, g (s)		94.0	130.0		94.0			25.0	25.0			
Actuated g/C Ratio		0.72	1.00		0.72			0.19	0.19			
Clearance Time (s)		6.0			6.0			5.0	5.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		2424	1500		2155			285	282			
v/s Ratio Prot		0.31			0.34			0.07				
v/s Ratio Perm			c0.96						c0.25			
v/c Ratio		0.42	0.96		0.47			0.39	1.28			
Uniform Delay, d1		7.2	0.0		7.5			45.8	52.5			
Progression Factor		1.05	1.00		0.79			1.00	1.00			
Incremental Delay, d2		0.2	7.5		0.4			0.3	151.5			
Delay (s)		7.7	7.5		6.3			46.2	204.0			
Level of Service		A	A		A			D	F			
Approach Delay (s)		7.6			6.3			175.3			0.0	
Approach LOS		A			A			F			A	
Intersection Summary												
HCM 2000 Control Delay			32.1									
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			130.0									
Intersection Capacity Utilization			64.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: I-5 NB & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑			↗	↗			
Traffic Volume (vph)	0	772	1133	0	1150	437	91	1	208	0	0	0
Future Volume (vph)	0	772	1133	0	1150	437	91	1	208	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.0	4.0		6.0			5.0	5.0			
Lane Util. Factor		0.95	1.00		0.95			1.00	1.00			
Frpb, ped/bikes		1.00	1.00		0.99			1.00	1.00			
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00			
Frt		1.00	0.85		0.96			1.00	0.85			
Flt Protected		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (prot)		3320	1485		3190			1443	1430			
Flt Permitted		1.00	1.00		1.00			0.95	1.00			
Satd. Flow (perm)		3320	1485		3190			1443	1430			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	813	1193	0	1211	460	96	1	219	0	0	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	199	0	0	0
Lane Group Flow (vph)	0	813	1193	0	1655	0	0	97	20	0	0	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Parking (#/hr)								0				
Turn Type		NA	Free		NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases			Free						8			
Actuated Green, G (s)		107.2	130.0		107.2			11.8	11.8			
Effective Green, g (s)		107.2	130.0		107.2			11.8	11.8			
Actuated g/C Ratio		0.82	1.00		0.82			0.09	0.09			
Clearance Time (s)		6.0			6.0			5.0	5.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		2737	1485		2630			130	129			
v/s Ratio Prot		0.24			0.52			0.07				
v/s Ratio Perm			c0.80						0.01			
v/c Ratio		0.30	0.80		0.63			0.75	0.15			
Uniform Delay, d1		2.6	0.0		4.2			57.6	54.5			
Progression Factor		0.34	1.00		0.50			1.00	1.00			
Incremental Delay, d2		0.0	0.4		0.4			18.2	0.2			
Delay (s)		0.9	0.4		2.5			75.9	54.7			
Level of Service		A	A		A			E	D			
Approach Delay (s)		0.6			2.5			61.2			0.0	
Approach LOS		A			A			E			A	
Intersection Summary												
HCM 2000 Control Delay			6.2									
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			130.0									
Intersection Capacity Utilization			62.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: 36th Ave SE & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	774	355	98	628	233	219	61	75	20	29	41
Future Volume (vph)	231	774	355	98	628	233	219	61	75	20	29	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		4.5	4.0		5.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1480	2960	1324	1438	2760		1327	1282		1338	1409	1197
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1480	2960	1324	1438	2760		1327	1282		1338	1409	1197
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	260	870	399	110	706	262	246	69	84	22	33	46
RTOR Reduction (vph)	0	0	253	0	26	0	0	26	0	0	0	38
Lane Group Flow (vph)	260	870	146	110	942	0	246	127	0	22	33	8
Heavy Vehicles (%)	4%	4%	4%	7%	7%	7%	16%	16%	16%	15%	15%	15%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	28.4	47.6	47.6	15.4	34.6		27.0	42.6		5.4	21.5	21.5
Effective Green, g (s)	28.4	47.6	47.6	15.4	34.6		27.0	42.6		5.4	21.5	21.5
Actuated g/C Ratio	0.22	0.37	0.37	0.12	0.27		0.21	0.33		0.04	0.17	0.17
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.5	4.0		5.0	4.0	4.0
Vehicle Extension (s)	3.0	0.5	0.5	3.0	0.5		3.0	0.5		3.0	0.5	0.5
Lane Grp Cap (vph)	323	1083	484	170	734		275	420		55	233	197
v/s Ratio Prot	c0.18	0.29		0.08	c0.34		c0.19	c0.10		0.02	0.02	
v/s Ratio Perm			0.11									0.01
v/c Ratio	0.80	0.80	0.30	0.65	1.28		0.89	0.30		0.40	0.14	0.04
Uniform Delay, d1	48.2	37.0	29.4	54.7	47.7		50.1	32.6		60.7	46.4	45.6
Progression Factor	1.00	1.05	1.82	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.3	4.7	1.2	8.2	138.0		28.6	0.1		4.7	1.3	0.4
Delay (s)	58.4	43.5	54.6	62.9	185.7		78.7	32.8		65.4	47.6	45.9
Level of Service	E	D	D	E	F		E	C		E	D	D
Approach Delay (s)		49.0			173.2			61.1			50.7	
Approach LOS		D			F			E			D	
Intersection Summary												
HCM 2000 Control Delay			93.7			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)				19.0		
Intersection Capacity Utilization			76.7%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: 36th Ave SE & Kuebler Blvd

