8. APPENDIX

Appendix A – Public Meeting Comments

Appendix B – Traffic Volume Data

Appendix C – Correspondence Letters

Appendix D – HCM Analysis Results

Appendix E – Detailed LOS Tables

APPENDIX A – PUBLIC MEETING COMMENTS

Kent Island Transportation Plan

Public Workshop

August 20, 2014

Kent Island Senior Center 6:00PM- 8:00PM

Suggestions from the Public:

Widening

- Widen Rt 18 between Kent Narrows and Chester to 3 lanes, with middle lane designated for turning – very congested in Safeway area particularly (which already has 3 lanes) – maybe 4 is need at this location
- Add shoulders and a center turn lane on Main Street from Lowery Farm to Kent Narrows.
- 2-lane roundabout at Castle Marina allowing local residents (Queen's Landing and Bayside) to stay right and avoid traffic circle

Intersections

- Do not implement the traffic circle at Main Street and Postal – Move it to Main Street and Dominion Rd (MD 552)
- The roundabout on Postal Road needs to be a priority. The two resident properties and businesses located next to and near Walgreens no longer allow people/customers to exit properties. The congestion is extreme. Safety for those exiting these properties and businesses is now an utmost concern.
- Place rumble strips on Route 18 EB on the approach to the traffic circle on Castle Marina Road. Because the diameter of the circle is too small, a car waiting to enter from Castle Marina southbound does not have time to accelerate before a car entering at 40 mph from Route 18 eastbound will be close behind.
- A roundabout would be good at Piney Creek and Main Street Chester (by the Fire Station). This is becoming a very dangerous intersection.
- Fire house intersection is very dangerous
- Off-ramp from Main Street overpass to WB Route 50 to reduce impact on existing circle at Castle Marina Road.

Bike/Pedestrian

- Need bike/pedestrian path on Castle Marina Road to access Cross Island Trail. Safety issue with speed of vehicles.
- Additional bike facilities along Route 8 (signs/ pavement markings) – Lacking connectivity between Kent Island High School/ Elementary/ Stevensville Middle School/Parks/ Downtown
- Need more bike lanes – It is dangerous to cross over US 50 on Main Street (Chester)
- More marked crosswalks, especially near schools
- Gibson Grant and neighboring communities cannot get to town (Chester) on foot or bicycle. We should not have to get in the car (which is impossible on weekends) to go to the grocery store/village.
- Bike trail from the Hilton to Holly's

Signage

- Use signage to restrict access on MD 18 to local traffic only.
- Road signs: coming from Centerville there is no sign on 301/50 to Cox Neck Road; on Cox Neck Road – sign to Woods Road is not readable; on Castle Marina Road – directions to Cox Neck road is not clear

Other/General Comments

- Traffic in Historic Stevensville is closing businesses. Route 18 should be one way
- QAC has a need to evaluate road usage in a different way than on the W. Shore. This should be a high priority since we can't rally evaluate our transportation needs if we don't have a way to measure the real way our businesses and neighborhoods use the two east-west routes and the one north-south route. Traditional traffic models tend toward bottlenecks and can even lead to dangerous solutions. Please help! Charly and Candy Busey – candcbusey@msn.com 410-827-4614
- We are prisoners in our houses on summer weekends

Map Comments

MD 8 and Route 50

- Shoulders on Route 8 are too narrow for bikes/pedestrians
- Speeds are too high for bikes/pedestrians without having separate facilities
- Many merging conflicts from 50 to Thompson Creek
- Difficulty leaving the airport
- Queuing along MD 8
- Jug handle left turn from SB MD 8 to Thompson Creek

Thompson Creek Roundabout

- many accidents at this location
- claimed lack of warning prior to the circle
- rear end conflicts
- pass-by traffic to the restaurants creates difficulty accessing local offices

Castle Marina Drive/ MD 18 Traffic Circle

- SB Castle Marina Dr vehicles can't find gaps in circle traffic
- Significant congestion
- Route 50 traffic spills onto MD 18 and worsens congestion through circle
- Higher speeds on MD 18 encourage traffic to speed through circle
- Witnesses have seen vehicles passing over the circle – may benefit from some shrubbery/ object in the middle to deter this
- Rumble strips on WB MD 18 may slow traffic into the circle and create gaps for Castle Marina Road
- Free right from WB MD 18 onto Castle Marina Rd to allow residents to bypass circle

Piney Creek Road and MD 18

- No left-turn gaps from Piney Creek Rd
- A dual-turn lane in median of MD 18 could allow turning vehicles a place to accelerate to speed of traffic leaving the roundabout
- Dangerous with frequent accidents

Main Street Overpass of US 50

- Not safe for bike/ pedestrians – narrow for vehicles as it is
- Suggestions for direct access ramp to WB 50 from the overpass rather than traveling to the MD18/ Castle Marina Roundabout

Main Street/ Postal Road/ MD 18

- Roundabout not favored b/c of slope from Main Street overpass (concerned about high speeds and sight distance)
- Dangerous for bikes/pedestrians

MD 18 and Dominion Road (MD 552)

- Queuing at this intersection makes it difficult to access adjacent properties
- Lacking bike/ pedestrian facilities
- Suggestions to reduce speed on Dominion Road

MD 18 from MD 552 to Shamrock Road

- Residents can't access local businesses
- Reduce speeds to allow more gaps for turning vehicles and to discourage Route 50 traffic from using the road
- Disconnected sidewalks and lack of shoulder make for unsafe environment for bikes and pedestrians

Shamrock Road Overpass

- Would give more access to local businesses from residents north of Route 50
- Favorable by those wishing to bike/walk to the shops of Chester

Kent Narrows Area

- Ramp from Kent Narrows Road to WB 50 is a tight curve for heavy vehicles
- Begin an 'express lane' for traffic to the bridge

General Comments

- Restrict access on MD 18 to local traffic
- Reduce speeds
- Compare existing counts to previous counts to see how much growth there has been along the corridor
- Incidents on the Bay Bridge create gridlock on the island and create unsafe conditions for emergencies

Kent Island Transportation Plan Public Meeting Comments

Public Meeting 07/07/15 at Percy Thomas Center

The following outlines the comments expressed at the public meeting held to discuss the latest findings of the Kent Island Transportation Plan. The comments have been grouped into topics that appear to be common concerns amongst the residents of Kent Island.

Coordination, Funding, and Implementation

- How do Kent Island's priority projects stack up to other priorities in the county? Safety seems to be a driving factor in how the state prioritizes funding in Queen Anne's County. Quality of life should also be valued when prioritizing projects.
- Cox Neck Rd, Shamrock Rd and other improvements have been planned for many years, but none of them have been brought to life. Cracker Barrel came in and the parcel for the Cox Neck Rd right-of-way was lost. When will land be reserved and restricted from development so that the transportation improvements can be completed?
- I don't understand why the management of the Bay Bridge is not involved in this process. I would hope there would be more coordination between these efforts with the County and the Bay Bridge Authority.
- Discussion about a roundabout at MD 18 and Postal Road has disappeared. There were supposed to be improvements from the Safeway relocation and Walgreens development. There have been no improvements at Postal Rd nor at the intersection of MD18/MD552. Residents are feeling underserved by the lack of improvements, and the lack of information delivered in the presentation.

Problem Areas

- Are all of the improvements presented located at problem areas?
- Are the problem areas presented existing problems or are they anticipated problem areas? Particularly the Kent Narrows roundabout. Is this due to the development anticipated in Kent Narrows? Who will pay for this improvement, and will you hold the developers accountable for funding?
- Irrespective of the bridge, the island doesn't function. Circulation from Route 8 to the eastern side of the island is difficult. The Chester area is mess. You can't get around at noon time on a regular day. No one can make a left off of Postal Rd. I always go on Rt 50 and make three rights to go west.

Safety

- I'm very concerned that there's been no mention of improvements on US 50 for mandatory evacuation. How are you going to evacuate the island if there is a hurricane or major event? Why aren't there plans for widening US 50 or the routes that feed to US 50?
- This is an overall concern for safety, health, and wellness of the people who live here. Without assistance from the governor, legislature, and SHA, we're not able to deal with mishaps on the bridge that cause inconvenience, but also kill people. Our county is one of only two that do not have a functioning hospital. They have to go over the bridge to Annapolis, and what if there

were to be an incident when these trips are being made? Please, whatever is done, don't force emergencies to Annapolis.

Improvement Project Specific

- You referenced Cox Neck connector for local traffic. Have you looked into adding signage to deter US 50 traffic from using local roads?
- Route 8 and Route 50 – There was no discussion of impact from Ellendale and Cloisters or additional commercial development on Rt 8 south of US 50. If the sewer line is built, 500-1500 more homes would be developed on Rt 8. We would like to see how the interchange performs now, and how it will behave in the future before and after the DDI. How much improvement is provided at such a high cost? Concealed information in the model should be ventilated.
- Chesapeake Bay Club – what will be the impact of this development on Route 8? It's not clear that the DDI will correct all of the issues on Rt 8.
- Thompson Creek Rd connector seems useless. It won't alleviate traffic on Rt 8, but would be a mere convenience to new developments in that area.
- DDI – I would like to see that happen.
- Main St ramp to Piney Creek Rd is not needed. When Castle Marina backs up, people ride in the dirt to access the right turn at Piney Creek. A longer turn bay would be sufficient.
- Main St improvements are needed, but need to consider signage. Signage on Rt 50 directs everyone to Castle Marina Rd.
- Shamrock Rd Overpass won't alleviate traffic currently, seems like a solution to a future problem. Most people are getting onto 50 near Kent Narrows.
- Cox Rd Connector seems like priority number 1. Everyone on Cox Neck and Dominion has to cross US 50 to get to their schools and parks. One way westbound would be enough, and I would like to see a pedestrian aspect to the project.
- The pedestrian bridge over US 50 to Kmart doesn't seem safe. It is too close to the interchange, and with so many developments occurring, Thompson Creek Rd will carry a lot of traffic. Dropping pedestrians at this road right near the parking lot will result in unsafe conditions. The overpass would need to also extend over Thompson Creek Rd.
- I am not in favor of the Shamrock Road Overpass following the Cross Island Trail. Fund all the projects except Shamrock.
- Bend the road at MD 18 and Dominion to take out Rite Aid and Walgreens space, without taking out the Pet Shop building.
- Conceptual improvements to the transportation plan should include potential improvements designed to provide Kent Island residents with improved access to attractive and convenient commuter options for bus and ride sharing across the Bay Bridge.

Pedestrians

- Are there funds being set aside for smaller projects? Such as connecting Stevensville sidewalk from the revitalization area to Love Point Park near Cloverfields community or behind Safeway, getting pedestrians from the new apartments to Kent Narrows. Smaller connector projects should be done before an overpass at Shamrock Rd for local traffic and pedestrians to use.

Pedestrian recommendations have been made for many years, but why haven't we seen any of these small projects being implemented?

- The traffic problem is vehicular and pedestrian. It is a safety hazard getting from Chester to the Cross Island Trail. Lots of people walk to work and they're walking in traffic. There are very few shoulders, let alone sidewalks.
- I appreciate the opportunity to see all the options. Especially pertinent to me is the pedestrian/bike routes being expanded and protected.

Providing Additional Data

- It's ambiguous to ask us to prioritize without all of the information. If I place dots where I think there are problem areas, but I don't agree with your improvements, I don't want to be held accountable for supporting your decisions.
- You mentioned you were going to reference summer counts, but I didn't see those in the presentation. Will you be analyzing those? That's where we have our biggest issue.
- We would like to see traffic trends on MD 18 similar to the bell curve shown for US 50. Once piece of information we need is traffic count data. People have been asking for LOS at the local intersections. It's an empirical way to analytically see where the bottle necks are.

APPENDIX B – TRAFFIC VOLUME DATA

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Queen Anne Village Center
W+A JOB NO: 5815
INTERSECTION: Main St. & Castle Marina Rd.
LOCATION: Queen Anne's County,MD

DATE: 9/17/2013
DAY: Tuesday
WEATHER: clear
COUNTED BY: Alba & Eduvina
INPUTED BY: agan

SOUTHBOUND ROAD: Castle Marina Road
NORTHBOUND ROAD: Castle Marina Road
WESTBOUND ROAD: Main Street - 18
EASTBOUND ROAD: Main Street - 18

Time Period	Southbound Castle Marina Road					Westbound Main Street - 18					Northbound Castle Marina Road					Eastbound Main Street - 18					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
7:00 AM - 7:15 AM	6	22	17	45		8	28	81	117		13	4	1	18		4	19	1	24		63	141	204
7:15 AM - 7:30 AM	21	24	15	60		7	55	94	156		20	3	4	27		2	15	6	23		87	179	266
7:30 AM - 7:45 AM	18	22	15	55		10	46	66	122		20	1	8	29		1	42	6	49		84	171	255
7:45 AM - 8:00 AM	8	12	8	28		7	40	71	118		28	9	13	50		3	30	7	40		78	158	236
8:00 AM - 8:15 AM	10	5	8	23		7	57	53	117		14	3	7	24		4	21	2	27		47	144	191
8:15 AM - 8:30 AM	6	14	3	23		3	54	84	141		32	6	7	45		2	39	5	46		68	187	255
8:30 AM - 8:45 AM	16	16	11	43		7	57	66	130		47	6	7	60		7	35	0	42		103	172	275
8:45 AM - 9:00 AM	1	0	0	1		1	5	3	9		45	6	15	66		4	64	6	74		67	83	150
9:00 AM - 9:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:15 AM - 9:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:30 AM - 9:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:45 AM - #######	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	86	115	77	278		50	342	518	910		219	38	62	319		27	265	33	325		597	1235	1832
AM One Hour Volumes																							
7:00 AM - 8:00 AM	53	80	55	188	0.78	32	169	312	513	0.82	81	17	26	124	0.62	10	106	20	136	0.69	312	649	961
7:15 AM - 8:15 AM	57	63	46	166	0.69	31	198	284	513	0.82	82	16	32	130	0.65	10	108	21	139	0.71	296	652	948
7:30 AM - 8:30 AM	42	53	34	129	0.59	27	197	274	498	0.88	94	19	35	148	0.74	10	132	20	162	0.83	277	660	937
7:45 AM - 8:45 AM	40	47	30	117	0.68	24	208	274	506	0.90	121	24	34	179	0.75	16	125	14	155	0.84	296	661	957
8:00 AM - 9:00 AM	33	35	22	90	0.52	18	173	206	397	0.70	138	21	36	195	0.74	17	159	13	189	0.64	285	586	871
8:15 AM - 9:15 AM	23	30	14	67	0.39	11	116	153	280	0.50	124	18	29	171	0.65	13	138	11	162	0.55	238	442	680
8:30 AM - 9:30 AM	17	16	11	44	0.26	8	62	69	139	0.27	92	12	22	126	0.48	11	99	6	116	0.39	170	255	425
8:45 AM - 9:45 AM	1	0	0	1	0.25	1	5	3	9	0.25	45	6	15	66	0.25	4	64	6	74	0.25	67	83	150
9:00 AM - #######	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	7	13	13	33		22	53	69	144		38	11	1	50		10	89	8	107		83	251	334
4:15 PM - 4:30 PM	3	16	8	27		23	73	75	171		35	11	10	56		13	69	7	89		83	260	343
4:30 PM - 4:45 PM	11	16	15	42		34	60	72	166		52	12	7	71		8	54	8	70		113	236	349
4:45 PM - 5:00 PM	14	14	7	35		31	67	80	178		45	5	2	52		7	65	7	79		87	257	344
5:00 PM - 5:15 PM	15	11	7	33		27	66	77	170		49	18	9	76		13	79	9	101		109	271	380
5:15 PM - 5:30 PM	8	13	5	26		22	94	82	198		42	14	4	60		12	74	18	104		86	302	388
5:30 PM - 5:45 PM	18	18	2	38		28	83	76	187		41	5	4	50		14	56	12	82		88	269	357
5:45 PM - 6:00 PM	11	21	9	41		20	59	55	134		32	9	3	44		5	62	10	77		85	211	296
6:00 PM - 6:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:15 PM - 6:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:30 PM - 6:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:45 PM - 7:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	87	122	66	275		207	555	586	1348		334	85	40	459		82	548	79	709		734	2057	2791
PM One Hour Volumes																							
4:00 PM - 5:00 PM	35	59	43	137	0.82	110	253	296	659	0.93	170	39	20	229	0.81	38	277	30	345	0.81	366	1004	1370
4:15 PM - 5:15 PM	43	57	37	137	0.82	115	266	304	685	0.96	181	46	28	255	0.84	41	267	31	339	0.84	392	1024	1416
4:30 PM - 5:30 PM	48	54	34	136	0.81	114	287	311	712	0.90	188	49	22	259	0.85	40	272	42	354	0.85	395	1066	1461
4:45 PM - 5:45 PM	55	56	21	132	0.87	108	310	315	733	0.93	177	42	19	238	0.78	46	274	46	366	0.88	370	1099	1469
5:00 PM - 6:00 PM	52	63	23	138	0.84	97	302	290	689	0.87	164	46	20	230	0.76	44	271	49	364	0.88	368	1053	1421
5:15 PM - 6:15 PM	37	52	16	105	0.64	70	236	213	519	0.66	115	28	11	154	0.64	31	192	40	263	0.63	259	782	1041
5:30 PM - 6:30 PM	29	39	11	79	0.48	48	142	131	321	0.43	73	14	7	94	0.47	19	118	22	159	0.48	173	480	653
5:45 PM - 6:45 PM	11	21	9	41	0.25	20	59	55	134	0.25	32	9	3	44	0.25	5	62	10	77	0.25	85	211	296
6:00 PM - 7:00 PM	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Queen Anne Village Center
W+A JOB NO: 5815
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LOCATION: Queen Anne's County,MD

DATE: 9/17/2013
DAY: Tuesday
WEATHER: clear
COUNTED BY: Luz,Isabel
INPUTED BY: agan

SOUTHBOUND ROAD: Dominion Road - 552
NORTHBOUND ROAD: Dominion Road - 552
WESTBOUND ROAD: Main Street - 18
EASTBOUND ROAD: Main Street - 18

Time Period	Southbound Dominion Road - 552					Westbound Main Street - 18					Northbound Dominion Road - 552					Eastbound Main Street - 18					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
7:00 AM - 7:15 AM	41	7	4	52		6	52	7	65		11	16	33	60		8	28	10	46		112	111	223
7:15 AM - 7:30 AM	46	6	3	55		2	47	11	60		12	15	25	52		7	31	20	58		107	118	225
7:30 AM - 7:45 AM	69	8	10	87		5	32	8	45		9	18	30	57		9	17	27	53		144	98	242
7:45 AM - 8:00 AM	62	4	12	78		2	36	6	44		11	23	32	66		19	40	31	90		144	134	278
8:00 AM - 8:15 AM	44	5	9	58		5	52	5	62		11	10	33	54		10	22	24	56		112	118	230
8:15 AM - 8:30 AM	45	16	1	62		5	72	8	85		11	9	39	59		14	41	29	84		121	169	290
8:30 AM - 8:45 AM	56	7	5	68		5	63	10	78		15	14	39	68		8	38	28	74		136	152	288
8:45 AM - 9:00 AM	60	10	14	84		2	57	12	71		11	9	43	63		6	51	39	96		147	167	314
9:00 AM - 9:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:15 AM - 9:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:30 AM - 9:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:45 AM - #######	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	423	63	58	544		32	411	67	510		91	114	274	479		81	268	208	557		1023	1067	2090
AM One Hour Volumes																							
7:00 AM - 8:00 AM	218	25	29	272	0.78	15	167	32	214	0.82	43	72	120	235	0.89	43	116	88	247	0.69	507	461	968
7:15 AM - 8:15 AM	221	23	34	278	0.80	14	167	30	211	0.85	43	66	120	229	0.87	45	110	102	257	0.71	507	468	975
7:30 AM - 8:30 AM	220	33	32	285	0.82	17	192	27	236	0.69	42	60	134	236	0.89	52	120	111	283	0.79	521	519	1040
7:45 AM - 8:45 AM	207	32	27	266	0.85	17	223	29	269	0.79	48	56	143	247	0.91	51	141	112	304	0.84	513	573	1086
8:00 AM - 9:00 AM	205	38	29	272	0.81	17	244	35	296	0.87	48	42	154	244	0.90	38	152	120	310	0.81	516	606	1122
8:15 AM - 9:15 AM	161	33	20	214	0.64	12	192	30	234	0.69	37	32	121	190	0.70	28	130	96	254	0.66	404	488	892
8:30 AM - 9:30 AM	116	17	19	152	0.45	7	120	22	149	0.48	26	23	82	131	0.48	14	89	67	170	0.44	283	319	602
8:45 AM - 9:45 AM	60	10	14	84	0.25	2	57	12	71	0.25	11	9	43	63	0.25	6	51	39	96	0.25	147	167	314
9:00 AM - #######	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	47	35	19	101		8	110	28	146		15	13	26	54		30	78	59	167		155	313	468
4:15 PM - 4:30 PM	45	35	15	95		7	120	29	156		14	12	30	56		20	63	53	136		151	292	443
4:30 PM - 4:45 PM	60	32	21	113		6	112	17	135		14	17	25	56		19	84	52	155		169	290	459
4:45 PM - 5:00 PM	76	39	27	142		10	118	18	146		11	18	39	68		32	72	47	151		210	297	507
5:00 PM - 5:15 PM	51	47	26	124		8	116	36	160		16	16	44	76		37	78	58	173		200	333	533
5:15 PM - 5:30 PM	60	37	20	117		14	149	23	186		17	15	44	76		37	94	59	190		193	376	569
5:30 PM - 5:45 PM	65	32	22	119		17	134	24	175		20	13	40	73		35	73	56	164		192	339	531
5:45 PM - 6:00 PM	46	16	16	78		10	103	25	138		11	12	34	57		26	82	34	142		135	280	415
6:00 PM - 6:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:15 PM - 6:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:30 PM - 6:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:45 PM - 7:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	450	273	166	889		80	962	200	1242		118	116	282	516		236	624	418	1278		1405	2520	3925
PM One Hour Volumes																							
4:00 PM - 5:00 PM	228	141	82	451	0.79	31	460	92	583	0.93	54	60	120	234	0.86	101	297	211	609	0.91	685	1192	1877
4:15 PM - 5:15 PM	232	153	89	474	0.83	31	466	100	597	0.93	55	63	138	256	0.84	108	297	210	615	0.89	730	1212	1942
4:30 PM - 5:30 PM	247	155	94	496	0.87	38	495	94	627	0.84	58	66	152	276	0.91	125	328	216	669	0.88	772	1296	2068
4:45 PM - 5:45 PM	252	155	95	502	0.88	49	517	101	667	0.90	64	62	167	293	0.96	141	317	220	678	0.89	795	1345	2140
5:00 PM - 6:00 PM	222	132	84	438	0.88	49	502	108	659	0.89	64	56	162	282	0.93	135	327	207	669	0.88	720	1328	2048
5:15 PM - 6:15 PM	171	85	58	314	0.66	41	386	72	499	0.67	48	40	118	206	0.68	98	249	149	496	0.65	520	995	1515
5:30 PM - 6:30 PM	111	48	38	197	0.41	27	237	49	313	0.45	31	25	74	130	0.45	61	155	90	306	0.47	327	619	946
5:45 PM - 6:45 PM	46	16	16	78	0.25	10	103	25	138	0.25	11	12	34	57	0.25	26	82	34	142	0.25	135	280	415
6:00 PM - 7:00 PM	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Queen Anne Village Center
W+A JOB NO: 5815
INTERSECTION: Main St. & Dunde Ave.
LOCATION: Queen Anne's County,MD

DATE: 9/17/2013
DAY: Tuesday
WEATHER: clear
COUNTED BY: Edvin
INPUTED BY: agan

SOUTHBOUND ROAD: Dunde Avenue
NORTHBOUND ROAD: 0
WESTBOUND ROAD: Main Street - 18
EASTBOUND ROAD: Main Street - 18

Time Period	Southbound Dunde Avenue					Westbound Main Street - 18					Northbound 0					Eastbound Main Street - 18					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
7:00 AM - 7:15 AM	1	0	0	1		0	42	0	42		0	0	0	0		0	14	1	15		1	57	58
7:15 AM - 7:30 AM	0	0	1	1		0	55	0	55		0	0	0	0		0	17	3	20		1	75	76
7:30 AM - 7:45 AM	3	0	0	3		2	35	0	37		0	0	0	0		0	32	0	32		3	69	72
7:45 AM - 8:00 AM	6	0	0	6		2	50	0	52		0	0	0	0		0	31	0	31		6	83	89
8:00 AM - 8:15 AM	2	0	0	2		1	66	0	67		0	0	0	0		0	16	1	17		2	84	86
8:15 AM - 8:30 AM	0	0	0	0		1	38	0	39		0	0	0	0		0	10	0	10		0	49	49
8:30 AM - 8:45 AM	0	0	0	0		0	63	0	63		0	0	0	0		0	28	1	29		0	92	92
8:45 AM - 9:00 AM	3	0	0	3		1	54	0	55		0	0	0	0		0	36	0	36		3	91	94
9:00 AM - 9:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:15 AM - 9:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:30 AM - 9:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:45 AM - #######	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	15	0	1	16		7	403	0	410		0	0	0	0		0	184	6	190		16	600	616
AM One Hour Volumes																							
7:00 AM - 8:00 AM	10	0	1	11	0.46	4	182	0	186	0.85	0	0	0	0	0.00	0	94	4	98	0.77	11	284	295
7:15 AM - 8:15 AM	11	0	1	12	0.50	5	206	0	211	0.79	0	0	0	0	0.00	0	96	4	100	0.78	12	311	323
7:30 AM - 8:30 AM	11	0	0	11	0.46	6	189	0	195	0.73	0	0	0	0	0.00	0	89	1	90	0.70	11	285	296
7:45 AM - 8:45 AM	8	0	0	8	0.33	4	217	0	221	0.82	0	0	0	0	0.00	0	85	2	87	0.70	8	308	316
8:00 AM - 9:00 AM	5	0	0	5	0.42	3	221	0	224	0.84	0	0	0	0	0.00	0	90	2	92	0.64	5	316	321
8:15 AM - 9:15 AM	3	0	0	3	0.25	2	155	0	157	0.62	0	0	0	0	0.00	0	74	1	75	0.52	3	232	235
8:30 AM - 9:30 AM	3	0	0	3	0.25	1	117	0	118	0.47	0	0	0	0	0.00	0	64	1	65	0.45	3	183	186
8:45 AM - 9:45 AM	3	0	0	3	0.25	1	54	0	55	0.25	0	0	0	0	0.00	0	36	0	36	0.25	3	91	94
9:00 AM - #######	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	2	0	0	2		2	77	0	79		0	0	0	0		0	61	4	65		2	144	146
4:15 PM - 4:30 PM	4	0	0	4		2	80	0	82		0	0	0	0		0	51	4	55		4	137	141
4:30 PM - 4:45 PM	1	0	0	1		0	77	0	77		0	0	0	0		0	52	2	54		1	131	132
4:45 PM - 5:00 PM	2	0	2	4		0	83	0	83		0	0	0	0		0	52	0	52		4	135	139
5:00 PM - 5:15 PM	0	0	0	0		1	97	0	98		0	0	0	0		0	58	4	62		0	160	160
5:15 PM - 5:30 PM	3	0	0	3		0	75	0	75		0	0	0	0		0	72	2	74		3	149	152
5:30 PM - 5:45 PM	3	0	1	4		0	71	0	71		0	0	0	0		0	56	3	59		4	130	134
5:45 PM - 6:00 PM	1	0	0	1		3	64	0	67		0	0	0	0		0	70	2	72		1	139	140
6:00 PM - 6:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:15 PM - 6:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:30 PM - 6:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:45 PM - 7:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	16	0	3	19		8	624	0	632		0	0	0	0		0	472	21	493		19	1125	1144
PM One Hour Volumes																							
4:00 PM - 5:00 PM	9	0	2	11	0.69	4	317	0	321	0.97	0	0	0	0	0.00	0	216	10	226	0.87	11	547	558
4:15 PM - 5:15 PM	7	0	2	9	0.56	3	337	0	340	0.87	0	0	0	0	0.00	0	213	10	223	0.90	9	563	572
4:30 PM - 5:30 PM	6	0	2	8	0.50	1	332	0	333	0.85	0	0	0	0	0.00	0	234	8	242	0.82	8	575	583
4:45 PM - 5:45 PM	8	0	3	11	0.69	1	326	0	327	0.83	0	0	0	0	0.00	0	238	9	247	0.83	11	574	585
5:00 PM - 6:00 PM	7	0	1	8	0.50	4	307	0	311	0.79	0	0	0	0	0.00	0	256	11	267	0.90	8	578	586
5:15 PM - 6:15 PM	7	0	1	8	0.50	3	210	0	213	0.71	0	0	0	0	0.00	0	198	7	205	0.69	8	418	426
5:30 PM - 6:30 PM	4	0	1	5	0.31	3	135	0	138	0.49	0	0	0	0	0.00	0	126	5	131	0.45	5	269	274
5:45 PM - 6:45 PM	1	0	0	1	0.25	3	64	0	67	0.25	0	0	0	0	0.00	0	70	2	72	0.25	1	139	140
6:00 PM - 7:00 PM	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Queen Anne Village Center
W+A JOB NO: 5815
INTERSECTION: Main St. & Piney Creek Rd.
LOCATION: Queen Anne's County,MD

DATE: 9/17/2013
DAY: Tuesday
WEATHER: clear
COUNTED BY: Muhamet & Amela
INPUTED BY: agan

SOUTHBOUND ROAD: Piney Creek Road
NORTHBOUND ROAD: Driveway
WESTBOUND ROAD: Main Street - 18
EASTBOUND ROAD: Main Street - 18

Time Period	Southbound Piney Creek Road					Westbound Main Street - 18					Northbound Driveway					Eastbound Main Street - 18					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
7:00 AM - 7:15 AM	7	0	2	9		5	144	1	150		2	0	0	2		4	35	2	41		11	191	202
7:15 AM - 7:30 AM	8	1	9	18		8	147	6	161		1	0	0	1		3	58	2	63		19	224	243
7:30 AM - 7:45 AM	5	2	7	14		2	186	5	193		1	0	1	2		9	71	3	83		16	276	292
7:45 AM - 8:00 AM	7	1	7	15		4	136	17	157		2	0	3	5		12	89	1	102		20	259	279
8:00 AM - 8:15 AM	3	1	7	11		6	124	11	141		5	0	6	11		10	53	4	67		22	208	230
8:15 AM - 8:30 AM	10	3	11	24		5	146	8	159		4	0	4	8		18	78	3	99		32	258	290
8:30 AM - 8:45 AM	7	3	13	23		4	156	12	172		3	0	8	11		26	81	4	111		34	283	317
8:45 AM - 9:00 AM	10	2	10	22		8	141	16	165		2	0	4	6		34	96	5	135		28	300	328
9:00 AM - 9:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:15 AM - 9:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:30 AM - 9:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:45 AM - #######	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	57	13	66	136		42	1180	76	1298		20	0	26	46		116	561	24	701		182	1999	2181
AM One Hour Volumes																							
7:00 AM - 8:00 AM	27	4	25	56	0.78	19	613	29	661	0.86	6	0	4	10	0.50	28	253	8	289	0.71	66	950	1016
7:15 AM - 8:15 AM	23	5	30	58	0.81	20	593	39	652	0.84	9	0	10	19	0.43	34	271	10	315	0.77	77	967	1044
7:30 AM - 8:30 AM	25	7	32	64	0.67	17	592	41	650	0.84	12	0	14	26	0.59	49	291	11	351	0.86	90	1001	1091
7:45 AM - 8:45 AM	27	8	38	73	0.76	19	562	48	629	0.91	14	0	21	35	0.80	66	301	12	379	0.85	108	1008	1116
8:00 AM - 9:00 AM	30	9	41	80	0.83	23	567	47	637	0.93	14	0	22	36	0.82	88	308	16	412	0.76	116	1049	1165
8:15 AM - 9:15 AM	27	8	34	69	0.72	17	443	36	496	0.72	9	0	16	25	0.57	78	255	12	345	0.64	94	841	935
8:30 AM - 9:30 AM	17	5	23	45	0.49	12	297	28	337	0.49	5	0	12	17	0.39	60	177	9	246	0.46	62	583	645
8:45 AM - 9:45 AM	10	2	10	22	0.25	8	141	16	165	0.25	2	0	4	6	0.25	34	96	5	135	0.25	28	300	328
9:00 AM - #######	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	3	2	11	16		17	152	11	180		20	0	12	32		4	160	8	172		48	352	400
4:15 PM - 4:30 PM	5	2	9	16		7	152	6	165		12	0	14	26		1	114	4	119		42	284	326
4:30 PM - 4:45 PM	5	0	12	17		1	177	3	181		15	0	7	22		5	128	8	141		39	322	361
4:45 PM - 5:00 PM	5	0	11	16		8	196	3	207		11	1	2	14		5	141	3	149		30	356	386
5:00 PM - 5:15 PM	7	1	7	15		14	167	3	184		12	1	8	21		5	164	3	172		36	356	392
5:15 PM - 5:30 PM	8	0	11	19		10	174	1	185		18	0	15	33		2	145	9	156		52	341	393
5:30 PM - 5:45 PM	12	1	8	21		11	190	5	206		10	0	8	18		10	121	11	142		39	348	387
5:45 PM - 6:00 PM	10	0	10	20		8	152	2	162		10	1	8	19		6	129	4	139		39	301	340
6:00 PM - 6:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:15 PM - 6:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:30 PM - 6:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:45 PM - 7:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	55	6	79	140		76	1360	34	1470		108	3	74	185		38	1102	50	1190		325	2660	2985
PM One Hour Volumes																							
4:00 PM - 5:00 PM	18	4	43	65	0.96	33	677	23	733	0.89	58	1	35	94	0.73	15	543	23	581	0.84	159	1314	1473
4:15 PM - 5:15 PM	22	3	39	64	0.94	30	692	15	737	0.89	50	2	31	83	0.80	16	547	18	581	0.84	147	1318	1465
4:30 PM - 5:30 PM	25	1	41	67	0.88	33	714	10	757	0.91	56	2	32	90	0.68	17	578	23	618	0.90	157	1375	1532
4:45 PM - 5:45 PM	32	2	37	71	0.85	43	727	12	782	0.94	51	2	33	86	0.65	22	571	26	619	0.90	157	1401	1558
5:00 PM - 6:00 PM	37	2	36	75	0.89	43	683	11	737	0.89	50	2	39	91	0.69	23	559	27	609	0.89	166	1346	1512
5:15 PM - 6:15 PM	30	1	29	60	0.71	29	516	8	553	0.67	38	1	31	70	0.53	18	395	24	437	0.70	130	990	1120
5:30 PM - 6:30 PM	22	1	18	41	0.49	19	342	7	368	0.45	20	1	16	37	0.49	16	250	15	281	0.49	78	649	727
5:45 PM - 6:45 PM	10	0	10	20	0.25	8	152	2	162	0.25	10	1	8	19	0.25	6	129	4	139	0.25	39	301	340
6:00 PM - 7:00 PM	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Queen Anne Village Center
W+A JOB NO: 5815
INTERSECTION: Main St. & Route 50/301 Ramp
LOCATION: Queen Anne's County,MD

DATE: 9/17/2013
DAY: Tuesday
WEATHER: clear
COUNTED BY: Dragan
INPUTED BY: agan

SOUTHBOUND ROAD: Route 50/301 Ramp
NORTHBOUND ROAD: 0
WESTBOUND ROAD: Main Street - 18
EASTBOUND ROAD: Main Street - 18

Time Period	Southbound Route 50/301 Ramp					Westbound Main Street - 18					Northbound 0					Eastbound Main Street - 18					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
7:00 AM - 7:15 AM	0	0	9	9		1	39	0	40		0	0	0	0		0	16	0	16		9	56	65
7:15 AM - 7:30 AM	0	0	11	11		2	54	0	56		0	0	0	0		0	20	1	21		11	77	88
7:30 AM - 7:45 AM	1	0	9	10		2	34	0	36		0	0	0	0		0	30	0	30		10	66	76
7:45 AM - 8:00 AM	0	0	3	3		1	54	0	55		0	0	0	0		0	31	2	33		3	88	91
8:00 AM - 8:15 AM	0	0	10	10		0	66	0	66		0	0	0	0		0	13	2	15		10	81	91
8:15 AM - 8:30 AM	0	0	14	14		0	52	0	52		0	0	0	0		0	19	1	20		14	72	86
8:30 AM - 8:45 AM	0	0	11	11		0	60	0	60		0	0	0	0		0	20	4	24		11	84	95
8:45 AM - 9:00 AM	0	0	10	10		1	55	0	56		0	0	0	0		0	37	3	40		10	96	106
9:00 AM - 9:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:15 AM - 9:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:30 AM - 9:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:45 AM - #######	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	1	0	77	78		7	414	0	421		0	0	0	0		0	186	13	199		78	620	698
AM One Hour Volumes																							
7:00 AM - 8:00 AM	1	0	32	33	0.75	6	181	0	187	0.83	0	0	0	0	0.00	0	97	3	100	0.76	33	287	320
7:15 AM - 8:15 AM	1	0	33	34	0.77	5	208	0	213	0.81	0	0	0	0	0.00	0	94	5	99	0.75	34	312	346
7:30 AM - 8:30 AM	1	0	36	37	0.66	3	206	0	209	0.79	0	0	0	0	0.00	0	93	5	98	0.74	37	307	344
7:45 AM - 8:45 AM	0	0	38	38	0.68	1	232	0	233	0.88	0	0	0	0	0.00	0	83	9	92	0.70	38	325	363
8:00 AM - 9:00 AM	0	0	45	45	0.80	1	233	0	234	0.89	0	0	0	0	0.00	0	89	10	99	0.62	45	333	378
8:15 AM - 9:15 AM	0	0	35	35	0.63	1	167	0	168	0.70	0	0	0	0	0.00	0	76	8	84	0.53	35	252	287
8:30 AM - 9:30 AM	0	0	21	21	0.48	1	115	0	116	0.48	0	0	0	0	0.00	0	57	7	64	0.40	21	180	201
8:45 AM - 9:45 AM	0	0	10	10	0.25	1	55	0	56	0.25	0	0	0	0	0.00	0	37	3	40	0.25	10	96	106
9:00 AM - #######	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	1	0	20	21		0	77	0	77		0	0	0	0		0	57	5	62		21	139	160
4:15 PM - 4:30 PM	0	0	16	16		3	80	0	83		0	0	0	0		0	48	8	56		16	139	155
4:30 PM - 4:45 PM	1	0	24	25		1	87	0	88		0	0	0	0		0	57	0	57		25	145	170
4:45 PM - 5:00 PM	0	0	31	31		0	83	0	83		0	0	0	0		0	53	4	57		31	140	171
5:00 PM - 5:15 PM	1	0	17	18		7	98	0	105		0	0	0	0		0	56	7	63		18	168	186
5:15 PM - 5:30 PM	1	0	27	28		2	70	0	72		0	0	0	0		0	65	6	71		28	143	171
5:30 PM - 5:45 PM	1	0	27	28		2	69	0	71		0	0	0	0		0	57	3	60		28	131	159
5:45 PM - 6:00 PM	1	0	35	36		6	72	0	78		0	0	0	0		0	65	7	72		36	150	186
6:00 PM - 6:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:15 PM - 6:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:30 PM - 6:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:45 PM - 7:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	6	0	197	203		21	636	0	657		0	0	0	0		0	458	40	498		203	1155	1358
PM One Hour Volumes																							
4:00 PM - 5:00 PM	2	0	91	93	0.75	4	327	0	331	0.94	0	0	0	0	0.00	0	215	17	232	0.94	93	563	656
4:15 PM - 5:15 PM	2	0	88	90	0.73	11	348	0	359	0.85	0	0	0	0	0.00	0	214	19	233	0.92	90	592	682
4:30 PM - 5:30 PM	3	0	99	102	0.82	10	338	0	348	0.83	0	0	0	0	0.00	0	231	17	248	0.87	102	596	698
4:45 PM - 5:45 PM	3	0	102	105	0.85	11	320	0	331	0.79	0	0	0	0	0.00	0	231	20	251	0.88	105	582	687
5:00 PM - 6:00 PM	4	0	106	110	0.76	17	309	0	326	0.78	0	0	0	0	0.00	0	243	23	266	0.92	110	592	702
5:15 PM - 6:15 PM	3	0	89	92	0.64	10	211	0	221	0.71	0	0	0	0	0.00	0	187	16	203	0.70	92	424	516
5:30 PM - 6:30 PM	2	0	62	64	0.44	8	141	0	149	0.48	0	0	0	0	0.00	0	122	10	132	0.46	64	281	345
5:45 PM - 6:45 PM	1	0	35	36	0.25	6	72	0	78	0.25	0	0	0	0	0.00	0	65	7	72	0.25	36	150	186
6:00 PM - 7:00 PM	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Queen Anne Village Center
W+A JOB NO: 5815
INTERSECTION: Main St. & S. Piney Rd.
LOCATION: Queen Anne's County,MD

DATE: 9/17/2013
DAY: Tuesday
WEATHER: clear
COUNTED BY: Camil
INPUTED BY: agan

SOUTHBOUND ROAD: South Piney Road
NORTHBOUND ROAD: 0
WESTBOUND ROAD: Main Street - 18
EASTBOUND ROAD: Main Street - 18

Time Period	Southbound South Piney Road					Westbound Main Street - 18					Northbound 0					Eastbound Main Street - 18					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
7:00 AM - 7:15 AM	4	0	1	5		5	38	0	43		0	0	0	0		0	19	7	26		5	69	74
7:15 AM - 7:30 AM	7	0	1	8		5	47	0	52		0	0	0	0		0	27	5	32		8	84	92
7:30 AM - 7:45 AM	6	0	0	6		3	33	0	36		0	0	0	0		0	28	14	42		6	78	84
7:45 AM - 8:00 AM	10	0	0	10		2	45	0	47		0	0	0	0		0	34	14	48		10	95	105
8:00 AM - 8:15 AM	11	0	1	12		11	54	0	65		0	0	0	0		0	24	15	39		12	104	116
8:15 AM - 8:30 AM	5	0	4	9		9	56	0	65		0	0	0	0		0	21	17	38		9	103	112
8:30 AM - 8:45 AM	12	0	5	17		11	47	0	58		0	0	0	0		0	30	17	47		17	105	122
8:45 AM - 9:00 AM	22	0	1	23		9	54	0	63		0	0	0	0		0	47	20	67		23	130	153
9:00 AM - 9:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:15 AM - 9:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:30 AM - 9:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:45 AM - #######	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	77	0	13	90		55	374	0	429		0	0	0	0		0	230	109	339		90	768	858
AM One Hour Volumes																							
7:00 AM - 8:00 AM	27	0	2	29	0.73	15	163	0	178	0.86	0	0	0	0	0.00	0	108	40	148	0.77	29	326	355
7:15 AM - 8:15 AM	34	0	2	36	0.75	21	179	0	200	0.77	0	0	0	0	0.00	0	113	48	161	0.84	36	361	397
7:30 AM - 8:30 AM	32	0	5	37	0.77	25	188	0	213	0.82	0	0	0	0	0.00	0	107	60	167	0.87	37	380	417
7:45 AM - 8:45 AM	38	0	10	48	0.71	33	202	0	235	0.90	0	0	0	0	0.00	0	109	63	172	0.90	48	407	455
8:00 AM - 9:00 AM	50	0	11	61	0.66	40	211	0	251	0.97	0	0	0	0	0.00	0	122	69	191	0.71	61	442	503
8:15 AM - 9:15 AM	39	0	10	49	0.53	29	157	0	186	0.72	0	0	0	0	0.00	0	98	54	152	0.57	49	338	387
8:30 AM - 9:30 AM	34	0	6	40	0.43	20	101	0	121	0.48	0	0	0	0	0.00	0	77	37	114	0.43	40	235	275
8:45 AM - 9:45 AM	22	0	1	23	0.25	9	54	0	63	0.25	0	0	0	0	0.00	0	47	20	67	0.25	23	130	153
9:00 AM - #######	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	28	0	7	35		14	72	0	86		0	0	0	0		0	73	50	123		35	209	244
4:15 PM - 4:30 PM	33	0	5	38		14	79	0	93		0	0	0	0		0	61	48	109		38	202	240
4:30 PM - 4:45 PM	34	0	3	37		18	83	0	101		0	0	0	0		0	62	45	107		37	208	245
4:45 PM - 5:00 PM	29	0	4	33		13	71	0	84		0	0	0	0		0	59	54	113		33	197	230
5:00 PM - 5:15 PM	35	0	9	44		11	98	0	109		0	0	0	0		0	60	51	111		44	220	264
5:15 PM - 5:30 PM	30	0	4	34		6	78	0	84		0	0	0	0		0	73	46	119		34	203	237
5:30 PM - 5:45 PM	31	0	4	35		5	79	0	84		0	0	0	0		0	71	47	118		35	202	237
5:45 PM - 6:00 PM	19	0	3	22		10	68	0	78		0	0	0	0		0	80	49	129		22	207	229
6:00 PM - 6:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:15 PM - 6:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:30 PM - 6:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:45 PM - 7:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	239	0	39	278		91	628	0	719		0	0	0	0		0	539	390	929		278	1648	1926
PM One Hour Volumes																							
4:00 PM - 5:00 PM	124	0	19	143	0.94	59	305	0	364	0.90	0	0	0	0	0.00	0	255	197	452	0.92	143	816	959
4:15 PM - 5:15 PM	131	0	21	152	0.86	56	331	0	387	0.89	0	0	0	0	0.00	0	242	198	440	0.97	152	827	979
4:30 PM - 5:30 PM	128	0	20	148	0.84	48	330	0	378	0.87	0	0	0	0	0.00	0	254	196	450	0.95	148	828	976
4:45 PM - 5:45 PM	125	0	21	146	0.83	35	326	0	361	0.83	0	0	0	0	0.00	0	263	198	461	0.97	146	822	968
5:00 PM - 6:00 PM	115	0	20	135	0.77	32	323	0	355	0.81	0	0	0	0	0.00	0	284	193	477	0.92	135	832	967
5:15 PM - 6:15 PM	80	0	11	91	0.65	21	225	0	246	0.73	0	0	0	0	0.00	0	224	142	366	0.71	91	612	703
5:30 PM - 6:30 PM	50	0	7	57	0.41	15	147	0	162	0.48	0	0	0	0	0.00	0	151	96	247	0.48	57	409	466
5:45 PM - 6:45 PM	19	0	3	22	0.25	10	68	0	78	0.25	0	0	0	0	0.00	0	80	49	129	0.25	22	207	229
6:00 PM - 7:00 PM	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

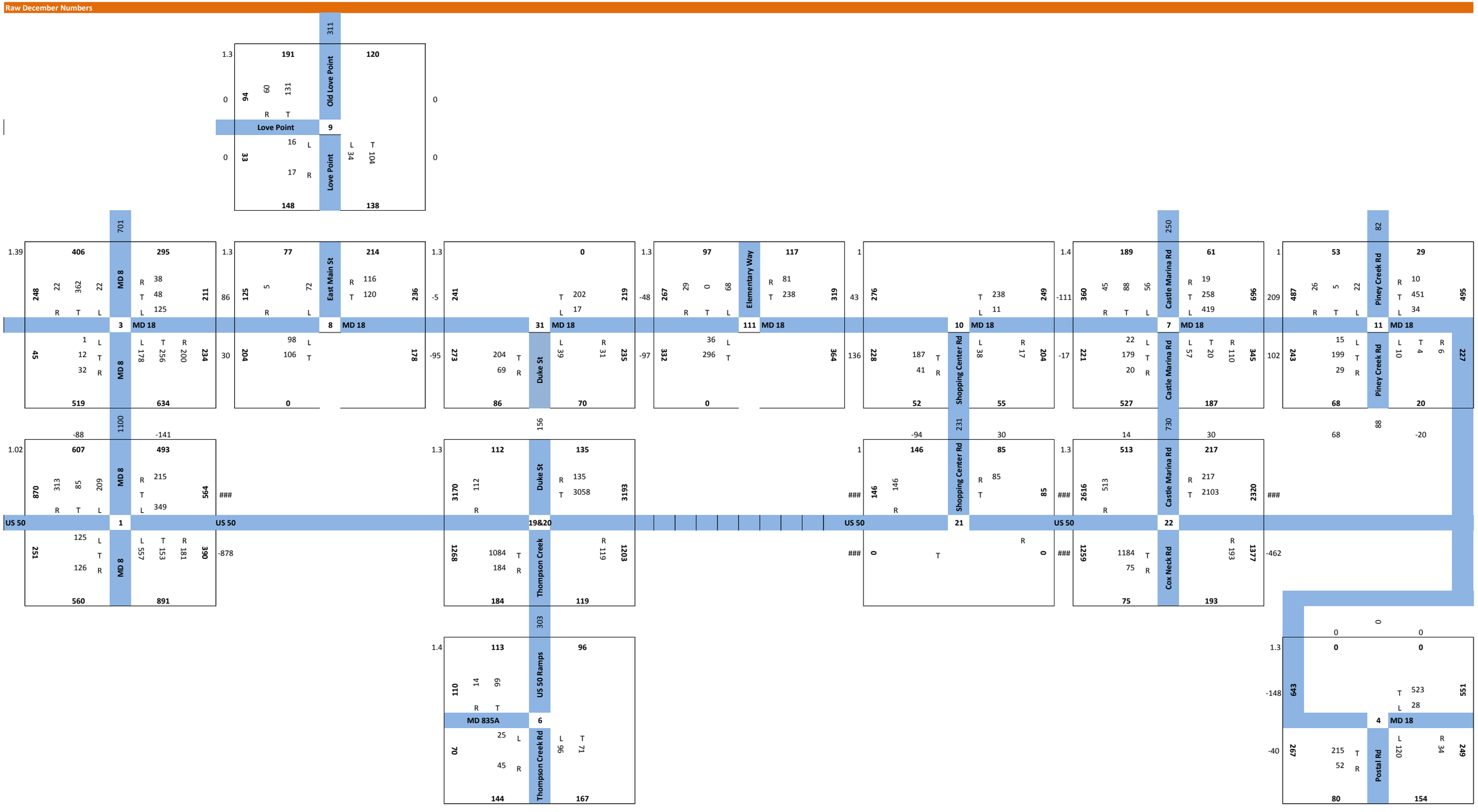
PROJECT: Queen Anne Village Center
W+A JOB NO: 5815
INTERSECTION: Main St. & Shamrock Rd.
LOCATION: Queen Anne's County,MD

DATE: 9/17/2013
DAY: Tuesday
WEATHER: clear
COUNTED BY: Austin
INPUTED BY: agan

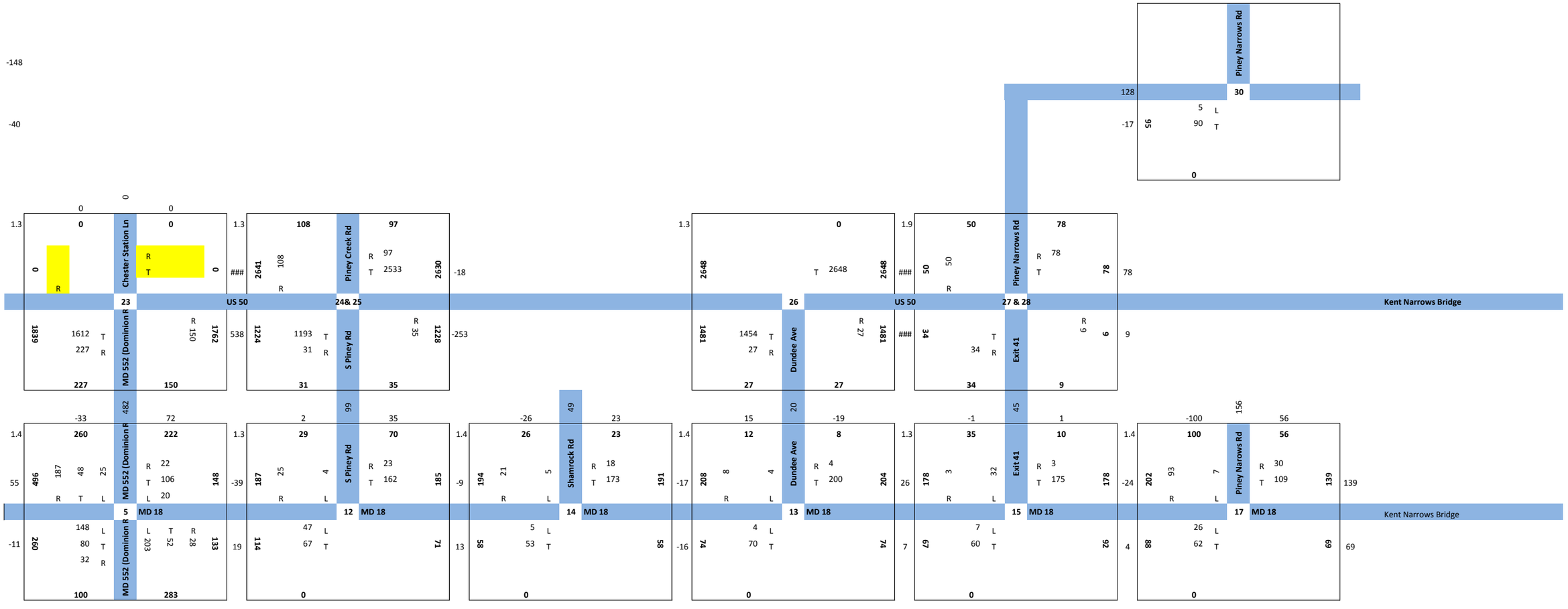
SOUTHBOUND ROAD: Shamrock Road
NORTHBOUND ROAD: 0
WESTBOUND ROAD: Main Street - 18
EASTBOUND ROAD: Main Street - 18

Time Period	Southbound Shamrock Road					Westbound Main Street - 18					Northbound 0					Eastbound Main Street - 18					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
7:00 AM - 7:15 AM	5	0	0	5		7	35	0	42		0	0	0	0		0	17	1	18		5	60	65
7:15 AM - 7:30 AM	2	0	2	4		5	49	0	54		0	0	0	0		0	18	2	20		4	74	78
7:30 AM - 7:45 AM	6	0	2	8		5	30	0	35		0	0	0	0		0	28	2	30		8	65	73
7:45 AM - 8:00 AM	5	0	0	5		4	53	0	57		0	0	0	0		0	32	3	35		5	92	97
8:00 AM - 8:15 AM	4	0	1	5		5	62	0	67		0	0	0	0		0	17	1	18		5	85	90
8:15 AM - 8:30 AM	7	0	0	7		2	52	0	54		0	0	0	0		0	17	2	19		7	73	80
8:30 AM - 8:45 AM	3	0	1	4		4	60	0	64		0	0	0	0		0	29	3	32		4	96	100
8:45 AM - 9:00 AM	3	0	0	3		3	56	0	59		0	0	0	0		0	39	3	42		3	101	104
9:00 AM - 9:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:15 AM - 9:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:30 AM - 9:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
9:45 AM - #######	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	35	0	6	41		35	397	0	432		0	0	0	0		0	197	17	214		41	646	687
AM One Hour Volumes																							
7:00 AM - 8:00 AM	18	0	4	22	0.69	21	167	0	188	0.82	0	0	0	0	0.00	0	95	8	103	0.74	22	291	313
7:15 AM - 8:15 AM	17	0	5	22	0.69	19	194	0	213	0.79	0	0	0	0	0.00	0	95	8	103	0.74	22	316	338
7:30 AM - 8:30 AM	22	0	3	25	0.78	16	197	0	213	0.79	0	0	0	0	0.00	0	94	8	102	0.73	25	315	340
7:45 AM - 8:45 AM	19	0	2	21	0.75	15	227	0	242	0.90	0	0	0	0	0.00	0	95	9	104	0.74	21	346	367
8:00 AM - 9:00 AM	17	0	2	19	0.68	14	230	0	244	0.91	0	0	0	0	0.00	0	102	9	111	0.66	19	355	374
8:15 AM - 9:15 AM	13	0	1	14	0.50	9	168	0	177	0.69	0	0	0	0	0.00	0	85	8	93	0.55	14	270	284
8:30 AM - 9:30 AM	6	0	1	7	0.44	7	116	0	123	0.48	0	0	0	0	0.00	0	68	6	74	0.44	7	197	204
8:45 AM - 9:45 AM	3	0	0	3	0.25	3	56	0	59	0.25	0	0	0	0	0.00	0	39	3	42	0.25	3	101	104
9:00 AM - #######	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	5	0	3	8		7	72	0	79		0	0	0	0		0	60	5	65		8	144	152
4:15 PM - 4:30 PM	3	0	3	6		0	83	0	83		0	0	0	0		0	57	9	66		6	149	155
4:30 PM - 4:45 PM	8	0	4	12		8	82	0	90		0	0	0	0		0	57	5	62		12	152	164
4:45 PM - 5:00 PM	2	0	3	5		5	78	0	83		0	0	0	0		0	52	5	57		5	140	145
5:00 PM - 5:15 PM	4	0	2	6		4	94	0	98		0	0	0	0		0	65	6	71		6	169	175
5:15 PM - 5:30 PM	5	0	1	6		5	68	0	73		0	0	0	0		0	73	3	76		6	149	155
5:30 PM - 5:45 PM	9	0	4	13		3	71	0	74		0	0	0	0		0	55	6	61		13	135	148
5:45 PM - 6:00 PM	8	0	3	11		3	63	0	66		0	0	0	0		0	70	8	78		11	144	155
6:00 PM - 6:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:15 PM - 6:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:30 PM - 6:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:45 PM - 7:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
Total	44	0	23	67		35	611	0	646		0	0	0	0		0	489	47	536		67	1182	1249
PM One Hour Volumes																							
4:00 PM - 5:00 PM	18	0	13	31	0.65	20	315	0	335	0.93	0	0	0	0	0.00	0	226	24	250	0.95	31	585	616
4:15 PM - 5:15 PM	17	0	12	29	0.60	17	337	0	354	0.90	0	0	0	0	0.00	0	231	25	256	0.90	29	610	639
4:30 PM - 5:30 PM	19	0	10	29	0.60	22	322	0	344	0.88	0	0	0	0	0.00	0	247	19	266	0.88	29	610	639
4:45 PM - 5:45 PM	20	0	10	30	0.58	17	311	0	328	0.84	0	0	0	0	0.00	0	245	20	265	0.87	30	593	623
5:00 PM - 6:00 PM	26	0	10	36	0.69	15	296	0	311	0.79	0	0	0	0	0.00	0	263	23	286	0.92	36	597	633
5:15 PM - 6:15 PM	22	0	8	30	0.58	11	202	0	213	0.72	0	0	0	0	0.00	0	198	17	215	0.69	30	428	458
5:30 PM - 6:30 PM	17	0	7	24	0.46	6	134	0	140	0.47	0	0	0	0	0.00	0	125	14	139	0.45	24	279	303
5:45 PM - 6:45 PM	8	0	3	11	0.25	3	63	0	66	0.25	0	0	0	0	0.00	0	70	8	78	0.25	11	144	155
6:00 PM - 7:00 PM	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0

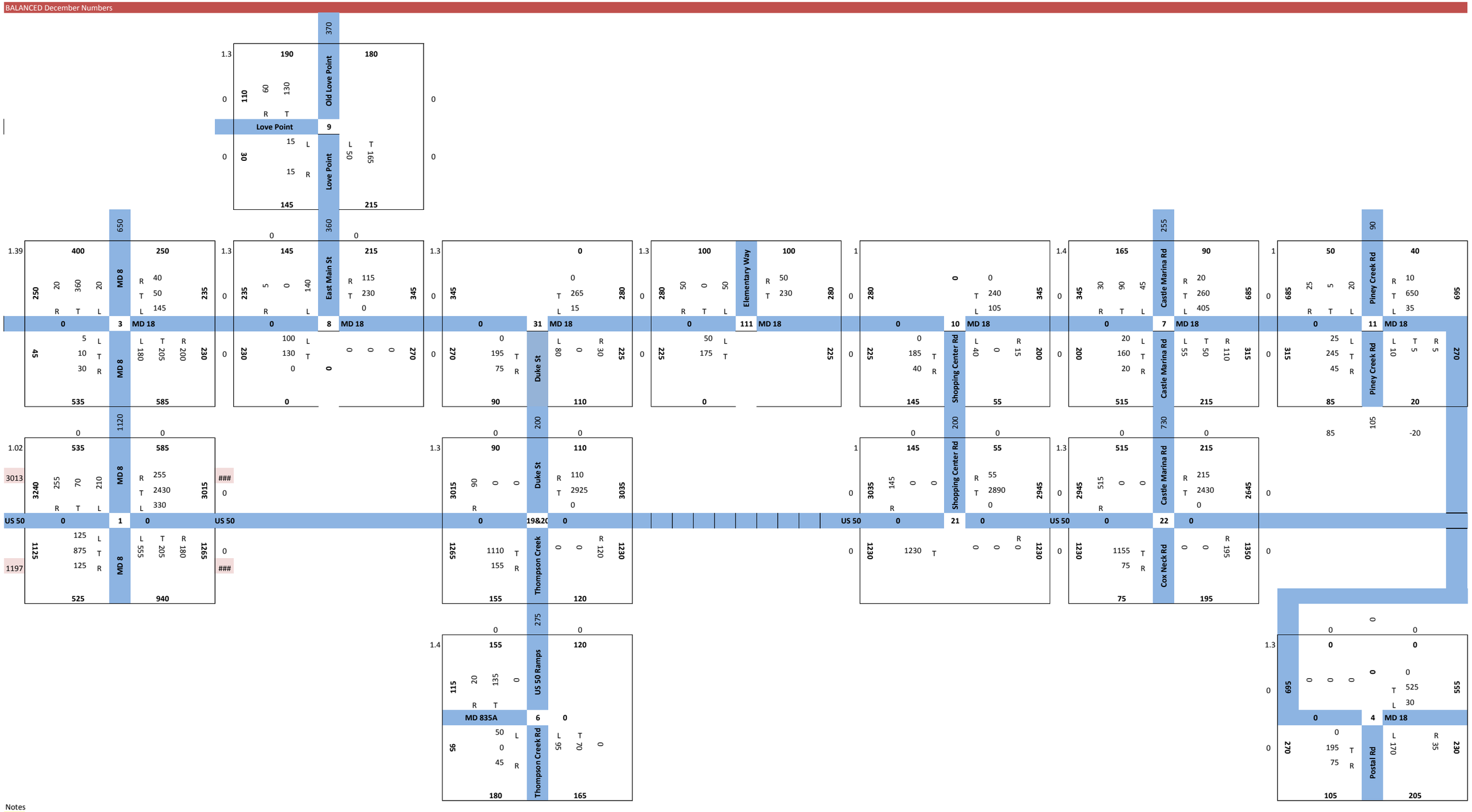
Raw December Numbers



Raw December Numbers



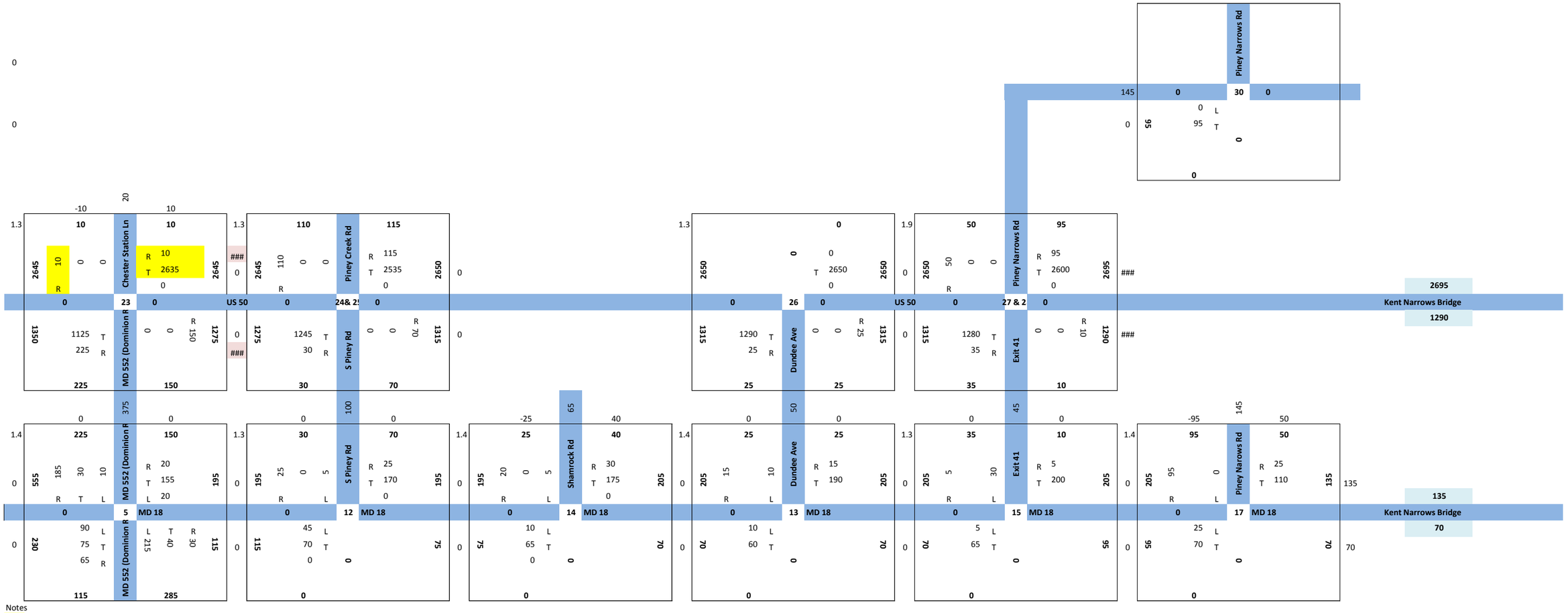
BALANCED December Numbers



Notes

- Estimated values based on visual and adjacent ramps
- Link Data - it was factored to December 2013 values
- Link Data it is from December 2013 Used as a base value

BALANCED December Numbers



Notes

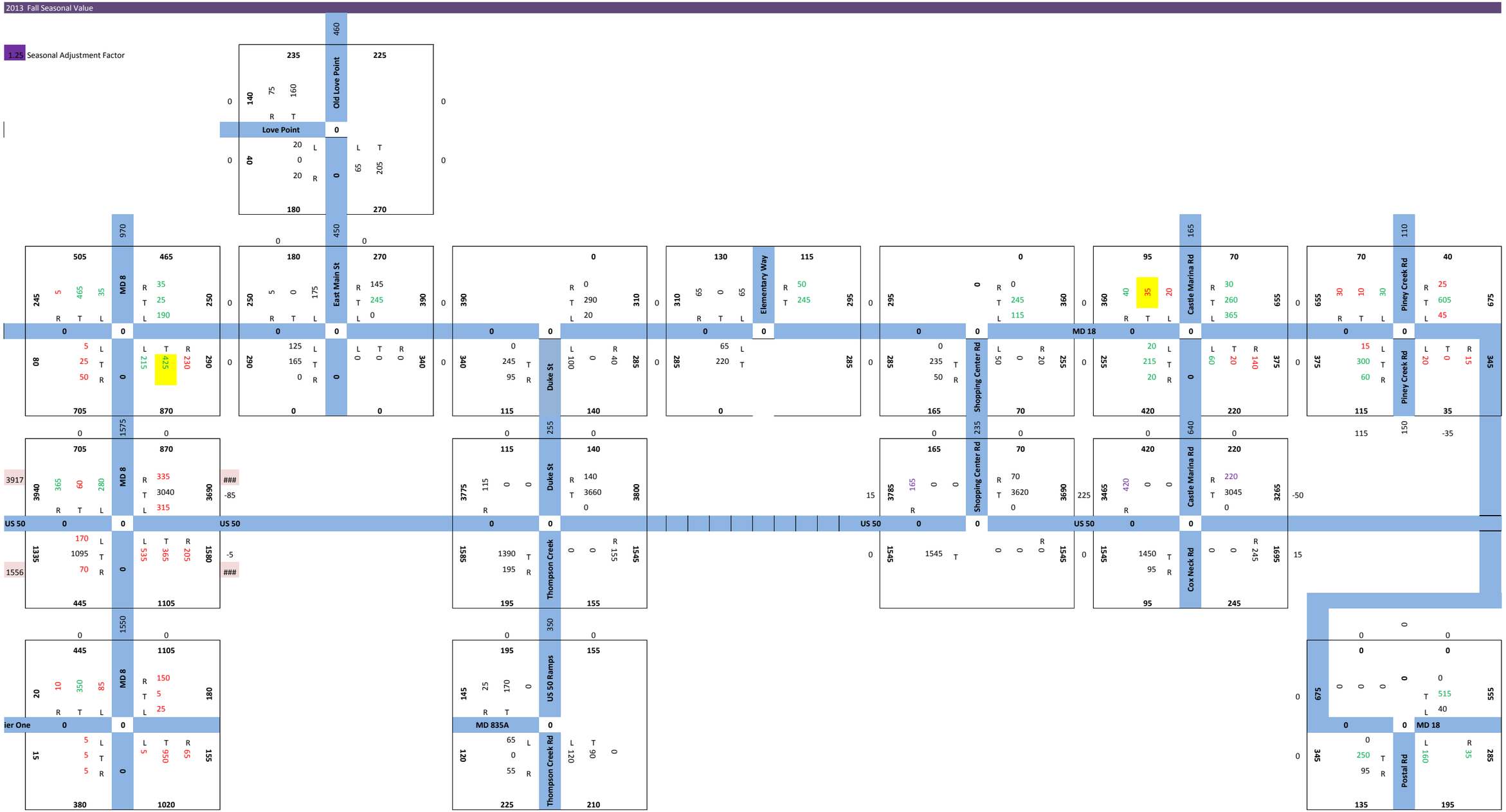
Estimated values based on visual and adjacent ramps

Link Data - it was factored to December 2013 values

Link Data it is from December 2013 Used as a base value

2013 Fall Seasonal Value

1.25 Seasonal Adjustment Factor



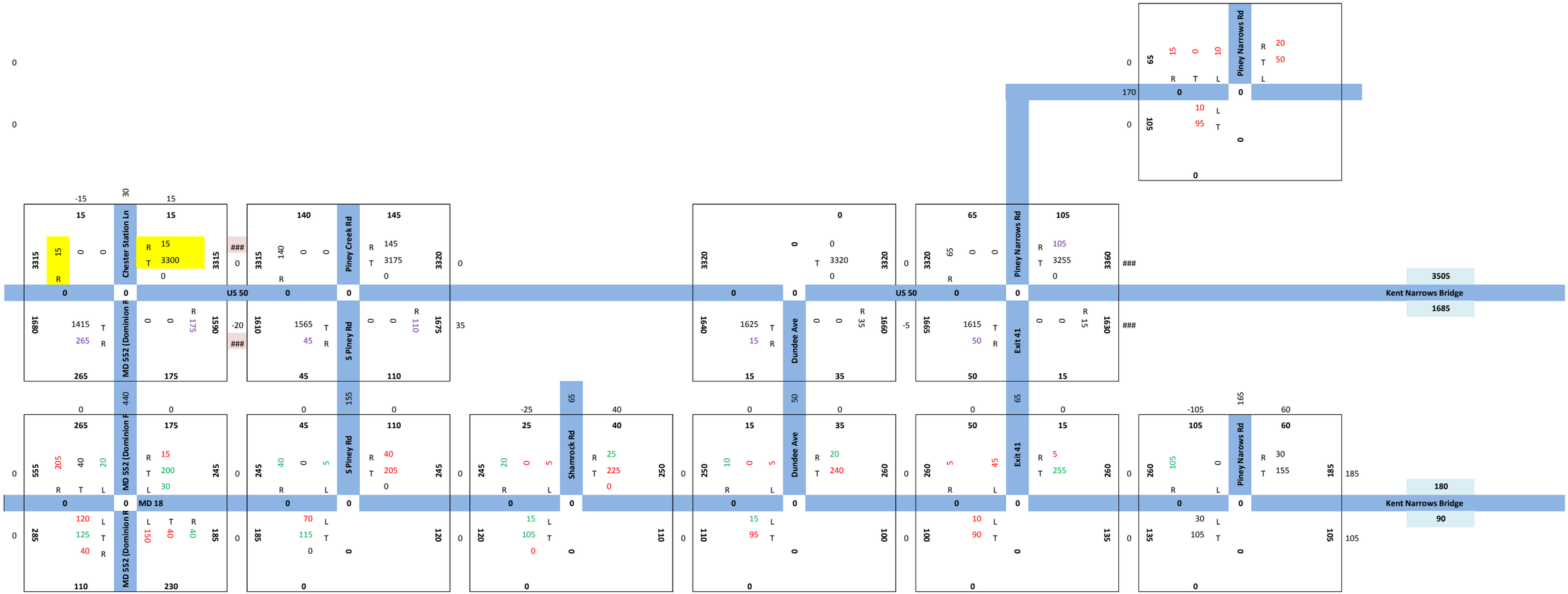
Notes

- Estimated values based on visual and adjacent ramps
- Link Data - it was factored to December 2013 values
- Link Data it is from December 2013 Used as a base value

- RED - rounded volumes from either Matapeake or Wells (8-9 AM, 4:45-4:45 PM for Wells)
- GREEN - edited during balancing process
- PURPLE - volumes at US 50 ramps adjusted after arterial balancing

Fall Seasonal Value

1.25 Seasonal Adjustment Factor



Notes

- Estimated values based on visual and adjacent ramps
- Link Data - it was factored to December 2013 values
- Link Data it is from December 2013 Used as a base value

RED - rounded volumes from either Matapeake or Wells (8-9 AM, 4:45-4:45 PM for Wells)
GREEN - edited during balancing process
PURPLE - volumes at US 50 ramps adjusted after arterial balancing

APPENDIX C – CORRESPONDENCE LETTERS

Queen Anne's County Department of Emergency Services
EMS • Communications • Emergency Management • Fire Marshal

100 Communications Drive • Centreville, Maryland 21617
Phone 410.758.4500 • Fax 410.758.2086

09/03/2015

Trey Porter
Department of Public Works
Queen Anne's County
312 Safety Drive
Centreville, Maryland 21617

Mr. Porter,

Due to the increased vehicular congestion that occurs on US route 50, State road 8, and State road 18, the Department of Emergency Services experiences delayed or extended response times to reach citizens and/or visitors who have activated the 9-1-1 system. In some cases, vehicles have no options to yield to oncoming or approaching emergency vehicles due to the congestion. This is but one delay of service experienced.

The second delay is when emergency units are returning from designated transport hospitals. Due to the vehicular congestion, there is a great increase in return to service time to the Emergency Services home station and or location. This increases out of service time for emergency units and has caused a greater demand for mutual aid responses from other Emergence Services Jurisdictions.

Respectfully Submitted,

Scott H. Wheatley
Assistant Chief
410-758-4500 x 1108

Cc: Scott Haas
Director

David Rivett
Emergency Planner Associate

Queen Anne's County

County Commissioners:
James J. Moran, At Large
Jack A. Wilson, Jr., District 1
Stephen Wilson, District 2
Robert Charles Buckey, District 3
Mark A. Anderson, District 4

THE COUNTY COMMISSIONERS OF QUEEN ANNE'S COUNTY
The Liberty Building
107 North Liberty Street
Centreville, MD 21617

Telephone: (410) 758-4098
Fax: (410) 758-1170
e-mail: QACCommissioners&Administrator@qac.org

County Administrator: Gregg A. Todd
Executive Assistant to County Commissioners: Margie A. Houck
County Attorney: Patrick Thompson, Esquire

July 14, 2015

The Honorable Governor Larry Hogan
100 State Circle
Annapolis, Maryland 21401

Mr. Pete K. Rahn, Secretary
Maryland Department of Transportation
Post Office Box 548
7201 Corporate Center Drive
Hanover, Maryland 21076-0548

Dear Governor Hogan and Secretary Rahn:

The Commissioners of Queen Anne's County requests the State of Maryland to alleviate the difficulties that State traffic practices are now causing our County. Our citizens are regularly gridlocked by traffic traversing part of the County, such that emergency vehicles, fire and ambulance, are detained; the citizens prevented from leaving and returning to their homes; and our jurisdiction otherwise subjected to persistent inconvenience and jeopardy.

Maryland is unique in being divided by a geographical feature, the Chesapeake Bay. This transection is only connected at a single point, midway, by the Chesapeake Bay Bridge. The traffic burden of this single facility crosses Kent Island, Queen Anne's most densely populated area, on its way from the metropolitan centers to the ocean. The flow proceeds on the only road crossing Kent Island, Route 50; and, as a result of the island' s geography, when that highway stalls, it creates perilous circumstances for the safety and well-being of the 20,000 local citizens. Following years of persistent increases in traffic, gridlock is now occurring quite regularly over parts of Route 50 as it passes through Kent Island and down to Route 404. Recognizing an increase in national car sales and with gasoline sales on the upswing, one can only expect this situation to worsen. Traffic flows are now very close to peak capacity both on the Bridge and on this section of highway, leading even minor impediments to cascade into freeze-ups.

Queen Anne's County is one of only two counties that do not have a hospital in Maryland. That is also determined by State Certificate of Need (CON) policy, so we are at the mercy of central government, both as regards our traffic and medical circumstances. We ask you to recognize the situations that these policies cause, and which are completely beyond local control. Our County

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government is well aware that traffic difficulties and inconvenience are a statewide issue, but our unique situation now exceeds the usual rationalizations of trade and convenience. With no hospital, our medical recourse depends on rapid access, and that is now regularly denied by the quantity of traffic we experience. State road policy and construction cannot be quickly adapted to mediate this. So we are requesting removal from the normal queue of Maryland road projects, and ask to be given fast-track in both design and execution of a system to alleviate our increasing difficulties, particularly in the Kent Island corridor.

The Commissioners of Queen Anne's County had thought to request relief of some specific issues in this region. On reconsideration, we conclude that no piecemeal approach will suffice. What is required is a recognition by the State that this constricted section, in its entirety, be evaluated and remedied. Those measures which improve the situation will themselves be disrupting, and further disadvantage our area while they are being introduced. In our opinion, it is necessary to recognize that this situation is not just another element of the humdrum and inconvenience of modern times. They are also not the result of shortsighted local practice and development. They have been imposed on our County for the convenience of other parts of the State. Queen Anne's County is central in the distribution of intrastate traffic, and one should be reminded that by-and-large neither the origins nor destinations of travelers lie in our County, nor does much of the County benefit by this traverse.

With these thoughts in mind, we ask that you consider an accelerated process to remedy deteriorating conditions. We are appreciative of the attentions to transportation that are even now in existence, but in the interest of our citizens, and in fairness, we hope you will exert a more timely and forceful response than what is now in prospect.

Sincerely,

THE COUNTY COMMISSIONERS OF
QUEEN ANNE'S COUNTY

James J. Moran, President

Jack A. Wilson, Jr.