11/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	45	709	245	84	900	36	398	34	123	186	51	280
Future Volume (vph)	45	709	245	84	900	36	398	34	123	186	51	280
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	5.0	5.0	4.0	5.0		4.5	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1452	2904	1299	1494	2971		1480	1375		1509	1588	1350
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1452	2904	1299	1494	2971		1480	1375		1509	1588	1350
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	771	266	91	978	39	433	37	134	202	55	304
RTOR Reduction (vph)	0	0	140	0	1	0	0	88	0	0	0	260
Lane Group Flow (vph)	49	771	126	91	1016	0	433	83	0	202	55	44
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	4%	4%	4%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	8.7	44.6	44.6	13.4	49.3		35.5	32.3		22.7	19.0	19.0
Effective Green, g (s)	8.7	44.6	44.6	13.4	49.3		35.5	32.3		22.7	19.0	19.0
Actuated g/C Ratio	0.07	0.34	0.34	0.10	0.38		0.27	0.25		0.17	0.15	0.15
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.5	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	0.5	0.5	3.0	0.5		3.0	0.5		3.0	0.5	0.5
Lane Grp Cap (vph)	97	996	445	153	1126		404	341		263	232	197
v/s Ratio Prot	0.03	0.27		c0.06	c0.34		c0.29	c0.06		0.13	0.03	
v/s Ratio Perm			0.10									0.03
v/c Ratio	0.51	0.77	0.28	0.59	0.90		1.07	0.24		0.77	0.24	0.23
Uniform Delay, d1	58.6	38.2	31.1	55.7	38.1		47.2	39.1		51.1	49.1	49.0
Progression Factor	0.83	1.39	2.60	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.0	5.7	1.5	6.1	11.6		65.2	0.1		12.6	2.4	2.6
Delay (s)	52.5	58.8	82.5	61.8	49.7		112.5	39.2		63.8	51.5	51.6
Level of Service	D	E	F	E	D		F	D		E	D	D
Approach Delay (s)		64.3			50.7			91.7			56.0	
Approach LOS		E			D			F			E	
Intersection Summary												
HCM 2000 Control Delay			63.4			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			17.5			
Intersection Capacity Utilization			87.5%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 5.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	76	1	1	48	1	1
Future Vol, veh/h	76	1	1	48	1	1
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, %	2	2	2	2	2	2
Mvmt Flow	83	1	1	52	1	1

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	30	27	0
Stage 1	27	-	-
Stage 2	3	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	984	1048	-
Stage 1	996	-	-
Stage 2	1020	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	983	1048	-
Mov Cap-2 Maneuver	983	-	-
Stage 1	996	-	-
Stage 2	1019	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	3.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	984	1553
HCM Lane V/C Ratio	-	-	0.085	0.001
HCM Control Delay (s)	-	-	9	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0

HCM 6th TWSC
4: 32th Ave SE/32nd Ave SE & Boone Rd SE

11/16/2021

Intersection

Int Delay, s/veh 2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	1	1	93	1	1
Future Vol, veh/h	25	1	1	93	1	1
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, %	2	2	2	2	2	2
Mvmt Flow	27	1	1	101	1	1

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	55	52	0
Stage 1	52	-	-
Stage 2	3	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	953	1016	-
Stage 1	970	-	-
Stage 2	1020	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	952	1016	-
Mov Cap-2 Maneuver	952	-	-
Stage 1	970	-	-
Stage 2	1019	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	3.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	954	1490
HCM Lane V/C Ratio	-	-	0.03	0.001
HCM Control Delay (s)	-	-	8.9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
5: 36th Ave SE & Boone Rd SE

11/17/2021

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	1	4	1	1	27	8	208	3	17	253	202
Future Vol, veh/h	120	1	4	1	1	27	8	208	3	17	253	202
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	17	17	17	7	7	7	10	10	10
Mvmt Flow	146	1	5	1	1	33	10	254	4	21	309	246
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	767	752	432	753	873	256	555	0	0	258	0	0
Stage 1	474	474	-	276	276	-	-	-	-	-	-	-
Stage 2	293	278	-	477	597	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.27	6.67	6.37	4.17	-	-	4.2	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.653	4.153	3.453	2.263	-	-	2.29	-	-
Pot Cap-1 Maneuver	320	340	626	308	273	747	991	-	-	1262	-	-
Stage 1	573	559	-	699	655	-	-	-	-	-	-	-
Stage 2	717	682	-	542	468	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	296	327	626	296	263	747	991	-	-	1262	-	-
Mov Cap-2 Maneuver	296	327	-	296	263	-	-	-	-	-	-	-
Stage 1	566	545	-	691	647	-	-	-	-	-	-	-
Stage 2	676	674	-	523	456	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	28.6		10.7		0.3		0.3					
HCM LOS	D		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	991	-	-	301	669	1262	-	-				
HCM Lane V/C Ratio	0.01	-	-	0.506	0.053	0.016	-	-				
HCM Control Delay (s)	8.7	0	-	28.6	10.7	7.9	0	-				
HCM Lane LOS	A	A	-	D	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	2.7	0.2	0.1	-	-				

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	145	1	8	1	1	12	4	305	1	12	222	147
Future Vol, veh/h	145	1	8	1	1	12	4	305	1	12	222	147
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	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	1	1	1	17	17	17	7	7	7	10	10	10
Mvmt Flow	179	1	10	1	1	15	5	377	1	15	274	181

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	791	783	365	788	873	378	455	0	0	378	0	0
Stage 1	395	395	-	388	388	-	-	-	-	-	-	-
Stage 2	396	388	-	400	485	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.27	6.67	6.37	4.17	-	-	4.2	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.653	4.153	3.453	2.263	-	-	2.29	-	-
Pot Cap-1 Maneuver	309	327	682	292	273	637	1080	-	-	1138	-	-
Stage 1	632	606	-	607	584	-	-	-	-	-	-	-
Stage 2	631	611	-	597	527	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	295	319	682	282	266	637	1080	-	-	1138	-	-
Mov Cap-2 Maneuver	295	319	-	282	266	-	-	-	-	-	-	-
Stage 1	628	595	-	603	580	-	-	-	-	-	-	-
Stage 2	611	607	-	577	518	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	34.7		12		0.1		0.3	
HCM LOS	D		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1080	-	-	304	535	1138	-
HCM Lane V/C Ratio	0.005	-	-	0.625	0.032	0.013	-
HCM Control Delay (s)	8.3	0	-	34.7	12	8.2	0
HCM Lane LOS	A	A	-	D	B	A	A
HCM 95th %tile Q(veh)	0	-	-	3.9	0.1	0	-

HCM 6th TWSC
6: 32th Ave SE & Street "A"

11/16/2021

Intersection

Int Delay, s/veh 8

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	37	39	1	5	20	1
Future Vol, veh/h	37	39	1	5	20	1
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, %	2	2	2	2	2	2
Mvmt Flow	40	42	1	5	22	1

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	49	4	0
Stage 1	4	-	-
Stage 2	45	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	960	1080	-
Stage 1	1019	-	-
Stage 2	977	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	947	1080	-
Mov Cap-2 Maneuver	947	-	-
Stage 1	1019	-	-
Stage 2	963	-	-