Stephen Wilson

Robert Charles Buckey

Mark A. Anderson

CC: Governor Larry Hogan

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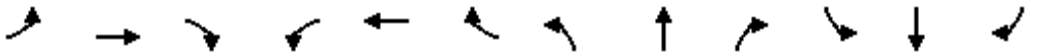
APPENDIX D – HCM ANALYSIS RESULTS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	25	5	150	5	950	65	85	350	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.95			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1787	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.91			0.75	1.00	0.53	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)		1621			1395	1583	981	3539	1583	445	3539	1583
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)	5	5	5	27	5	163	5	1033	71	92	380	11
RTOR Reduction (vph)	0	5	0	0	0	150	0	0	18	0	0	2
Lane Group Flow (vph)	0	10	0	0	32	13	5	1033	53	92	380	9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		8.0			8.0	8.0	74.7	74.7	74.7	84.0	84.0	84.0
Effective Green, g (s)		8.0			8.0	8.0	74.7	74.7	74.7	84.0	84.0	84.0
Actuated g/C Ratio		0.08			0.08	0.08	0.75	0.75	0.75	0.84	0.84	0.84
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		129			111	126	732	2643	1182	444	2972	1329
v/s Ratio Prot								c0.29		c0.01	0.11	
v/s Ratio Perm		0.01			c0.02	0.01	0.01		0.03	0.16		0.01
v/c Ratio		0.08			0.29	0.10	0.01	0.39	0.04	0.21	0.13	0.01
Uniform Delay, d1		42.6			43.3	42.7	3.2	4.5	3.3	2.1	1.4	1.3
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	0.80	0.56	0.35
Incremental Delay, d2		0.3			1.4	0.4	0.0	0.4	0.1	0.2	0.1	0.0
Delay (s)		42.9			44.8	43.0	3.2	5.0	3.4	1.9	0.9	0.5
Level of Service		D			D	D	A	A	A	A	A	A
Approach Delay (s)		42.9			43.3			4.8			1.1	
Approach LOS		D			D			A			A	

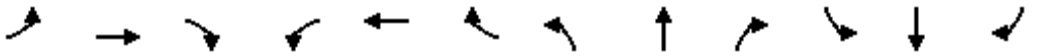
Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	0	70	0	0	0	0	900	205	280	375	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.19	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	355	3539	
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)	185	0	76	0	0	0	0	978	223	304	408	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	185	0	76	0	0	0	0	978	223	304	408	0
Turn Type	custom		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	12.6		100.0					50.3	100.0	76.4	76.4	
Effective Green, g (s)	15.6		100.0					53.3	100.0	78.4	79.4	
Actuated g/C Ratio	0.16		1.00					0.53	1.00	0.78	0.79	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	535		1583					1886	1583	591	2809	
v/s Ratio Prot	c0.05							0.28		c0.11	0.12	
v/s Ratio Perm			0.05						0.14	c0.29		
v/c Ratio	0.35		0.05					0.52	0.14	0.51	0.15	
Uniform Delay, d1	37.6		0.0					15.1	0.0	7.2	2.4	
Progression Factor	1.00		1.00					0.76	1.00	4.20	0.00	
Incremental Delay, d2	0.8		0.1					1.0	0.2	1.0	0.1	
Delay (s)	38.5		0.1					12.4	0.2	31.2	0.1	
Level of Service	D		A					B	A	C	A	
Approach Delay (s)		27.3			0.0			10.1			13.4	
Approach LOS		C			A			B			B	

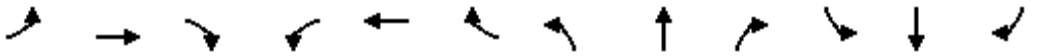
Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



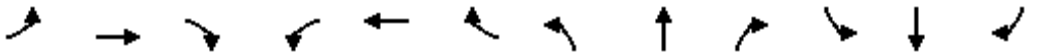
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	315	0	335	535	535	0	0	340	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.49	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	907	3539			3539	1583
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)	0	0	0	342	0	364	582	582	0	0	370	397
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	342	0	364	582	582	0	0	370	397
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				15.1		100.0	68.9	74.9			41.4	100.0
Effective Green, g (s)				18.1		100.0	74.9	77.9			44.4	100.0
Actuated g/C Ratio				0.18		1.00	0.75	0.78			0.44	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				621		1583	942	2756			1571	1583
v/s Ratio Prot				c0.10			c0.19	0.16			0.10	
v/s Ratio Perm						0.23	c0.27					0.25
v/c Ratio				0.55		0.23	0.62	0.21			0.24	0.25
Uniform Delay, d1				37.3		0.0	10.2	2.9			17.3	0.0
Progression Factor				1.00		1.00	0.97	0.08			1.00	1.00
Incremental Delay, d2				1.1		0.3	1.6	0.1			0.4	0.4
Delay (s)				38.3		0.3	11.5	0.3			17.6	0.4
Level of Service				D		A	B	A			B	A
Approach Delay (s)		0.0			18.7			5.9			8.7	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	190	25	35	215	425	230	35	465	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	1.0	2.0	2.5	1.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1784	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.40	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)		1848	1583		1784	1583	743	3539	1583	906	3539	1583
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)	5	27	54	207	27	38	234	462	250	38	505	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	32	54	0	234	38	234	462	250	38	505	5
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Actuated Green, G (s)		5.7	125.3		22.3	125.3	79.8	69.5	125.3	68.2	62.9	125.3
Effective Green, g (s)		8.7	125.3		25.3	125.3	82.8	72.5	125.3	74.2	65.9	125.3
Actuated g/C Ratio		0.07	1.00		0.20	1.00	0.66	0.58	1.00	0.59	0.53	1.00
Clearance Time (s)		6.0			6.0		5.0	5.5		5.0	5.5	
Vehicle Extension (s)		4.0			4.0		3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		128	1583		360	1583	613	2047	1583	593	1861	1583
v/s Ratio Prot		c0.02			c0.13		c0.05	0.13		0.00	c0.14	
v/s Ratio Perm			0.03			0.02	0.21		0.16	0.03		0.00
v/c Ratio		0.25	0.03		0.65	0.02	0.38	0.23	0.16	0.06	0.27	0.00
Uniform Delay, d1		55.2	0.0		45.9	0.0	8.8	12.8	0.0	10.6	16.4	0.0
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.4	0.0		4.6	0.0	0.4	0.3	0.2	0.0	0.4	0.0
Delay (s)		56.6	0.0		50.5	0.0	9.2	13.1	0.2	10.7	16.8	0.0
Level of Service		E	A		D	A	A	B	A	B	B	A
Approach Delay (s)		21.1			43.5			8.7			16.2	
Approach LOS		C			D			A			B	

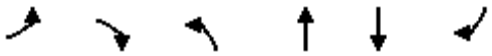
Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	125.3	Sum of lost time (s)	16.5
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	300	60	45	605	25	20	0	15	30	10	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	326	65	49	658	27	22	0	16	33	11	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	685			326			1136	1141	326	1128	1128	671
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	685			326			1136	1141	326	1128	1128	671
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			96			86	100	98	81	94	93
cM capacity (veh/h)	909			1234			152	189	715	170	193	456

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	16	326	65	49	685	38	76
Volume Left	16	0	0	49	0	22	33
Volume Right	0	0	65	0	27	16	33
cSH	909	1700	1700	1234	1700	267	307
Volume to Capacity	0.02	0.19	0.04	0.04	0.40	0.14	0.25
Queue Length 95th (ft)	1	0	0	3	0	12	24
Control Delay (s)	9.0	0.0	0.0	8.0	0.0	22.9	24.2
Lane LOS	A			A		C	C
Approach Delay (s)	0.4			0.5		22.9	24.2
Approach LOS						C	C

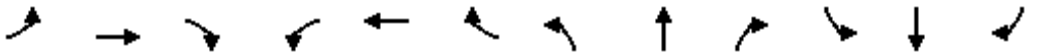
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	52.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	160	0	40	515	250	95
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	174	0	43	560	272	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	918	272	375			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	918	272	375			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	100	96			
cM capacity (veh/h)	290	767	1183			

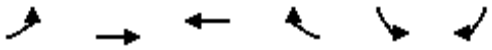
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	174	43	560	272	103
Volume Left	174	43	0	0	0
Volume Right	0	0	0	0	103
cSH	290	1183	1700	1700	1700
Volume to Capacity	0.60	0.04	0.33	0.16	0.06
Queue Length 95th (ft)	90	3	0	0	0
Control Delay (s)	34.3	8.2	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	34.3	0.6		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	125	40	30	200	15	150	40	40	20	40	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1796		1770	1844		1770	1863	1583	1770	1863	1583
Flt Permitted	0.49	1.00		0.64	1.00		0.13	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	905	1796		1200	1844		247	1863	1583	1358	1863	1583
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)	130	136	43	33	217	16	163	43	43	22	43	223
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	130	173	0	33	232	0	163	43	43	22	43	223
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	57.7	48.3		46.5	42.7		30.2	30.2	113.0	6.7	6.7	113.0
Effective Green, g (s)	57.7	48.3		46.5	42.7		30.2	30.2	113.0	6.7	6.7	113.0
Actuated g/C Ratio	0.51	0.43		0.41	0.38		0.27	0.27	1.00	0.06	0.06	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	534	767		512	696		66	497	1583	80	110	1583
v/s Ratio Prot	c0.02	0.10		0.00	c0.13			0.02			c0.02	
v/s Ratio Perm	0.10			0.02			c0.66		0.03	0.02		0.14
v/c Ratio	0.24	0.23		0.06	0.33		2.47	0.09	0.03	0.28	0.39	0.14
Uniform Delay, d1	15.1	20.5		19.9	25.0		41.4	31.1	0.0	50.8	51.2	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.7		0.0	1.3		704.4	0.1	0.0	1.4	1.7	0.2
Delay (s)	15.3	21.2		20.0	26.3		745.8	31.1	0.0	52.2	52.9	0.2
Level of Service	B	C		B	C		F	C	A	D	D	A
Approach Delay (s)		18.7			25.5			493.6			12.0	
Approach LOS		B			C			F			B	

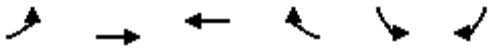
Intersection Summary			
HCM 2000 Control Delay	124.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	113.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	70	115	205	40	5	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	125	223	43	5	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	266				522	245
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	266				522	245
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				99	95
cM capacity (veh/h)	1298				485	794

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	201	266	49
Volume Left	76	0	5
Volume Right	0	43	43
cSH	1298	1700	742
Volume to Capacity	0.06	0.16	0.07
Queue Length 95th (ft)	5	0	5
Control Delay (s)	3.3	0.0	10.2
Lane LOS	A		B
Approach Delay (s)	3.3	0.0	10.2
Approach LOS			B

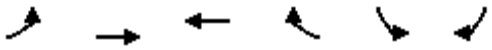
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	105	225	25	5	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	114	245	27	5	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	272				405	258
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	272				405	258
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	97
cM capacity (veh/h)	1292				594	780

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	130	272	27
Volume Left	16	0	5
Volume Right	0	27	22
cSH	1292	1700	734
Volume to Capacity	0.01	0.16	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	1.1	0.0	10.1
Lane LOS	A		B
Approach Delay (s)	1.1	0.0	10.1
Approach LOS			B

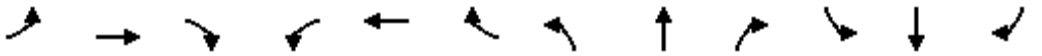
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	95	240	20	5	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	103	261	22	5	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	283				408	272
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	283				408	272
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1280				592	767

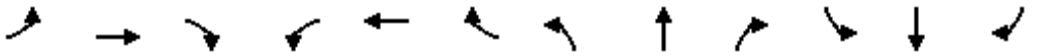
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	120	283	16
Volume Left	16	0	5
Volume Right	0	22	11
cSH	1280	1700	698
Volume to Capacity	0.01	0.17	0.02
Queue Length 95th (ft)	1	0	2
Control Delay (s)	1.2	0.0	10.3
Lane LOS	A		B
Approach Delay (s)	1.2	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		



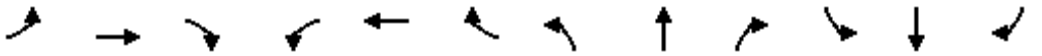
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	5	5	200	5	205	5	470	90	330	770	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1760			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.81			0.71	1.00	0.34	1.00	1.00	0.41	1.00	1.00
Satd. Flow (perm)		1472			1326	1583	627	3539	1583	762	3539	1583
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)	16	5	5	217	5	223	5	511	98	359	837	16
RTOR Reduction (vph)	0	4	0	0	0	160	0	0	40	0	0	4
Lane Group Flow (vph)	0	22	0	0	222	63	5	511	58	359	837	12
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		28.3			28.3	28.3	79.3	79.3	79.3	98.7	98.7	98.7
Effective Green, g (s)		28.3			28.3	28.3	79.3	79.3	79.3	98.7	98.7	98.7
Actuated g/C Ratio		0.21			0.21	0.21	0.59	0.59	0.59	0.73	0.73	0.73
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		308			277	331	368	2078	929	672	2587	1157
v/s Ratio Prot								0.14		c0.06	0.24	
v/s Ratio Perm		0.01			c0.17	0.04	0.01		0.04	c0.33		0.01
v/c Ratio		0.07			0.80	0.19	0.01	0.25	0.06	0.53	0.32	0.01
Uniform Delay, d1		42.8			50.7	43.9	11.6	13.4	11.9	6.7	6.4	4.9
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	0.52	0.48	0.20
Incremental Delay, d2		0.1			15.2	0.3	0.1	0.3	0.1	0.8	0.3	0.0
Delay (s)		42.9			65.9	44.2	11.7	13.7	12.1	4.3	3.4	1.0
Level of Service		D			E	D	B	B	B	A	A	A
Approach Delay (s)		42.9			55.0			13.4			3.6	
Approach LOS		D			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



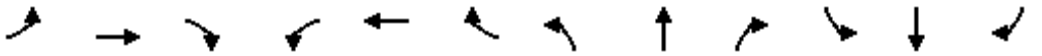
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	390	0	465	0	0	0	0	485	205	425	650	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.26	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	488	3539	
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)	424	0	505	0	0	0	0	527	223	462	707	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	424	0	505	0	0	0	0	527	223	462	707	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	22.1		135.0					36.0	135.0	100.9	100.9	
Effective Green, g (s)	25.1		135.0					39.0	135.0	102.9	103.9	
Actuated g/C Ratio	0.19		1.00					0.29	1.00	0.76	0.77	
Clearance Time (s)	6.0							6.0		5.0		
Vehicle Extension (s)	3.0							4.0		5.0		
Lane Grp Cap (vph)	638		1583					1022	1583	959	2723	
v/s Ratio Prot	c0.12							c0.15		c0.22	0.20	
v/s Ratio Perm			0.32						0.14	0.15		
v/c Ratio	0.66		0.32					0.52	0.14	0.48	0.26	
Uniform Delay, d1	51.0		0.0					40.1	0.0	7.6	4.5	
Progression Factor	1.00		1.00					0.80	1.00	0.53	0.45	
Incremental Delay, d2	2.6		0.5					1.8	0.2	1.6	0.2	
Delay (s)	53.7		0.5					33.8	0.2	5.7	2.3	
Level of Service	D		A					C	A	A	A	
Approach Delay (s)		24.8			0.0			23.8			3.6	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



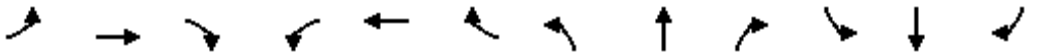
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	490	0	140	165	710	0	0	585	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	1.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.37	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	696	3539			3539	1583
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)	0	0	0	533	0	152	179	772	0	0	636	212
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	533	0	152	179	772	0	0	636	212
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				26.6		135.0	92.4	98.4			84.4	135.0
Effective Green, g (s)				29.6		135.0	98.4	101.4			87.4	135.0
Actuated g/C Ratio				0.22		1.00	0.73	0.75			0.65	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				752		1583	594	2658			2291	1583
v/s Ratio Prot				c0.16			0.02	c0.22			0.18	
v/s Ratio Perm						0.10	c0.19					0.13
v/c Ratio				0.71		0.10	0.30	0.29			0.28	0.13
Uniform Delay, d1				48.7		0.0	9.6	5.3			10.2	0.0
Progression Factor				1.00		1.00	0.14	0.08			1.00	1.00
Incremental Delay, d2				3.1		0.1	0.5	0.1			0.3	0.2
Delay (s)				51.8		0.1	1.9	0.6			10.5	0.2
Level of Service				D		A	A	A			B	A
Approach Delay (s)		0.0			40.3			0.8			7.9	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	275	15	45	60	430	360	65	310	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1778	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.49	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)		1854	1583		1778	1583	909	3539	1583	715	3539	1583
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)	5	49	212	299	16	49	65	467	391	71	337	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	253	0	0	3
Lane Group Flow (vph)	0	54	212	0	315	49	65	467	138	71	337	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		7.5	83.4		20.8	83.4	32.5	26.5	26.5	32.7	26.6	26.6
Effective Green, g (s)		10.5	83.4		23.8	83.4	38.5	29.5	29.5	38.7	29.6	29.6
Actuated g/C Ratio		0.13	1.00		0.29	1.00	0.46	0.35	0.35	0.46	0.35	0.35
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		233	1583		507	1583	512	1251	559	446	1256	561
v/s Ratio Prot		c0.03			c0.18		0.01	c0.13		c0.02	0.10	
v/s Ratio Perm			c0.13			0.03	0.04		0.09	0.06		0.00
v/c Ratio		0.23	0.13		0.62	0.03	0.13	0.37	0.25	0.16	0.27	0.00
Uniform Delay, d1		32.8	0.0		25.9	0.0	12.6	20.1	19.1	12.7	19.2	17.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.5	0.2		2.4	0.0	0.1	0.2	0.2	0.2	0.1	0.0
Delay (s)		33.3	0.2		28.3	0.0	12.7	20.3	19.3	12.9	19.3	17.4
Level of Service		C	A		C	A	B	C	B	B	B	B
Approach Delay (s)		6.9			24.5			19.3			18.2	
Approach LOS		A			C			B			B	

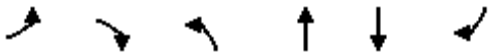
Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	83.4	Sum of lost time (s)	16.5
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	590	20	15	730	45	45	5	60	35	5	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	641	22	16	793	49	49	5	65	38	5	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	842			641			1541	1571	641	1549	1546	818
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	842			641			1541	1571	641	1549	1546	818
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			38	95	86	49	95	91
cM capacity (veh/h)	793			943			79	105	475	74	109	376

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	27	641	22	16	842	120	76
Volume Left	27	0	0	16	0	49	38
Volume Right	0	0	22	0	49	65	33
cSH	793	1700	1700	943	1700	180	137
Volume to Capacity	0.03	0.38	0.01	0.02	0.50	0.66	0.56
Queue Length 95th (ft)	3	0	0	1	0	98	69
Control Delay (s)	9.7	0.0	0.0	8.9	0.0	57.7	62.4
Lane LOS	A			A		F	F
Approach Delay (s)	0.4			0.2		57.7	62.4
Approach LOS						F	F

Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	57.8%	ICU Level of Service	B	
Analysis Period (min)	15			



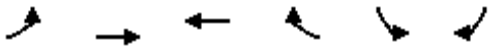
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	0	155	770	500	185
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	0	168	837	543	201
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1717	543	745			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1717	543	745			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	80			
cM capacity (veh/h)	79	539	863			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	109	168	837	543	201
Volume Left	109	168	0	0	0
Volume Right	0	0	0	0	201
cSH	79	863	1700	1700	1700
Volume to Capacity	1.37	0.20	0.49	0.32	0.12
Queue Length 95th (ft)	212	18	0	0	0
Control Delay (s)	319.4	10.2	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	319.4	1.7		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	19.6		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	225	325	140	45	445	50	165	60	65	95	155	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1779		1770	1835		1770	1863	1583	1770	1863	1583
Flt Permitted	0.13	1.00		0.35	1.00		0.13	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	242	1779		658	1835		248	1863	1583	1331	1863	1583
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)	245	353	152	49	484	54	179	65	71	103	168	342
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	245	496	0	49	535	0	179	65	71	103	168	342
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	69.9	58.2		52.1	46.4		30.1	30.1	134.9	16.9	16.9	134.9
Effective Green, g (s)	69.9	58.2		52.1	46.4		30.1	30.1	134.9	16.9	16.9	134.9
Actuated g/C Ratio	0.52	0.43		0.39	0.34		0.22	0.22	1.00	0.13	0.13	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	323	767		301	631		55	415	1583	166	233	1583
v/s Ratio Prot	c0.10	0.28		0.01	c0.29			0.03			c0.09	
v/s Ratio Perm	0.29			0.06			c0.72		0.04	0.08		0.22
v/c Ratio	0.76	0.65		0.16	0.85		3.25	0.16	0.04	0.62	0.72	0.22
Uniform Delay, d1	25.9	30.3		26.7	41.0		52.4	42.2	0.0	56.0	56.7	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	4.2		0.2	13.4		1059.8	0.1	0.1	6.1	9.8	0.3
Delay (s)	35.3	34.4		26.9	54.3		1112.2	42.3	0.1	62.1	66.6	0.3
Level of Service	D	C		C	D		F	D	A	E	E	A
Approach Delay (s)		34.7			52.1			640.7			28.8	
Approach LOS		C			D			F			C	

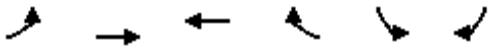
Intersection Summary			
HCM 2000 Control Delay	121.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	134.9	Sum of lost time (s)	24.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	215	270	350	35	20	190
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	234	293	380	38	22	207
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418				1160	399
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418				1160	399
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				87	68
cM capacity (veh/h)	1141				172	650

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	527	418	228
Volume Left	234	0	22
Volume Right	0	38	207
cSH	1141	1700	514
Volume to Capacity	0.20	0.25	0.44
Queue Length 95th (ft)	19	0	56
Control Delay (s)	5.2	0.0	17.5
Lane LOS	A		C
Approach Delay (s)	5.2	0.0	17.5
Approach LOS			C

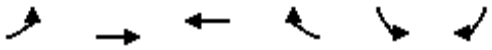
Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	25	265	350	15	10	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	288	380	16	11	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	397				731	389
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	397				731	389
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				97	94
cM capacity (veh/h)	1162				380	660

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	315	397	49
Volume Left	27	0	11
Volume Right	0	16	38
cSH	1162	1700	567
Volume to Capacity	0.02	0.23	0.09
Queue Length 95th (ft)	2	0	7
Control Delay (s)	0.9	0.0	12.0
Lane LOS	A		B
Approach Delay (s)	0.9	0.0	12.0
Approach LOS			B

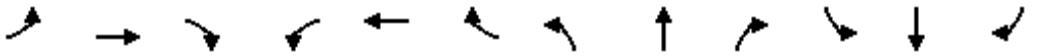
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	255	350	5	5	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	277	380	5	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	386				704	383
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	386				704	383
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	98
cM capacity (veh/h)	1173				396	664

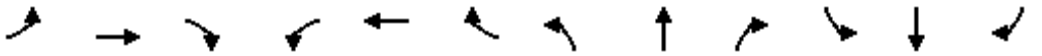
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	299	386	22
Volume Left	22	0	5
Volume Right	0	5	16
cSH	1173	1700	568
Volume to Capacity	0.02	0.23	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	0.8	0.0	11.6
Lane LOS	A		B
Approach Delay (s)	0.8	0.0	11.6
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		



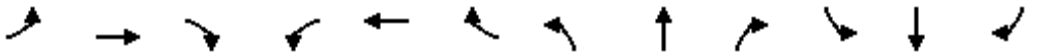
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	7	42	5	151	9	1332	109	99	501	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.81	1.00	0.45	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)		1448			1509	1583	836	3539	1583	247	3539	1583
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)	21	5	8	46	5	164	10	1448	118	108	545	53
RTOR Reduction (vph)	0	7	0	0	0	149	0	0	33	0	0	9
Lane Group Flow (vph)	0	27	0	0	51	15	10	1448	85	108	545	44
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Effective Green, g (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Actuated g/C Ratio		0.09			0.09	0.09	0.72	0.72	0.72	0.83	0.83	0.83
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		130			135	142	599	2537	1135	316	2937	1313
v/s Ratio Prot								c0.41		c0.02	0.15	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.05	0.26		0.03
v/c Ratio		0.21			0.38	0.10	0.02	0.57	0.07	0.34	0.19	0.03
Uniform Delay, d1		42.2			42.9	41.8	4.1	6.8	4.2	4.7	1.7	1.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	4.47	0.54	0.14
Incremental Delay, d2		0.8			1.8	0.3	0.1	0.9	0.1	0.6	0.1	0.0
Delay (s)		43.0			44.6	42.1	4.1	7.7	4.4	21.6	1.1	0.3
Level of Service		D			D	D	A	A	A	C	A	A
Approach Delay (s)		43.0			42.7			7.4			4.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



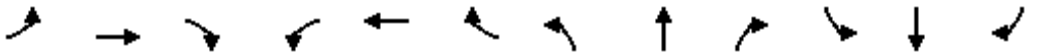
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	0	139	0	0	0	0	1107	396	300	510	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.12	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	225	3539	
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)	186	0	151	0	0	0	0	1203	430	326	554	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	186	0	151	0	0	0	0	1203	430	326	554	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	12.6		100.0					49.4	100.0	76.4	76.4	
Effective Green, g (s)	15.6		100.0					52.4	100.0	78.4	79.4	
Actuated g/C Ratio	0.16		1.00					0.52	1.00	0.78	0.79	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	535		1583					1854	1583	531	2809	
v/s Ratio Prot	c0.05							c0.34		c0.14	0.16	
v/s Ratio Perm			0.10						0.27	0.34		
v/c Ratio	0.35		0.10					0.65	0.27	0.61	0.20	
Uniform Delay, d1	37.7		0.0					17.2	0.0	17.6	2.5	
Progression Factor	1.00		1.00					0.67	1.00	2.94	0.00	
Incremental Delay, d2	0.8		0.1					1.5	0.4	2.1	0.1	
Delay (s)	38.5		0.1					13.0	0.4	54.0	0.1	
Level of Service	D		A					B	A	D	A	
Approach Delay (s)		21.3			0.0			9.7			20.1	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



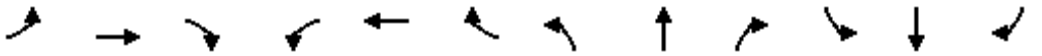
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	412	0	359	677	601	0	0	398	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.41	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	766	3539			3539	1583
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)	0	0	0	448	0	390	736	653	0	0	433	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	448	0	390	736	653	0	0	433	427
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				16.8		100.0	67.2	73.2			32.6	100.0
Effective Green, g (s)				19.8		100.0	73.2	76.2			35.6	100.0
Actuated g/C Ratio				0.20		1.00	0.73	0.76			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				679		1583	938	2696			1259	1583
v/s Ratio Prot				c0.13			c0.30	0.18			0.12	
v/s Ratio Perm						0.25	c0.28					0.27
v/c Ratio				0.66		0.25	0.78	0.24			0.34	0.27
Uniform Delay, d1				37.0		0.0	12.8	3.5			23.6	0.0
Progression Factor				1.00		1.00	1.04	0.02			1.00	1.00
Incremental Delay, d2				2.3		0.4	4.1	0.1			0.7	0.4
Delay (s)				39.3		0.4	17.4	0.2			24.4	0.4
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			21.2			9.3			12.5	
Approach LOS		A			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	239	25	41	215	488	257	40	502	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.37	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1848	1583		1782	1583	692	3539	1583	833	3539	1583
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)	5	27	54	260	27	45	234	530	279	43	546	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	2
Lane Group Flow (vph)	0	32	54	0	287	45	234	530	157	43	546	3
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		5.7	129.6		26.2	129.6	80.2	69.7	69.7	68.4	62.9	62.9
Effective Green, g (s)		8.7	129.6		29.2	129.6	83.2	72.7	72.7	74.4	65.9	65.9
Actuated g/C Ratio		0.07	1.00		0.23	1.00	0.64	0.56	0.56	0.57	0.51	0.51
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		124	1583		401	1583	571	1985	887	539	1799	804
v/s Ratio Prot		c0.02			c0.16		c0.05	0.15		0.01	c0.15	
v/s Ratio Perm			0.03			0.03	0.21		0.10	0.04		0.00
v/c Ratio		0.26	0.03		0.72	0.03	0.41	0.27	0.18	0.08	0.30	0.00
Uniform Delay, d1		57.4	0.0		46.4	0.0	10.3	14.7	13.9	12.1	18.5	15.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		6.4	0.0	0.5	0.3	0.4	0.1	0.4	0.0
Delay (s)		58.9	0.0		52.8	0.0	10.8	15.0	14.3	12.1	18.9	15.7
Level of Service		E	A		D	A	B	B	B	B	B	B
Approach Delay (s)		21.9			45.6			13.9			18.4	
Approach LOS		C			D			B			B	

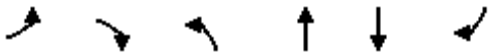
Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	129.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	343	75	59	813	46	29	0	16	81	11	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	373	82	64	884	50	32	0	17	88	12	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	934			373			1457	1480	373	1455	1455	909
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934			373			1457	1480	373	1455	1455	909
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			95			62	100	97	10	90	88
cM capacity (veh/h)	733			1186			82	115	673	98	119	333

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	23	373	82	64	934	49	140
Volume Left	23	0	0	64	0	32	88
Volume Right	0	0	82	0	50	17	40
cSH	733	1700	1700	1186	1700	127	141
Volume to Capacity	0.03	0.22	0.05	0.05	0.55	0.38	0.99
Queue Length 95th (ft)	2	0	0	4	0	40	180
Control Delay (s)	10.1	0.0	0.0	8.2	0.0	51.5	122.8
Lane LOS	B			A		F	F
Approach Delay (s)	0.5			0.5		51.5	122.8
Approach LOS						F	F

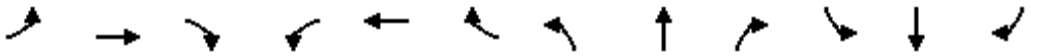
Intersection Summary				
Average Delay	12.3			
Intersection Capacity Utilization	67.4%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	174	0	52	744	339	101
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	189	0	57	809	368	110
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1290	368	478			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1290	368	478			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	95			
cM capacity (veh/h)	171	677	1084			

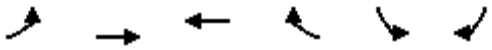
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	189	57	809	368	110
Volume Left	189	57	0	0	0
Volume Right	0	0	0	0	110
cSH	171	1084	1700	1700	1700
Volume to Capacity	1.11	0.05	0.48	0.22	0.06
Queue Length 95th (ft)	241	4	0	0	0
Control Delay (s)	155.1	8.5	0.0	0.0	0.0
Lane LOS	F	A			
Approach Delay (s)	155.1	0.6		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	19.5		
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	192	47	42	384	16	177	42	52	113	54	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1808		1770	1852		1770	1863	1583	1770	1863	1583
Flt Permitted	0.23	1.00		0.59	1.00		0.13	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	433	1808		1091	1852		248	1863	1583	1354	1863	1583
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)	160	209	51	46	417	17	192	46	57	123	59	254
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	160	255	0	46	433	0	192	46	57	123	59	254
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	59.0	47.4		47.2	41.5		30.1	30.1	123.1	15.9	15.9	123.1
Effective Green, g (s)	59.0	47.4		47.2	41.5		30.1	30.1	123.1	15.9	15.9	123.1
Actuated g/C Ratio	0.48	0.39		0.38	0.34		0.24	0.24	1.00	0.13	0.13	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	333	696		449	624		60	455	1583	174	240	1583
v/s Ratio Prot	c0.05	0.14		0.00	c0.23			0.02			0.03	
v/s Ratio Perm	0.18			0.03			c0.78		0.04	c0.09		0.16
v/c Ratio	0.48	0.37		0.10	0.69		3.20	0.10	0.04	0.71	0.25	0.16
Uniform Delay, d1	21.6	27.1		24.0	35.3		46.5	36.0	0.0	51.4	48.2	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	1.5		0.1	6.3		1031.9	0.1	0.0	11.5	0.4	0.2
Delay (s)	22.4	28.6		24.1	41.6		1078.4	36.1	0.0	62.8	48.6	0.2
Level of Service	C	C		C	D		F	D	A	E	D	A
Approach Delay (s)		26.2			39.9			707.5			24.4	
Approach LOS		C			D			F			C	

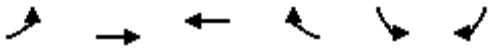
Intersection Summary			
HCM 2000 Control Delay	153.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	123.1	Sum of lost time (s)	24.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	120	140	317	42	32	66
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	152	345	46	35	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	390				780	367
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	390				780	367
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				89	89
cM capacity (veh/h)	1168				323	678

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	283	390	107
Volume Left	130	0	35
Volume Right	0	46	72
cSH	1168	1700	499
Volume to Capacity	0.11	0.23	0.21
Queue Length 95th (ft)	9	0	20
Control Delay (s)	4.5	0.0	14.2
Lane LOS	A		B
Approach Delay (s)	4.5	0.0	14.2
Approach LOS			B

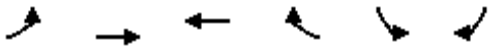
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	49	123	285	45	33	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	134	310	49	36	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	359				574	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359				574	334
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				92	89
cM capacity (veh/h)	1200				459	708

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	187	359	116
Volume Left	53	0	36
Volume Right	0	49	80
cSH	1200	1700	606
Volume to Capacity	0.04	0.21	0.19
Queue Length 95th (ft)	3	0	18
Control Delay (s)	2.6	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	2.6	0.0	12.3
Approach LOS			B

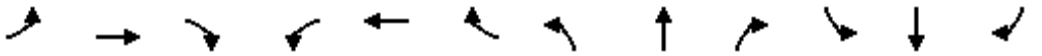
Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	101	318	21	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	110	346	23	5	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	368				589	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	368				589	357
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	98
cM capacity (veh/h)	1190				447	687

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	171	368	17
Volume Left	61	0	5
Volume Right	0	23	12
cSH	1190	1700	588
Volume to Capacity	0.05	0.22	0.03
Queue Length 95th (ft)	4	0	2
Control Delay (s)	3.2	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	3.2	0.0	11.3
Approach LOS			B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

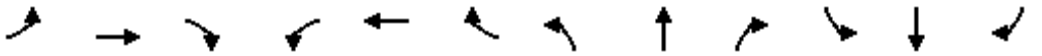


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	5	8	248	5	210	10	765	120	344	1223	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1758			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.49			0.71	1.00	0.21	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)		902			1329	1583	384	3539	1583	463	3539	1583
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	5	9	270	5	228	11	832	130	374	1329	64
RTOR Reduction (vph)	0	6	0	0	0	162	0	0	61	0	0	19
Lane Group Flow (vph)	0	57	0	0	275	66	11	832	69	374	1329	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Effective Green, g (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Actuated g/C Ratio		0.22			0.22	0.22	0.53	0.53	0.53	0.70	0.70	0.70
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		196			289	345	203	1872	837	498	2484	1111
v/s Ratio Prot								0.24		c0.10	0.38	
v/s Ratio Perm		0.06			c0.21	0.04	0.03		0.04	c0.43		0.03
v/c Ratio		0.29			0.95	0.19	0.05	0.44	0.08	0.75	0.54	0.04
Uniform Delay, d1		32.6			38.6	31.9	11.4	14.5	11.6	8.4	7.1	4.6
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.78	0.65	1.15
Incremental Delay, d2		0.8			39.8	0.3	0.5	0.8	0.2	5.8	0.8	0.1
Delay (s)		33.5			78.4	32.2	11.9	15.3	11.8	20.9	5.4	5.3
Level of Service		C			E	C	B	B	B	C	A	A
Approach Delay (s)		33.5			57.4			14.8			8.7	
Approach LOS		C			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

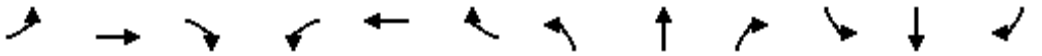
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	0	653	0	0	0	0	639	380	483	972	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.28	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	521	3539	
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)	429	0	710	0	0	0	0	695	413	525	1057	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	429	0	710	0	0	0	0	695	413	525	1057	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	18.4		100.0					45.1	100.0	70.6	70.6	
Effective Green, g (s)	21.4		100.0					48.1	100.0	72.6	73.6	
Actuated g/C Ratio	0.21		1.00					0.48	1.00	0.73	0.74	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	734		1583					1702	1583	646	2604	
v/s Ratio Prot	c0.12							0.20		c0.17	0.30	
v/s Ratio Perm			0.45						0.26	c0.42		
v/c Ratio	0.58		0.45					0.41	0.26	0.81	0.41	
Uniform Delay, d1	35.3		0.0					16.8	0.0	9.2	5.0	
Progression Factor	1.00		1.00					0.54	1.00	1.46	0.01	
Incremental Delay, d2	1.8		0.9					0.7	0.4	6.4	0.4	
Delay (s)	37.2		0.9					9.6	0.4	19.8	0.4	
Level of Service	D		A					A	A	B	A	
Approach Delay (s)		14.6			0.0			6.2			6.9	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



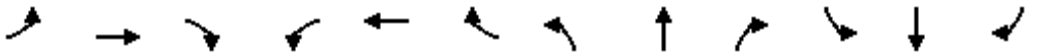
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	728	0	198	261	772	0	0	727	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.20	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	365	3539			3539	1583
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)	0	0	0	791	0	215	284	839	0	0	790	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	791	0	215	284	839	0	0	790	248
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				32.2		100.0	51.8	57.8			33.3	100.0
Effective Green, g (s)				35.2		100.0	57.8	60.8			36.3	100.0
Actuated g/C Ratio				0.35		1.00	0.58	0.61			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				1208		1583	513	2151			1284	1583
v/s Ratio Prot				c0.23			c0.12	0.24			c0.22	
v/s Ratio Perm						0.14	0.20					0.16
v/c Ratio				0.65		0.14	0.55	0.39			0.62	0.16
Uniform Delay, d1				27.3		0.0	24.0	10.1			26.1	0.0
Progression Factor				1.00		1.00	0.94	0.96			1.00	1.00
Incremental Delay, d2				1.3		0.2	2.0	0.2			2.2	0.2
Delay (s)				28.6		0.2	24.6	9.8			28.3	0.2
Level of Service				C		A	C	A			C	A
Approach Delay (s)		0.0			22.5			13.6			21.6	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	347	15	59	60	514	396	81	413	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.45	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)		1854	1583		1777	1583	839	3539	1583	658	3539	1583
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)	5	49	212	377	16	64	65	559	430	88	449	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	225	0	0	3
Lane Group Flow (vph)	0	54	212	0	393	64	65	559	205	88	449	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		8.9	136.6		34.5	136.6	68.3	62.0	62.0	73.1	64.4	64.4
Effective Green, g (s)		11.9	136.6		37.5	136.6	74.3	65.0	65.0	78.7	67.4	67.4
Actuated g/C Ratio		0.09	1.00		0.27	1.00	0.54	0.48	0.48	0.58	0.49	0.49
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		161	1583		487	1583	519	1684	753	474	1746	781
v/s Ratio Prot		c0.03			c0.22		0.01	c0.16		c0.02	0.13	
v/s Ratio Perm			0.13			0.04	0.06		0.13	0.09		0.00
v/c Ratio		0.34	0.13		0.81	0.04	0.13	0.33	0.27	0.19	0.26	0.00
Uniform Delay, d1		58.6	0.0		46.2	0.0	14.9	22.3	21.6	13.7	20.1	17.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.7	0.2		10.0	0.0	0.1	0.5	0.9	0.2	0.4	0.0
Delay (s)		60.3	0.2		56.2	0.0	15.0	22.8	22.4	13.8	20.4	17.6
Level of Service		E	A		E	A	B	C	C	B	C	B
Approach Delay (s)		12.4			48.3			22.2			19.3	
Approach LOS		B			D			C			B	

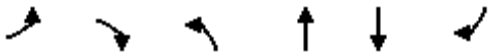
Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	136.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	681	28	23	1205	110	72	5	64	122	5	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	46	740	30	25	1310	120	78	5	70	133	5	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1429			740			2214	2311	740	2254	2251	1370
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1429			740			2214	2311	740	2254	2251	1370
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			97			0	84	83	0	85	78
cM capacity (veh/h)	476			866			20	33	417	19	36	179

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	46	740	30	25	1429	153	178
Volume Left	46	0	0	25	0	78	133
Volume Right	0	0	30	0	120	70	40
cSH	476	1700	1700	866	1700	36	25
Volume to Capacity	0.10	0.44	0.02	0.03	0.84	4.29	7.16
Queue Length 95th (ft)	8	0	0	2	0	Err	Err
Control Delay (s)	13.4	0.0	0.0	9.3	0.0	Err	Err
Lane LOS	B			A		F	F
Approach Delay (s)	0.7			0.2		Err	Err
Approach LOS						F	F

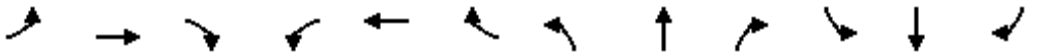
Intersection Summary				
Average Delay	1274.2			
Intersection Capacity Utilization	90.4%	ICU Level of Service	E	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	110	0	194	1313	671	196
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	0	211	1427	729	213
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2578	729	942			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2578	729	942			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	71			
cM capacity (veh/h)	20	423	728			

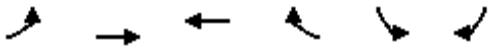
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	120	211	1427	729	213
Volume Left	120	211	0	0	0
Volume Right	0	0	0	0	213
cSH	20	728	1700	1700	1700
Volume to Capacity	5.96	0.29	0.84	0.43	0.13
Queue Length 95th (ft)	Err	30	0	0	0
Control Delay (s)	Err	12.0	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	Err	1.5		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	443.7			
Intersection Capacity Utilization	81.9%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	253	486	164	79	917	53	227	64	99	291	201	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1792		1770	1847		1770	1863	1583	1770	1863	1583
Flt Permitted	0.09	1.00		0.10	1.00		0.13	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	162	1792		186	1847		248	1863	1583	1325	1863	1583
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)	275	528	178	86	997	58	247	70	108	316	218	393
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	275	699	0	86	1054	0	247	70	108	316	218	393
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	67.1	52.0		49.1	40.0		30.0	30.0	145.1	30.0	30.0	145.1
Effective Green, g (s)	67.1	52.0		49.1	40.0		30.0	30.0	145.1	30.0	30.0	145.1
Actuated g/C Ratio	0.46	0.36		0.34	0.28		0.21	0.21	1.00	0.21	0.21	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	308	642		162	509		51	385	1583	273	385	1583
v/s Ratio Prot	c0.13	c0.39		0.03	c0.57			0.04			0.12	
v/s Ratio Perm	0.28			0.15			c0.99		0.07	c0.24		0.25
v/c Ratio	0.89	1.09		0.53	2.07		4.84	0.18	0.07	1.16	0.57	0.25
Uniform Delay, d1	44.0	46.5		38.1	52.5		57.5	47.4	0.0	57.5	51.7	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.0	62.0		2.6	488.2		1772.8	0.2	0.1	103.9	1.6	0.4
Delay (s)	70.0	108.6		40.6	540.7		1830.4	47.6	0.1	161.5	53.3	0.4
Level of Service	E	F		D	F		F	D	A	F	D	A
Approach Delay (s)		97.8			503.0			1071.6			67.7	
Approach LOS		F			F			F			E	

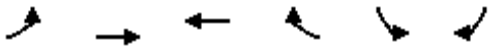
Intersection Summary			
HCM 2000 Control Delay	342.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.34		
Actuated Cycle Length (s)	145.1	Sum of lost time (s)	24.0
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	368	339	576	37	83	274
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	400	368	626	40	90	298
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	666				1815	646
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666				1815	646
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	57				0	37
cM capacity (veh/h)	923				49	471

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	768	666	388
Volume Left	400	0	90
Volume Right	0	40	298
cSH	923	1700	156
Volume to Capacity	0.43	0.39	2.48
Queue Length 95th (ft)	55	0	834
Control Delay (s)	9.3	0.0	732.6
Lane LOS	A		F
Approach Delay (s)	9.3	0.0	732.6
Approach LOS			F

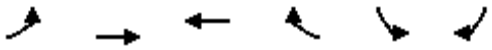
Intersection Summary			
Average Delay	159.9		
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	103	319	514	57	44	99
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	347	559	62	48	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	621				1160	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621				1160	590
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				75	79
cM capacity (veh/h)	960				191	508

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	459	621	155
Volume Left	112	0	48
Volume Right	0	62	108
cSH	960	1700	336
Volume to Capacity	0.12	0.37	0.46
Queue Length 95th (ft)	10	0	58
Control Delay (s)	3.3	0.0	24.6
Lane LOS	A		C
Approach Delay (s)	3.3	0.0	24.6
Approach LOS			C

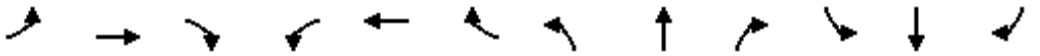
Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	89	274	555	5	5	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	298	603	5	5	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	609				1097	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609				1097	606
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				97	97
cM capacity (veh/h)	970				212	497

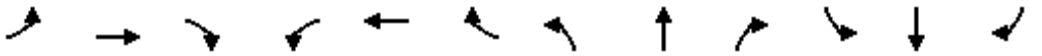
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	395	609	23
Volume Left	97	0	5
Volume Right	0	5	17
cSH	970	1700	377
Volume to Capacity	0.10	0.36	0.06
Queue Length 95th (ft)	8	0	5
Control Delay (s)	3.1	0.0	15.2
Lane LOS	A		C
Approach Delay (s)	3.1	0.0	15.2
Approach LOS			C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		



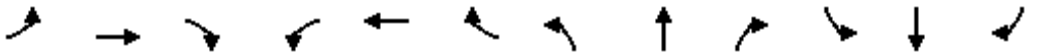
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	7	42	5	151	9	1332	109	99	501	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.81	1.00	0.45	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)		1448			1509	1583	836	3539	1583	247	3539	1583
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)	21	5	8	46	5	164	10	1448	118	108	545	53
RTOR Reduction (vph)	0	7	0	0	0	149	0	0	33	0	0	9
Lane Group Flow (vph)	0	27	0	0	51	15	10	1448	85	108	545	44
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Effective Green, g (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Actuated g/C Ratio		0.09			0.09	0.09	0.72	0.72	0.72	0.83	0.83	0.83
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		130			135	142	599	2537	1135	316	2937	1313
v/s Ratio Prot								c0.41		c0.02	0.15	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.05	0.26		0.03
v/c Ratio		0.21			0.38	0.10	0.02	0.57	0.07	0.34	0.19	0.03
Uniform Delay, d1		42.2			42.9	41.8	4.1	6.8	4.2	4.7	1.7	1.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	4.47	0.54	0.14
Incremental Delay, d2		0.8			1.8	0.3	0.1	0.9	0.1	0.6	0.1	0.0
Delay (s)		43.0			44.6	42.1	4.1	7.7	4.4	21.6	1.1	0.3
Level of Service		D			D	D	A	A	A	C	A	A
Approach Delay (s)		43.0			42.7			7.4			4.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