Approach	EB	SE	NW
HCM Control Delay, s	8.9	0	6.9
HCM LOS	A		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	1615	-	1011	-	-
HCM Lane V/C Ratio	0.013	-	0.082	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection						
Int Delay, s/veh	6.6					
Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	12	37	1	20	60	1
Future Vol, veh/h	12	37	1	20	60	1
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, %	2	2	2	2	2	2
Mvmt Flow	13	40	1	22	65	1
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	143	12	0	0	23	0
Stage 1	12	-	-	-	-	-
Stage 2	131	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	850	1069	-	-	1592	-
Stage 1	1011	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	815	1069	-	-	1592	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	858	-	-	-	-	-
Approach	EB	SE	NW			
HCM Control Delay, s	8.8	0	7.2			
HCM LOS	A					
Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER	
Capacity (veh/h)	1592	-	993	-	-	
HCM Lane V/C Ratio	0.041	-	0.054	-	-	
HCM Control Delay (s)	7.4	0	8.8	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

HCM 6th TWSC
7: 36th Ave SE & 32th Ave SE

11/16/2021

Intersection

Int Delay, s/veh 2.8

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations 

Traffic Vol, veh/h 59 1 1 2 4 134

Future Vol, veh/h 59 1 1 2 4 134

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, % 2 2 2 2 2 2

Mvmt Flow 64 1 1 2 4 146

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 81 77 150 0 - 0

Stage 1 77 - - - - -

Stage 2 4 - - - - -

Critical Hdwy 6.42 6.22 4.12 - - -

Critical Hdwy Stg 1 5.42 - - - - -

Critical Hdwy Stg 2 5.42 - - - - -

Follow-up Hdwy 3.518 3.318 2.218 - - -

Pot Cap-1 Maneuver 921 984 1431 - - -

Stage 1 946 - - - - -

Stage 2 1019 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 920 984 1431 - - -

Mov Cap-2 Maneuver 920 - - - - -

Stage 1 945 - - - - -

Stage 2 1019 - - - - -

Approach EB NB SB

HCM Control Delay, s 9.2 2.5 0

HCM LOS A

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 1431 - 921 - -

HCM Lane V/C Ratio 0.001 - 0.071 - -

HCM Control Delay (s) 7.5 0 9.2 - -

HCM Lane LOS A A A - -

HCM 95th %tile Q(veh) 0 - 0.2 - -

Intersection

Int Delay, s/veh 7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	227	1	3	4	3	96
Future Vol, veh/h	227	1	3	4	3	96
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, %	2	2	2	2	2	2
Mvmt Flow	247	1	3	4	3	104

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	65	55	107
Stage 1	55	-	-
Stage 2	10	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	941	1012	1484
Stage 1	968	-	-
Stage 2	1013	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	939	1012	1484
Mov Cap-2 Maneuver	939	-	-
Stage 1	966	-	-
Stage 2	1013	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	3.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1484	-	939	-	-
HCM Lane V/C Ratio	0.002	-	0.264	-	-
HCM Control Delay (s)	7.4	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.1	-	-

HCM 6th TWSC
8: 36th Ave SE & Driveway/Kashmir Way SE

11/16/2021

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	5	9	1	66	1	104	4	18	94	1
Future Vol, veh/h	1	1	5	9	1	66	1	104	4	18	94	1
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	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	4	4	4	3	3	3	15	15	15
Mvmt Flow	1	1	6	11	1	83	1	130	5	23	118	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	342	302	119	303	300	133	119	0	0	135	0	0
Stage 1	165	165	-	135	135	-	-	-	-	-	-	-
Stage 2	177	137	-	168	165	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.14	6.54	6.24	4.13	-	-	4.25	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.536	4.036	3.336	2.227	-	-	2.335	-	-
Pot Cap-1 Maneuver	612	611	933	645	609	911	1463	-	-	1373	-	-
Stage 1	837	762	-	864	781	-	-	-	-	-	-	-
Stage 2	825	783	-	829	758	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	548	599	933	630	597	911	1463	-	-	1373	-	-
Mov Cap-2 Maneuver	548	599	-	630	597	-	-	-	-	-	-	-
Stage 1	836	748	-	863	780	-	-	-	-	-	-	-
Stage 2	748	782	-	807	744	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.6		9.7		0.1		1.2	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1463	-	-	791	860	1373	-
HCM Lane V/C Ratio	0.001	-	-	0.011	0.11	0.016	-
HCM Control Delay (s)	7.5	0	-	9.6	9.7	7.7	0
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.1	-

HCM 6th TWSC
8: 36th Ave SE & Driveway/Kashmir Way SE

11/16/2021

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	1	1	2	5	1	41	4	80	5	47	40	1
Future Vol, veh/h	1	1	2	5	1	41	4	80	5	47	40	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	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	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	31	31	31	17	17	17	6	6	6
Mvmt Flow	1	1	3	6	1	53	5	104	6	61	52	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	319	297	53	296	294	109	53	0	0	112	0	0
Stage 1	175	175	-	119	119	-	-	-	-	-	-	-
Stage 2	144	122	-	177	175	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.41	6.81	6.51	4.27	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.41	5.81	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.41	5.81	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.779	4.279	3.579	2.353	-	-	2.254	-	-
Pot Cap-1 Maneuver	634	615	1014	603	572	871	1462	-	-	1453	-	-
Stage 1	827	754	-	820	745	-	-	-	-	-	-	-
Stage 2	859	795	-	762	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	573	585	1014	578	544	869	1462	-	-	1450	-	-
Mov Cap-2 Maneuver	573	585	-	578	544	-	-	-	-	-	-	-
Stage 1	824	722	-	815	741	-	-	-	-	-	-	-
Stage 2	802	790	-	726	673	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.9		9.8			0.3			4.1			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1462	-	-	737	815	1450	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.007	0.075	0.042	-	-				
HCM Control Delay (s)	7.5	0	-	9.9	9.8	7.6	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-				

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 1: I-5 SB & Kuelber Blvd/Kuebler Blvd

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	T	T	L	R	R
Maximum Queue (ft)	1296	1330	575	101	130	471	479	380
Average Queue (ft)	1272	1284	206	37	61	299	292	218
95th Queue (ft)	1448	1379	660	85	116	525	490	398
Link Distance (ft)	1266	1266		978	978		492	
Upstream Blk Time (%)	19	53				13	8	2
Queuing Penalty (veh)	0	0				0	0	0
Storage Bay Dist (ft)			550			550		550
Storage Blk Time (%)		39	0			13	8	2
Queuing Penalty (veh)		26	1			115	54	13

Intersection: 2: I-5 NB & Kuebler Blvd

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	T	TR	LT	R
Maximum Queue (ft)	288	651	125	46	74	675	155
Average Queue (ft)	83	175	40	3	18	216	131
95th Queue (ft)	201	531	134	23	58	532	186
Link Distance (ft)	978	978		192	192	1010	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			100				130
Storage Blk Time (%)		1	0			7	24
Queuing Penalty (veh)		18	1			33	25

Intersection: 3: 36th Ave SE & Kuebler Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	313	345	380	239	255	1360	1417	199	533	75	92	67
Average Queue (ft)	176	199	219	63	147	893	938	167	188	25	24	27
95th Queue (ft)	291	305	324	143	293	1728	1773	235	433	62	68	60
Link Distance (ft)		1688	1688			2082	2082		669		831	
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	350			350	230			175		130		140
Storage Blk Time (%)	0	0	0	0	0	53		22	1		0	
Queuing Penalty (veh)	1	0	1	0	1	53		30	2		0	

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 4: 32th Ave SE/32nd Ave SE & Boone Rd SE

Movement	WB
Directions Served	LR
Maximum Queue (ft)	43
Average Queue (ft)	19
95th Queue (ft)	47
Link Distance (ft)	1712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: 36th Ave SE & Boone Rd SE

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	LTR	LTR
Maximum Queue (ft)	112	35	65	84	49
Average Queue (ft)	50	6	23	6	4
95th Queue (ft)	84	27	55	36	25
Link Distance (ft)		1712	2012	658	669
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100				
Storage Blk Time (%)	1				
Queuing Penalty (veh)	0				

Intersection: 6: 32th Ave SE & Street "A"

Movement	EB
Directions Served	LR
Maximum Queue (ft)	66
Average Queue (ft)	29
95th Queue (ft)	51
Link Distance (ft)	1154
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 7: 36th Ave SE & 32th Ave SE