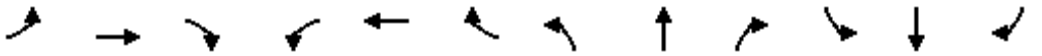
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	0	139	0	0	0	0	1107	396	300	510	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.12	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	225	3539	
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)	186	0	151	0	0	0	0	1203	430	326	554	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	186	0	151	0	0	0	0	1203	430	326	554	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	12.6		100.0					49.4	100.0	76.4	76.4	
Effective Green, g (s)	15.6		100.0					52.4	100.0	78.4	79.4	
Actuated g/C Ratio	0.16		1.00					0.52	1.00	0.78	0.79	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	535		1583					1854	1583	531	2809	
v/s Ratio Prot	c0.05							c0.34		c0.14	0.16	
v/s Ratio Perm			0.10						0.27	0.34		
v/c Ratio	0.35		0.10					0.65	0.27	0.61	0.20	
Uniform Delay, d1	37.7		0.0					17.2	0.0	17.6	2.5	
Progression Factor	1.00		1.00					0.67	1.00	2.94	0.00	
Incremental Delay, d2	0.8		0.1					1.5	0.4	2.1	0.1	
Delay (s)	38.5		0.1					13.0	0.4	54.0	0.1	
Level of Service	D		A					B	A	D	A	
Approach Delay (s)		21.3			0.0			9.7			20.1	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



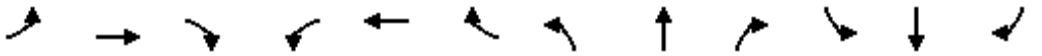
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	412	0	359	677	601	0	0	398	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.41	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	766	3539			3539	1583
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)	0	0	0	448	0	390	736	653	0	0	433	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	448	0	390	736	653	0	0	433	427
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				16.8		100.0	67.2	73.2			32.6	100.0
Effective Green, g (s)				19.8		100.0	73.2	76.2			35.6	100.0
Actuated g/C Ratio				0.20		1.00	0.73	0.76			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				679		1583	938	2696			1259	1583
v/s Ratio Prot				c0.13			c0.30	0.18			0.12	
v/s Ratio Perm						0.25	c0.28					0.27
v/c Ratio				0.66		0.25	0.78	0.24			0.34	0.27
Uniform Delay, d1				37.0		0.0	12.8	3.5			23.6	0.0
Progression Factor				1.00		1.00	1.04	0.02			1.00	1.00
Incremental Delay, d2				2.3		0.4	4.1	0.1			0.7	0.4
Delay (s)				39.3		0.4	17.4	0.2			24.4	0.4
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			21.2			9.3			12.5	
Approach LOS		A			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	239	25	41	215	488	257	40	502	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.37	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1848	1583		1782	1583	692	3539	1583	833	3539	1583
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)	5	27	54	260	27	45	234	530	279	43	546	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	2
Lane Group Flow (vph)	0	32	54	0	287	45	234	530	157	43	546	3
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		5.7	129.6		26.2	129.6	80.2	69.7	69.7	68.4	62.9	62.9
Effective Green, g (s)		8.7	129.6		29.2	129.6	83.2	72.7	72.7	74.4	65.9	65.9
Actuated g/C Ratio		0.07	1.00		0.23	1.00	0.64	0.56	0.56	0.57	0.51	0.51
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		124	1583		401	1583	571	1985	887	539	1799	804
v/s Ratio Prot		c0.02			c0.16		c0.05	0.15		0.01	c0.15	
v/s Ratio Perm			0.03			0.03	0.21		0.10	0.04		0.00
v/c Ratio		0.26	0.03		0.72	0.03	0.41	0.27	0.18	0.08	0.30	0.00
Uniform Delay, d1		57.4	0.0		46.4	0.0	10.3	14.7	13.9	12.1	18.5	15.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		6.4	0.0	0.5	0.3	0.4	0.1	0.4	0.0
Delay (s)		58.9	0.0		52.8	0.0	10.8	15.0	14.3	12.1	18.9	15.7
Level of Service		E	A		D	A	B	B	B	B	B	B
Approach Delay (s)		21.9			45.6			13.9			18.4	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	129.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

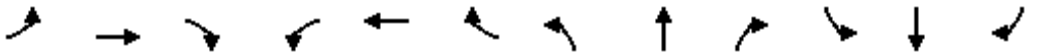


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	343	75	59	813	46	29	0	16	81	11	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	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	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1848			1770	1583		1784	1583
Flt Permitted	0.19	1.00	1.00	0.51	1.00			0.69	1.00		0.73	1.00
Satd. Flow (perm)	352	1863	1583	947	1848			1285	1583		1357	1583
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)	23	373	82	64	884	50	32	0	17	88	12	40
RTOR Reduction (vph)	0	0	26	0	2	0	0	0	15	0	0	34
Lane Group Flow (vph)	23	373	56	64	932	0	0	32	2	0	100	6
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	84.2	81.8	81.8	85.8	82.6			17.0	17.0		17.0	17.0
Effective Green, g (s)	84.2	81.8	81.8	85.8	82.6			17.0	17.0		17.0	17.0
Actuated g/C Ratio	0.70	0.68	0.68	0.71	0.69			0.14	0.14		0.14	0.14
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	275	1269	1079	699	1272			182	224		192	224
v/s Ratio Prot	0.00	0.20		c0.00	c0.50							
v/s Ratio Perm	0.06		0.04	0.06				0.02	0.00		c0.07	0.00
v/c Ratio	0.08	0.29	0.05	0.09	0.73			0.18	0.01		0.52	0.03
Uniform Delay, d1	10.3	7.6	6.3	5.2	11.8			45.3	44.3		47.7	44.4
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.6	0.1	0.1	3.8			2.1	0.1		9.7	0.2
Delay (s)	10.4	8.2	6.4	5.2	15.5			47.4	44.4		57.5	44.6
Level of Service	B	A	A	A	B			D	D		E	D
Approach Delay (s)		8.0			14.9			46.4			53.8	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

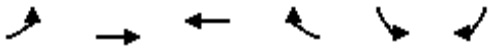
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	339	101	52	744	174	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	1.00	1.00	0.95	1.00	0.95	
Satd. Flow (prot)	1863	1583	1770	1863	1770	
Flt Permitted	1.00	1.00	0.41	1.00	0.95	
Satd. Flow (perm)	1863	1583	759	1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	368	110	57	809	189	0
RTOR Reduction (vph)	0	59	0	0	0	0
Lane Group Flow (vph)	368	51	57	809	189	0
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases		6	2			
Actuated Green, G (s)	28.6	28.6	38.7	38.7	11.3	
Effective Green, g (s)	28.6	28.6	38.7	38.7	11.3	
Actuated g/C Ratio	0.46	0.46	0.62	0.62	0.18	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	859	730	540	1162	322	
v/s Ratio Prot	0.20		0.01	c0.43	c0.11	
v/s Ratio Perm		0.03	0.06			
v/c Ratio	0.43	0.07	0.11	0.70	0.59	
Uniform Delay, d1	11.2	9.3	5.2	7.7	23.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.2	0.1	3.5	2.7	
Delay (s)	12.8	9.5	5.2	11.2	25.9	
Level of Service	B	A	A	B	C	
Approach Delay (s)	12.0			10.8	25.9	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



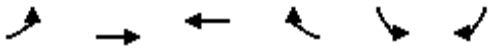
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	192	47	42	384	16	177	42	52	113	54	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1852		1681	1716	1583	1770	1863	1583
Flt Permitted	0.37	1.00	1.00	0.63	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	688	1863	1583	1168	1852		1681	1716	1583	1770	1863	1583
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)	160	209	51	46	417	17	192	46	57	123	59	254
RTOR Reduction (vph)	0	0	23	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	160	209	28	46	433	0	117	121	57	123	59	254
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Free	Split	NA	Free
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases	6		6	2					Free			Free
Actuated Green, G (s)	74.9	65.2	65.2	64.9	60.2		13.2	13.2	120.0	12.9	12.9	120.0
Effective Green, g (s)	74.9	65.2	65.2	64.9	60.2		13.2	13.2	120.0	12.9	12.9	120.0
Actuated g/C Ratio	0.62	0.54	0.54	0.54	0.50		0.11	0.11	1.00	0.11	0.11	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5	3.5	2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	516	1012	860	655	929		184	188	1583	190	200	1583
v/s Ratio Prot	c0.03	0.11		0.00	c0.23		0.07	c0.07		c0.07	0.03	
v/s Ratio Perm	0.17		0.02	0.04					0.04			c0.16
v/c Ratio	0.31	0.21	0.03	0.07	0.47		0.64	0.64	0.04	0.65	0.29	0.16
Uniform Delay, d1	10.9	14.1	12.7	13.0	19.4		51.1	51.1	0.0	51.4	49.4	0.0
Progression Factor	1.00	1.00	1.00	0.72	0.71		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.5	0.1	0.0	1.6		6.2	6.5	0.0	6.5	0.6	0.2
Delay (s)	11.2	14.6	12.8	9.3	15.5		57.3	57.7	0.0	57.9	50.0	0.2
Level of Service	B	B	B	A	B		E	E	A	E	D	A
Approach Delay (s)		13.1			14.9			46.4			23.2	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	120	140	317	42	32	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.98		0.91	
Flt Protected		0.98	1.00		0.98	
Satd. Flow (prot)		1821	1833		1666	
Flt Permitted		0.59	1.00		0.98	
Satd. Flow (perm)		1106	1833		1666	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	152	345	46	35	72
RTOR Reduction (vph)	0	0	3	0	59	0
Lane Group Flow (vph)	0	282	388	0	48	0
Turn Type	custom	NA	NA		Prot	
Protected Phases	1	1 6	2		4	
Permitted Phases	6					
Actuated Green, G (s)		86.0	68.2		22.0	
Effective Green, g (s)		86.0	68.2		22.0	
Actuated g/C Ratio		0.72	0.57		0.18	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		862	1041		305	
v/s Ratio Prot		c0.03	c0.21		c0.03	
v/s Ratio Perm		0.20				
v/c Ratio		0.33	0.37		0.16	
Uniform Delay, d1		6.3	14.2		41.2	
Progression Factor		0.62	1.00		1.00	
Incremental Delay, d2		0.2	1.0		1.1	
Delay (s)		4.1	15.2		42.3	
Level of Service		A	B		D	
Approach Delay (s)		4.1	15.2		42.3	
Approach LOS		A	B		D	

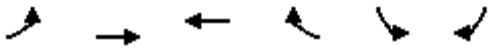
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	49	123	285	45	33	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	134	310	49	36	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	359				574	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359				574	334
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				92	89
cM capacity (veh/h)	1200				459	708

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	187	359	116
Volume Left	53	0	36
Volume Right	0	49	80
cSH	1200	1700	606
Volume to Capacity	0.04	0.21	0.19
Queue Length 95th (ft)	3	0	18
Control Delay (s)	2.6	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	2.6	0.0	12.3
Approach LOS			B

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		



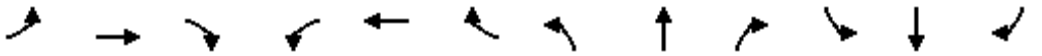
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	101	318	21	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	110	346	23	5	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	368				589	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	368				589	357
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	98
cM capacity (veh/h)	1190				447	687

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	171	368	17
Volume Left	61	0	5
Volume Right	0	23	12
cSH	1190	1700	588
Volume to Capacity	0.05	0.22	0.03
Queue Length 95th (ft)	4	0	2
Control Delay (s)	3.2	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	3.2	0.0	11.3
Approach LOS			B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

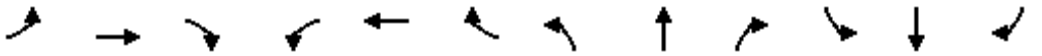
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	5	8	248	5	210	10	765	120	344	1223	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1758			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.49			0.71	1.00	0.21	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)		902			1329	1583	384	3539	1583	463	3539	1583
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	5	9	270	5	228	11	832	130	374	1329	64
RTOR Reduction (vph)	0	6	0	0	0	162	0	0	61	0	0	19
Lane Group Flow (vph)	0	57	0	0	275	66	11	832	69	374	1329	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Effective Green, g (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Actuated g/C Ratio		0.22			0.22	0.22	0.53	0.53	0.53	0.70	0.70	0.70
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		196			289	345	203	1872	837	498	2484	1111
v/s Ratio Prot								0.24		c0.10	0.38	
v/s Ratio Perm		0.06			c0.21	0.04	0.03		0.04	c0.43		0.03
v/c Ratio		0.29			0.95	0.19	0.05	0.44	0.08	0.75	0.54	0.04
Uniform Delay, d1		32.6			38.6	31.9	11.4	14.5	11.6	8.4	7.1	4.6
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.60	0.50	0.55
Incremental Delay, d2		0.8			39.8	0.3	0.5	0.8	0.2	5.8	0.8	0.1
Delay (s)		33.5			78.4	32.2	11.9	15.3	11.8	19.3	4.3	2.6
Level of Service		C			E	C	B	B	B	B	A	A
Approach Delay (s)		33.5			57.4			14.8			7.4	
Approach LOS		C			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	0	653	0	0	0	0	639	380	483	972	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.26	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	480	3539	
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)	429	0	710	0	0	0	0	695	413	525	1057	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	429	0	710	0	0	0	0	695	413	525	1057	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	19.7		100.0					40.2	100.0	69.3	69.3	
Effective Green, g (s)	22.7		100.0					43.2	100.0	71.3	72.3	
Actuated g/C Ratio	0.23		1.00					0.43	1.00	0.71	0.72	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	779		1583					1528	1583	666	2558	
v/s Ratio Prot	c0.12							0.20		c0.20	0.30	
v/s Ratio Perm			0.45						0.26	c0.36		
v/c Ratio	0.55		0.45					0.45	0.26	0.79	0.41	
Uniform Delay, d1	34.1		0.0					20.1	0.0	11.7	5.5	
Progression Factor	1.00		1.00					0.64	1.00	1.46	0.31	
Incremental Delay, d2	1.4		0.9					0.9	0.4	5.1	0.4	
Delay (s)	35.6		0.9					13.7	0.4	22.2	2.1	
Level of Service	D		A					B	A	C	A	
Approach Delay (s)		14.0			0.0			8.7			8.8	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

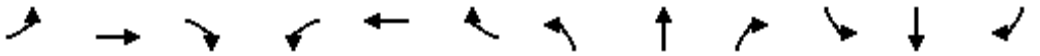


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	728	0	198	261	772	0	0	727	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.20	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	365	3539			3539	1583
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)	0	0	0	791	0	215	284	839	0	0	790	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	791	0	215	284	839	0	0	790	248
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				32.2		100.0	51.8	57.8			33.3	100.0
Effective Green, g (s)				35.2		100.0	57.8	60.8			36.3	100.0
Actuated g/C Ratio				0.35		1.00	0.58	0.61			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				1208		1583	513	2151			1284	1583
v/s Ratio Prot				c0.23			c0.12	0.24			c0.22	
v/s Ratio Perm						0.14	0.20					0.16
v/c Ratio				0.65		0.14	0.55	0.39			0.62	0.16
Uniform Delay, d1				27.3		0.0	24.0	10.1			26.1	0.0
Progression Factor				1.00		1.00	0.34	0.16			1.00	1.00
Incremental Delay, d2				1.3		0.2	2.0	0.2			2.2	0.2
Delay (s)				28.6		0.2	10.0	1.8			28.3	0.2
Level of Service				C		A	B	A			C	A
Approach Delay (s)		0.0			22.5			3.9			21.6	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	347	15	59	60	514	396	81	413	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.45	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)		1854	1583		1777	1583	839	3539	1583	658	3539	1583
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)	5	49	212	377	16	64	65	559	430	88	449	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	225	0	0	3
Lane Group Flow (vph)	0	54	212	0	393	64	65	559	205	88	449	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		8.9	136.6		34.5	136.6	68.3	62.0	62.0	73.1	64.4	64.4
Effective Green, g (s)		11.9	136.6		37.5	136.6	74.3	65.0	65.0	78.7	67.4	67.4
Actuated g/C Ratio		0.09	1.00		0.27	1.00	0.54	0.48	0.48	0.58	0.49	0.49
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		161	1583		487	1583	519	1684	753	474	1746	781
v/s Ratio Prot		c0.03			c0.22		0.01	c0.16		c0.02	0.13	
v/s Ratio Perm			0.13			0.04	0.06		0.13	0.09		0.00
v/c Ratio		0.34	0.13		0.81	0.04	0.13	0.33	0.27	0.19	0.26	0.00
Uniform Delay, d1		58.6	0.0		46.2	0.0	14.9	22.3	21.6	13.7	20.1	17.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.7	0.2		10.0	0.0	0.1	0.5	0.9	0.2	0.4	0.0
Delay (s)		60.3	0.2		56.2	0.0	15.0	22.8	22.4	13.8	20.4	17.6
Level of Service		E	A		E	A	B	C	C	B	C	B
Approach Delay (s)		12.4			48.3			22.2			19.3	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	136.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	681	28	23	1205	110	72	5	64	122	5	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	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	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1839			1779	1583		1777	1583
Flt Permitted	0.04	1.00	1.00	0.31	1.00			0.47	1.00		0.67	1.00
Satd. Flow (perm)	72	1863	1583	586	1839			875	1583		1255	1583
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)	46	740	30	25	1310	120	78	5	70	133	5	40
RTOR Reduction (vph)	0	0	8	0	2	0	0	0	62	0	0	35
Lane Group Flow (vph)	46	740	22	25	1428	0	0	83	8	0	138	5
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	106.8	103.6	103.6	105.2	102.8			16.0	16.0		16.0	16.0
Effective Green, g (s)	106.8	103.6	103.6	105.2	102.8			16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.76	0.74	0.74	0.75	0.73			0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	93	1378	1171	460	1350			100	180		143	180
v/s Ratio Prot	c0.01	0.40		0.00	c0.78							
v/s Ratio Perm	0.36		0.01	0.04				0.09	0.01		c0.11	0.00
v/c Ratio	0.49	0.54	0.02	0.05	1.06			0.83	0.04		0.97	0.03
Uniform Delay, d1	40.4	7.9	4.8	5.7	18.6			60.7	55.2		61.7	55.1
Progression Factor	1.00	1.00	1.00	0.84	1.05			1.00	1.00		1.00	1.00
Incremental Delay, d2	4.1	1.5	0.0	0.0	27.9			52.2	0.5		66.5	0.3
Delay (s)	44.5	9.4	4.8	4.8	47.4			112.9	55.7		128.2	55.3
Level of Service	D	A	A	A	D			F	E		F	E
Approach Delay (s)		11.2			46.7			86.7			111.8	
Approach LOS		B			D			F			F	

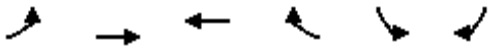
Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	671	196	194	1313	110	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	1.00	1.00	0.95	1.00	0.95	
Satd. Flow (prot)	1863	1583	1770	1863	1770	
Flt Permitted	1.00	1.00	0.23	1.00	0.95	
Satd. Flow (perm)	1863	1583	420	1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	729	213	211	1427	120	0
RTOR Reduction (vph)	0	88	0	0	0	0
Lane Group Flow (vph)	729	125	211	1427	120	0
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases		6	2			
Actuated Green, G (s)	41.0	41.0	53.0	53.0	5.0	
Effective Green, g (s)	41.0	41.0	53.0	53.0	5.0	
Actuated g/C Ratio	0.59	0.59	0.76	0.76	0.07	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1091	927	433	1410	126	
v/s Ratio Prot	0.39		0.04	c0.77	c0.07	
v/s Ratio Perm		0.08	0.33			
v/c Ratio	0.67	0.13	0.49	1.01	0.95	
Uniform Delay, d1	9.9	6.5	6.3	8.5	32.4	
Progression Factor	1.20	2.94	1.78	1.99	1.00	
Incremental Delay, d2	2.7	0.3	0.2	15.0	65.1	
Delay (s)	14.6	19.4	11.4	32.0	97.5	
Level of Service	B	B	B	C	F	
Approach Delay (s)	15.7			29.3	97.5	
Approach LOS	B			C	F	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

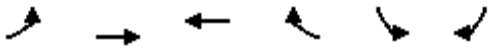
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	253	486	164	79	917	53	227	64	99	291	201	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1847		1681	1721	1583	1770	1863	1583
Flt Permitted	0.06	1.00	1.00	0.37	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	106	1863	1583	697	1847		1681	1721	1583	1770	1863	1583
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)	275	528	178	86	997	58	247	70	108	316	218	393
RTOR Reduction (vph)	0	0	85	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	275	528	93	86	1053	0	156	161	108	316	218	393
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Free	Split	NA	Free
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases	6		6	2					Free			Free
Actuated Green, G (s)	84.0	73.0	73.0	69.0	64.0		11.6	11.6	140.0	26.4	26.4	140.0
Effective Green, g (s)	84.0	73.0	73.0	69.0	64.0		11.6	11.6	140.0	26.4	26.4	140.0
Actuated g/C Ratio	0.60	0.52	0.52	0.49	0.46		0.08	0.08	1.00	0.19	0.19	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5	3.5	2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	230	971	825	381	844		139	142	1583	333	351	1583
v/s Ratio Prot	c0.12	0.28		0.01	c0.57		0.09	c0.09		c0.18	0.12	
v/s Ratio Perm	0.60		0.06	0.10					0.07			0.25
v/c Ratio	1.20	0.54	0.11	0.23	1.25		1.12	1.13	0.07	0.95	0.62	0.25
Uniform Delay, d1	48.0	22.4	17.0	19.6	38.0		64.2	64.2	0.0	56.1	52.2	0.0
Progression Factor	1.05	0.95	2.78	1.25	0.92		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	119.2	1.9	0.2	0.2	119.5		112.9	116.0	0.1	35.6	2.9	0.4
Delay (s)	169.5	23.3	47.6	24.7	154.5		177.1	180.2	0.1	91.7	55.1	0.4
Level of Service	F	C	D	C	F		F	F	A	F	E	A
Approach Delay (s)		68.7			144.7			133.3			44.4	
Approach LOS		E			F			F			D	

Intersection Summary			
HCM 2000 Control Delay	95.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	368	339	576	37	83	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.99		0.90	
Flt Protected		0.97	1.00		0.99	
Satd. Flow (prot)		1815	1848		1650	
Flt Permitted		0.06	1.00		0.99	
Satd. Flow (perm)		109	1848		1650	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	400	368	626	40	90	298
RTOR Reduction (vph)	0	0	2	0	85	0
Lane Group Flow (vph)	0	768	664	0	303	0
Turn Type	custom	NA	NA		Prot	
Protected Phases	7	4 7	8		6	
Permitted Phases	4					
Actuated Green, G (s)		104.0	49.0		24.0	
Effective Green, g (s)		104.0	49.0		24.0	
Actuated g/C Ratio		0.74	0.35		0.17	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		714	646		282	
v/s Ratio Prot		c0.40	0.36		c0.18	
v/s Ratio Perm		c0.40				
v/c Ratio		1.08	1.03		1.07	
Uniform Delay, d1		18.0	45.5		58.0	
Progression Factor		0.95	1.00		1.00	
Incremental Delay, d2		54.3	42.7		74.4	
Delay (s)		71.5	88.2		132.4	
Level of Service		E	F		F	
Approach Delay (s)		71.5	88.2		132.4	
Approach LOS		E	F		F	

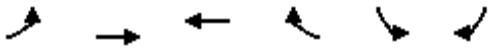
Intersection Summary			
HCM 2000 Control Delay	90.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	107.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	103	319	514	57	44	99
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	347	559	62	48	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	621				1160	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621				1160	590
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				75	79
cM capacity (veh/h)	960				191	508

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	459	621	155
Volume Left	112	0	48
Volume Right	0	62	108
cSH	960	1700	336
Volume to Capacity	0.12	0.37	0.46
Queue Length 95th (ft)	10	0	58
Control Delay (s)	3.3	0.0	24.6
Lane LOS	A		C
Approach Delay (s)	3.3	0.0	24.6
Approach LOS			C

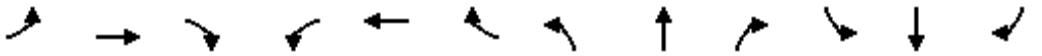
Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	89	274	555	5	5	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	298	603	5	5	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	609				1097	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609				1097	606
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				97	97
cM capacity (veh/h)	970				212	497

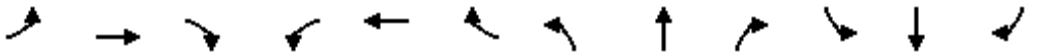
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	395	609	23
Volume Left	97	0	5
Volume Right	0	5	17
cSH	970	1700	377
Volume to Capacity	0.10	0.36	0.06
Queue Length 95th (ft)	8	0	5
Control Delay (s)	3.1	0.0	15.2
Lane LOS	A		C
Approach Delay (s)	3.1	0.0	15.2
Approach LOS			C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		



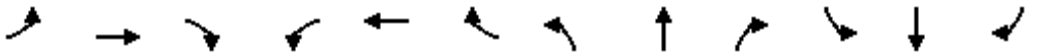
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	7	42	5	180	9	1418	109	149	576	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.81	1.00	0.41	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)		1450			1507	1583	772	3539	1583	204	3539	1583
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)	21	5	8	46	5	196	10	1541	118	162	626	53
RTOR Reduction (vph)	0	7	0	0	0	178	0	0	36	0	0	9
Lane Group Flow (vph)	0	27	0	0	51	18	10	1541	82	162	626	44
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		9.1			9.1	9.1	69.5	69.5	69.5	82.9	82.9	82.9
Effective Green, g (s)		9.1			9.1	9.1	69.5	69.5	69.5	82.9	82.9	82.9
Actuated g/C Ratio		0.09			0.09	0.09	0.70	0.70	0.70	0.83	0.83	0.83
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		131			137	144	536	2459	1100	316	2933	1312
v/s Ratio Prot								c0.44		c0.05	0.18	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.05	0.38		0.03
v/c Ratio		0.20			0.37	0.12	0.02	0.63	0.07	0.51	0.21	0.03
Uniform Delay, d1		42.1			42.8	41.8	4.7	8.2	4.9	8.2	1.8	1.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	4.02	0.54	0.34
Incremental Delay, d2		0.8			1.7	0.4	0.1	1.2	0.1	1.4	0.2	0.0
Delay (s)		42.9			44.5	42.2	4.8	9.5	5.0	34.3	1.1	0.6
Level of Service		D			D	D	A	A	A	C	A	A
Approach Delay (s)		42.9			42.6			9.1			7.5	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



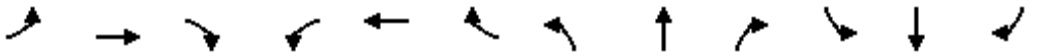
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	0	139	0	0	0	0	1204	413	315	635	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.09	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	165	3539	
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)	217	0	151	0	0	0	0	1309	449	342	690	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	217	0	151	0	0	0	0	1309	449	342	690	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	13.5		100.0					48.1	100.0	75.5	75.5	
Effective Green, g (s)	16.5		100.0					51.1	100.0	77.5	78.5	
Actuated g/C Ratio	0.16		1.00					0.51	1.00	0.78	0.78	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	566		1583					1808	1583	503	2778	
v/s Ratio Prot	c0.06							c0.37		c0.16	0.19	
v/s Ratio Perm			0.10						0.28	0.37		
v/c Ratio	0.38		0.10					0.72	0.28	0.68	0.25	
Uniform Delay, d1	37.2		0.0					19.0	0.0	23.5	2.9	
Progression Factor	1.00		1.00					0.62	1.00	2.36	0.00	
Incremental Delay, d2	0.9		0.1					2.1	0.4	3.2	0.2	
Delay (s)	38.1		0.1					13.8	0.4	58.8	0.2	
Level of Service	D		A					B	A	E	A	
Approach Delay (s)		22.5			0.0			10.4			19.6	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



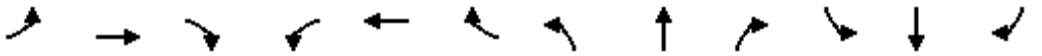
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	517	0	427	677	726	0	0	433	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.38	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	699	3539			3539	1583
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)	0	0	0	562	0	464	736	789	0	0	471	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	562	0	464	736	789	0	0	471	427
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				18.0		100.0	66.0	72.0			31.0	100.0
Effective Green, g (s)				21.0		100.0	72.0	75.0			34.0	100.0
Actuated g/C Ratio				0.21		1.00	0.72	0.75			0.34	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				720		1583	910	2654			1203	1583
v/s Ratio Prot				c0.16			c0.31	0.22			0.13	
v/s Ratio Perm						0.29	c0.28					0.27
v/c Ratio				0.78		0.29	0.81	0.30			0.39	0.27
Uniform Delay, d1				37.3		0.0	14.3	4.0			25.1	0.0
Progression Factor				1.00		1.00	0.93	0.02			1.00	1.00
Incremental Delay, d2				5.5		0.5	4.6	0.1			1.0	0.4
Delay (s)				42.8		0.5	17.9	0.2			26.1	0.4
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			23.7			8.7			13.9	
Approach LOS		A			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	259	25	62	215	555	383	127	518	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1781	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.36	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)		1848	1583		1781	1583	668	3539	1583	685	3539	1583
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)	5	27	54	282	27	67	234	603	416	138	563	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	202	0	0	3
Lane Group Flow (vph)	0	32	54	0	309	67	234	603	214	138	563	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		5.7	130.2		27.9	130.2	76.5	64.1	64.1	71.7	61.7	61.7
Effective Green, g (s)		8.7	130.2		30.9	130.2	82.1	67.1	67.1	77.7	64.7	64.7
Actuated g/C Ratio		0.07	1.00		0.24	1.00	0.63	0.52	0.52	0.60	0.50	0.50
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		123	1583		422	1583	551	1823	815	517	1758	786
v/s Ratio Prot		c0.02			c0.17		c0.05	c0.17		0.03	0.16	
v/s Ratio Perm			0.03			0.04	0.22		0.14	0.13		0.00
v/c Ratio		0.26	0.03		0.73	0.04	0.42	0.33	0.26	0.27	0.32	0.00
Uniform Delay, d1		57.7	0.0		45.8	0.0	11.1	18.4	17.7	11.8	19.6	16.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		6.9	0.1	0.5	0.5	0.8	0.3	0.5	0.0
Delay (s)		59.2	0.0		52.7	0.1	11.6	18.9	18.5	12.1	20.1	16.5
Level of Service		E	A		D	A	B	B	B	B	C	B
Approach Delay (s)		22.1			43.3			17.4			18.5	
Approach LOS		C			D			B			B	

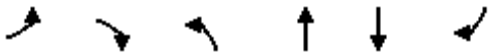
Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	130.2	Sum of lost time (s)	16.5
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	239	492	81	64	1020	124	31	0	18	160	12	218
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	260	535	88	70	1109	135	34	0	20	174	13	237
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1243			535			2427	2437	535	2370	2370	1176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1243			535			2427	2437	535	2370	2370	1176
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	54			93			0	100	96	0	25	0
cM capacity (veh/h)	560			1033			0	16	545	14	17	233

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	260	535	88	70	1243	53	424
Volume Left	260	0	0	70	0	34	174
Volume Right	0	0	88	0	135	20	237
cSH	560	1700	1700	1033	1700	0	30
Volume to Capacity	0.46	0.31	0.05	0.07	0.73	Err	14.00
Queue Length 95th (ft)	61	0	0	5	0	Err	Err
Control Delay (s)	16.9	0.0	0.0	8.7	0.0	Err	Err
Lane LOS	C			A		F	F
Approach Delay (s)	5.0			0.5		Err	Err
Approach LOS						F	F

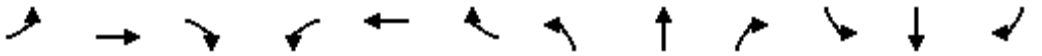
Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	100.6%	ICU Level of Service	G	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	225	0	67	984	531	138
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	245	0	73	1070	577	150
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1792	577	727			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1792	577	727			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	92			
cM capacity (veh/h)	81	516	876			

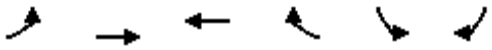
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	245	73	1070	577	150
Volume Left	245	73	0	0	0
Volume Right	0	0	0	0	150
cSH	81	876	1700	1700	1700
Volume to Capacity	3.01	0.08	0.63	0.34	0.09
Queue Length 95th (ft)	Err	7	0	0	0
Control Delay (s)	Err	9.5	0.0	0.0	0.0
Lane LOS	F	A			
Approach Delay (s)	Err	0.6		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	1157.0		
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	297	84	55	550	18	245	47	66	170	71	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.97		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1801		1770	1854		1770	1863	1583	1770	1863	1583
Flt Permitted	0.08	1.00		0.42	1.00		0.13	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	157	1801		781	1854		247	1863	1583	1348	1863	1583
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)	229	323	91	60	598	20	266	51	72	185	77	278
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	229	408	0	60	617	0	266	51	72	185	77	278
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	64.6	52.3		47.9	41.6		30.2	30.2	135.2	22.4	22.4	135.2
Effective Green, g (s)	64.6	52.3		47.9	41.6		30.2	30.2	135.2	22.4	22.4	135.2
Actuated g/C Ratio	0.48	0.39		0.35	0.31		0.22	0.22	1.00	0.17	0.17	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	277	696		322	570		55	416	1583	223	308	1583
v/s Ratio Prot	c0.10	0.23		0.01	c0.33			0.03			0.04	
v/s Ratio Perm	0.29			0.06			c1.08		0.05	c0.14		0.18
v/c Ratio	0.83	0.59		0.19	1.08		4.84	0.12	0.05	0.83	0.25	0.18
Uniform Delay, d1	38.2	32.9		29.4	46.8		52.5	41.9	0.0	54.6	49.1	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.6	3.6		0.2	62.1		1766.7	0.1	0.1	21.4	0.3	0.2
Delay (s)	55.8	36.5		29.6	108.9		1819.2	42.0	0.1	75.9	49.4	0.2
Level of Service	E	D		C	F		F	D	A	E	D	A
Approach Delay (s)		43.4			101.9			1249.5			33.2	
Approach LOS		D			F			F			C	

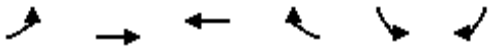
Intersection Summary			
HCM 2000 Control Delay	267.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.01		
Actuated Cycle Length (s)	135.2	Sum of lost time (s)	24.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	176	165	385	47	33	95
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	191	179	418	51	36	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	470				1006	444
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	470				1006	444
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				84	83
cM capacity (veh/h)	1092				220	614

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	371	470	139
Volume Left	191	0	36
Volume Right	0	51	103
cSH	1092	1700	420
Volume to Capacity	0.18	0.28	0.33
Queue Length 95th (ft)	16	0	36
Control Delay (s)	5.5	0.0	17.7
Lane LOS	A		C
Approach Delay (s)	5.5	0.0	17.7
Approach LOS			C

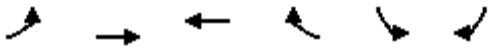
Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	51	147	356	47	34	76
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	160	387	51	37	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	438				683	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	438				683	412
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				91	87
cM capacity (veh/h)	1122				394	640

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	215	438	120
Volume Left	55	0	37
Volume Right	0	51	83
cSH	1122	1700	536
Volume to Capacity	0.05	0.26	0.22
Queue Length 95th (ft)	4	0	21
Control Delay (s)	2.5	0.0	13.6
Lane LOS	A		B
Approach Delay (s)	2.5	0.0	13.6
Approach LOS			B

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		



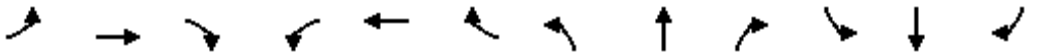
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	70	111	391	23	6	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	121	425	25	7	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	450				710	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	450				710	438
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				98	98
cM capacity (veh/h)	1110				372	619

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	197	450	20
Volume Left	76	0	7
Volume Right	0	25	13
cSH	1110	1700	507
Volume to Capacity	0.07	0.26	0.04
Queue Length 95th (ft)	6	0	3
Control Delay (s)	3.7	0.0	12.4
Lane LOS	A		B
Approach Delay (s)	3.7	0.0	12.4
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

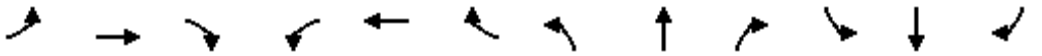
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	5	8	248	5	266	10	927	120	384	1381	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1758			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.51			0.70	1.00	0.17	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)		924			1305	1583	323	3539	1583	265	3539	1583
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	5	9	270	5	289	11	1008	130	417	1501	64
RTOR Reduction (vph)	0	5	0	0	0	161	0	0	73	0	0	19
Lane Group Flow (vph)	0	58	0	0	275	128	11	1008	57	417	1501	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		33.1			33.1	33.1	59.3	59.3	59.3	93.9	93.9	93.9
Effective Green, g (s)		33.1			33.1	33.1	59.3	59.3	59.3	93.9	93.9	93.9
Actuated g/C Ratio		0.25			0.25	0.25	0.44	0.44	0.44	0.70	0.70	0.70
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		226			319	388	141	1554	695	525	2461	1101
v/s Ratio Prot								0.28		c0.18	0.42	
v/s Ratio Perm		0.06			c0.21	0.08	0.03		0.04	c0.37		0.03
v/c Ratio		0.26			0.86	0.33	0.08	0.65	0.08	0.79	0.61	0.04
Uniform Delay, d1		41.1			48.8	41.8	22.0	29.7	22.0	28.1	10.9	6.4
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.48	0.52	0.40
Incremental Delay, d2		0.6			20.6	0.5	1.1	2.1	0.2	7.3	1.0	0.1
Delay (s)		41.7			69.3	42.4	23.1	31.8	22.3	48.9	6.7	2.6
Level of Service		D			E	D	C	C	C	D	A	A
Approach Delay (s)		41.7			55.5			30.6			15.5	
Approach LOS		D			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



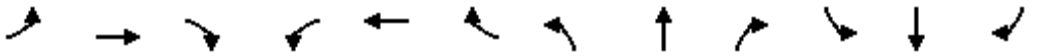
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	451	0	653	0	0	0	0	798	440	536	1170	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	182	3539	
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)	490	0	710	0	0	0	0	867	478	583	1272	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	490	0	710	0	0	0	0	867	478	583	1272	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	24.6		135.0					36.0	135.0	98.4	98.4	
Effective Green, g (s)	27.6		135.0					39.0	135.0	100.4	101.4	
Actuated g/C Ratio	0.20		1.00					0.29	1.00	0.74	0.75	
Clearance Time (s)	6.0							6.0		5.0		
Vehicle Extension (s)	3.0							4.0		5.0		
Lane Grp Cap (vph)	701		1583					1022	1583	834	2658	
v/s Ratio Prot	c0.14							c0.24		c0.31	0.36	
v/s Ratio Perm			0.45						0.30	0.21		
v/c Ratio	0.70		0.45					0.85	0.30	0.70	0.48	
Uniform Delay, d1	49.8		0.0					45.2	0.0	24.7	6.5	
Progression Factor	1.00		1.00					0.77	1.00	1.08	0.37	
Incremental Delay, d2	3.1		0.9					7.2	0.4	3.4	0.4	
Delay (s)	52.9		0.9					42.2	0.4	30.0	2.9	
Level of Service	D		A					D	A	C	A	
Approach Delay (s)		22.1			0.0			27.3			11.4	
Approach LOS		C			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	896	0	336	261	988	0	0	811	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	1.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.21	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	385	3539			3539	1583
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)	0	0	0	974	0	365	284	1074	0	0	882	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	974	0	365	284	1074	0	0	882	248
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				40.5		135.0	78.5	84.5			59.2	135.0
Effective Green, g (s)				43.5		135.0	84.5	87.5			62.2	135.0
Actuated g/C Ratio				0.32		1.00	0.63	0.65			0.46	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				1106		1583	469	2293			1630	1583
v/s Ratio Prot				c0.28			c0.10	0.30			0.25	
v/s Ratio Perm						0.23	c0.28					0.16
v/c Ratio				0.88		0.23	0.61	0.47			0.54	0.16
Uniform Delay, d1				43.3		0.0	31.1	12.0			26.1	0.0
Progression Factor				1.00		1.00	0.46	0.00			1.00	1.00
Incremental Delay, d2				8.4		0.3	2.2	0.2			1.3	0.2
Delay (s)				51.7		0.3	16.6	0.2			27.4	0.2
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			37.7			3.6			21.5	
Approach LOS		A			D			A			C	

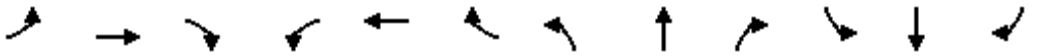
Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	377	15	101	60	653	611	215	467	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.42	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)		1854	1583		1777	1583	789	3539	1583	312	3539	1583
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)	5	49	212	410	16	110	65	710	664	234	508	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	465	0	0	3
Lane Group Flow (vph)	0	54	212	0	426	110	65	710	199	234	508	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		8.0	108.9		35.5	108.9	36.2	29.7	29.7	47.9	36.4	36.4
Effective Green, g (s)		11.0	108.9		38.5	108.9	42.2	32.7	32.7	50.9	39.4	39.4
Actuated g/C Ratio		0.10	1.00		0.35	1.00	0.39	0.30	0.30	0.47	0.36	0.36
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		187	1583		628	1583	391	1062	475	362	1280	572
v/s Ratio Prot		c0.03			c0.24		0.01	c0.20		c0.10	0.14	
v/s Ratio Perm			0.13			0.07	0.05		0.13	0.21		0.00
v/c Ratio		0.29	0.13		0.68	0.07	0.17	0.67	0.42	0.65	0.40	0.00
Uniform Delay, d1		45.3	0.0		29.9	0.0	21.2	33.4	30.5	20.4	25.9	22.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.9	0.2		2.9	0.1	0.2	1.6	0.6	3.9	0.2	0.0
Delay (s)		46.2	0.2		32.8	0.1	21.4	35.0	31.1	24.3	26.1	22.2
Level of Service		D	A		C	A	C	C	C	C	C	C
Approach Delay (s)		9.5			26.1			32.6			25.5	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	108.9	Sum of lost time (s)	16.5
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

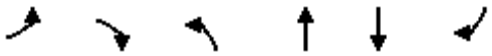
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	356	881	30	25	1705	244	77	6	70	291	6	337
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	387	958	33	27	1853	265	84	7	76	316	7	366
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2118			958			3826	3904	958	3775	3772	1986
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2118			958			3826	3904	958	3775	3772	1986
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	0			96			0	0	76	0	0	0
cM capacity (veh/h)	257			718			0	0	312	0	0	77

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	387	958	33	27	2118	166	689
Volume Left	387	0	0	27	0	84	316
Volume Right	0	0	33	0	265	76	366
cSH	257	1700	1700	718	1700	0	0
Volume to Capacity	1.50	0.56	0.02	0.04	1.25	Err	Err
Queue Length 95th (ft)	566	0	0	3	0	Err	Err
Control Delay (s)	281.8	0.0	0.0	10.2	0.0	Err	Err
Lane LOS	F			B		F	F
Approach Delay (s)	79.2			0.1		Err	Err
Approach LOS						F	F

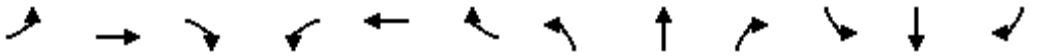
Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	157.4%	ICU Level of Service	H	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	169	0	244	1898	979	263
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	184	0	265	2063	1064	286
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3658	1064	1350			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3658	1064	1350			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	48			
cM capacity (veh/h)	3	271	510			

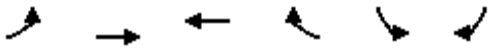
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	184	265	2063	1064	286
Volume Left	184	265	0	0	0
Volume Right	0	0	0	0	286
cSH	3	510	1700	1700	1700
Volume to Capacity	69.21	0.52	1.21	0.63	0.17
Queue Length 95th (ft)	Err	74	0	0	0
Control Delay (s)	Err	19.5	0.0	0.0	0.0
Lane LOS	F	C			
Approach Delay (s)	Err	2.2		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	476.9		
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	319	705	241	117	1395	59	349	70	140	490	258	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
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	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1792		1770	1851		1770	1863	1583	1770	1863	1583
Flt Permitted	0.08	1.00		0.09	1.00		0.13	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	146	1792		166	1851		248	1863	1583	1318	1863	1583
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)	347	766	262	127	1516	64	379	76	152	533	280	432
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	121	0	0	205
Lane Group Flow (vph)	347	1020	0	127	1579	0	379	76	31	533	280	227
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		3	4		4
Actuated Green, G (s)	71.0	53.2		56.8	45.0		30.0	30.0	30.0	30.0	30.0	30.0
Effective Green, g (s)	71.0	53.2		56.8	45.0		30.0	30.0	30.0	30.0	30.0	30.0
Actuated g/C Ratio	0.48	0.36		0.38	0.30		0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	287	639		190	559		49	375	318	265	375	318
v/s Ratio Prot	c0.16	c0.57		0.05	c0.85			0.04			0.15	
v/s Ratio Perm	0.41			0.20			c1.53		0.02	c0.40		0.14
v/c Ratio	1.21	1.60		0.67	2.83		7.73	0.20	0.10	2.01	0.75	0.71
Uniform Delay, d1	48.8	47.9		36.8	52.0		59.5	49.5	48.5	59.5	55.9	55.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	122.0	275.8		7.8	826.3		3072.2	0.2	0.1	468.2	7.5	6.9
Delay (s)	170.8	323.7		44.6	878.3		3131.7	49.7	48.6	527.7	63.4	62.4
Level of Service	F	F		D	F		F	D	D	F	E	E
Approach Delay (s)		285.2			816.3			1973.8			261.8	
Approach LOS		F			F			F			F	

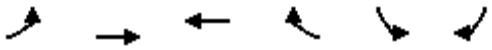
Intersection Summary			
HCM 2000 Control Delay	670.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.54		
Actuated Cycle Length (s)	149.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	148.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	550	409	773	41	85	378
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	598	445	840	45	92	411
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	885				2503	862
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	885				2503	862
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	22				0	0
cM capacity (veh/h)	765				7	354

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1042	885	503
Volume Left	598	0	92
Volume Right	0	45	411
cSH	765	1700	35
Volume to Capacity	0.78	0.52	14.55
Queue Length 95th (ft)	195	0	Err
Control Delay (s)	24.4	0.0	Err
Lane LOS	C		F
Approach Delay (s)	24.4	0.0	Err
Approach LOS			F

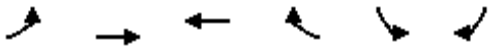
Intersection Summary			
Average Delay	2080.9		
Intersection Capacity Utilization	133.2%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	105	389	711	59	45	103
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	114	423	773	64	49	112
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	837				1456	805
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	837				1456	805
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				60	71
cM capacity (veh/h)	797				123	383

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	537	837	161
Volume Left	114	0	49
Volume Right	0	64	112
cSH	797	1700	232
Volume to Capacity	0.14	0.49	0.69
Queue Length 95th (ft)	12	0	112
Control Delay (s)	3.7	0.0	49.3
Lane LOS	A		E
Approach Delay (s)	3.7	0.0	49.3
Approach LOS			E

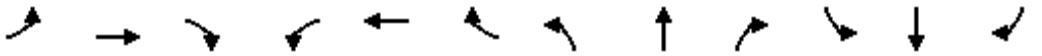
Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	128	258	692	5	5	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	139	280	752	5	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	758				1314	755
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	758				1314	755
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				96	96
cM capacity (veh/h)	854				146	409

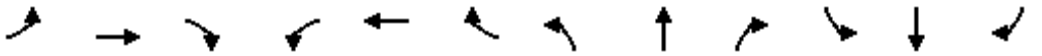
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	420	758	22
Volume Left	139	0	5
Volume Right	0	5	16
cSH	854	1700	282
Volume to Capacity	0.16	0.45	0.08
Queue Length 95th (ft)	15	0	6
Control Delay (s)	4.6	0.0	18.8
Lane LOS	A		C
Approach Delay (s)	4.6	0.0	18.8
Approach LOS			C

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		



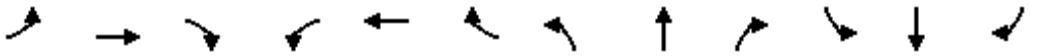
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	6	7	28	7	183	9	1332	59	146	536	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1756			1792	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.75	1.00	0.43	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)		1443			1391	1583	805	3539	1583	212	3539	1583
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)	21	7	8	30	8	199	10	1448	64	159	583	51
RTOR Reduction (vph)	0	7	0	0	0	182	0	0	23	0	0	10
Lane Group Flow (vph)	0	29	0	0	38	17	10	1448	41	159	583	41
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		8.5			8.5	8.5	64.0	64.0	64.0	79.5	79.5	79.5
Effective Green, g (s)		8.5			8.5	8.5	64.0	64.0	64.0	79.5	79.5	79.5
Actuated g/C Ratio		0.08			0.08	0.08	0.64	0.64	0.64	0.80	0.80	0.80
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		122			118	134	515	2264	1013	316	2813	1258
v/s Ratio Prot								c0.41		c0.05	0.16	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.03	0.35		0.03
v/c Ratio		0.24			0.32	0.13	0.02	0.64	0.04	0.50	0.21	0.03
Uniform Delay, d1		42.7			43.0	42.3	6.6	11.0	6.7	8.9	2.5	2.2
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	3.03	0.17	0.00
Incremental Delay, d2		1.0			1.6	0.4	0.1	1.4	0.1	1.2	0.2	0.0
Delay (s)		43.7			44.6	42.7	6.6	12.4	6.7	28.1	0.6	0.0
Level of Service		D			D	D	A	B	A	C	A	A
Approach Delay (s)		43.7			43.0			12.1			6.1	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



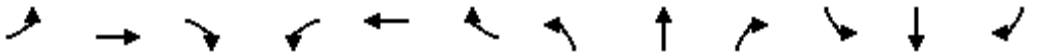
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	199	0	141	0	0	0	0	1132	402	315	587	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.0					6.0	4.0	6.0	6.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.11	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	209	3539	
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)	216	0	153	0	0	0	0	1230	437	342	638	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	216	0	153	0	0	0	0	1230	437	342	638	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	11.6		100.0					49.7	100.0	76.4	76.4	
Effective Green, g (s)	11.6		100.0					49.7	100.0	76.4	76.4	
Actuated g/C Ratio	0.12		1.00					0.50	1.00	0.76	0.76	
Clearance Time (s)	6.0							6.0		6.0		
Vehicle Extension (s)	3.0							3.0		3.0		
Lane Grp Cap (vph)	398		1583					1758	1583	482	2703	
v/s Ratio Prot	c0.06							0.35		c0.15	0.18	
v/s Ratio Perm			0.10						0.28	c0.39		
v/c Ratio	0.54		0.10					0.70	0.28	0.71	0.24	
Uniform Delay, d1	41.7		0.0					19.4	0.0	21.2	3.4	
Progression Factor	1.00		1.00					0.73	1.00	0.91	0.01	
Incremental Delay, d2	1.5		0.1					1.9	0.3	3.4	0.0	
Delay (s)	43.2		0.1					16.1	0.3	22.8	0.1	
Level of Service	D		A					B	A	C	A	
Approach Delay (s)		25.3			0.0			11.9			8.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



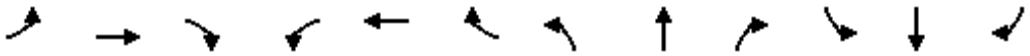
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	509	0	427	678	653	0	0	393	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0	6.0	6.0			6.0	4.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.40	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	747	3539			3539	1583
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)	0	0	0	553	0	464	737	710	0	0	427	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	553	0	464	737	710	0	0	427	427
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				19.6		100.0	70.4	70.4			20.4	100.0
Effective Green, g (s)				19.6		100.0	70.4	70.4			20.4	100.0
Actuated g/C Ratio				0.20		1.00	0.70	0.70			0.20	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			3.0				3.0	
Lane Grp Cap (vph)				672		1583	976	2491			721	1583
v/s Ratio Prot				c0.16			c0.33	0.20			0.12	
v/s Ratio Perm						0.29	c0.20					0.27
v/c Ratio				0.82		0.29	0.76	0.29			0.59	0.27
Uniform Delay, d1				38.5		0.0	12.9	5.5			36.0	0.0
Progression Factor				1.00		1.00	0.37	0.59			0.76	1.00
Incremental Delay, d2				8.0		0.5	2.6	0.0			3.4	0.4
Delay (s)				46.6		0.5	7.3	3.3			30.7	0.4
Level of Service				D		A	A	A			C	A
Approach Delay (s)		0.0			25.5			5.3			15.6	
Approach LOS		A			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	215	25	57	215	560	305	123	522	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.34	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)		1848	1583		1783	1583	627	3539	1583	709	3539	1583
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)	5	27	54	234	27	62	234	609	332	134	567	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	172	0	0	3
Lane Group Flow (vph)	0	32	54	0	261	62	234	609	160	134	567	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		6.0	100.0		19.9	100.0	56.1	45.2	45.2	47.1	40.7	40.7
Effective Green, g (s)		9.0	100.0		22.9	100.0	59.6	48.2	48.2	53.1	43.7	43.7
Actuated g/C Ratio		0.09	1.00		0.23	1.00	0.60	0.48	0.48	0.53	0.44	0.44
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		166	1583		408	1583	532	1705	763	476	1546	691
v/s Ratio Prot		c0.02			c0.15		c0.06	c0.17		0.03	0.16	
v/s Ratio Perm			0.03			0.04	0.20		0.10	0.12		0.00
v/c Ratio		0.19	0.03		0.64	0.04	0.44	0.36	0.21	0.28	0.37	0.00
Uniform Delay, d1		42.1	0.0		34.8	0.0	10.2	16.2	14.9	12.0	18.9	15.9
Progression Factor		1.00	1.00		1.00	1.00	1.04	0.94	1.43	1.00	1.00	1.00
Incremental Delay, d2		0.8	0.0		3.7	0.0	0.6	0.6	0.6	0.3	0.7	0.0
Delay (s)		42.9	0.0		38.5	0.0	11.2	15.8	22.0	12.3	19.5	15.9
Level of Service		D	A		D	A	B	B	C	B	B	B
Approach Delay (s)		16.0			31.1			16.7			18.2	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

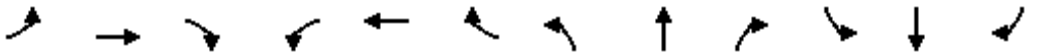


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	208	441	76	70	370	109	30	0	19	121	12	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3419			1770	1583		1782	1583
Flt Permitted	0.34	1.00	1.00	0.41	1.00			0.95	1.00		0.96	1.00
Satd. Flow (perm)	643	1863	1583	758	3419			1770	1583		1782	1583
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)	226	479	83	76	402	118	33	0	21	132	13	233
RTOR Reduction (vph)	0	0	44	0	21	0	0	0	18	0	0	194
Lane Group Flow (vph)	226	479	39	76	499	0	0	33	3	0	145	39
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases	6		6	2					8			4
Actuated Green, G (s)	66.0	56.0	56.0	50.7	46.7			16.0	16.0		20.0	20.0
Effective Green, g (s)	66.0	56.0	56.0	50.7	46.7			16.0	16.0		20.0	20.0
Actuated g/C Ratio	0.55	0.47	0.47	0.42	0.39			0.13	0.13		0.17	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	478	869	738	353	1330			236	211		297	263
v/s Ratio Prot	c0.05	c0.26		0.01	0.15			c0.02			c0.08	
v/s Ratio Perm	0.21		0.02	0.08					0.00			0.02
v/c Ratio	0.47	0.55	0.05	0.22	0.37			0.14	0.01		0.49	0.15
Uniform Delay, d1	14.9	23.0	17.5	21.2	26.2			45.9	45.1		45.4	42.7
Progression Factor	1.00	1.00	1.00	0.92	0.93			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	2.5	0.1	0.3	0.8			1.2	0.1		5.6	1.2
Delay (s)	15.6	25.5	17.6	19.7	25.2			47.2	45.3		51.0	43.9
Level of Service	B	C	B	B	C			D	D		D	D
Approach Delay (s)		21.8			24.5			46.4			46.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

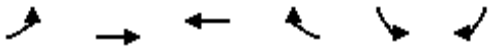
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	437	145	116	859	263	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.96		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3407		1770	3539	1771	
Flt Permitted	1.00		0.35	1.00	0.95	
Satd. Flow (perm)	3407		658	3539	1771	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	475	158	126	934	286	5
RTOR Reduction (vph)	19	0	0	0	1	0
Lane Group Flow (vph)	614	0	126	934	290	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases			2			
Actuated Green, G (s)	69.2		82.7	82.7	25.3	
Effective Green, g (s)	69.2		82.7	82.7	25.3	
Actuated g/C Ratio	0.58		0.69	0.69	0.21	
Clearance Time (s)	6.0		5.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1964		532	2438	373	
v/s Ratio Prot	0.18		0.02	c0.26	c0.16	
v/s Ratio Perm			0.15			
v/c Ratio	0.31		0.24	0.38	0.78	
Uniform Delay, d1	13.1		6.8	7.9	44.7	
Progression Factor	0.20		0.29	0.27	1.00	
Incremental Delay, d2	0.4		0.2	0.4	9.8	
Delay (s)	3.0		2.2	2.5	54.5	
Level of Service	A		A	A	D	
Approach Delay (s)	3.0			2.5	54.5	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



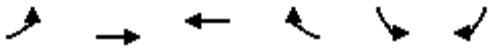
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	283	81	35	480	18	247	47	47	157	74	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	0.97	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3421		1770	3520		1681	1711	1583	3433	1863	1583
Flt Permitted	0.39	1.00		0.50	1.00		0.70	0.75	1.00	0.95	1.00	1.00
Satd. Flow (perm)	724	3421		936	3520		1248	1320	1583	3433	1863	1583
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)	208	308	88	38	522	20	268	51	51	171	80	271
RTOR Reduction (vph)	0	19	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	208	377	0	38	540	0	158	161	51	171	80	271
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Free	Prot	NA	Free
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8		Free			Free
Actuated Green, G (s)	72.1	62.7		52.1	48.7		35.9	35.9	120.0	12.4	8.8	120.0
Effective Green, g (s)	72.1	62.7		52.1	48.7		35.9	35.9	120.0	12.4	8.8	120.0
Actuated g/C Ratio	0.60	0.52		0.43	0.41		0.30	0.30	1.00	0.10	0.07	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		3.0	2.5	
Lane Grp Cap (vph)	586	1787		430	1428		449	463	1583	354	136	1583
v/s Ratio Prot	c0.05	0.11		0.00	0.15		c0.06	0.06		c0.05	c0.04	
v/s Ratio Perm	c0.16			0.04			0.04	0.04	0.03			0.17
v/c Ratio	0.35	0.21		0.09	0.38		0.35	0.35	0.03	0.48	0.59	0.17
Uniform Delay, d1	17.0	15.4		20.9	25.0		33.7	32.9	0.0	50.8	53.8	0.0
Progression Factor	0.52	0.28		0.78	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3		0.1	0.7		0.3	0.3	0.0	1.0	5.3	0.2
Delay (s)	9.0	4.6		16.3	24.6		34.1	33.2	0.0	51.8	59.1	0.2
Level of Service	A	A		B	C		C	C	A	D	E	A
Approach Delay (s)		6.1			24.1			29.0			26.2	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



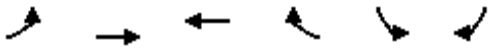
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	176	237	416	47	39	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1837		1770	1583
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	675	1863	1837		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	191	258	452	51	42	103
RTOR Reduction (vph)	0	0	3	0	0	85
Lane Group Flow (vph)	191	258	500	0	42	18
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6					4
Actuated Green, G (s)	87.0	87.0	71.5		21.0	21.0
Effective Green, g (s)	87.0	87.0	71.5		21.0	21.0
Actuated g/C Ratio	0.72	0.72	0.60		0.18	0.18
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	576	1350	1094		309	277
v/s Ratio Prot	c0.03	0.14	c0.27		c0.02	
v/s Ratio Perm	0.21					0.01
v/c Ratio	0.33	0.19	0.46		0.14	0.07
Uniform Delay, d1	7.0	5.3	13.5		41.8	41.3
Progression Factor	1.01	0.71	0.38		1.00	1.00
Incremental Delay, d2	0.3	0.3	1.3		0.9	0.5
Delay (s)	7.3	4.1	6.4		42.7	41.8
Level of Service	A	A	A		D	D
Approach Delay (s)		5.5	6.4		42.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	130	147	356	47	54	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1833		1770	1583
Flt Permitted	0.40	1.00	1.00		0.95	1.00
Satd. Flow (perm)	743	1863	1833		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	160	387	51	59	116
RTOR Reduction (vph)	0	0	3	0	0	93
Lane Group Flow (vph)	141	160	435	0	59	23
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	84.0	84.0	69.4		24.0	24.0
Effective Green, g (s)	84.0	84.0	69.4		24.0	24.0
Actuated g/C Ratio	0.70	0.70	0.58		0.20	0.20
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	593	1304	1060		354	316
v/s Ratio Prot	c0.02	0.09	c0.24		c0.03	
v/s Ratio Perm	0.15					0.01
v/c Ratio	0.24	0.12	0.41		0.17	0.07
Uniform Delay, d1	7.2	5.9	14.0		39.7	39.0
Progression Factor	0.90	0.75	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.2	1.2		1.0	0.5
Delay (s)	6.6	4.6	15.2		40.7	39.4
Level of Service	A	A	B		D	D
Approach Delay (s)		5.6	15.2		39.9	
Approach LOS		A	B		D	

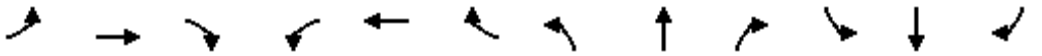
Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	70	131	391	23	6	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	142	425	25	7	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		369				
pX, platoon unblocked						
vC, conflicting volume	450				732	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	450				732	438
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				98	98
cM capacity (veh/h)	1110				362	619

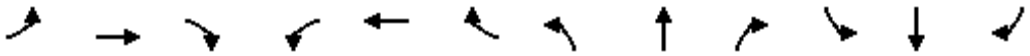
Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	76	142	450	20
Volume Left	76	0	0	7
Volume Right	0	0	25	13
cSH	1110	1700	1700	500
Volume to Capacity	0.07	0.08	0.26	0.04
Queue Length 95th (ft)	6	0	0	3
Control Delay (s)	8.5	0.0	0.0	12.5
Lane LOS	A			B
Approach Delay (s)	3.0		0.0	12.5
Approach LOS				B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		



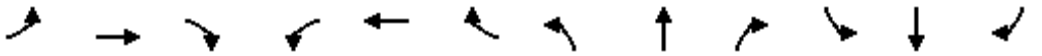
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	7	8	104	7	275	10	765	76	390	1283	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1763			1780	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.61			0.73	1.00	0.19	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)		1121			1351	1583	359	3539	1583	449	3539	1583
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)	47	8	9	113	8	299	11	832	83	424	1395	62
RTOR Reduction (vph)	0	6	0	0	0	259	0	0	39	0	0	13
Lane Group Flow (vph)	0	58	0	0	121	40	11	832	44	424	1395	49
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		18.2			18.2	18.2	68.3	68.3	68.3	104.8	104.8	104.8
Effective Green, g (s)		18.2			18.2	18.2	68.3	68.3	68.3	104.8	104.8	104.8
Actuated g/C Ratio		0.13			0.13	0.13	0.51	0.51	0.51	0.78	0.78	0.78
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		151			182	213	181	1790	800	647	2747	1228
v/s Ratio Prot								0.24		c0.15	0.39	
v/s Ratio Perm		0.05			c0.09	0.03	0.03		0.03	c0.36		0.03
v/c Ratio		0.38			0.66	0.19	0.06	0.46	0.06	0.66	0.51	0.04
Uniform Delay, d1		53.3			55.5	51.8	17.0	21.5	17.0	9.6	5.6	3.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	2.25	0.44	0.39
Incremental Delay, d2		1.6			8.8	0.4	0.6	0.9	0.1	2.2	0.6	0.1
Delay (s)		54.9			64.3	52.3	17.6	22.4	17.1	23.9	3.1	1.4
Level of Service		D			E	D	B	C	B	C	A	A
Approach Delay (s)		54.9			55.8			21.9			7.7	
Approach LOS		D			E			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



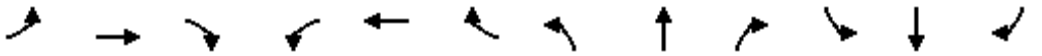
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	449	0	656	0	0	0	0	663	420	536	1074	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.0					6.0	4.0	5.0	6.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.14	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	267	3539	
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)	488	0	713	0	0	0	0	721	457	583	1167	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	488	0	713	0	0	0	0	721	457	583	1167	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	24.5		135.0					36.0	135.0	98.5	98.5	
Effective Green, g (s)	24.5		135.0					36.0	135.0	98.5	98.5	
Actuated g/C Ratio	0.18		1.00					0.27	1.00	0.73	0.73	
Clearance Time (s)	6.0							6.0		5.0		
Vehicle Extension (s)	3.0							4.0		5.0		
Lane Grp Cap (vph)	623		1583					943	1583	834	2582	
v/s Ratio Prot	c0.14							c0.20		c0.30	0.33	
v/s Ratio Perm			0.45						0.29	0.21		
v/c Ratio	0.78		0.45					0.76	0.29	0.70	0.45	
Uniform Delay, d1	52.7		0.0					45.6	0.0	22.4	7.4	
Progression Factor	1.00		1.00					0.73	1.00	1.00	0.25	
Incremental Delay, d2	6.4		0.9					5.4	0.4	3.1	0.4	
Delay (s)	59.1		0.9					38.9	0.4	25.6	2.2	
Level of Service	E		A					D	A	C	A	
Approach Delay (s)		24.6			0.0			24.0			10.0	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



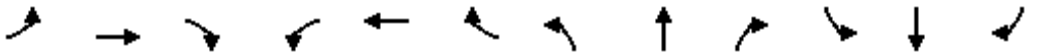
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	882	0	336	263	849	0	0	727	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0	6.0	6.0			6.0	4.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.25	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	462	3539			3539	1583
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)	0	0	0	959	0	365	286	923	0	0	790	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	959	0	365	286	923	0	0	790	248
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				40.2		135.0	84.8	84.8			54.8	135.0
Effective Green, g (s)				40.2		135.0	84.8	84.8			54.8	135.0
Actuated g/C Ratio				0.30		1.00	0.63	0.63			0.41	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			3.0				3.0	
Lane Grp Cap (vph)				1022		1583	522	2223			1436	1583
v/s Ratio Prot				c0.28			c0.10	0.26			0.22	
v/s Ratio Perm						0.23	c0.25					0.16
v/c Ratio				0.94		0.23	0.55	0.42			0.55	0.16
Uniform Delay, d1				46.2		0.0	28.4	12.6			30.7	0.0
Progression Factor				1.00		1.00	0.29	0.01			1.00	1.00
Incremental Delay, d2				15.3		0.3	0.9	0.1			1.5	0.2
Delay (s)				61.5		0.3	9.2	0.2			32.1	0.2
Level of Service				E		A	A	A			C	A
Approach Delay (s)		0.0			44.7			2.3			24.5	
Approach LOS		A			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	281	15	87	60	666	459	202	480	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	4.0		3.0	3.0	6.0	6.0	4.0	3.0	6.5	1.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1778	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.46	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)		1854	1583		1778	1583	854	3539	1583	517	3539	1583
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)	5	49	212	305	16	95	65	724	499	220	522	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	54	212	0	321	95	65	724	499	220	522	5
Turn Type	Split	NA	Free	Split	NA	Free	Perm	NA	Free	pm+pt	NA	Free
Protected Phases	4	4		3	3			2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Actuated Green, G (s)		8.7	135.0		29.1	135.0	59.8	59.8	135.0	78.7	78.7	135.0
Effective Green, g (s)		11.7	135.0		32.1	135.0	59.8	59.8	135.0	81.7	78.7	135.0
Actuated g/C Ratio		0.09	1.00		0.24	1.00	0.44	0.44	1.00	0.61	0.58	1.00
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		160	1583		422	1583	378	1567	1583	465	2063	1583
v/s Ratio Prot		0.03			c0.18			0.20		c0.06	0.15	
v/s Ratio Perm			0.13			0.06	0.08		c0.32	c0.23		0.00
v/c Ratio		0.34	0.13		0.76	0.06	0.17	0.46	0.32	0.47	0.25	0.00
Uniform Delay, d1		58.0	0.0		47.9	0.0	22.7	26.3	0.0	13.6	13.8	0.0
Progression Factor		1.00	1.00		1.00	1.00	0.64	0.68	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.3	0.2		7.9	0.1	0.9	0.9	0.5	0.8	0.3	0.0
Delay (s)		59.3	0.2		55.8	0.1	15.5	18.8	0.5	14.4	14.1	0.0
Level of Service		E	A		E	A	B	B	A	B	B	A
Approach Delay (s)		12.2			43.0			11.6			14.1	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

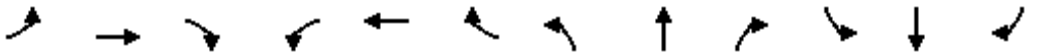


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	314	748	27	29	599	158	73	6	74	223	6	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3428			1781	1583		1776	1583
Flt Permitted	0.25	1.00	1.00	0.25	1.00			0.37	1.00		0.67	1.00
Satd. Flow (perm)	470	1863	1583	463	3428			686	1583		1248	1583
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)	341	813	29	32	651	172	79	7	80	242	7	368
RTOR Reduction (vph)	0	0	11	0	15	0	0	0	62	0	0	286
Lane Group Flow (vph)	341	813	18	32	808	0	0	86	18	0	249	82
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	96.7	88.1	88.1	76.7	74.1			31.3	31.3		31.3	31.3
Effective Green, g (s)	96.7	88.1	88.1	76.7	74.1			31.3	31.3		31.3	31.3
Actuated g/C Ratio	0.69	0.63	0.63	0.55	0.53			0.22	0.22		0.22	0.22
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	478	1172	996	277	1814			153	353		279	353
v/s Ratio Prot	c0.08	0.44		0.00	0.24							
v/s Ratio Perm	c0.41		0.01	0.06				0.13	0.01		c0.20	0.05
v/c Ratio	0.71	0.69	0.02	0.12	0.45			0.56	0.05		0.89	0.23
Uniform Delay, d1	11.7	17.1	9.7	16.5	20.3			48.3	42.7		52.7	44.5
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	5.0	3.4	0.0	0.2	0.8			4.7	0.1		28.0	0.3
Delay (s)	16.7	20.5	9.8	16.7	21.1			52.9	42.7		80.7	44.9
Level of Service	B	C	A	B	C			D	D		F	D
Approach Delay (s)		19.1			20.9			48.0			59.3	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

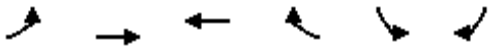
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	769	276	359	1537	223	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.96		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3399		1770	3539	1770	
Flt Permitted	1.00		0.14	1.00	0.95	
Satd. Flow (perm)	3399		262	3539	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	836	300	390	1671	242	0
RTOR Reduction (vph)	47	0	0	0	0	0
Lane Group Flow (vph)	1089	0	390	1671	242	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases			2			
Actuated Green, G (s)	30.1		48.1	48.1	13.9	
Effective Green, g (s)	30.1		48.1	48.1	13.9	
Actuated g/C Ratio	0.41		0.65	0.65	0.19	
Clearance Time (s)	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1382		414	2300	332	
v/s Ratio Prot	0.32		c0.15	0.47	c0.14	
v/s Ratio Perm			c0.46			
v/c Ratio	0.79		0.94	0.73	0.73	
Uniform Delay, d1	19.2		20.3	8.6	28.3	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	4.6		29.8	2.0	7.8	
Delay (s)	23.8		50.2	10.6	36.1	
Level of Service	C		D	B	D	
Approach Delay (s)	23.8			18.1	36.1	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	74.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



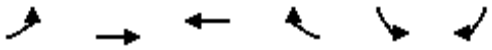
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	662	229	55	1165	59	355	70	77	461	270	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	0.97	1.00	1.00
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3403		1770	3514		1681	1712	1583	3433	1863	1583
Flt Permitted	0.07	1.00		0.27	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	128	3403		497	3514		1681	1712	1583	3433	1863	1583
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)	332	720	249	60	1266	64	386	76	84	501	293	408
RTOR Reduction (vph)	0	24	0	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	332	945	0	60	1327	0	228	234	84	501	293	408
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Free	Split	NA	Free
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases	6			2					Free			Free
Actuated Green, G (s)	79.0	69.0		56.0	52.0		18.4	18.4	140.0	24.6	24.6	140.0
Effective Green, g (s)	79.0	69.0		56.0	52.0		18.4	18.4	140.0	24.6	24.6	140.0
Actuated g/C Ratio	0.56	0.49		0.40	0.37		0.13	0.13	1.00	0.18	0.18	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	318	1677		235	1305		220	225	1583	603	327	1583
v/s Ratio Prot	c0.16	0.28		0.01	0.38		0.14	c0.14		0.15	c0.16	
v/s Ratio Perm	c0.43			0.09					0.05			0.26
v/c Ratio	1.04	0.56		0.26	1.02		1.04	1.04	0.05	0.83	0.90	0.26
Uniform Delay, d1	47.2	24.9		26.2	44.0		60.8	60.8	0.0	55.7	56.4	0.0
Progression Factor	1.00	1.00		1.29	1.10		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	62.4	1.4		0.2	23.5		70.5	70.8	0.1	9.3	25.3	0.4
Delay (s)	109.6	26.3		34.0	72.0		131.3	131.6	0.1	65.0	81.8	0.4
Level of Service	F	C		C	E		F	F	A	E	F	A
Approach Delay (s)		47.6			70.3			111.3			47.2	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM 2000 Control Delay	62.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



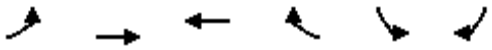
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	550	637	850	41	110	378
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1851		1770	1583
Flt Permitted	0.05	1.00	1.00		0.95	1.00
Satd. Flow (perm)	98	1863	1851		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	598	692	924	45	120	411
RTOR Reduction (vph)	0	0	2	0	0	371
Lane Group Flow (vph)	598	692	968	0	120	40
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6					4
Actuated Green, G (s)	114.3	114.3	70.0		13.7	13.7
Effective Green, g (s)	114.3	114.3	70.0		13.7	13.7
Actuated g/C Ratio	0.82	0.82	0.50		0.10	0.10
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	537	1521	925		173	154
v/s Ratio Prot	c0.30	0.37	0.52		c0.07	
v/s Ratio Perm	c0.60					0.03
v/c Ratio	1.11	0.45	1.05		0.69	0.26
Uniform Delay, d1	46.2	3.8	35.0		61.1	58.5
Progression Factor	0.85	0.32	0.52		1.00	1.00
Incremental Delay, d2	61.9	0.4	37.0		11.4	0.9
Delay (s)	101.0	1.6	55.2		72.5	59.4
Level of Service	F	A	E		E	E
Approach Delay (s)		47.7	55.2		62.3	
Approach LOS		D	E		E	

Intersection Summary			
HCM 2000 Control Delay	53.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	360	387	712	60	61	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1843		1770	1583
Flt Permitted	0.14	1.00	1.00		0.95	1.00
Satd. Flow (perm)	266	1863	1843		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	421	774	65	66	193
RTOR Reduction (vph)	0	0	2	0	0	171
Lane Group Flow (vph)	391	421	837	0	66	22
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	112.0	112.0	81.0		16.0	16.0
Effective Green, g (s)	112.0	112.0	81.0		16.0	16.0
Actuated g/C Ratio	0.80	0.80	0.58		0.11	0.11
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	481	1490	1066		202	180
v/s Ratio Prot	c0.15	0.23	0.45		c0.04	
v/s Ratio Perm	c0.50					0.01
v/c Ratio	0.81	0.28	0.79		0.33	0.12
Uniform Delay, d1	31.0	3.6	22.8		57.0	55.7
Progression Factor	1.28	0.99	1.00		1.00	1.00
Incremental Delay, d2	9.1	0.4	5.8		4.3	1.4
Delay (s)	49.0	4.0	28.6		61.3	57.1
Level of Service	D	A	C		E	E
Approach Delay (s)		25.7	28.6		58.2	
Approach LOS		C	C		E	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	131	316	754	6	6	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	142	343	820	7	7	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		369				
pX, platoon unblocked					0.97	
vC, conflicting volume	826				1451	823
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	826				1449	823
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				94	95
cM capacity (veh/h)	805				115	374

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	142	343	826	26
Volume Left	142	0	0	7
Volume Right	0	0	7	20
cSH	805	1700	1700	239
Volume to Capacity	0.18	0.20	0.49	0.11
Queue Length 95th (ft)	16	0	0	9
Control Delay (s)	10.4	0.0	0.0	21.9
Lane LOS	B			C
Approach Delay (s)	3.1		0.0	21.9
Approach LOS				C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	21	70	99	27	137	138	31	122	19	57	11
Average Queue (ft)	6	32	49	2	38	46	3	33	2	8	1
95th Queue (ft)	20	72	85	14	97	110	16	75	10	31	5
Link Distance (ft)	1748	1933			2571	2571			572	572	572
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)			0								
Queuing Penalty (veh)			0								

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	L	T	T	R	L	T
Maximum Queue (ft)	132	93	320	294	138	238	39
Average Queue (ft)	61	40	107	114	0	103	1
95th Queue (ft)	113	82	249	253	0	195	13
Link Distance (ft)		1404	572	572	572	387	387
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	285						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	L	T	T	T	T	R
Maximum Queue (ft)	236	207	289	89	117	173	111	287
Average Queue (ft)	87	94	140	22	30	77	37	10
95th Queue (ft)	177	174	256	65	80	144	94	98
Link Distance (ft)			387	387	387	621	621	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	355	355						500
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	90	412	125	238	101	106	46	70	149	149
Average Queue (ft)	33	137	21	72	29	49	2	14	84	93
95th Queue (ft)	72	263	96	150	76	96	16	46	144	160
Link Distance (ft)	882	1210			755	755				
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			100	250			255	180		
Storage Blk Time (%)	0	20	0	0						
Queuing Penalty (veh)	0	7	0	0						

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 C

Movement	EB	NB	SB
Directions Served	TR	LTR	TR
Maximum Queue (ft)	32	56	55
Average Queue (ft)	4	4	13
95th Queue (ft)	22	22	43
Link Distance (ft)	1555	1485	118
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	116	168	53	75
Average Queue (ft)	54	73	18	30
95th Queue (ft)	101	143	47	63
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LT	LT	R
Maximum Queue (ft)	25	31	49	51	48
Average Queue (ft)	6	7	11	25	17
95th Queue (ft)	22	28	37	53	43
Link Distance (ft)			285	1025	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	150			250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB
Directions Served	L	L
Maximum Queue (ft)	90	50
Average Queue (ft)	59	14
95th Queue (ft)	89	41
Link Distance (ft)	73	
Upstream Blk Time (%)	6	
Queuing Penalty (veh)	11	
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	L	T	R
Maximum Queue (ft)	152	177	53	155	182	93	67	113	56
Average Queue (ft)	48	54	17	69	78	26	16	29	19
95th Queue (ft)	103	112	45	141	147	66	47	63	59
Link Distance (ft)		385		2997		2496	298	298	298
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	130		100		160				
Storage Blk Time (%)	1			3	1				
Queuing Penalty (veh)	1			1	1				

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	75	78
Average Queue (ft)	24	24
95th Queue (ft)	63	52
Link Distance (ft)	2997	426
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	75	43
Average Queue (ft)	5	9
95th Queue (ft)	30	28
Link Distance (ft)	1908	788
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	79	26
Average Queue (ft)	4	7
95th Queue (ft)	22	26
Link Distance (ft)	284	1257
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: MD 18 (Main Street) & Piney Narrow Roads

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	96	108	51
Average Queue (ft)	39	70	20
95th Queue (ft)	86	108	45
Link Distance (ft)	1670	1235	406
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: MD 18 (Main Street) & Piney Narrows Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	54	67
Average Queue (ft)	9	33
95th Queue (ft)	37	47
Link Distance (ft)	1235	177
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: MD 18 (Main Street)

Movement	EB	WB
Directions Served	T	R
Maximum Queue (ft)	78	31
Average Queue (ft)	28	7
95th Queue (ft)	60	27
Link Distance (ft)	209	385
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Postal Road

Movement	EB
Directions Served	LT
Maximum Queue (ft)	54
Average Queue (ft)	14
95th Queue (ft)	48
Link Distance (ft)	1945
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 19: Love Point Road & MD 18 (Main Street)

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	136	22	180
Average Queue (ft)	25	1	82
95th Queue (ft)	79	7	137
Link Distance (ft)	1210	1691	2551
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 28: MD Route 552 (Dominion Rd) & US Route 50 On-Ramp & US Route 50 Off-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 29: S. Piney Road & US Route 50 On-Ramp/US Route 50 Off-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 30: US Route 50 Off-Ramp/Castle Marina Road & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 31: Duke Street & MD 18 (Main Street)

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	118	127
Average Queue (ft)	15	45
95th Queue (ft)	68	90
Link Distance (ft)	348	556
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 34: Love Point Road & Old Love Point Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	55	142	96
Average Queue (ft)	28	63	60
95th Queue (ft)	45	100	85
Link Distance (ft)		2551	1782
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 47: US Route 50 Off-Ramp/Duke Street & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 48: MD 8 (Romancoke Road) & Driveway

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: Dundee Avenue & US Route 50

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 65: Piney Narrows Road

Movement	NB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	26
95th Queue (ft)	49
Link Distance (ft)	177
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 68: MD 18 (Main Street) & Elementary Way

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	119	96
Average Queue (ft)	14	46
95th Queue (ft)	60	74
Link Distance (ft)	348	658
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 70: Shopping Center Road & MD 18 (Main Street)

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	99	93
Average Queue (ft)	34	32
95th Queue (ft)	86	63
Link Distance (ft)	3448	518
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 72: Piney Narrows Road

Movement	WB	SB
Directions Served	TR	LR
Maximum Queue (ft)	31	20
Average Queue (ft)	26	1
95th Queue (ft)	44	7
Link Distance (ft)	538	856
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 74: Piney Narrow Roads & US Route 50

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 82: US Route 50 Off-Ramp/Castle Station Lane & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 21

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	84	514	135	30	274	343	76	184	86	119	13
Average Queue (ft)	13	229	97	7	44	124	29	79	24	39	1
95th Queue (ft)	46	444	176	27	133	253	64	143	63	85	7
Link Distance (ft)	1748	1933			2571	2571			572	572	572
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)		28	0		0						
Queuing Penalty (veh)		58	0		0						

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	309	377	225	430	468	129	312	96	92
Average Queue (ft)	163	178	40	128	272	5	174	33	36
95th Queue (ft)	241	271	181	330	416	44	294	75	68
Link Distance (ft)		5457		572	572	572	389	389	389
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	285		200						
Storage Blk Time (%)		5	0						
Queuing Penalty (veh)		35	1						

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	T
Maximum Queue (ft)	358	379	389	128	69	94	279	284
Average Queue (ft)	180	225	24	36	5	11	170	102
95th Queue (ft)	321	337	168	82	28	49	274	182
Link Distance (ft)			1175	389	389	389	571	571
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	355	355						
Storage Blk Time (%)	1	0	0					
Queuing Penalty (veh)	1	0	0					