Movement	EB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	29
95th Queue (ft)	50
Link Distance (ft)	1578
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: 36th Ave SE & Driveway/Kashmir Way SE

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	39	85	47
Average Queue (ft)	3	33	4
95th Queue (ft)	18	68	25
Link Distance (ft)	431	2130	566
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 375

Queuing and Blocking Report

Baseline

11/17/2021

Intersection: 5: 36th Ave SE & Boone Rd SE

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	180	81	99	63
Average Queue (ft)	59	23	8	8
95th Queue (ft)	132	61	51	38
Link Distance (ft)	1712	2012	664	675
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 1: I-5 SB & Kuelber Blvd/Kuebler Blvd

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	T	T	L	R	R
Maximum Queue (ft)	1292	1325	575	221	253	515	526	532
Average Queue (ft)	1271	1290	317	123	143	501	512	512
95th Queue (ft)	1367	1309	788	197	232	586	518	524
Link Distance (ft)	1266	1266		978	978		492	
Upstream Blk Time (%)	15	53				59	89	76
Queuing Penalty (veh)	0	0				0	0	0
Storage Bay Dist (ft)			550			550		550
Storage Blk Time (%)		36	0			59	89	76
Queuing Penalty (veh)		53	3			933	862	733

Intersection: 2: I-5 NB & Kuebler Blvd

Movement	EB	EB	EB	WB	WB	B23	NB	NB
Directions Served	T	T	R	T	TR	T	LT	R
Maximum Queue (ft)	52	217	118	143	186	21	347	155
Average Queue (ft)	5	22	15	35	83	1	131	95
95th Queue (ft)	27	111	78	91	160	10	274	172
Link Distance (ft)	978	978		192	192	1688	1010	
Upstream Blk Time (%)					0			
Queuing Penalty (veh)					1			
Storage Bay Dist (ft)			100					130
Storage Blk Time (%)		0	0				13	2
Queuing Penalty (veh)		0	0				27	2

Intersection: 3: 36th Ave SE & Kuebler Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	218	403	437	329	254	508	538	200	684	154	540	165
Average Queue (ft)	43	238	249	74	105	288	302	198	647	121	216	131
95th Queue (ft)	128	352	366	210	236	445	466	205	769	177	487	198
Link Distance (ft)		1688	1688			2082	2082		669		831	
Upstream Blk Time (%)									23			
Queuing Penalty (veh)									106			
Storage Bay Dist (ft)	350			350	230			175		130		140
Storage Blk Time (%)		1	1	0	0	17		64	6	19	0	17
Queuing Penalty (veh)		1	3	0	0	14		101	23	64	2	41

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 4: 32th Ave SE/32nd Ave SE & Boone Rd SE

Movement	WB
Directions Served	LR
Maximum Queue (ft)	58
Average Queue (ft)	33
95th Queue (ft)	53
Link Distance (ft)	1712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: 36th Ave SE & Boone Rd SE

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	LTR	LTR
Maximum Queue (ft)	125	720	73	322	73
Average Queue (ft)	107	411	18	106	5
95th Queue (ft)	154	1035	60	273	35
Link Distance (ft)		1712	2012	658	669
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100				
Storage Blk Time (%)	64	0			
Queuing Penalty (veh)	6	0			

Intersection: 6: 32th Ave SE & Street "A"

Movement	EB	NW
Directions Served	LR	LT
Maximum Queue (ft)	61	32
Average Queue (ft)	24	2
95th Queue (ft)	45	14
Link Distance (ft)	1154	1578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Baseline

11/16/2021

Intersection: 7: 36th Ave SE & 32th Ave SE

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	90	5
Average Queue (ft)	47	0
95th Queue (ft)	74	4
Link Distance (ft)	1578	566
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: 36th Ave SE & Driveway/Kashmir Way SE

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	35	61	37
Average Queue (ft)	6	31	2
95th Queue (ft)	28	53	17
Link Distance (ft)	431	2130	566
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 2976

Queuing and Blocking Report

Baseline

11/17/2021

Intersection: 5: 36th Ave SE & Boone Rd SE

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	525	88	224	90
Average Queue (ft)	222	15	56	7
95th Queue (ft)	586	59	179	41
Link Distance (ft)	1712	2012	664	675
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				