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	73	45	277	125	70	155	153	129	71	152	104
Average Queue (ft)	38	2	143	26	24	72	80	47	36	88	44
95th Queue (ft)	77	15	230	110	55	142	144	115	67	148	99
Link Distance (ft)	884		1224			327	327				
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		100		100	250			255	180		
Storage Blk Time (%)			25	0							
Queuing Penalty (veh)			11	0							

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 C

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	98	133	150
Average Queue (ft)	36	43	36
95th Queue (ft)	86	99	90
Link Distance (ft)	1555	1485	135
Upstream Blk Time (%)			2
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	190	321	76	77
Average Queue (ft)	112	137	32	37
95th Queue (ft)	179	298	68	64
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LT	LT	R
Maximum Queue (ft)	44	30	54	71	53
Average Queue (ft)	9	4	32	22	22
95th Queue (ft)	32	21	58	54	50
Link Distance (ft)			285	1025	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	150			250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB	SB
Directions Served	L	L	R
Maximum Queue (ft)	73	93	22
Average Queue (ft)	53	37	3
95th Queue (ft)	80	74	15
Link Distance (ft)	73		
Upstream Blk Time (%)	8		
Queuing Penalty (veh)	8		
Storage Bay Dist (ft)		150	200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Dominion Rd & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	154	403	124	438	182	113	86	174	246	258
Average Queue (ft)	112	198	29	249	106	41	11	78	111	96
95th Queue (ft)	180	382	87	395	175	87	51	148	201	182
Link Distance (ft)		386		2997		2496			304	304
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		3								
Storage Bay Dist (ft)	130		100		160		240	150		
Storage Blk Time (%)	6	13	0	28	3				4	
Queuing Penalty (veh)	27	30	0	13	4				4	

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	236	354
Average Queue (ft)	67	65
95th Queue (ft)	161	190
Link Distance (ft)	2997	426
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	96	40
Average Queue (ft)	10	11
95th Queue (ft)	49	27
Link Distance (ft)	1908	788
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	32	26
Average Queue (ft)	3	8
95th Queue (ft)	19	27
Link Distance (ft)	284	1257
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: MD 18 (Main Street) & Piney Narrow Roads

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	136	161	54
Average Queue (ft)	78	88	29
95th Queue (ft)	128	141	56
Link Distance (ft)	1670	1235	406
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: MD 18 (Main Street) & Piney Narrows Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	144	93
Average Queue (ft)	25	44
95th Queue (ft)	79	74
Link Distance (ft)	1235	177
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: MD 18 (Main Street)

Movement	EB	WB	SB
Directions Served	T	R	L
Maximum Queue (ft)	181	80	55
Average Queue (ft)	80	32	4
95th Queue (ft)	136	77	24
Link Distance (ft)	209	386	142
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Postal Road

Movement	EB
Directions Served	LT
Maximum Queue (ft)	224
Average Queue (ft)	18
95th Queue (ft)	104
Link Distance (ft)	1945
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 19: Love Point Road & MD 18 (Main Street)

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	120	22	116
Average Queue (ft)	22	1	65
95th Queue (ft)	78	7	104
Link Distance (ft)	1224	1691	2551
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 28: Dominion Rd & US Route 50 On-Ramp & US Route 50 Off-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 29: S. Piney Road & US Route 50 On-Ramp/US Route 50 Off-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 30: US Route 50 Off-Ramp/Castle Marina Road & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 31: Duke Street & MD 18 (Main Street)

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	140	116
Average Queue (ft)	46	50
95th Queue (ft)	111	94
Link Distance (ft)	348	556
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 34: Love Point Road & Old Love Point Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	74	137	78
Average Queue (ft)	33	58	46
95th Queue (ft)	52	94	67
Link Distance (ft)		2551	1782
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 47: US Route 50 Off-Ramp/Duke Street & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 48: MD 8 (Romancoke Road) & Driveway

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: Dundee Avenue & US Route 50

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 65: Piney Narrows Road

Movement	NB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	28
95th Queue (ft)	40
Link Distance (ft)	177
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 68: MD 18 (Main Street) & Elementary Way

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	142	21	136
Average Queue (ft)	31	1	53
95th Queue (ft)	86	7	94
Link Distance (ft)	348	103	658
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 70: Shopping Center Road & MD 18 (Main Street)

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	19	95	95
Average Queue (ft)	1	13	50
95th Queue (ft)	7	53	76
Link Distance (ft)	132	3448	518
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 72: Piney Narrows Road

Movement	EB	WB
Directions Served	LT	TR
Maximum Queue (ft)	79	50
Average Queue (ft)	31	31
95th Queue (ft)	53	38
Link Distance (ft)	449	551
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 74: Piney Narrow Roads & US Route 50

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 82: US Route 50 Off-Ramp/Castle Station Lane & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 198

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	68	123	126	36	324	620	109	162	74	88	23
Average Queue (ft)	19	40	66	8	138	193	23	67	12	25	3
95th Queue (ft)	49	87	112	31	274	341	82	132	45	65	13
Link Distance (ft)	1748	1933			2571	2571			572	572	572
Upstream Blk Time (%)						0					
Queuing Penalty (veh)						0					
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)		0	2		1	0		0			
Queuing Penalty (veh)		1	1		0	0		1			

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	223	248	133	457	462	173	375	21	11
Average Queue (ft)	90	98	6	224	219	15	199	1	1
95th Queue (ft)	178	197	62	440	447	118	341	10	6
Link Distance (ft)		1404		572	572	572	387	387	387
Upstream Blk Time (%)				0	0		1		
Queuing Penalty (veh)				1	1		2		
Storage Bay Dist (ft)	285		200						
Storage Blk Time (%)	0	1	0						
Queuing Penalty (veh)	0	2	0						

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	367	380	973	414	155	144	232	199	366
Average Queue (ft)	220	274	314	264	30	30	128	93	58
95th Queue (ft)	409	417	963	434	100	97	203	166	268
Link Distance (ft)			1175	387	387	387	1427	1427	
Upstream Blk Time (%)			4	2					
Queuing Penalty (veh)			0	11					
Storage Bay Dist (ft)	355	355							500
Storage Blk Time (%)	2	11	1						0
Queuing Penalty (veh)	8	50	7						0

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	101	37	335	125	184	171	190	134	112	158	157
Average Queue (ft)	34	1	171	33	75	81	96	37	52	101	110
95th Queue (ft)	77	23	282	123	142	151	164	101	100	169	176
Link Distance (ft)	882		1210			1427	1427				
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		100		100	250			255	180		
Storage Blk Time (%)	1		29	0	0					0	
Queuing Penalty (veh)	0		18	0	0					0	

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 C

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	66	67	79
Average Queue (ft)	12	13	22
95th Queue (ft)	43	45	60
Link Distance (ft)	1555	1485	118
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	1296	487	110	305
Average Queue (ft)	734	477	46	128
95th Queue (ft)	1438	484	85	245
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)		10		
Queuing Penalty (veh)		125		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	EB	EB	WB	WB	B16	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	T	LT	R	LT	R
Maximum Queue (ft)	114	20	4	175	327	1595	307	157	1061	275
Average Queue (ft)	46	1	0	117	291	1561	234	16	1030	265
95th Queue (ft)	87	20	5	250	313	1734	363	100	1068	299
Link Distance (ft)		476			209	1584	285		1025	
Upstream Blk Time (%)					93	9	60		97	
Queuing Penalty (veh)					1145	107	0		0	
Storage Bay Dist (ft)	150		150	150				150		250
Storage Blk Time (%)	0			0	92		80	0	14	90
Queuing Penalty (veh)	1			0	60		15	0	32	158

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB	NB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	91	86	158	24
Average Queue (ft)	75	22	126	1
95th Queue (ft)	84	66	180	11
Link Distance (ft)	73		142	
Upstream Blk Time (%)	96	0	8	
Queuing Penalty (veh)	220	0	82	
Storage Bay Dist (ft)		150		200
Storage Blk Time (%)		0	8	
Queuing Penalty (veh)		0	5	

Intersection: 10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	154	269	125	1553	185	2028	265	242	130	273
Average Queue (ft)	90	126	45	1237	177	1148	132	123	56	119
95th Queue (ft)	160	228	133	2048	212	2466	348	207	112	233
Link Distance (ft)		385		1538		2495		298	298	298
Upstream Blk Time (%)				31		10		0		1
Queuing Penalty (veh)				198		0		0		1
Storage Bay Dist (ft)	130		100		160		240			
Storage Blk Time (%)	2	7	0	77	82	0	0			
Queuing Penalty (veh)	7	15	0	44	94	1	0			

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	126	25	107
Average Queue (ft)	41	2	43
95th Queue (ft)	96	27	80
Link Distance (ft)	1388	1906	432
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	80	6	76
Average Queue (ft)	15	0	29
95th Queue (ft)	52	4	58
Link Distance (ft)	1906	284	788
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	73	6	35
Average Queue (ft)	18	0	11
95th Queue (ft)	54	5	32
Link Distance (ft)	284	498	1257
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: MD 18 (Main Street) & Piney Narrow Roads

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	95	161	61
Average Queue (ft)	35	99	24
95th Queue (ft)	75	151	54
Link Distance (ft)	1670	1235	406
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: MD 18 (Main Street) & Piney Narrows Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	55	98
Average Queue (ft)	9	47
95th Queue (ft)	37	75
Link Distance (ft)	1235	177
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: MD 18 (Main Street)

Movement	EB	WB
Directions Served	T	R
Maximum Queue (ft)	56	450
Average Queue (ft)	7	399
95th Queue (ft)	35	539
Link Distance (ft)	209	385
Upstream Blk Time (%)		40
Queuing Penalty (veh)		431
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Postal Road

Movement	EB
Directions Served	LT
Maximum Queue (ft)	1970
Average Queue (ft)	1667
95th Queue (ft)	2505
Link Distance (ft)	1945
Upstream Blk Time (%)	69
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 19: Love Point Road & MD 18 (Main Street)

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	174	27	675
Average Queue (ft)	58	3	366
95th Queue (ft)	139	16	792
Link Distance (ft)	1210	1691	2551
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 28: MD Route 552 (Dominion Rd) & US Route 50 On-Ramp & US Route 50 Off-Ramp

Movement	EB
Directions Served	R
Maximum Queue (ft)	84
Average Queue (ft)	4
95th Queue (ft)	42
Link Distance (ft)	601
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: S. Piney Road & US Route 50 On-Ramp/US Route 50 Off-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 30: US Route 50 Off-Ramp/Castle Marina Road & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 31: Duke Street & MD 18 (Main Street)

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	8	102	163
Average Queue (ft)	0	14	64
95th Queue (ft)	5	59	122
Link Distance (ft)	1691	348	556
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Love Point Road & Old Love Point Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	55	91	92
Average Queue (ft)	24	56	52
95th Queue (ft)	48	81	79
Link Distance (ft)		2551	1782
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 37: MD 18 (Main Street)

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	42	1024	564	513
Average Queue (ft)	5	482	429	297
95th Queue (ft)	26	1179	714	719
Link Distance (ft)	1538	1388	545	545
Upstream Blk Time (%)		1	59	46
Queuing Penalty (veh)		3	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 47: US Route 50 Off-Ramp/Duke Street & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 48: MD 8 (Romancoke Road) & Driveway

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: Dundee Avenue & US Route 50

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 65: Piney Narrows Road

Movement	NB
Directions Served	LR
Maximum Queue (ft)	50
Average Queue (ft)	26
95th Queue (ft)	46
Link Distance (ft)	177
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 68: MD 18 (Main Street) & Elementary Way

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	107	4	126
Average Queue (ft)	28	0	56
95th Queue (ft)	82	4	102
Link Distance (ft)	348	103	658
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 70: Shopping Center Road & MD 18 (Main Street)

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	17	112	76
Average Queue (ft)	1	38	37
95th Queue (ft)	9	86	64
Link Distance (ft)	132	3448	518
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 72: Piney Narrows Road

Movement	WB	SB
Directions Served	TR	LR
Maximum Queue (ft)	42	18
Average Queue (ft)	28	1
95th Queue (ft)	44	9
Link Distance (ft)	538	856
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 74: Piney Narrow Roads & US Route 50

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 82: US Route 50 Off-Ramp/Castle Station Lane & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 2850

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	121	567	135	88	403	467	82	225	301	240	27
Average Queue (ft)	40	279	115	10	168	255	34	137	89	90	6
95th Queue (ft)	90	493	171	51	310	400	67	227	223	189	22
Link Distance (ft)	1748	2033			2558	2558			616	616	616
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)		34	4		3	0		4	0		
Queuing Penalty (veh)		92	12		0	0		31	0		

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	310	5438	225	520	537	378	339	140	126
Average Queue (ft)	186	3891	220	302	320	68	154	34	36
95th Queue (ft)	387	6305	271	519	535	259	293	99	99
Link Distance (ft)		5481		616	616	616	374	374	374
Upstream Blk Time (%)		25		1	1	0	0		
Queuing Penalty (veh)		0		4	4	1	1		
Storage Bay Dist (ft)	285		200						
Storage Blk Time (%)	0	38	17						
Queuing Penalty (veh)	0	344	77						

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	T
Maximum Queue (ft)	367	380	1794	246	165	220	336	292
Average Queue (ft)	349	377	1623	79	31	40	141	108
95th Queue (ft)	443	392	2195	197	171	187	308	244
Link Distance (ft)			1742	374	374	374	1409	1409
Upstream Blk Time (%)			42		1	1		
Queuing Penalty (veh)			0		4	6		
Storage Bay Dist (ft)	355	355						
Storage Blk Time (%)	6	38	2					
Queuing Penalty (veh)	20	131	19					

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	870	107	298	125	121	1244	1362	280	151	152	137
Average Queue (ft)	328	6	147	31	29	424	508	203	108	57	38
95th Queue (ft)	935	51	255	119	78	1186	1358	345	170	155	113
Link Distance (ft)	858		1267			1409	1409				
Upstream Blk Time (%)	27					1	9				
Queuing Penalty (veh)	0					7	58				
Storage Bay Dist (ft)		100		100	250			255	180		
Storage Blk Time (%)	42	0	26	0		1	1	43		0	
Queuing Penalty (veh)	82	0	26	0		1	5	139		0	

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 C

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	158	101	156
Average Queue (ft)	47	42	47
95th Queue (ft)	115	85	112
Link Distance (ft)	1555	1485	135
Upstream Blk Time (%)			1
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	3458	489	343	890
Average Queue (ft)	3379	478	88	461
95th Queue (ft)	3802	486	232	1053
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)	28	14	0	
Queuing Penalty (veh)	299	310	2	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	EB	WB	WB	B16	NB	NB	SB	SB
Directions Served	L	T	L	TR	T	LT	R	LT	R
Maximum Queue (ft)	119	277	174	326	1596	311	158	1062	275
Average Queue (ft)	43	21	36	290	1503	283	24	1034	266
95th Queue (ft)	89	184	151	312	1903	324	124	1052	311
Link Distance (ft)		476		209	1584	285		1025	
Upstream Blk Time (%)		3		94	12	97		100	
Queuing Penalty (veh)		37		1993	252	0		0	
Storage Bay Dist (ft)	150		150				150		250
Storage Blk Time (%)	0	4	0	92		98	0	27	79
Queuing Penalty (veh)	1	15	0	23		70	0	95	239

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB	NB	SB	SB	B16	B16
Directions Served	L	L	T	T	R	T	
Maximum Queue (ft)	90	175	335	1467	182	219	20
Average Queue (ft)	70	128	244	214	10	18	1
95th Queue (ft)	100	245	428	1047	82	124	20
Link Distance (ft)	73		188	1584		209	209
Upstream Blk Time (%)	83	1	67	7		5	0
Queuing Penalty (veh)	145	0	1480	91		31	0
Storage Bay Dist (ft)		150			200		
Storage Blk Time (%)		0	72	15	0		
Queuing Penalty (veh)		4	179	40	0		

Intersection: 10: Dominion Rd & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	155	453	124	1487	185	870	265	175	325	274
Average Queue (ft)	96	336	43	795	181	589	158	150	307	126
95th Queue (ft)	194	524	121	1798	197	981	357	244	330	267
Link Distance (ft)		336		1544		1245			304	304
Upstream Blk Time (%)		29		12					51	1
Queuing Penalty (veh)		368		184					296	5
Storage Bay Dist (ft)	130		100		160		240	150		
Storage Blk Time (%)	4	46	7	52	77	0	0	49	24	
Queuing Penalty (veh)	37	148	106	62	166	1	0	129	120	

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	220	1921	443
Average Queue (ft)	57	1791	435
95th Queue (ft)	148	2273	442
Link Distance (ft)	1382	1906	432
Upstream Blk Time (%)		19	93
Queuing Penalty (veh)		159	439
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	98	296	816
Average Queue (ft)	18	220	494
95th Queue (ft)	65	408	1021
Link Distance (ft)	1906	284	788
Upstream Blk Time (%)		20	41
Queuing Penalty (veh)		146	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	WB	B42	SB
Directions Served	LT	TR	T	LR
Maximum Queue (ft)	91	582	1055	101
Average Queue (ft)	17	319	388	29
95th Queue (ft)	60	743	1306	85
Link Distance (ft)	284	498	1670	1257
Upstream Blk Time (%)		38	2	
Queuing Penalty (veh)		296	13	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: MD 18 (Main Street) & Piney Narrow Roads

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	229	1094	93
Average Queue (ft)	60	834	42
95th Queue (ft)	156	1519	77
Link Distance (ft)	1670	1235	
Upstream Blk Time (%)		3	
Queuing Penalty (veh)		21	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: MD 18 (Main Street) & Piney Narrows Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	87	155	199
Average Queue (ft)	19	13	159
95th Queue (ft)	62	124	231
Link Distance (ft)	1235	1811	177
Upstream Blk Time (%)			26
Queuing Penalty (veh)			144
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 17: MD 18 (Main Street)

Movement	EB	WB	SB
Directions Served	T	R	L
Maximum Queue (ft)	305	402	216
Average Queue (ft)	99	270	61
95th Queue (ft)	298	520	198
Link Distance (ft)	262	336	188
Upstream Blk Time (%)	14	25	16
Queuing Penalty (veh)	40	545	159
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Postal Road

Movement	EB
Directions Served	LT
Maximum Queue (ft)	1984
Average Queue (ft)	1665
95th Queue (ft)	2545
Link Distance (ft)	1945
Upstream Blk Time (%)	71
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 19: Love Point Road & MD 18 (Main Street)

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	1371	8	2139
Average Queue (ft)	781	0	854
95th Queue (ft)	1817	5	2045
Link Distance (ft)	1267	1691	2551
Upstream Blk Time (%)	51		1
Queuing Penalty (veh)	445		1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 28: Dominion Rd & US Route 50 On-Ramp & US Route 50 Off-Ramp

Movement	EB
Directions Served	R
Maximum Queue (ft)	650
Average Queue (ft)	618
95th Queue (ft)	638
Link Distance (ft)	601
Upstream Blk Time (%)	68
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: S. Piney Road & US Route 50 On-Ramp/US Route 50 Off-Ramp

Movement	EB
Directions Served	R
Maximum Queue (ft)	1001
Average Queue (ft)	974
95th Queue (ft)	1028
Link Distance (ft)	970
Upstream Blk Time (%)	97
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 30: US Route 50 Off-Ramp/US Route 50 On-Ramp & Castle Marina Road

Movement	WB
Directions Served	R
Maximum Queue (ft)	48
Average Queue (ft)	1
95th Queue (ft)	36
Link Distance (ft)	517
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 31: Duke Street & MD 18 (Main Street)

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	1701	152	565
Average Queue (ft)	1169	29	347
95th Queue (ft)	2401	97	702
Link Distance (ft)	1691	348	556
Upstream Blk Time (%)	16		36
Queuing Penalty (veh)	171		47
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Love Point Road & Old Love Point Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	70	73	108
Average Queue (ft)	35	41	48
95th Queue (ft)	57	65	81
Link Distance (ft)		2551	1782
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 37: MD 18 (Main Street)

Movement	EB	WB	NB	NB	B40
Directions Served	TR	LT	L	R	T
Maximum Queue (ft)	67	1397	1027	260	1099
Average Queue (ft)	16	1381	1012	13	836
95th Queue (ft)	51	1507	1041	117	1400
Link Distance (ft)	1544	1382	958		1088
Upstream Blk Time (%)		31	98		51
Queuing Penalty (veh)		363	203		104
Storage Bay Dist (ft)				300	
Storage Blk Time (%)			100	0	
Queuing Penalty (veh)			380	0	

Intersection: 47: US Route 50 Off-Ramp/Duke Street & US Route 50 On-Ramp

Movement	WB
Directions Served	R
Maximum Queue (ft)	442
Average Queue (ft)	125
95th Queue (ft)	423
Link Distance (ft)	461
Upstream Blk Time (%)	14
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 48: MD 8 (Romancoke Road) & Driveway

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: Dundee Avenue & US Route 50

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 65: Piney Narrows Road

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (ft)	431	51
Average Queue (ft)	196	26
95th Queue (ft)	559	47
Link Distance (ft)	551	177
Upstream Blk Time (%)	5	
Queuing Penalty (veh)	23	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 68: MD 18 (Main Street) & Elementary Way

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	361	4	679
Average Queue (ft)	271	0	482
95th Queue (ft)	505	3	893
Link Distance (ft)	348	103	658
Upstream Blk Time (%)	24		58
Queuing Penalty (veh)	254		0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 70: Shopping Center Road & MD 18 (Main Street)

Movement	EB	B54	B49	WB	NB	B71
Directions Served	TR	T	T	LT	LR	T
Maximum Queue (ft)	240	2236	179	76	578	240
Average Queue (ft)	189	1815	97	8	410	107
95th Queue (ft)	294	3087	198	40	736	285
Link Distance (ft)	132	2130	103	3448	518	214
Upstream Blk Time (%)	88	75	28		55	41
Queuing Penalty (veh)	1003	861	318		0	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 72: Piney Narrows Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	253	54	5
Average Queue (ft)	105	30	0
95th Queue (ft)	275	47	4
Link Distance (ft)	449	551	513
Upstream Blk Time (%)	6		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 74: Piney Narrow Roads & US Route 50

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 82: US Route 50 Off-Ramp/Castle Station Lane & US Route 50 On-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 450: Dominion Rd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	44	1265
Average Queue (ft)	18	445
95th Queue (ft)	36	1315
Link Distance (ft)	1088	1245
Upstream Blk Time (%)		21
Queuing Penalty (veh)		129
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 14256

HCM Signalized Intersection Capacity Analysis — Timing Plan: AM Peak Hour

1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road — Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	25	5	150	5	950	65	85	350	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.95			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1787	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.91			0.75	1.00	0.53	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)		1621			1395	1583	981	3539	1583	445	3539	1583
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)	5	5	5	27	5	163	5	1033	71	92	380	11
RTOR Reduction (vph)	0	5	0	0	0	150	0	0	18	0	0	2
Lane Group Flow (vph)	0	10	0	0	32	13	5	1033	53	92	380	9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		8.0			8.0	8.0	74.7	74.7	74.7	84.0	84.0	84.0
Effective Green, g (s)		8.0			8.0	8.0	74.7	74.7	74.7	84.0	84.0	84.0
Actuated g/C Ratio		0.08			0.08	0.08	0.75	0.75	0.75	0.84	0.84	0.84
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		129			111	126	732	2643	1182	444	2972	1329
v/s Ratio Prot								c0.29		c0.01	0.11	
v/s Ratio Perm		0.01			c0.02	0.01	0.01		0.03	0.16		0.01
v/c Ratio		0.08			0.29	0.10	0.01	0.39	0.04	0.21	0.13	0.01
Uniform Delay, d1		42.6			43.3	42.7	3.2	4.5	3.3	2.1	1.4	1.3
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	0.80	0.56	0.35
Incremental Delay, d2		0.3			1.4	0.4	0.0	0.4	0.1	0.2	0.1	0.0
Delay (s)		42.9			44.8	43.0	3.2	5.0	3.4	1.9	0.9	0.5
Level of Service		D			D	D	A	A	A	A	A	A
Approach Delay (s)		42.9			43.3			4.8			1.1	
Approach LOS		D			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.37			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	48.9%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — Timing Plan: AM Peak Hour

2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp — Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	0	70	0	0	0	0	900	205	280	375	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.19	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	355	3539	
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)	185	0	76	0	0	0	0	978	223	304	408	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	185	0	76	0	0	0	0	978	223	304	408	0
Turn Type	custom		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	12.6		100.0					50.3	100.0	76.4	76.4	
Effective Green, g (s)	15.6		100.0					53.3	100.0	78.4	79.4	
Actuated g/C Ratio	0.16		1.00					0.53	1.00	0.78	0.79	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	535		1583					1886	1583	591	2809	
v/s Ratio Prot	c0.05							0.28		c0.11	0.12	
v/s Ratio Perm			0.05						0.14	c0.29		
v/c Ratio	0.35		0.05					0.52	0.14	0.51	0.15	
Uniform Delay, d1	37.6		0.0					15.1	0.0	7.2	2.4	
Progression Factor	1.00		1.00					0.76	1.00	4.20	0.00	
Incremental Delay, d2	0.8		0.1					1.0	0.2	1.0	0.1	
Delay (s)	38.5		0.1					12.4	0.2	31.2	0.1	
Level of Service	D		A					B	A	C	A	
Approach Delay (s)		27.3			0.0			10.1			13.4	
Approach LOS		C			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	67.4%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — Timing Plan: AM Peak Hour

3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp — Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	315	0	335	535	535	0	0	340	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.49	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	907	3539			3539	1583
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)	0	0	0	342	0	364	582	582	0	0	370	397
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	342	0	364	582	582	0	0	370	397
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				15.1		100.0	68.9	74.9			41.4	100.0
Effective Green, g (s)				18.1		100.0	74.9	77.9			44.4	100.0
Actuated g/C Ratio				0.18		1.00	0.75	0.78			0.44	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				621		1583	942	2756			1571	1583
v/s Ratio Prot				c0.10			c0.19	0.16			0.10	
v/s Ratio Perm						0.23	c0.27					0.25
v/c Ratio				0.55		0.23	0.62	0.21			0.24	0.25
Uniform Delay, d1				37.3		0.0	10.2	2.9			17.3	0.0
Progression Factor				1.00		1.00	0.97	0.08			1.00	1.00
Incremental Delay, d2				1.1		0.3	1.6	0.1			0.4	0.4
Delay (s)				38.3		0.3	11.5	0.3			17.6	0.4
Level of Service				D		A	B	A			B	A
Approach Delay (s)		0.0			18.7			5.9			8.7	
Approach LOS		A			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0	
Intersection Capacity Utilization	67.4%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — Timing Plan: AM Peak Hour

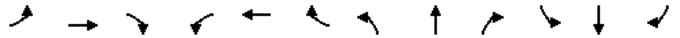
4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street) — Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	190	25	35	215	425	230	35	465	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	1.0	2.0	2.5	1.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1784	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.40	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)		1848	1583		1784	1583	743	3539	1583	906	3539	1583
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)	5	27	54	207	27	38	234	462	250	38	505	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	32	54	0	234	38	234	462	250	38	505	5
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Actuated Green, G (s)		5.7	125.3		22.3	125.3	79.8	69.5	125.3	68.2	62.9	125.3
Effective Green, g (s)		8.7	125.3		25.3	125.3	82.8	72.5	125.3	74.2	65.9	125.3
Actuated g/C Ratio		0.07	1.00		0.20	1.00	0.66	0.58	1.00	0.59	0.53	1.00
Clearance Time (s)		6.0			6.0		5.0	5.5		5.0	5.5	
Vehicle Extension (s)		4.0			4.0		3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		128	1583		360	1583	613	2047	1583	593	1861	1583
v/s Ratio Prot		c0.02			c0.13		c0.05	0.13		0.00	c0.14	
v/s Ratio Perm			0.03			0.02	0.21		0.16	0.03		0.00
v/c Ratio		0.25	0.03		0.65	0.02	0.38	0.23	0.16	0.06	0.27	0.00
Uniform Delay, d1		55.2	0.0		45.9	0.0	8.8	12.8	0.0	10.6	16.4	0.0
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.4	0.0		4.6	0.0	0.4	0.3	0.2	0.0	0.4	0.0
Delay (s)		56.6	0.0		50.5	0.0	9.2	13.1	0.2	10.7	16.8	0.0
Level of Service		E	A		D	A	A	B	A	B	B	A
Approach Delay (s)		21.1			43.5			8.7			16.2	
Approach LOS		C			D			A			B	

Intersection Summary				
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	125.3	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	61.3%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
7: MD 18 (Main Street) & Piney Creek Rd

Timing Plan: AM Peak Hour
Existing



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	300	60	45	605	25	20	0	15	30	10	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	326	65	49	658	27	22	0	16	33	11	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	685			326			1136	1141	326	1128	1128	671
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	685			326			1136	1141	326	1128	1128	671
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			96			86	100	98	81	94	93
cM capacity (veh/h)	909			1234			152	189	715	170	193	456

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	16	326	65	49	685	38	76
Volume Left	16	0	0	49	0	22	33
Volume Right	0	0	65	0	27	16	33
cSH	909	1700	1700	1234	1700	267	307
Volume to Capacity	0.02	0.19	0.04	0.04	0.40	0.14	0.25
Queue Length 95th (ft)	1	0	0	3	0	12	24
Control Delay (s)	9.0	0.0	0.0	8.0	0.0	22.9	24.2
Lane LOS	A			A		C	C
Approach Delay (s)	0.4			0.5		22.9	24.2
Approach LOS						C	C

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	52.9%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
8: MD 18 (Main Street)

Timing Plan: AM Peak Hour
Existing

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	160	0	40	515	250	95
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	174	0	43	560	272	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	918	272	375			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	918	272	375			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	100	96			
cM capacity (veh/h)	290	767	1183			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	174	43	560	272	103
Volume Left	174	43	0	0	0
Volume Right	0	0	0	0	103
cSH	290	1183	1700	1700	1700
Volume to Capacity	0.60	0.04	0.33	0.16	0.06
Queue Length 95th (ft)	90	3	0	0	0
Control Delay (s)	34.3	8.2	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	34.3	0.6		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis — Timing Plan: AM Peak Hour
10: MD Route 552 (Dominion Rd) & MD 18 (Main Street) — Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	125	40	30	200	15	150	40	40	20	40	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1796		1770	1844		1770	1863	1583	1770	1863	1583
Flt Permitted	0.49	1.00		0.64	1.00		0.13	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	905	1796		1200	1844		247	1863	1583	1358	1863	1583
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)	130	136	43	33	217	16	163	43	43	22	43	223
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	130	173	0	33	232	0	163	43	43	22	43	223
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	57.7	48.3		46.5	42.7		30.2	30.2	113.0	6.7	6.7	113.0
Effective Green, g (s)	57.7	48.3		46.5	42.7		30.2	30.2	113.0	6.7	6.7	113.0
Actuated g/C Ratio	0.51	0.43		0.41	0.38		0.27	0.27	1.00	0.06	0.06	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	534	767		512	696		66	497	1583	80	110	1583
v/s Ratio Prot	c0.02	0.10		0.00	c0.13			0.02			c0.02	
v/s Ratio Perm	0.10			0.02			c0.66		0.03	0.02		0.14
v/c Ratio	0.24	0.23		0.06	0.33		2.47	0.09	0.03	0.28	0.39	0.14
Uniform Delay, d1	15.1	20.5		19.9	25.0		41.4	31.1	0.0	50.8	51.2	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.7		0.0	1.3		704.4	0.1	0.0	1.4	1.7	0.2
Delay (s)	15.3	21.2		20.0	26.3		745.8	31.1	0.0	52.2	52.9	0.2
Level of Service	B	C		B	C		F	C	A	D	D	A
Approach Delay (s)		18.7			25.5			493.6			12.0	
Approach LOS		B			C			F			B	

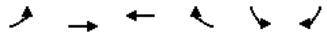
Intersection Summary				
HCM 2000 Control Delay	124.9	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	113.0	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	53.3%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis — Timing Plan: AM Peak Hour
11: MD 18 (Main Street) & S. Piney Road — Existing

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	70	115	205	40	5	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	125	223	43	5	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	266				522	245
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	266				522	245
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				99	95
cM capacity (veh/h)	1298				485	794

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	201	266	49
Volume Left	76	0	5
Volume Right	0	43	43
cSH	1298	1700	742
Volume to Capacity	0.06	0.16	0.07
Queue Length 95th (ft)	5	0	5
Control Delay (s)	3.3	0.0	10.2
Lane LOS	A		B
Approach Delay (s)	3.3	0.0	10.2
Approach LOS			B

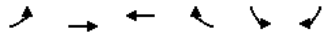
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	105	225	25	5	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	114	245	27	5	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	272				405	258
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	272				405	258
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	97
cM capacity (veh/h)	1292				594	780

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	130	272	27
Volume Left	16	0	5
Volume Right	0	27	22
cSH	1292	1700	734
Volume to Capacity	0.01	0.16	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	1.1	0.0	10.1
Lane LOS	A		B
Approach Delay (s)	1.1	0.0	10.1
Approach LOS			B

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	28.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	95	240	20	5	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	103	261	22	5	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	283				408	272
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	283				408	272
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1280				592	767

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	120	283	16
Volume Left	16	0	5
Volume Right	0	22	11
cSH	1280	1700	698
Volume to Capacity	0.01	0.17	0.02
Queue Length 95th (ft)	1	0	2
Control Delay (s)	1.2	0.0	10.3
Lane LOS	A		B
Approach Delay (s)	1.2	0.0	10.3
Approach LOS			B

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	27.7%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis — Timing Plan: PM Peak

1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road — Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	5	5	200	5	205	5	470	90	330	770	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1760			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.81			0.71	1.00	0.34	1.00	1.00	0.41	1.00	1.00
Satd. Flow (perm)		1472			1326	1583	627	3539	1583	762	3539	1583
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)	16	5	5	217	5	223	5	511	98	359	837	16
RTOR Reduction (vph)	0	4	0	0	0	160	0	0	40	0	0	4
Lane Group Flow (vph)	0	22	0	0	222	63	5	511	58	359	837	12
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		28.3			28.3	28.3	79.3	79.3	79.3	98.7	98.7	98.7
Effective Green, g (s)		28.3			28.3	28.3	79.3	79.3	79.3	98.7	98.7	98.7
Actuated g/C Ratio		0.21			0.21	0.21	0.59	0.59	0.59	0.73	0.73	0.73
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		308			277	331	368	2078	929	672	2587	1157
v/s Ratio Prot								0.14		c0.06	0.24	
v/s Ratio Perm		0.01			c0.17	0.04	0.01		0.04	c0.33		0.01
v/c Ratio		0.07			0.80	0.19	0.01	0.25	0.06	0.53	0.32	0.01
Uniform Delay, d1		42.8			50.7	43.9	11.6	13.4	11.9	6.7	6.4	4.9
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	0.52	0.48	0.20
Incremental Delay, d2		0.1			15.2	0.3	0.1	0.3	0.1	0.8	0.3	0.0
Delay (s)		42.9			65.9	44.2	11.7	13.7	12.1	4.3	3.4	1.0
Level of Service		D			E	D	B	B	B	A	A	A
Approach Delay (s)		42.9			55.0			13.4			3.6	
Approach LOS		D			E			B			A	

Intersection Summary				
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.61			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	58.1%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — Timing Plan: PM Peak

2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp — Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	390	0	465	0	0	0	0	485	205	425	650	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.26	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	488	3539	
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)	424	0	505	0	0	0	0	527	223	462	707	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	424	0	505	0	0	0	0	527	223	462	707	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	22.1		135.0					36.0	135.0	100.9	100.9	
Effective Green, g (s)	25.1		135.0					39.0	135.0	102.9	103.9	
Actuated g/C Ratio	0.19		1.00					0.29	1.00	0.76	0.77	
Clearance Time (s)	6.0							6.0		5.0		
Vehicle Extension (s)	3.0							4.0		5.0		
Lane Grp Cap (vph)	638		1583					1022	1583	959	2723	
v/s Ratio Prot	c0.12							c0.15		c0.22	0.20	
v/s Ratio Perm			0.32						0.14	0.15		
v/c Ratio	0.66		0.32					0.52	0.14	0.48	0.26	
Uniform Delay, d1	51.0		0.0					40.1	0.0	7.6	4.5	
Progression Factor	1.00		1.00					0.80	1.00	0.53	0.45	
Incremental Delay, d2	2.6		0.5					1.8	0.2	1.6	0.2	
Delay (s)	53.7		0.5					33.8	0.2	5.7	2.3	
Level of Service	D		A					C	A	A	A	
Approach Delay (s)		24.8			0.0			23.8			3.6	
Approach LOS		C			A			C			A	

Intersection Summary				
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	56.8%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — Timing Plan: PM Peak

3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp — Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	490	0	140	165	710	0	0	585	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	1.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.37	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	696	3539			3539	1583
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)	0	0	0	533	0	152	179	772	0	0	636	212
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	533	0	152	179	772	0	0	636	212
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				26.6		135.0	92.4	98.4			84.4	135.0
Effective Green, g (s)				29.6		135.0	98.4	101.4			87.4	135.0
Actuated g/C Ratio				0.22		1.00	0.73	0.75			0.65	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				752		1583	594	2658			2291	1583
v/s Ratio Prot				c0.16			0.02	c0.22			0.18	
v/s Ratio Perm						0.10	c0.19					0.13
v/c Ratio				0.71		0.10	0.30	0.29			0.28	0.13
Uniform Delay, d1				48.7		0.0	9.6	5.3			10.2	0.0
Progression Factor				1.00		1.00	0.14	0.08			1.00	1.00
Incremental Delay, d2				3.1		0.1	0.5	0.1			0.3	0.2
Delay (s)				51.8		0.1	1.9	0.6			10.5	0.2
Level of Service				D		A	A	A			B	A
Approach Delay (s)		0.0			40.3			0.8			7.9	
Approach LOS		A			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	7.0	
Intersection Capacity Utilization	56.8%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — Timing Plan: PM Peak

4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street) — Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	275	15	45	60	430	360	65	310	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1778	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.49	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)		1854	1583		1778	1583	909	3539	1583	715	3539	1583
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)	5	49	212	299	16	49	65	467	391	71	337	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	253	0	0	3
Lane Group Flow (vph)	0	54	212	0	315	49	65	467	138	71	337	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		7.5	83.4		20.8	83.4	32.5	26.5	26.5	32.7	26.6	26.6
Effective Green, g (s)		10.5	83.4		23.8	83.4	38.5	29.5	29.5	38.7	29.6	29.6
Actuated g/C Ratio		0.13	1.00		0.29	1.00	0.46	0.35	0.35	0.46	0.35	0.35
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		233	1583		507	1583	512	1251	559	446	1256	561
v/s Ratio Prot		c0.03			c0.18		0.01	c0.13		c0.02	0.10	
v/s Ratio Perm			c0.13			0.03	0.04		0.09	0.06		0.00
v/c Ratio		0.23	0.13		0.62	0.03	0.13	0.37	0.25	0.16	0.27	0.00
Uniform Delay, d1		32.8	0.0		25.9	0.0	12.6	20.1	19.1	12.7	19.2	17.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.5	0.2		2.4	0.0	0.1	0.2	0.2	0.2	0.1	0.0
Delay (s)		33.3	0.2		28.3	0.0	12.7	20.3	19.3	12.9	19.3	17.4
Level of Service		C	A		C	A	B	C	B	B	B	B
Approach Delay (s)		6.9			24.5			19.3			18.2	
Approach LOS		A			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.44			
Actuated Cycle Length (s)	83.4	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	57.7%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
7: MD 18 (Main Street) & Piney Creek Rd

Timing Plan: PM Peak
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	590	20	15	730	45	45	5	60	35	5	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	641	22	16	793	49	49	5	65	38	5	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	842			641			1541	1571	641	1549	1546	818
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	842			641			1541	1571	641	1549	1546	818
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			38	95	86	49	95	91
cM capacity (veh/h)	793			943			79	105	475	74	109	376

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	27	641	22	16	842	120	76
Volume Left	27	0	0	16	0	49	38
Volume Right	0	0	22	0	49	65	33
cSH	793	1700	1700	943	1700	180	137
Volume to Capacity	0.03	0.38	0.01	0.02	0.50	0.66	0.56
Queue Length 95th (ft)	3	0	0	1	0	98	69
Control Delay (s)	9.7	0.0	0.0	8.9	0.0	57.7	62.4
Lane LOS	A			A		F	F
Approach Delay (s)	0.4			0.2		57.7	62.4
Approach LOS						F	F

Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	57.8%	ICU Level of Service	B	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
8: MD 18 (Main Street)

Timing Plan: PM Peak
Existing

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	0	155	770	500	185
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	0	168	837	543	201
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1717	543	745			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1717	543	745			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	80			
cM capacity (veh/h)	79	539	863			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	109	168	837	543	201
Volume Left	109	168	0	0	0
Volume Right	0	0	0	0	201
cSH	79	863	1700	1700	1700
Volume to Capacity	1.37	0.20	0.49	0.32	0.12
Queue Length 95th (ft)	212	18	0	0	0
Control Delay (s)	319.4	10.2	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	319.4	1.7		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	19.6			
Intersection Capacity Utilization	52.7%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis
10: Dominion Rd & MD 18 (Main Street)

Timing Plan: PM Peak
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	225	325	140	45	445	50	165	60	65	95	155	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1779		1770	1835		1770	1863	1583	1770	1863	1583
Flt Permitted	0.13	1.00		0.35	1.00		0.13	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	242	1779		658	1835		248	1863	1583	1331	1863	1583
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)	245	353	152	49	484	54	179	65	71	103	168	342
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	245	496	0	49	535	0	179	65	71	103	168	342
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	69.9	58.2		52.1	46.4		30.1	30.1	134.9	16.9	16.9	134.9
Effective Green, g (s)	69.9	58.2		52.1	46.4		30.1	30.1	134.9	16.9	16.9	134.9
Actuated g/C Ratio	0.52	0.43		0.39	0.34		0.22	0.22	1.00	0.13	0.13	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	323	767		301	631		55	415	1583	166	233	1583
v/s Ratio Prot	c0.10	0.28		0.01	c0.29			0.03			c0.09	
v/s Ratio Perm	0.29			0.06			c0.72		0.04	0.08		0.22
v/c Ratio	0.76	0.65		0.16	0.85		3.25	0.16	0.04	0.62	0.72	0.22
Uniform Delay, d1	25.9	30.3		26.7	41.0		52.4	42.2	0.0	56.0	56.7	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	4.2		0.2	13.4		1059.8	0.1	0.1	6.1	9.8	0.3
Delay (s)	35.3	34.4		26.9	54.3		1112.2	42.3	0.1	62.1	66.6	0.3
Level of Service	D	C		C	D		F	D	A	E	E	A
Approach Delay (s)		34.7			52.1			640.7			28.8	
Approach LOS		C			D			F			C	

Intersection Summary				
HCM 2000 Control Delay	121.9	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.47			
Actuated Cycle Length (s)	134.9	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	76.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

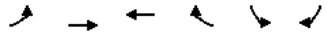
HCM Unsignalized Intersection Capacity Analysis
11: MD 18 (Main Street) & S. Piney Road

Timing Plan: PM Peak
Existing

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	215	270	350	35	20	190
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	234	293	380	38	22	207
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418				1160	399
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418				1160	399
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				87	68
cM capacity (veh/h)	1141				172	650

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	527	418	228
Volume Left	234	0	22
Volume Right	0	38	207
cSH	1141	1700	514
Volume to Capacity	0.20	0.25	0.44
Queue Length 95th (ft)	19	0	56
Control Delay (s)	5.2	0.0	17.5
Lane LOS	A		C
Approach Delay (s)	5.2	0.0	17.5
Approach LOS			C

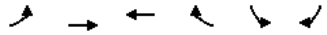
Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	25	265	350	15	10	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	288	380	16	11	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	397				731	389
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	397				731	389
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				97	94
cM capacity (veh/h)	1162				380	660

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	315	397	49
Volume Left	27	0	11
Volume Right	0	16	38
cSH	1162	1700	567
Volume to Capacity	0.02	0.23	0.09
Queue Length 95th (ft)	2	0	7
Control Delay (s)	0.9	0.0	12.0
Lane LOS	A		B
Approach Delay (s)	0.9	0.0	12.0
Approach LOS			B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	255	350	5	5	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	277	380	5	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	386				704	383
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	386				704	383
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	98
cM capacity (veh/h)	1173				396	664

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	299	386	22
Volume Left	22	0	5
Volume Right	0	5	16
cSH	1173	1700	568
Volume to Capacity	0.02	0.23	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	0.8	0.0	11.6
Lane LOS	A		B
Approach Delay (s)	0.8	0.0	11.6
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	7	42	5	151	9	1332	109	99	501	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.81	1.00	0.45	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)		1448			1509	1583	836	3539	1583	247	3539	1583
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)	21	5	8	46	5	164	10	1448	118	108	545	53
RTOR Reduction (vph)	0	7	0	0	0	149	0	0	33	0	0	9
Lane Group Flow (vph)	0	27	0	0	51	15	10	1448	85	108	545	44
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Effective Green, g (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Actuated g/C Ratio		0.09			0.09	0.09	0.72	0.72	0.72	0.83	0.83	0.83
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		130			135	142	599	2537	1135	316	2937	1313
v/s Ratio Prot								c0.41		c0.02	0.15	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.05	0.26		0.03
v/c Ratio		0.21			0.38	0.10	0.02	0.57	0.07	0.34	0.19	0.03
Uniform Delay, d1		42.2			42.9	41.8	4.1	6.8	4.2	4.7	1.7	1.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	4.47	0.54	0.14
Incremental Delay, d2		0.8			1.8	0.3	0.1	0.9	0.1	0.6	0.1	0.0
Delay (s)		43.0			44.6	42.1	4.1	7.7	4.4	21.6	1.1	0.3
Level of Service		D			D	D	A	A	A	C	A	A
Approach Delay (s)		43.0			42.7			7.4			4.2	
Approach LOS		D			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	60.7%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	0	139	0	0	0	0	1107	396	300	510	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.12	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	225	3539	
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)	186	0	151	0	0	0	0	1203	430	326	554	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	186	0	151	0	0	0	0	1203	430	326	554	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	12.6		100.0					49.4	100.0	76.4	76.4	
Effective Green, g (s)	15.6		100.0					52.4	100.0	78.4	79.4	
Actuated g/C Ratio	0.16		1.00					0.52	1.00	0.78	0.79	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	535		1583					1854	1583	531	2809	
v/s Ratio Prot	c0.05							c0.34		c0.14	0.16	
v/s Ratio Perm			0.10						0.27	0.34		
v/c Ratio	0.35		0.10					0.65	0.27	0.61	0.20	
Uniform Delay, d1	37.7		0.0					17.2	0.0	17.6	2.5	
Progression Factor	1.00		1.00					0.67	1.00	2.94	0.00	
Incremental Delay, d2	0.8		0.1					1.5	0.4	2.1	0.1	
Delay (s)	38.5		0.1					13.0	0.4	54.0	0.1	
Level of Service	D		A					B	A	D	A	
Approach Delay (s)		21.3			0.0			9.7			20.1	
Approach LOS		C			A			A			C	

Intersection Summary				
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	73.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	412	0	359	677	601	0	0	398	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.41	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	766	3539			3539	1583
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)	0	0	0	448	0	390	736	653	0	0	433	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	448	0	390	736	653	0	0	433	427
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				16.8		100.0	67.2	73.2			32.6	100.0
Effective Green, g (s)				19.8		100.0	73.2	76.2			35.6	100.0
Actuated g/C Ratio				0.20		1.00	0.73	0.76			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				679		1583	938	2696			1259	1583
v/s Ratio Prot				c0.13			c0.30	0.18			0.12	
v/s Ratio Perm						0.25	c0.28					0.27
v/c Ratio				0.66		0.25	0.78	0.24			0.34	0.27
Uniform Delay, d1				37.0		0.0	12.8	3.5			23.6	0.0
Progression Factor				1.00		1.00	1.04	0.02			1.00	1.00
Incremental Delay, d2				2.3		0.4	4.1	0.1			0.7	0.4
Delay (s)				39.3		0.4	17.4	0.2			24.4	0.4
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			21.2			9.3			12.5	
Approach LOS		A			C			A			B	

Intersection Summary				
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0	
Intersection Capacity Utilization	73.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	239	25	41	215	488	257	40	502	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.37	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1848	1583		1782	1583	692	3539	1583	833	3539	1583
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)	5	27	54	260	27	45	234	530	279	43	546	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	2
Lane Group Flow (vph)	0	32	54	0	287	45	234	530	157	43	546	3
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		5.7	129.6		26.2	129.6	80.2	69.7	69.7	68.4	62.9	62.9
Effective Green, g (s)		8.7	129.6		29.2	129.6	83.2	72.7	72.7	74.4	65.9	65.9
Actuated g/C Ratio		0.07	1.00		0.23	1.00	0.64	0.56	0.56	0.57	0.51	0.51
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		124	1583		401	1583	571	1985	887	539	1799	804
v/s Ratio Prot		c0.02			c0.16		c0.05	0.15		0.01	c0.15	
v/s Ratio Perm			0.03			0.03	0.21		0.10	0.04		0.00
v/c Ratio		0.26	0.03		0.72	0.03	0.41	0.27	0.18	0.08	0.30	0.00
Uniform Delay, d1		57.4	0.0		46.4	0.0	10.3	14.7	13.9	12.1	18.5	15.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		6.4	0.0	0.5	0.3	0.4	0.1	0.4	0.0
Delay (s)		58.9	0.0		52.8	0.0	10.8	15.0	14.3	12.1	18.9	15.7
Level of Service		E	A		D	A	B	B	B	B	B	B
Approach Delay (s)		21.9			45.6			13.9			18.4	
Approach LOS		C			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	129.6	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	64.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
7: MD 18 (Main Street) & Piney Creek Rd

2020 No Build
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	343	75	59	813	46	29	0	16	81	11	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	373	82	64	884	50	32	0	17	88	12	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	934			373			1457	1480	373	1455	1455	909
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934			373			1457	1480	373	1455	1455	909
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			95			62	100	97	10	90	88
cM capacity (veh/h)	733			1186			82	115	673	98	119	333

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	23	373	82	64	934	49	140
Volume Left	23	0	0	64	0	32	88
Volume Right	0	0	82	0	50	17	40
cSH	733	1700	1700	1186	1700	127	141
Volume to Capacity	0.03	0.22	0.05	0.05	0.55	0.38	0.99
Queue Length 95th (ft)	2	0	0	4	0	40	180
Control Delay (s)	10.1	0.0	0.0	8.2	0.0	51.5	122.8
Lane LOS	B			A		F	F
Approach Delay (s)	0.5			0.5		51.5	122.8
Approach LOS						F	F

Intersection Summary				
Average Delay	12.3			
Intersection Capacity Utilization	67.4%	ICU Level of Service	C	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
8: MD 18 (Main Street)

2020 No Build
Timing Plan: AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	174	0	52	744	339	101
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	189	0	57	809	368	110
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1290	368	478			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1290	368	478			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	95			
cM capacity (veh/h)	171	677	1084			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	189	57	809	368	110
Volume Left	189	57	0	0	0
Volume Right	0	0	0	0	110
cSH	171	1084	1700	1700	1700
Volume to Capacity	1.11	0.05	0.48	0.22	0.06
Queue Length 95th (ft)	241	4	0	0	0
Control Delay (s)	155.1	8.5	0.0	0.0	0.0
Lane LOS	F	A			
Approach Delay (s)	155.1	0.6		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	19.5			
Intersection Capacity Utilization	55.5%	ICU Level of Service	B	
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis
10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

2020 No Build
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	192	47	42	384	16	177	42	52	113	54	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1808		1770	1852		1770	1863	1583	1770	1863	1583
Flt Permitted	0.23	1.00		0.59	1.00		0.13	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	433	1808		1091	1852		248	1863	1583	1354	1863	1583
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)	160	209	51	46	417	17	192	46	57	123	59	254
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	160	255	0	46	433	0	192	46	57	123	59	254
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	59.0	47.4		47.2	41.5		30.1	30.1	123.1	15.9	15.9	123.1
Effective Green, g (s)	59.0	47.4		47.2	41.5		30.1	30.1	123.1	15.9	15.9	123.1
Actuated g/C Ratio	0.48	0.39		0.38	0.34		0.24	0.24	1.00	0.13	0.13	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	333	696		449	624		60	455	1583	174	240	1583
v/s Ratio Prot	c0.05	0.14		0.00	c0.23			0.02			0.03	
v/s Ratio Perm	0.18			0.03			c0.78		0.04	c0.09		0.16
v/c Ratio	0.48	0.37		0.10	0.69		3.20	0.10	0.04	0.71	0.25	0.16
Uniform Delay, d1	21.6	27.1		24.0	35.3		46.5	36.0	0.0	51.4	48.2	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	1.5		0.1	6.3		1031.9	0.1	0.0	11.5	0.4	0.2
Delay (s)	22.4	28.6		24.1	41.6		1078.4	36.1	0.0	62.8	48.6	0.2
Level of Service	C	C		C	D		F	D	A	E	D	A
Approach Delay (s)		26.2			39.9			707.5			24.4	
Approach LOS		C			D			F			C	

Intersection Summary				
HCM 2000 Control Delay	153.0	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.43			
Actuated Cycle Length (s)	123.1	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	60.8%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

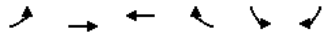
HCM Unsignalized Intersection Capacity Analysis
11: MD 18 (Main Street) & S. Piney Road

2020 No Build
Timing Plan: AM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	120	140	317	42	32	66
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	152	345	46	35	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	390				780	367
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	390				780	367
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				89	89
cM capacity (veh/h)	1168				323	678

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	283	390	107
Volume Left	130	0	35
Volume Right	0	46	72
cSH	1168	1700	499
Volume to Capacity	0.11	0.23	0.21
Queue Length 95th (ft)	9	0	20
Control Delay (s)	4.5	0.0	14.2
Lane LOS	A		B
Approach Delay (s)	4.5	0.0	14.2
Approach LOS			B

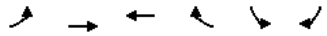
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	49	123	285	45	33	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	134	310	49	36	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	359				574	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359				574	334
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				92	89
cM capacity (veh/h)	1200				459	708

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	187	359	116
Volume Left	53	0	36
Volume Right	0	49	80
cSH	1200	1700	606
Volume to Capacity	0.04	0.21	0.19
Queue Length 95th (ft)	3	0	18
Control Delay (s)	2.6	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	2.6	0.0	12.3
Approach LOS			B

Intersection Summary				
Average Delay		2.9		
Intersection Capacity Utilization		43.3%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	101	318	21	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	110	346	23	5	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	368				589	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	368				589	357
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	98
cM capacity (veh/h)	1190				447	687

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	171	368	17
Volume Left	61	0	5
Volume Right	0	23	12
cSH	1190	1700	588
Volume to Capacity	0.05	0.22	0.03
Queue Length 95th (ft)	4	0	2
Control Delay (s)	3.2	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	3.2	0.0	11.3
Approach LOS			B

Intersection Summary				
Average Delay		1.3		
Intersection Capacity Utilization		39.8%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	5	8	248	5	210	10	765	120	344	1223	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1758			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.49			0.71	1.00	0.21	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)		902			1329	1583	384	3539	1583	463	3539	1583
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	5	9	270	5	228	11	832	130	374	1329	64
RTOR Reduction (vph)	0	6	0	0	0	162	0	0	61	0	0	19
Lane Group Flow (vph)	0	57	0	0	275	66	11	832	69	374	1329	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Effective Green, g (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Actuated g/C Ratio		0.22			0.22	0.22	0.53	0.53	0.53	0.70	0.70	0.70
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		196			289	345	203	1872	837	498	2484	1111
v/s Ratio Prot								0.24		c0.10	0.38	
v/s Ratio Perm		0.06			c0.21	0.04	0.03		0.04	c0.43		0.03
v/c Ratio		0.29			0.95	0.19	0.05	0.44	0.08	0.75	0.54	0.04
Uniform Delay, d1		32.6			38.6	31.9	11.4	14.5	11.6	8.4	7.1	4.6
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.78	0.65	1.15
Incremental Delay, d2		0.8			39.8	0.3	0.5	0.8	0.2	5.8	0.8	0.1
Delay (s)		33.5			78.4	32.2	11.9	15.3	11.8	20.9	5.4	5.3
Level of Service		C			E	C	B	B	B	C	A	A
Approach Delay (s)		33.5			57.4			14.8			8.7	
Approach LOS		C			E			B			A	

Intersection Summary				
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	66.7%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	0	653	0	0	0	0	639	380	483	972	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.28	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	521	3539	
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)	429	0	710	0	0	0	0	695	413	525	1057	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	429	0	710	0	0	0	0	695	413	525	1057	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	18.4		100.0					45.1	100.0	70.6	70.6	
Effective Green, g (s)	21.4		100.0					48.1	100.0	72.6	73.6	
Actuated g/C Ratio	0.21		1.00					0.48	1.00	0.73	0.74	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	734		1583					1702	1583	646	2604	
v/s Ratio Prot	c0.12							0.20		c0.17	0.30	
v/s Ratio Perm			0.45						0.26	c0.42		
v/c Ratio	0.58		0.45					0.41	0.26	0.81	0.41	
Uniform Delay, d1	35.3		0.0					16.8	0.0	9.2	5.0	
Progression Factor	1.00		1.00					0.54	1.00	1.46	0.01	
Incremental Delay, d2	1.8		0.9					0.7	0.4	6.4	0.4	
Delay (s)	37.2		0.9					9.6	0.4	19.8	0.4	
Level of Service	D		A					A	A	B	A	
Approach Delay (s)		14.6			0.0			6.2			6.9	
Approach LOS		B			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	66.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	728	0	198	261	772	0	0	727	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.20	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	365	3539			3539	1583
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)	0	0	0	791	0	215	284	839	0	0	790	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	791	0	215	284	839	0	0	790	248
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				32.2		100.0	51.8	57.8			33.3	100.0
Effective Green, g (s)				35.2		100.0	57.8	60.8			36.3	100.0
Actuated g/C Ratio				0.35		1.00	0.58	0.61			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				1208		1583	513	2151			1284	1583
v/s Ratio Prot				c0.23			c0.12	0.24			c0.22	
v/s Ratio Perm						0.14	0.20					0.16
v/c Ratio				0.65		0.14	0.55	0.39			0.62	0.16
Uniform Delay, d1				27.3		0.0	24.0	10.1			26.1	0.0
Progression Factor				1.00		1.00	0.94	0.96			1.00	1.00
Incremental Delay, d2				1.3		0.2	2.0	0.2			2.2	0.2
Delay (s)				28.6		0.2	24.6	9.8			28.3	0.2
Level of Service				C		A	C	A			C	A
Approach Delay (s)		0.0			22.5			13.6			21.6	
Approach LOS		A			C			B			C	

Intersection Summary				
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.61			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0	
Intersection Capacity Utilization	66.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	347	15	59	60	514	396	81	413	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.45	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)		1854	1583		1777	1583	839	3539	1583	658	3539	1583
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)	5	49	212	377	16	64	65	559	430	88	449	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	225	0	0	3
Lane Group Flow (vph)	0	54	212	0	393	64	65	559	205	88	449	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		8.9	136.6		34.5	136.6	68.3	62.0	62.0	73.1	64.4	64.4
Effective Green, g (s)		11.9	136.6		37.5	136.6	74.3	65.0	65.0	78.7	67.4	67.4
Actuated g/C Ratio		0.09	1.00		0.27	1.00	0.54	0.48	0.48	0.58	0.49	0.49
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		161	1583		487	1583	519	1684	753	474	1746	781
v/s Ratio Prot		c0.03			c0.22		0.01	c0.16		c0.02	0.13	
v/s Ratio Perm			0.13			0.04	0.06		0.13	0.09		0.00
v/c Ratio		0.34	0.13		0.81	0.04	0.13	0.33	0.27	0.19	0.26	0.00
Uniform Delay, d1		58.6	0.0		46.2	0.0	14.9	22.3	21.6	13.7	20.1	17.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.7	0.2		10.0	0.0	0.1	0.5	0.9	0.2	0.4	0.0
Delay (s)		60.3	0.2		56.2	0.0	15.0	22.8	22.4	13.8	20.4	17.6
Level of Service		E	A		E	A	B	C	C	B	C	B
Approach Delay (s)		12.4			48.3			22.2			19.3	
Approach LOS		B			D			C			B	

Intersection Summary				
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	136.6	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	62.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
7: MD 18 (Main Street) & Piney Creek Rd

2020 No Build
Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	681	28	23	1205	110	72	5	64	122	5	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	46	740	30	25	1310	120	78	5	70	133	5	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1429			740			2214	2311	740	2254	2251	1370
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1429			740			2214	2311	740	2254	2251	1370
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			97			0	84	83	0	85	78
cM capacity (veh/h)	476			866			20	33	417	19	36	179

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	46	740	30	25	1429	153	178
Volume Left	46	0	0	25	0	78	133
Volume Right	0	0	30	0	120	70	40
cSH	476	1700	1700	866	1700	36	25
Volume to Capacity	0.10	0.44	0.02	0.03	0.84	4.29	7.16
Queue Length 95th (ft)	8	0	0	2	0	Err	Err
Control Delay (s)	13.4	0.0	0.0	9.3	0.0	Err	Err
Lane LOS	B			A		F	F
Approach Delay (s)	0.7			0.2		Err	Err
Approach LOS						F	F

Intersection Summary				
Average Delay	1274.2			
Intersection Capacity Utilization	90.4%	ICU Level of Service	E	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
8: MD 18 (Main Street)

2020 No Build
Timing Plan: PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	110	0	194	1313	671	196
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	0	211	1427	729	213
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2578	729	942			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2578	729	942			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	71			
cM capacity (veh/h)	20	423	728			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	120	211	1427	729	213
Volume Left	120	211	0	0	0
Volume Right	0	0	0	0	213
cSH	20	728	1700	1700	1700
Volume to Capacity	5.96	0.29	0.84	0.43	0.13
Queue Length 95th (ft)	Err	30	0	0	0
Control Delay (s)	Err	12.0	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	Err	1.5		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	443.7			
Intersection Capacity Utilization	81.9%	ICU Level of Service	D	
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis
10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

2020 No Build
Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	253	486	164	79	917	53	227	64	99	291	201	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1792		1770	1847		1770	1863	1583	1770	1863	1583
Flt Permitted	0.09	1.00		0.10	1.00		0.13	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	162	1792		186	1847		248	1863	1583	1325	1863	1583
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)	275	528	178	86	997	58	247	70	108	316	218	393
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	275	699	0	86	1054	0	247	70	108	316	218	393
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	67.1	52.0		49.1	40.0		30.0	30.0	145.1	30.0	30.0	145.1
Effective Green, g (s)	67.1	52.0		49.1	40.0		30.0	30.0	145.1	30.0	30.0	145.1
Actuated g/C Ratio	0.46	0.36		0.34	0.28		0.21	0.21	1.00	0.21	0.21	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	308	642		162	509		51	385	1583	273	385	1583
v/s Ratio Prot	c0.13	c0.39		0.03	c0.57			0.04			0.12	
v/s Ratio Perm	0.28			0.15			c0.99		0.07	c0.24		0.25
v/c Ratio	0.89	1.09		0.53	2.07		4.84	0.18	0.07	1.16	0.57	0.25
Uniform Delay, d1	44.0	46.5		38.1	52.5		57.5	47.4	0.0	57.5	51.7	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.0	62.0		2.6	488.2		1772.8	0.2	0.1	103.9	1.6	0.4
Delay (s)	70.0	108.6		40.6	540.7		1830.4	47.6	0.1	161.5	53.3	0.4
Level of Service	E	F		D	F		F	D	A	F	D	A
Approach Delay (s)		97.8			503.0			1071.6			67.7	
Approach LOS		F			F			F			E	

Intersection Summary				
HCM 2000 Control Delay	342.0	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	2.34			
Actuated Cycle Length (s)	145.1	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	108.6%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

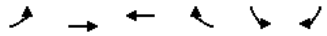
HCM Unsignalized Intersection Capacity Analysis
11: MD 18 (Main Street) & S. Piney Road

2020 No Build
Timing Plan: PM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	368	339	576	37	83	274
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	400	368	626	40	90	298
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	666				1815	646
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666				1815	646
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	57				0	37
cM capacity (veh/h)	923				49	471

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	768	666	388
Volume Left	400	0	90
Volume Right	0	40	298
cSH	923	1700	156
Volume to Capacity	0.43	0.39	2.48
Queue Length 95th (ft)	55	0	834
Control Delay (s)	9.3	0.0	732.6
Lane LOS	A		F
Approach Delay (s)	9.3	0.0	732.6
Approach LOS			F

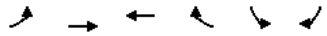
Intersection Summary				
Average Delay	159.9			
Intersection Capacity Utilization	102.2%	ICU Level of Service		G
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	103	319	514	57	44	99
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	347	559	62	48	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	621				1160	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621				1160	590
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				75	79
cM capacity (veh/h)	960				191	508

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	459	621	155
Volume Left	112	0	48
Volume Right	0	62	108
cSH	960	1700	336
Volume to Capacity	0.12	0.37	0.46
Queue Length 95th (ft)	10	0	58
Control Delay (s)	3.3	0.0	24.6
Lane LOS	A		C
Approach Delay (s)	3.3	0.0	24.6
Approach LOS			C

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	71.5%	ICU Level of Service		C
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	89	274	555	5	5	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	298	603	5	5	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	609				1097	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609				1097	606
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				97	97
cM capacity (veh/h)	970				212	497

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	395	609	23
Volume Left	97	0	5
Volume Right	0	5	17
cSH	970	1700	377
Volume to Capacity	0.10	0.36	0.06
Queue Length 95th (ft)	8	0	5
Control Delay (s)	3.1	0.0	15.2
Lane LOS	A		C
Approach Delay (s)	3.1	0.0	15.2
Approach LOS			C

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	62.2%	ICU Level of Service		B
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis — 2020 Build
1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road — Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	7	42	5	151	9	1332	109	99	501	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.81	1.00	0.45	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)		1448			1509	1583	836	3539	1583	247	3539	1583
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)	21	5	8	46	5	164	10	1448	118	108	545	53
RTOR Reduction (vph)	0	7	0	0	0	149	0	0	33	0	0	9
Lane Group Flow (vph)	0	27	0	0	51	15	10	1448	85	108	545	44
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Effective Green, g (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Actuated g/C Ratio		0.09			0.09	0.09	0.72	0.72	0.72	0.83	0.83	0.83
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		130			135	142	599	2537	1135	316	2937	1313
v/s Ratio Prot								c0.41		c0.02	0.15	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.05	0.26		0.03
v/c Ratio		0.21			0.38	0.10	0.02	0.57	0.07	0.34	0.19	0.03
Uniform Delay, d1		42.2			42.9	41.8	4.1	6.8	4.2	4.7	1.7	1.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	4.47	0.54	0.14
Incremental Delay, d2		0.8			1.8	0.3	0.1	0.9	0.1	0.6	0.1	0.0
Delay (s)		43.0			44.6	42.1	4.1	7.7	4.4	21.6	1.1	0.3
Level of Service		D			D	D	A	A	A	C	A	A
Approach Delay (s)		43.0			42.7			7.4			4.2	
Approach LOS		D			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	60.7%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — 2020 Build
2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp — Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	0	139	0	0	0	0	1107	396	300	510	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.12	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	225	3539	
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)	186	0	151	0	0	0	0	1203	430	326	554	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	186	0	151	0	0	0	0	1203	430	326	554	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	12.6		100.0					49.4	100.0	76.4	76.4	
Effective Green, g (s)	15.6		100.0					52.4	100.0	78.4	79.4	
Actuated g/C Ratio	0.16		1.00					0.52	1.00	0.78	0.79	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	535		1583					1854	1583	531	2809	
v/s Ratio Prot	c0.05							c0.34		c0.14	0.16	
v/s Ratio Perm			0.10						0.27	0.34		
v/c Ratio	0.35		0.10					0.65	0.27	0.61	0.20	
Uniform Delay, d1	37.7		0.0					17.2	0.0	17.6	2.5	
Progression Factor	1.00		1.00					0.67	1.00	2.94	0.00	
Incremental Delay, d2	0.8		0.1					1.5	0.4	2.1	0.1	
Delay (s)	38.5		0.1					13.0	0.4	54.0	0.1	
Level of Service	D		A					B	A	D	A	
Approach Delay (s)		21.3			0.0			9.7			20.1	
Approach LOS		C			A			A			C	

Intersection Summary				
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	73.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	412	0	359	677	601	0	0	398	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.41	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	766	3539			3539	1583
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)	0	0	0	448	0	390	736	653	0	0	433	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	448	0	390	736	653	0	0	433	427
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				16.8		100.0	67.2	73.2			32.6	100.0
Effective Green, g (s)				19.8		100.0	73.2	76.2			35.6	100.0
Actuated g/C Ratio				0.20		1.00	0.73	0.76			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				679		1583	938	2696			1259	1583
v/s Ratio Prot				c0.13			c0.30	0.18			0.12	
v/s Ratio Perm						0.25	c0.28					0.27
v/c Ratio				0.66		0.25	0.78	0.24			0.34	0.27
Uniform Delay, d1				37.0		0.0	12.8	3.5			23.6	0.0
Progression Factor				1.00		1.00	1.04	0.02			1.00	1.00
Incremental Delay, d2				2.3		0.4	4.1	0.1			0.7	0.4
Delay (s)				39.3		0.4	17.4	0.2			24.4	0.4
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			21.2			9.3			12.5	
Approach LOS		A			C			A			B	

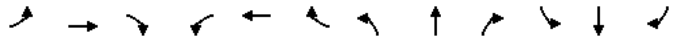
Intersection Summary				
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0	
Intersection Capacity Utilization	73.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	239	25	41	215	488	257	40	502	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.37	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1848	1583		1782	1583	692	3539	1583	833	3539	1583
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)	5	27	54	260	27	45	234	530	279	43	546	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	2
Lane Group Flow (vph)	0	32	54	0	287	45	234	530	157	43	546	3
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		5.7	129.6		26.2	129.6	80.2	69.7	69.7	68.4	62.9	62.9
Effective Green, g (s)		8.7	129.6		29.2	129.6	83.2	72.7	72.7	74.4	65.9	65.9
Actuated g/C Ratio		0.07	1.00		0.23	1.00	0.64	0.56	0.56	0.57	0.51	0.51
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		124	1583		401	1583	571	1985	887	539	1799	804
v/s Ratio Prot		c0.02			c0.16		c0.05	0.15		0.01	c0.15	
v/s Ratio Perm			0.03			0.03	0.21		0.10	0.04		0.00
v/c Ratio		0.26	0.03		0.72	0.03	0.41	0.27	0.18	0.08	0.30	0.00
Uniform Delay, d1		57.4	0.0		46.4	0.0	10.3	14.7	13.9	12.1	18.5	15.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		6.4	0.0	0.5	0.3	0.4	0.1	0.4	0.0
Delay (s)		58.9	0.0		52.8	0.0	10.8	15.0	14.3	12.1	18.9	15.7
Level of Service		E	A		D	A	B	B	B	B	B	B
Approach Delay (s)		21.9			45.6			13.9			18.4	
Approach LOS		C			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	129.6	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	64.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
7: MD 18 (Main Street) & Piney Creek Rd

2020 Build
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	343	75	59	813	46	29	0	16	81	11	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	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	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1848			1770	1583		1784	1583
Flt Permitted	0.19	1.00	1.00	0.51	1.00			0.69	1.00		0.73	1.00
Satd. Flow (perm)	352	1863	1583	947	1848			1285	1583		1357	1583
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)	23	373	82	64	884	50	32	0	17	88	12	40
RTOR Reduction (vph)	0	0	26	0	2	0	0	0	15	0	0	34
Lane Group Flow (vph)	23	373	56	64	932	0	0	32	2	0	100	6
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	84.2	81.8	81.8	85.8	82.6			17.0	17.0		17.0	17.0
Effective Green, g (s)	84.2	81.8	81.8	85.8	82.6			17.0	17.0		17.0	17.0
Actuated g/C Ratio	0.70	0.68	0.68	0.71	0.69			0.14	0.14		0.14	0.14
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	275	1269	1079	699	1272			182	224		192	224
v/s Ratio Prot	0.00	0.20		c0.00	c0.50							
v/s Ratio Perm	0.06		0.04	0.06				0.02	0.00		c0.07	0.00
v/c Ratio	0.08	0.29	0.05	0.09	0.73			0.18	0.01		0.52	0.03
Uniform Delay, d1	10.3	7.6	6.3	5.2	11.8			45.3	44.3		47.7	44.4
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.6	0.1	0.1	3.8			2.1	0.1		9.7	0.2
Delay (s)	10.4	8.2	6.4	5.2	15.5			47.4	44.4		57.5	44.6
Level of Service	B	A	A	A	B			D	D		E	D
Approach Delay (s)		8.0			14.9			46.4			53.8	
Approach LOS		A			B			D			D	

Intersection Summary				
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	70.8%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
8: MD 18 (Main Street)

2020 Build
Timing Plan: AM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	339	101	52	744	174	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	1.00	1.00	0.95	1.00	0.95	
Satd. Flow (prot)	1863	1583	1770	1863	1770	
Flt Permitted	1.00	1.00	0.41	1.00	0.95	
Satd. Flow (perm)	1863	1583	759	1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	368	110	57	809	189	0
RTOR Reduction (vph)	0	59	0	0	0	0
Lane Group Flow (vph)	368	51	57	809	189	0
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases		6	2			
Actuated Green, G (s)	28.6	28.6	38.7	38.7	11.3	
Effective Green, g (s)	28.6	28.6	38.7	38.7	11.3	
Actuated g/C Ratio	0.46	0.46	0.62	0.62	0.18	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	859	730	540	1162	322	
v/s Ratio Prot	0.20		0.01	c0.43	c0.11	
v/s Ratio Perm		0.03	0.06			
v/c Ratio	0.43	0.07	0.11	0.70	0.59	
Uniform Delay, d1	11.2	9.3	5.2	7.7	23.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.2	0.1	3.5	2.7	
Delay (s)	12.8	9.5	5.2	11.2	25.9	
Level of Service	B	A	A	B	C	
Approach Delay (s)	12.0			10.8	25.9	
Approach LOS	B			B	C	

Intersection Summary				
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	58.8%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

2020 Build
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	192	47	42	384	16	177	42	52	113	54	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1852		1681	1716	1583	1770	1863	1583
Flt Permitted	0.37	1.00	1.00	0.63	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	688	1863	1583	1168	1852		1681	1716	1583	1770	1863	1583
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)	160	209	51	46	417	17	192	46	57	123	59	254
RTOR Reduction (vph)	0	0	23	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	160	209	28	46	433	0	117	121	57	123	59	254
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Free	Split	NA	Free
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases	6		6	2					Free			Free
Actuated Green, G (s)	74.9	65.2	65.2	64.9	60.2		13.2	13.2	120.0	12.9	12.9	120.0
Effective Green, g (s)	74.9	65.2	65.2	64.9	60.2		13.2	13.2	120.0	12.9	12.9	120.0
Actuated g/C Ratio	0.62	0.54	0.54	0.54	0.50		0.11	0.11	1.00	0.11	0.11	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5	3.5	2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	516	1012	860	655	929		184	188	1583	190	200	1583
v/s Ratio Prot	c0.03	0.11		0.00	c0.23		0.07	c0.07		c0.07	0.03	
v/s Ratio Perm	0.17		0.02	0.04					0.04			c0.16
v/c Ratio	0.31	0.21	0.03	0.07	0.47		0.64	0.64	0.04	0.65	0.29	0.16
Uniform Delay, d1	10.9	14.1	12.7	13.0	19.4		51.1	51.1	0.0	51.4	49.4	0.0
Progression Factor	1.00	1.00	1.00	0.72	0.71		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.5	0.1	0.0	1.6		6.2	6.5	0.0	6.5	0.6	0.2
Delay (s)	11.2	14.6	12.8	9.3	15.5		57.3	57.7	0.0	57.9	50.0	0.2
Level of Service	B	B	B	A	B		E	E	A	E	D	A
Approach Delay (s)		13.1			14.9			46.4			23.2	
Approach LOS		B			B			D			C	

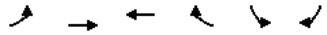
Intersection Summary				
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.50			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	57.3%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
11: MD 18 (Main Street) & S. Piney Road

2020 Build
Timing Plan: AM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	120	140	317	42	32	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.98		0.91	
Flt Protected		0.98	1.00		0.98	
Satd. Flow (prot)		1821	1833		1666	
Flt Permitted		0.59	1.00		0.98	
Satd. Flow (perm)		1106	1833		1666	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	152	345	46	35	72
RTOR Reduction (vph)	0	0	3	0	59	0
Lane Group Flow (vph)	0	282	388	0	48	0
Turn Type	custom	NA	NA		Prot	
Protected Phases	1	1 6	2		4	
Permitted Phases	6					
Actuated Green, G (s)		86.0	68.2		22.0	
Effective Green, g (s)		86.0	68.2		22.0	
Actuated g/C Ratio		0.72	0.57		0.18	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		862	1041		305	
v/s Ratio Prot		c0.03	c0.21		c0.03	
v/s Ratio Perm		0.20				
v/c Ratio		0.33	0.37		0.16	
Uniform Delay, d1		6.3	14.2		41.2	
Progression Factor		0.62	1.00		1.00	
Incremental Delay, d2		0.2	1.0		1.1	
Delay (s)		4.1	15.2		42.3	
Level of Service		A	B		D	
Approach Delay (s)		4.1	15.2		42.3	
Approach LOS		A	B		D	

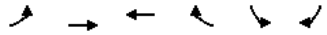
Intersection Summary				
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.33			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	54.1%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	49	123	285	45	33	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	134	310	49	36	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	359				574	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359				574	334
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				92	89
cM capacity (veh/h)	1200				459	708

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	187	359	116
Volume Left	53	0	36
Volume Right	0	49	80
cSH	1200	1700	606
Volume to Capacity	0.04	0.21	0.19
Queue Length 95th (ft)	3	0	18
Control Delay (s)	2.6	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	2.6	0.0	12.3
Approach LOS			B

Intersection Summary				
Average Delay		2.9		
Intersection Capacity Utilization		43.3%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	101	318	21	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	110	346	23	5	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	368				589	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	368				589	357
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	98
cM capacity (veh/h)	1190				447	687

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	171	368	17
Volume Left	61	0	5
Volume Right	0	23	12
cSH	1190	1700	588
Volume to Capacity	0.05	0.22	0.03
Queue Length 95th (ft)	4	0	2
Control Delay (s)	3.2	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	3.2	0.0	11.3
Approach LOS			B

Intersection Summary				
Average Delay		1.3		
Intersection Capacity Utilization		39.8%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Signalized Intersection Capacity Analysis — 2020 Build with Signals

1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road — Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	5	8	248	5	210	10	765	120	344	1223	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1758			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.49			0.71	1.00	0.21	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)		902			1329	1583	384	3539	1583	463	3539	1583
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	5	9	270	5	228	11	832	130	374	1329	64
RTOR Reduction (vph)	0	6	0	0	0	162	0	0	61	0	0	19
Lane Group Flow (vph)	0	57	0	0	275	66	11	832	69	374	1329	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Effective Green, g (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Actuated g/C Ratio		0.22			0.22	0.22	0.53	0.53	0.53	0.70	0.70	0.70
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		196			289	345	203	1872	837	498	2484	1111
v/s Ratio Prot								0.24		c0.10	0.38	
v/s Ratio Perm		0.06			c0.21	0.04	0.03		0.04	c0.43		0.03
v/c Ratio		0.29			0.95	0.19	0.05	0.44	0.08	0.75	0.54	0.04
Uniform Delay, d1		32.6			38.6	31.9	11.4	14.5	11.6	8.4	7.1	4.6
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.60	0.50	0.55
Incremental Delay, d2		0.8			39.8	0.3	0.5	0.8	0.2	5.8	0.8	0.1
Delay (s)		33.5			78.4	32.2	11.9	15.3	11.8	19.3	4.3	2.6
Level of Service		C			E	C	B	B	B	B	A	A
Approach Delay (s)		33.5			57.4			14.8			7.4	
Approach LOS		C			E			B			A	

Intersection Summary				
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	66.7%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — 2020 Build with Signals

2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp — Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	0	653	0	0	0	0	639	380	483	972	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.26	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	480	3539	
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)	429	0	710	0	0	0	0	695	413	525	1057	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	429	0	710	0	0	0	0	695	413	525	1057	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	19.7		100.0					40.2	100.0	69.3	69.3	
Effective Green, g (s)	22.7		100.0					43.2	100.0	71.3	72.3	
Actuated g/C Ratio	0.23		1.00					0.43	1.00	0.71	0.72	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	779		1583					1528	1583	666	2558	
v/s Ratio Prot	c0.12							0.20		c0.20	0.30	
v/s Ratio Perm			0.45						0.26	c0.36		
v/c Ratio	0.55		0.45					0.45	0.26	0.79	0.41	
Uniform Delay, d1	34.1		0.0					20.1	0.0	11.7	5.5	
Progression Factor	1.00		1.00					0.64	1.00	1.46	0.31	
Incremental Delay, d2	1.4		0.9					0.9	0.4	5.1	0.4	
Delay (s)	35.6		0.9					13.7	0.4	22.2	2.1	
Level of Service	D		A					B	A	C	A	
Approach Delay (s)		14.0			0.0			8.7			8.8	
Approach LOS		B			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	66.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	728	0	198	261	772	0	0	727	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.20	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	365	3539			3539	1583
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)	0	0	0	791	0	215	284	839	0	0	790	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	791	0	215	284	839	0	0	790	248
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				32.2		100.0	51.8	57.8			33.3	100.0
Effective Green, g (s)				35.2		100.0	57.8	60.8			36.3	100.0
Actuated g/C Ratio				0.35		1.00	0.58	0.61			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				1208		1583	513	2151			1284	1583
v/s Ratio Prot				c0.23			c0.12	0.24			c0.22	
v/s Ratio Perm						0.14	0.20					0.16
v/c Ratio				0.65		0.14	0.55	0.39			0.62	0.16
Uniform Delay, d1				27.3		0.0	24.0	10.1			26.1	0.0
Progression Factor				1.00		1.00	0.34	0.16			1.00	1.00
Incremental Delay, d2				1.3		0.2	2.0	0.2			2.2	0.2
Delay (s)				28.6		0.2	10.0	1.8			28.3	0.2
Level of Service				C		A	B	A			C	A
Approach Delay (s)		0.0			22.5			3.9			21.6	
Approach LOS		A			C			A			C	

Intersection Summary				
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.61			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0	
Intersection Capacity Utilization	66.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	347	15	59	60	514	396	81	413	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.45	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)		1854	1583		1777	1583	839	3539	1583	658	3539	1583
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)	5	49	212	377	16	64	65	559	430	88	449	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	225	0	0	3
Lane Group Flow (vph)	0	54	212	0	393	64	65	559	205	88	449	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		8.9	136.6		34.5	136.6	68.3	62.0	62.0	73.1	64.4	64.4
Effective Green, g (s)		11.9	136.6		37.5	136.6	74.3	65.0	65.0	78.7	67.4	67.4
Actuated g/C Ratio		0.09	1.00		0.27	1.00	0.54	0.48	0.48	0.58	0.49	0.49
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		161	1583		487	1583	519	1684	753	474	1746	781
v/s Ratio Prot		c0.03			c0.22		0.01	c0.16		c0.02	0.13	
v/s Ratio Perm			0.13			0.04	0.06		0.13	0.09		0.00
v/c Ratio		0.34	0.13		0.81	0.04	0.13	0.33	0.27	0.19	0.26	0.00
Uniform Delay, d1		58.6	0.0		46.2	0.0	14.9	22.3	21.6	13.7	20.1	17.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.7	0.2		10.0	0.0	0.1	0.5	0.9	0.2	0.4	0.0
Delay (s)		60.3	0.2		56.2	0.0	15.0	22.8	22.4	13.8	20.4	17.6
Level of Service		E	A		E	A	B	C	C	B	C	B
Approach Delay (s)		12.4			48.3			22.2			19.3	
Approach LOS		B			D			C			B	

Intersection Summary				
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	136.6	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	62.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
7: MD 18 (Main Street) & Piney Creek Rd

2020 Build with Signals
Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	681	28	23	1205	110	72	5	64	122	5	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	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	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1839			1779	1583		1777	1583
Flt Permitted	0.04	1.00	1.00	0.31	1.00			0.47	1.00		0.67	1.00
Satd. Flow (perm)	72	1863	1583	586	1839			875	1583		1255	1583
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)	46	740	30	25	1310	120	78	5	70	133	5	40
RTOR Reduction (vph)	0	0	8	0	2	0	0	0	62	0	0	35
Lane Group Flow (vph)	46	740	22	25	1428	0	0	83	8	0	138	5
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	106.8	103.6	103.6	105.2	102.8			16.0	16.0		16.0	16.0
Effective Green, g (s)	106.8	103.6	103.6	105.2	102.8			16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.76	0.74	0.74	0.75	0.73			0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	93	1378	1171	460	1350			100	180		143	180
v/s Ratio Prot	c0.01	0.40		0.00	c0.78							
v/s Ratio Perm	0.36		0.01	0.04				0.09	0.01		c0.11	0.00
v/c Ratio	0.49	0.54	0.02	0.05	1.06			0.83	0.04		0.97	0.03
Uniform Delay, d1	40.4	7.9	4.8	5.7	18.6			60.7	55.2		61.7	55.1
Progression Factor	1.00	1.00	1.00	0.84	1.05			1.00	1.00		1.00	1.00
Incremental Delay, d2	4.1	1.5	0.0	0.0	27.9			52.2	0.5		66.5	0.3
Delay (s)	44.5	9.4	4.8	4.8	47.4			112.9	55.7		128.2	55.3
Level of Service	D	A	A	A	D			F	E		F	E
Approach Delay (s)		11.2			46.7			86.7			111.8	
Approach LOS		B			D			F			F	

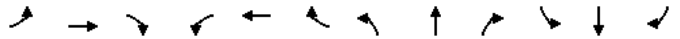
Intersection Summary				
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	93.8%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
8: MD 18 (Main Street)

2020 Build with Signals
Timing Plan: PM Peak Hour

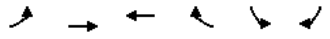
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	671	196	194	1313	110	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	1.00	1.00	0.95	1.00	0.95	
Satd. Flow (prot)	1863	1583	1770	1863	1770	
Flt Permitted	1.00	1.00	0.23	1.00	0.95	
Satd. Flow (perm)	1863	1583	420	1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	729	213	211	1427	120	0
RTOR Reduction (vph)	0	88	0	0	0	0
Lane Group Flow (vph)	729	125	211	1427	120	0
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases		6	2			
Actuated Green, G (s)	41.0	41.0	53.0	53.0	5.0	
Effective Green, g (s)	41.0	41.0	53.0	53.0	5.0	
Actuated g/C Ratio	0.59	0.59	0.76	0.76	0.07	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1091	927	433	1410	126	
v/s Ratio Prot	0.39		0.04	c0.77	c0.07	
v/s Ratio Perm		0.08	0.33			
v/c Ratio	0.67	0.13	0.49	1.01	0.95	
Uniform Delay, d1	9.9	6.5	6.3	8.5	32.4	
Progression Factor	1.20	2.94	1.78	1.99	1.00	
Incremental Delay, d2	2.7	0.3	0.2	15.0	65.1	
Delay (s)	14.6	19.4	11.4	32.0	97.5	
Level of Service	B	B	B	C	F	
Approach Delay (s)	15.7			29.3	97.5	
Approach LOS	B			C	F	

Intersection Summary				
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	1.12			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	85.2%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				



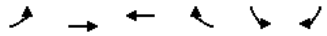
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	253	486	164	79	917	53	227	64	99	291	201	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1847		1681	1721	1583	1770	1863	1583
Flt Permitted	0.06	1.00	1.00	0.37	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	106	1863	1583	697	1847		1681	1721	1583	1770	1863	1583
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)	275	528	178	86	997	58	247	70	108	316	218	393
RTOR Reduction (vph)	0	0	85	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	275	528	93	86	1053	0	156	161	108	316	218	393
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Free	Split	NA	Free
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases	6		6	2					Free			Free
Actuated Green, G (s)	84.0	73.0	73.0	69.0	64.0		11.6	11.6	140.0	26.4	26.4	140.0
Effective Green, g (s)	84.0	73.0	73.0	69.0	64.0		11.6	11.6	140.0	26.4	26.4	140.0
Actuated g/C Ratio	0.60	0.52	0.52	0.49	0.46		0.08	0.08	1.00	0.19	0.19	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5	3.5	2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	230	971	825	381	844		139	142	1583	333	351	1583
v/s Ratio Prot	c0.12	0.28		0.01	c0.57		0.09	c0.09		c0.18	0.12	
v/s Ratio Perm	0.60		0.06	0.10					0.07			0.25
v/c Ratio	1.20	0.54	0.11	0.23	1.25		1.12	1.13	0.07	0.95	0.62	0.25
Uniform Delay, d1	48.0	22.4	17.0	19.6	38.0		64.2	64.2	0.0	56.1	52.2	0.0
Progression Factor	1.05	0.95	2.78	1.25	0.92		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	119.2	1.9	0.2	0.2	119.5		112.9	116.0	0.1	35.6	2.9	0.4
Delay (s)	169.5	23.3	47.6	24.7	154.5		177.1	180.2	0.1	91.7	55.1	0.4
Level of Service	F	C	D	C	F		F	F	A	F	E	A
Approach Delay (s)		68.7			144.7			133.3			44.4	
Approach LOS		E			F			F			D	

Intersection Summary				
HCM 2000 Control Delay	95.1	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.16			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	109.6%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	368	339	576	37	83	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.99		0.90	
Flt Protected		0.97	1.00		0.99	
Satd. Flow (prot)		1815	1848		1650	
Flt Permitted		0.06	1.00		0.99	
Satd. Flow (perm)		109	1848		1650	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	400	368	626	40	90	298
RTOR Reduction (vph)	0	0	2	0	85	0
Lane Group Flow (vph)	0	768	664	0	303	0
Turn Type	custom	NA	NA		Prot	
Protected Phases	7	4 7	8		6	
Permitted Phases	4					
Actuated Green, G (s)		104.0	49.0		24.0	
Effective Green, g (s)		104.0	49.0		24.0	
Actuated g/C Ratio		0.74	0.35		0.17	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		714	646		282	
v/s Ratio Prot		c0.40	0.36		c0.18	
v/s Ratio Perm		c0.40				
v/c Ratio		1.08	1.03		1.07	
Uniform Delay, d1		18.0	45.5		58.0	
Progression Factor		0.95	1.00		1.00	
Incremental Delay, d2		54.3	42.7		74.4	
Delay (s)		71.5	88.2		132.4	
Level of Service		E	F		F	
Approach Delay (s)		71.5	88.2		132.4	
Approach LOS		E	F		F	

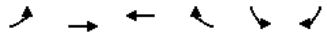
Intersection Summary				
HCM 2000 Control Delay	90.6	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.10			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	107.2%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	103	319	514	57	44	99
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	347	559	62	48	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	621				1160	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621				1160	590
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				75	79
cM capacity (veh/h)	960				191	508

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	459	621	155
Volume Left	112	0	48
Volume Right	0	62	108
cSH	960	1700	336
Volume to Capacity	0.12	0.37	0.46
Queue Length 95th (ft)	10	0	58
Control Delay (s)	3.3	0.0	24.6
Lane LOS	A		C
Approach Delay (s)	3.3	0.0	24.6
Approach LOS			C

Intersection Summary				
Average Delay		4.3		
Intersection Capacity Utilization		71.5%	ICU Level of Service	C
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	89	274	555	5	5	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	298	603	5	5	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	609				1097	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609				1097	606
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				97	97
cM capacity (veh/h)	970				212	497

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	395	609	23
Volume Left	97	0	5
Volume Right	0	5	17
cSH	970	1700	377
Volume to Capacity	0.10	0.36	0.06
Queue Length 95th (ft)	8	0	5
Control Delay (s)	3.1	0.0	15.2
Lane LOS	A		C
Approach Delay (s)	3.1	0.0	15.2
Approach LOS			C

Intersection Summary				
Average Delay		1.5		
Intersection Capacity Utilization		62.2%	ICU Level of Service	B
Analysis Period (min)		15		

HCM Signalized Intersection Capacity Analysis
1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

8/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	7	42	5	180	9	1418	109	149	576	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.81	1.00	0.41	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)		1450			1507	1583	772	3539	1583	204	3539	1583
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)	21	5	8	46	5	196	10	1541	118	162	626	53
RTOR Reduction (vph)	0	7	0	0	0	178	0	0	36	0	0	9
Lane Group Flow (vph)	0	27	0	0	51	18	10	1541	82	162	626	44
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		9.1			9.1	9.1	69.5	69.5	69.5	82.9	82.9	82.9
Effective Green, g (s)		9.1			9.1	9.1	69.5	69.5	69.5	82.9	82.9	82.9
Actuated g/C Ratio		0.09			0.09	0.09	0.70	0.70	0.70	0.83	0.83	0.83
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		131			137	144	536	2459	1100	316	2933	1312
v/s Ratio Prot								c0.44		c0.05	0.18	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.05	0.38		0.03
v/c Ratio		0.20			0.37	0.12	0.02	0.63	0.07	0.51	0.21	0.03
Uniform Delay, d1		42.1			42.8	41.8	4.7	8.2	4.9	8.2	1.8	1.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	4.02	0.54	0.34
Incremental Delay, d2		0.8			1.7	0.4	0.1	1.2	0.1	1.4	0.2	0.0
Delay (s)		42.9			44.5	42.2	4.8	9.5	5.0	34.3	1.1	0.6
Level of Service		D			D	D	A	A	A	C	A	A
Approach Delay (s)		42.9			42.6			9.1			7.5	
Approach LOS		D			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	65.9%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

8/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	0	139	0	0	0	0	1204	413	315	635	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.09	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	165	3539	
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)	217	0	151	0	0	0	0	1309	449	342	690	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	217	0	151	0	0	0	0	1309	449	342	690	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	13.5		100.0					48.1	100.0	75.5	75.5	
Effective Green, g (s)	16.5		100.0					51.1	100.0	77.5	78.5	
Actuated g/C Ratio	0.16		1.00					0.51	1.00	0.78	0.78	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	566		1583					1808	1583	503	2778	
v/s Ratio Prot	c0.06							c0.37		c0.16	0.19	
v/s Ratio Perm			0.10						0.28	0.37		
v/c Ratio	0.38		0.10					0.72	0.28	0.68	0.25	
Uniform Delay, d1	37.2		0.0					19.0	0.0	23.5	2.9	
Progression Factor	1.00		1.00					0.62	1.00	2.36	0.00	
Incremental Delay, d2	0.9		0.1					2.1	0.4	3.2	0.2	
Delay (s)	38.1		0.1					13.8	0.4	58.8	0.2	
Level of Service	D		A					B	A	E	A	
Approach Delay (s)		22.5			0.0			10.4			19.6	
Approach LOS		C			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	78.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp 8/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	517	0	427	677	726	0	0	433	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.38	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	699	3539			3539	1583
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)	0	0	0	562	0	464	736	789	0	0	471	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	562	0	464	736	789	0	0	471	427
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				18.0		100.0	66.0	72.0			31.0	100.0
Effective Green, g (s)				21.0		100.0	72.0	75.0			34.0	100.0
Actuated g/C Ratio				0.21		1.00	0.72	0.75			0.34	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				720		1583	910	2654			1203	1583
v/s Ratio Prot				c0.16			c0.31	0.22			0.13	
v/s Ratio Perm						0.29	c0.28					0.27
v/c Ratio				0.78		0.29	0.81	0.30			0.39	0.27
Uniform Delay, d1				37.3		0.0	14.3	4.0			25.1	0.0
Progression Factor				1.00		1.00	0.93	0.02			1.00	1.00
Incremental Delay, d2				5.5		0.5	4.6	0.1			1.0	0.4
Delay (s)				42.8		0.5	17.9	0.2			26.1	0.4
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			23.7			8.7			13.9	
Approach LOS		A			C			A			B	

Intersection Summary				
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0	
Intersection Capacity Utilization	78.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street) 8/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	259	25	62	215	555	383	127	518	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1781	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.36	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)		1848	1583		1781	1583	668	3539	1583	685	3539	1583
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)	5	27	54	282	27	67	234	603	416	138	563	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	202	0	0	3
Lane Group Flow (vph)	0	32	54	0	309	67	234	603	214	138	563	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		5.7	130.2		27.9	130.2	76.5	64.1	64.1	71.7	61.7	61.7
Effective Green, g (s)		8.7	130.2		30.9	130.2	82.1	67.1	67.1	77.7	64.7	64.7
Actuated g/C Ratio		0.07	1.00		0.24	1.00	0.63	0.52	0.52	0.60	0.50	0.50
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		123	1583		422	1583	551	1823	815	517	1758	786
v/s Ratio Prot		c0.02			c0.17		c0.05	c0.17		0.03	0.16	
v/s Ratio Perm			0.03			0.04	0.22		0.14	0.13		0.00
v/c Ratio		0.26	0.03		0.73	0.04	0.42	0.33	0.26	0.27	0.32	0.00
Uniform Delay, d1		57.7	0.0		45.8	0.0	11.1	18.4	17.7	11.8	19.6	16.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		6.9	0.1	0.5	0.5	0.8	0.3	0.5	0.0
Delay (s)		59.2	0.0		52.7	0.1	11.6	18.9	18.5	12.1	20.1	16.5
Level of Service		E	A		D	A	B	B	B	B	C	B
Approach Delay (s)		22.1			43.3			17.4			18.5	
Approach LOS		C			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.47			
Actuated Cycle Length (s)	130.2	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	65.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
7: MD 18 (Main Street) & Piney Creek Rd

8/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	239	492	81	64	1020	124	31	0	18	160	12	218
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	260	535	88	70	1109	135	34	0	20	174	13	237
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1243			535			2427	2437	535	2370	2370	1176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1243			535			2427	2437	535	2370	2370	1176
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	54			93			0	100	96	0	25	0
cM capacity (veh/h)	560			1033			0	16	545	14	17	233

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	260	535	88	70	1243	53	424
Volume Left	260	0	0	70	0	34	174
Volume Right	0	0	88	0	135	20	237
cSH	560	1700	1700	1033	1700	0	30
Volume to Capacity	0.46	0.31	0.05	0.07	0.73	Err	14.00
Queue Length 95th (ft)	61	0	0	5	0	Err	Err
Control Delay (s)	16.9	0.0	0.0	8.7	0.0	Err	Err
Lane LOS	C			A		F	F
Approach Delay (s)	5.0			0.5		Err	Err
Approach LOS						F	F

Intersection Summary					
Average Delay	Err				
Intersection Capacity Utilization	100.6%	ICU Level of Service		G	
Analysis Period (min)	15				

HCM Unsignalized Intersection Capacity Analysis
8: MD 18 (Main Street)

8/7/2015

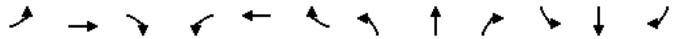
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	225	0	67	984	531	138
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	245	0	73	1070	577	150
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1792	577	727			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1792	577	727			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	92			
cM capacity (veh/h)	81	516	876			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	245	73	1070	577	150
Volume Left	245	73	0	0	0
Volume Right	0	0	0	0	150
cSH	81	876	1700	1700	1700
Volume to Capacity	3.01	0.08	0.63	0.34	0.09
Queue Length 95th (ft)	Err	7	0	0	0
Control Delay (s)	Err	9.5	0.0	0.0	0.0
Lane LOS	F	A			
Approach Delay (s)	Err	0.6		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	1157.0			
Intersection Capacity Utilization	70.9%	ICU Level of Service		C
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis
10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

8/7/2015

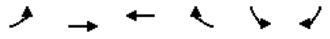


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	297	84	55	550	18	245	47	66	170	71	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1801		1770	1854		1770	1863	1583	1770	1863	1583
Flt Permitted	0.08	1.00		0.42	1.00		0.13	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	157	1801		781	1854		247	1863	1583	1348	1863	1583
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)	229	323	91	60	598	20	266	51	72	185	77	278
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	229	408	0	60	617	0	266	51	72	185	77	278
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	64.6	52.3		47.9	41.6		30.2	30.2	135.2	22.4	22.4	135.2
Effective Green, g (s)	64.6	52.3		47.9	41.6		30.2	30.2	135.2	22.4	22.4	135.2
Actuated g/C Ratio	0.48	0.39		0.35	0.31		0.22	0.22	1.00	0.17	0.17	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	277	696		322	570		55	416	1583	223	308	1583
v/s Ratio Prot	c0.10	0.23		0.01	c0.33			0.03			0.04	
v/s Ratio Perm	0.29			0.06			c1.08		0.05	c0.14		0.18
v/c Ratio	0.83	0.59		0.19	1.08		4.84	0.12	0.05	0.83	0.25	0.18
Uniform Delay, d1	38.2	32.9		29.4	46.8		52.5	41.9	0.0	54.6	49.1	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.6	3.6		0.2	62.1		1766.7	0.1	0.1	21.4	0.3	0.2
Delay (s)	55.8	36.5		29.6	108.9		1819.2	42.0	0.1	75.9	49.4	0.2
Level of Service	E	D		C	F		F	D	A	E	D	A
Approach Delay (s)		43.4			101.9			1249.5			33.2	
Approach LOS		D			F			F			C	

Intersection Summary				
HCM 2000 Control Delay	267.1	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	2.01			
Actuated Cycle Length (s)	135.2	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	77.0%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
11: MD 18 (Main Street) & S. Piney Road

8/7/2015



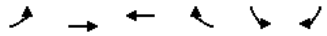
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	176	165	385	47	33	95
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	191	179	418	51	36	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	470				1006	444
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	470				1006	444
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				84	83
cM capacity (veh/h)	1092				220	614

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	371	470	139
Volume Left	191	0	36
Volume Right	0	51	103
cSH	1092	1700	420
Volume to Capacity	0.18	0.28	0.33
Queue Length 95th (ft)	16	0	36
Control Delay (s)	5.5	0.0	17.7
Lane LOS	A		C
Approach Delay (s)	5.5	0.0	17.7
Approach LOS			C

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
12: MD 18 (Main Street) & Shamrock Road

8/7/2015



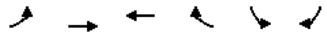
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	51	147	356	47	34	76
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	160	387	51	37	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	438				683	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	438				683	412
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				91	87
cM capacity (veh/h)	1122				394	640

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	215	438	120
Volume Left	55	0	37
Volume Right	0	51	83
cSH	1122	1700	536
Volume to Capacity	0.05	0.26	0.22
Queue Length 95th (ft)	4	0	21
Control Delay (s)	2.5	0.0	13.6
Lane LOS	A		B
Approach Delay (s)	2.5	0.0	13.6
Approach LOS			B

Intersection Summary			
Average Delay		2.8	
Intersection Capacity Utilization		48.7%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
13: MD 18 (Main Street) & Dundee Avenue

8/7/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	70	111	391	23	6	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	121	425	25	7	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	450				710	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	450				710	438
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				98	98
cM capacity (veh/h)	1110				372	619

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	197	450	20
Volume Left	76	0	7
Volume Right	0	25	13
cSH	1110	1700	507
Volume to Capacity	0.07	0.26	0.04
Queue Length 95th (ft)	6	0	3
Control Delay (s)	3.7	0.0	12.4
Lane LOS	A		B
Approach Delay (s)	3.7	0.0	12.4
Approach LOS			B

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		45.0%	ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis — 2030 No Build Total

1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road — Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	5	8	248	5	266	10	927	120	384	1381	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1758			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.51			0.70	1.00	0.17	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)		924			1305	1583	323	3539	1583	265	3539	1583
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	5	9	270	5	289	11	1008	130	417	1501	64
RTOR Reduction (vph)	0	5	0	0	0	161	0	0	73	0	0	19
Lane Group Flow (vph)	0	58	0	0	275	128	11	1008	57	417	1501	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		33.1			33.1	33.1	59.3	59.3	59.3	93.9	93.9	93.9
Effective Green, g (s)		33.1			33.1	33.1	59.3	59.3	59.3	93.9	93.9	93.9
Actuated g/C Ratio		0.25			0.25	0.25	0.44	0.44	0.44	0.70	0.70	0.70
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		226			319	388	141	1554	695	525	2461	1101
v/s Ratio Prot								0.28		c0.18	0.42	
v/s Ratio Perm		0.06			c0.21	0.08	0.03		0.04	c0.37		0.03
v/c Ratio		0.26			0.86	0.33	0.08	0.65	0.08	0.79	0.61	0.04
Uniform Delay, d1		41.1			48.8	41.8	22.0	29.7	22.0	28.1	10.9	6.4
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.48	0.52	0.40
Incremental Delay, d2		0.6			20.6	0.5	1.1	2.1	0.2	7.3	1.0	0.1
Delay (s)		41.7			69.3	42.4	23.1	31.8	22.3	48.9	6.7	2.6
Level of Service		D			E	D	C	C	C	D	A	A
Approach Delay (s)		41.7			55.5			30.6			15.5	
Approach LOS		D			E			C			B	

Intersection Summary				
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	73.4%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — 2030 No Build Total

2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp — Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	451	0	653	0	0	0	0	798	440	536	1170	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	182	3539	
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)	490	0	710	0	0	0	0	867	478	583	1272	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	490	0	710	0	0	0	0	867	478	583	1272	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	24.6		135.0					36.0	135.0	98.4	98.4	
Effective Green, g (s)	27.6		135.0					39.0	135.0	100.4	101.4	
Actuated g/C Ratio	0.20		1.00					0.29	1.00	0.74	0.75	
Clearance Time (s)	6.0							6.0		5.0		
Vehicle Extension (s)	3.0							4.0		5.0		
Lane Grp Cap (vph)	701		1583					1022	1583	834	2658	
v/s Ratio Prot	c0.14							c0.24		c0.31	0.36	
v/s Ratio Perm			0.45						0.30	0.21		
v/c Ratio	0.70		0.45					0.85	0.30	0.70	0.48	
Uniform Delay, d1	49.8		0.0					45.2	0.0	24.7	6.5	
Progression Factor	1.00		1.00					0.77	1.00	1.08	0.37	
Incremental Delay, d2	3.1		0.9					7.2	0.4	3.4	0.4	
Delay (s)	52.9		0.9					42.2	0.4	30.0	2.9	
Level of Service	D		A					D	A	C	A	
Approach Delay (s)		22.1			0.0			27.3			11.4	
Approach LOS		C			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	81.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	896	0	336	261	988	0	0	811	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	1.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.21	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	385	3539			3539	1583
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)	0	0	0	974	0	365	284	1074	0	0	882	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	974	0	365	284	1074	0	0	882	248
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				40.5		135.0	78.5	84.5			59.2	135.0
Effective Green, g (s)				43.5		135.0	84.5	87.5			62.2	135.0
Actuated g/C Ratio				0.32		1.00	0.63	0.65			0.46	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				1106		1583	469	2293			1630	1583
v/s Ratio Prot				c0.28			c0.10	0.30			0.25	
v/s Ratio Perm						0.23	c0.28					0.16
v/c Ratio				0.88		0.23	0.61	0.47			0.54	0.16
Uniform Delay, d1				43.3		0.0	31.1	12.0			26.1	0.0
Progression Factor				1.00		1.00	0.46	0.00			1.00	1.00
Incremental Delay, d2				8.4		0.3	2.2	0.2			1.3	0.2
Delay (s)				51.7		0.3	16.6	0.2			27.4	0.2
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			37.7			3.6			21.5	
Approach LOS		A			D			A			C	

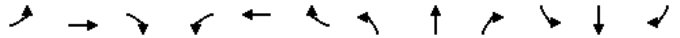
Intersection Summary				
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	7.0	
Intersection Capacity Utilization	81.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	377	15	101	60	653	611	215	467	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.42	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)		1854	1583		1777	1583	789	3539	1583	312	3539	1583
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)	5	49	212	410	16	110	65	710	664	234	508	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	465	0	0	3
Lane Group Flow (vph)	0	54	212	0	426	110	65	710	199	234	508	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		8.0	108.9		35.5	108.9	36.2	29.7	29.7	47.9	36.4	36.4
Effective Green, g (s)		11.0	108.9		38.5	108.9	42.2	32.7	32.7	50.9	39.4	39.4
Actuated g/C Ratio		0.10	1.00		0.35	1.00	0.39	0.30	0.30	0.47	0.36	0.36
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		187	1583		628	1583	391	1062	475	362	1280	572
v/s Ratio Prot		c0.03			c0.24		0.01	c0.20		c0.10	0.14	
v/s Ratio Perm			0.13			0.07	0.05		0.13	0.21		0.00
v/c Ratio		0.29	0.13		0.68	0.07	0.17	0.67	0.42	0.65	0.40	0.00
Uniform Delay, d1		45.3	0.0		29.9	0.0	21.2	33.4	30.5	20.4	25.9	22.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.9	0.2		2.9	0.1	0.2	1.6	0.6	3.9	0.2	0.0
Delay (s)		46.2	0.2		32.8	0.1	21.4	35.0	31.1	24.3	26.1	22.2
Level of Service		D	A		C	A	C	C	C	C	C	C
Approach Delay (s)		9.5			26.1			32.6			25.5	
Approach LOS		A			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	108.9	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	71.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
7: MD 18 (Main Street) & Piney Creek Rd

2030 No Build Total
Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	356	881	30	25	1705	244	77	6	70	291	6	337
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	387	958	33	27	1853	265	84	7	76	316	7	366
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2118			958			3826	3904	958	3775	3772	1986
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2118			958			3826	3904	958	3775	3772	1986
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	0			96			0	0	76	0	0	0
cM capacity (veh/h)	257			718			0	0	312	0	0	77

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	387	958	33	27	2118	166	689
Volume Left	387	0	0	27	0	84	316
Volume Right	0	0	33	0	265	76	366
cSH	257	1700	1700	718	1700	0	0
Volume to Capacity	1.50	0.56	0.02	0.04	1.25	Err	Err
Queue Length 95th (ft)	566	0	0	3	0	Err	Err
Control Delay (s)	281.8	0.0	0.0	10.2	0.0	Err	Err
Lane LOS	F			B		F	F
Approach Delay (s)	79.2			0.1		Err	Err
Approach LOS						F	F

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	157.4%	ICU Level of Service	H	
Analysis Period (min)	15			

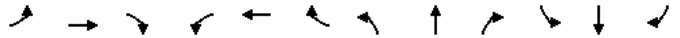
HCM Unsignalized Intersection Capacity Analysis
8: MD 18 (Main Street)

2030 No Build Total
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	169	0	244	1898	979	263
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	184	0	265	2063	1064	286
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3658	1064	1350			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3658	1064	1350			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	48			
cM capacity (veh/h)	3	271	510			

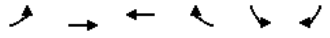
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	184	265	2063	1064	286
Volume Left	184	265	0	0	0
Volume Right	0	0	0	0	286
cSH	3	510	1700	1700	1700
Volume to Capacity	69.21	0.52	1.21	0.63	0.17
Queue Length 95th (ft)	Err	74	0	0	0
Control Delay (s)	Err	19.5	0.0	0.0	0.0
Lane LOS	F	C			
Approach Delay (s)	Err	2.2		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	476.9			
Intersection Capacity Utilization	115.9%	ICU Level of Service	H	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	319	705	241	117	1395	59	349	70	140	490	258	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
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	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1792		1770	1851		1770	1863	1583	1770	1863	1583
Flt Permitted	0.08	1.00		0.09	1.00		0.13	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	146	1792		166	1851		248	1863	1583	1318	1863	1583
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)	347	766	262	127	1516	64	379	76	152	533	280	432
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	121	0	0	205
Lane Group Flow (vph)	347	1020	0	127	1579	0	379	76	31	533	280	227
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		3	4		4
Actuated Green, G (s)	71.0	53.2		56.8	45.0		30.0	30.0	30.0	30.0	30.0	30.0
Effective Green, g (s)	71.0	53.2		56.8	45.0		30.0	30.0	30.0	30.0	30.0	30.0
Actuated g/C Ratio	0.48	0.36		0.38	0.30		0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	287	639		190	559		49	375	318	265	375	318
v/s Ratio Prot	c0.16	c0.57		0.05	c0.85			0.04			0.15	
v/s Ratio Perm	0.41			0.20			c1.53		0.02	c0.40		0.14
v/c Ratio	1.21	1.60		0.67	2.83		7.73	0.20	0.10	2.01	0.75	0.71
Uniform Delay, d1	48.8	47.9		36.8	52.0		59.5	49.5	48.5	59.5	55.9	55.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	122.0	275.8		7.8	826.3		3072.2	0.2	0.1	468.2	7.5	6.9
Delay (s)	170.8	323.7		44.6	878.3		3131.7	49.7	48.6	527.7	63.4	62.4
Level of Service	F	F		D	F		F	D	D	F	E	E
Approach Delay (s)		285.2			816.3			1973.8			261.8	
Approach LOS		F			F			F			F	

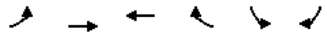
Intersection Summary				
HCM 2000 Control Delay	670.8	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	3.54			
Actuated Cycle Length (s)	149.0	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	148.5%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	550	409	773	41	85	378
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	598	445	840	45	92	411
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	885				2503	862
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	885				2503	862
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	22				0	0
cM capacity (veh/h)	765				7	354

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1042	885	503
Volume Left	598	0	92
Volume Right	0	45	411
cSH	765	1700	35
Volume to Capacity	0.78	0.52	14.55
Queue Length 95th (ft)	195	0	Err
Control Delay (s)	24.4	0.0	Err
Lane LOS	C		F
Approach Delay (s)	24.4	0.0	Err
Approach LOS			F

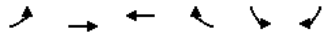
Intersection Summary				
Average Delay	2080.9			
Intersection Capacity Utilization	133.2%	ICU Level of Service		H
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	105	389	711	59	45	103
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	114	423	773	64	49	112
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	837				1456	805
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	837				1456	805
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				60	71
cM capacity (veh/h)	797				123	383

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	537	837	161
Volume Left	114	0	49
Volume Right	0	64	112
cSH	797	1700	232
Volume to Capacity	0.14	0.49	0.69
Queue Length 95th (ft)	12	0	112
Control Delay (s)	3.7	0.0	49.3
Lane LOS	A		E
Approach Delay (s)	3.7	0.0	49.3
Approach LOS			E

Intersection Summary				
Average Delay		6.5		
Intersection Capacity Utilization		86.1%	ICU Level of Service	E
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	128	258	692	5	5	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	139	280	752	5	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	758				1314	755
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	758				1314	755
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				96	96
cM capacity (veh/h)	854				146	409

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	420	758	22
Volume Left	139	0	5
Volume Right	0	5	16
cSH	854	1700	282
Volume to Capacity	0.16	0.45	0.08
Queue Length 95th (ft)	15	0	6
Control Delay (s)	4.6	0.0	18.8
Lane LOS	A		C
Approach Delay (s)	4.6	0.0	18.8
Approach LOS			C

Intersection Summary				
Average Delay		2.0		
Intersection Capacity Utilization		70.7%	ICU Level of Service	C
Analysis Period (min)		15		

HCM Signalized Intersection Capacity Analysis
1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

2030 Build Alt 3
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	6	7	28	7	183	9	1332	59	146	536	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1756			1792	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.75	1.00	0.43	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)		1443			1391	1583	805	3539	1583	212	3539	1583
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)	21	7	8	30	8	199	10	1448	64	159	583	51
RTOR Reduction (vph)	0	7	0	0	0	182	0	0	23	0	0	10
Lane Group Flow (vph)	0	29	0	0	38	17	10	1448	41	159	583	41
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		8.5			8.5	8.5	64.0	64.0	64.0	79.5	79.5	79.5
Effective Green, g (s)		8.5			8.5	8.5	64.0	64.0	64.0	79.5	79.5	79.5
Actuated g/C Ratio		0.08			0.08	0.08	0.64	0.64	0.64	0.80	0.80	0.80
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		122			118	134	515	2264	1013	316	2813	1258
v/s Ratio Prot								c0.41		c0.05	0.16	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.03	0.35		0.03
v/c Ratio		0.24			0.32	0.13	0.02	0.64	0.04	0.50	0.21	0.03
Uniform Delay, d1		42.7			43.0	42.3	6.6	11.0	6.7	8.9	2.5	2.2
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	3.03	0.17	0.00
Incremental Delay, d2		1.0			1.6	0.4	0.1	1.4	0.1	1.2	0.2	0.0
Delay (s)		43.7			44.6	42.7	6.6	12.4	6.7	28.1	0.6	0.0
Level of Service		D			D	D	A	B	A	C	A	A
Approach Delay (s)		43.7			43.0			12.1			6.1	
Approach LOS		D			D			B			A	

Intersection Summary				
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: MD 8 (Romancoke Road)/MD 8 & US 50/301 EB Ramps

2030 Build Alt 3
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	199	0	141	0	0	0	0	1132	402	315	587	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.0					6.0	4.0	6.0	6.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.11	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	209	3539	
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)	216	0	153	0	0	0	0	1230	437	342	638	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	216	0	153	0	0	0	0	1230	437	342	638	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	11.6		100.0					49.7	100.0	76.4	76.4	
Effective Green, g (s)	11.6		100.0					49.7	100.0	76.4	76.4	
Actuated g/C Ratio	0.12		1.00					0.50	1.00	0.76	0.76	
Clearance Time (s)	6.0							6.0		6.0		
Vehicle Extension (s)	3.0							3.0		3.0		
Lane Grp Cap (vph)	398		1583					1758	1583	482	2703	
v/s Ratio Prot	c0.06							0.35		c0.15	0.18	
v/s Ratio Perm			0.10						0.28	c0.39		
v/c Ratio	0.54		0.10					0.70	0.28	0.71	0.24	
Uniform Delay, d1	41.7		0.0					19.4	0.0	21.2	3.4	
Progression Factor	1.00		1.00					0.73	1.00	0.91	0.01	
Incremental Delay, d2	1.5		0.1					1.9	0.3	3.4	0.0	
Delay (s)	43.2		0.1					16.1	0.3	22.8	0.1	
Level of Service	D		A					B	A	C	A	
Approach Delay (s)		25.3			0.0			11.9			8.0	
Approach LOS		C			A			B			A	

Intersection Summary				
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	70.0%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: MD 8 & US 50/301 WB Ramps

2030 Build Alt 3
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	509	0	427	678	653	0	0	393	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0	6.0	6.0			6.0	4.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.40	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	747	3539			3539	1583
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)	0	0	0	553	0	464	737	710	0	0	427	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	553	0	464	737	710	0	0	427	427
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				19.6		100.0	70.4	70.4			20.4	100.0
Effective Green, g (s)				19.6		100.0	70.4	70.4			20.4	100.0
Actuated g/C Ratio				0.20		1.00	0.70	0.70			0.20	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			3.0				3.0	
Lane Grp Cap (vph)				672		1583	976	2491			721	1583
v/s Ratio Prot				c0.16			c0.33	0.20			0.12	
v/s Ratio Perm						0.29	c0.20					0.27
v/c Ratio				0.82		0.29	0.76	0.29			0.59	0.27
Uniform Delay, d1				38.5		0.0	12.9	5.5			36.0	0.0
Progression Factor				1.00		1.00	0.37	0.59			0.76	1.00
Incremental Delay, d2				8.0		0.5	2.6	0.0			3.4	0.4
Delay (s)				46.6		0.5	7.3	3.3			30.7	0.4
Level of Service				D		A	A	A			C	A
Approach Delay (s)		0.0			25.5			5.3			15.6	
Approach LOS		A			C			A			B	

Intersection Summary				
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	70.0%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
4: Skipjack Parkway /MD 18 (Main Street) & MD 8 (Romancoke Road)

2030 Build Alt 3
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	215	25	57	215	560	305	123	522	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.34	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)		1848	1583		1783	1583	627	3539	1583	709	3539	1583
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)	5	27	54	234	27	62	234	609	332	134	567	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	172	0	0	3
Lane Group Flow (vph)	0	32	54	0	261	62	234	609	160	134	567	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		6.0	100.0		19.9	100.0	56.1	45.2	45.2	47.1	40.7	40.7
Effective Green, g (s)		9.0	100.0		22.9	100.0	59.6	48.2	48.2	53.1	43.7	43.7
Actuated g/C Ratio		0.09	1.00		0.23	1.00	0.60	0.48	0.48	0.53	0.44	0.44
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		166	1583		408	1583	532	1705	763	476	1546	691
v/s Ratio Prot		c0.02			c0.15		c0.06	c0.17		0.03	0.16	
v/s Ratio Perm			0.03			0.04	0.20		0.10	0.12		0.00
v/c Ratio		0.19	0.03		0.64	0.04	0.44	0.36	0.21	0.28	0.37	0.00
Uniform Delay, d1		42.1	0.0		34.8	0.0	10.2	16.2	14.9	12.0	18.9	15.9
Progression Factor		1.00	1.00		1.00	1.00	1.04	0.94	1.43	1.00	1.00	1.00
Incremental Delay, d2		0.8	0.0		3.7	0.0	0.6	0.6	0.6	0.3	0.7	0.0
Delay (s)		42.9	0.0		38.5	0.0	11.2	15.8	22.0	12.3	19.5	15.9
Level of Service		D	A		D	A	B	B	C	B	B	B
Approach Delay (s)		16.0			31.1			16.7			18.2	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	62.6%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	208	441	76	70	370	109	30	0	19	121	12	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3419			1770	1583		1782	1583
Flt Permitted	0.34	1.00	1.00	0.41	1.00			0.95	1.00		0.96	1.00
Satd. Flow (perm)	643	1863	1583	758	3419			1770	1583		1782	1583
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)	226	479	83	76	402	118	33	0	21	132	13	233
RTOR Reduction (vph)	0	0	44	0	21	0	0	0	18	0	0	194
Lane Group Flow (vph)	226	479	39	76	499	0	0	33	3	0	145	39
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases	6		6	2					8			4
Actuated Green, G (s)	66.0	56.0	56.0	50.7	46.7			16.0	16.0		20.0	20.0
Effective Green, g (s)	66.0	56.0	56.0	50.7	46.7			16.0	16.0		20.0	20.0
Actuated g/C Ratio	0.55	0.47	0.47	0.42	0.39			0.13	0.13		0.17	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	478	869	738	353	1330			236	211		297	263
v/s Ratio Prot	c0.05	c0.26		0.01	0.15			c0.02			c0.08	
v/s Ratio Perm	0.21		0.02	0.08					0.00			0.02
v/c Ratio	0.47	0.55	0.05	0.22	0.37			0.14	0.01		0.49	0.15
Uniform Delay, d1	14.9	23.0	17.5	21.2	26.2			45.9	45.1		45.4	42.7
Progression Factor	1.00	1.00	1.00	0.92	0.93			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	2.5	0.1	0.3	0.8			1.2	0.1		5.6	1.2
Delay (s)	15.6	25.5	17.6	19.7	25.2			47.2	45.3		51.0	43.9
Level of Service	B	C	B	B	C			D	D		D	D
Approach Delay (s)		21.8			24.5			46.4			46.6	
Approach LOS		C			C			D			D	

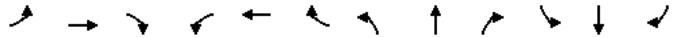
Intersection Summary				
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	56.1%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	437	145	116	859	263	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.96		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3407		1770	3539	1771	
Flt Permitted	1.00		0.35	1.00	0.95	
Satd. Flow (perm)	3407		658	3539	1771	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	475	158	126	934	286	5
RTOR Reduction (vph)	19	0	0	0	1	0
Lane Group Flow (vph)	614	0	126	934	290	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases			2			
Actuated Green, G (s)	69.2		82.7	82.7	25.3	
Effective Green, g (s)	69.2		82.7	82.7	25.3	
Actuated g/C Ratio	0.58		0.69	0.69	0.21	
Clearance Time (s)	6.0		5.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1964		532	2438	373	
v/s Ratio Prot	0.18		0.02	c0.26	c0.16	
v/s Ratio Perm			0.15			
v/c Ratio	0.31		0.24	0.38	0.78	
Uniform Delay, d1	13.1		6.8	7.9	44.7	
Progression Factor	0.20		0.29	0.27	1.00	
Incremental Delay, d2	0.4		0.2	0.4	9.8	
Delay (s)	3.0		2.2	2.5	54.5	
Level of Service	A		A	A	D	
Approach Delay (s)	3.0			2.5	54.5	
Approach LOS	A			A	D	

Intersection Summary				
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.50			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	52.2%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

2030 Build Alt 3
Timing Plan: PM Peak

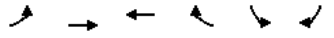


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	283	81	35	480	18	247	47	47	157	74	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	0.97	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3421		1770	3520		1681	1711	1583	3433	1863	1583
Flt Permitted	0.39	1.00		0.50	1.00		0.70	0.75	1.00	0.95	1.00	1.00
Satd. Flow (perm)	724	3421		936	3520		1248	1320	1583	3433	1863	1583
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)	208	308	88	38	522	20	268	51	51	171	80	271
RTOR Reduction (vph)	0	19	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	208	377	0	38	540	0	158	161	51	171	80	271
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Free	Prot	NA	Free
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8		Free			Free
Actuated Green, G (s)	72.1	62.7		52.1	48.7		35.9	35.9	120.0	12.4	8.8	120.0
Effective Green, g (s)	72.1	62.7		52.1	48.7		35.9	35.9	120.0	12.4	8.8	120.0
Actuated g/C Ratio	0.60	0.52		0.43	0.41		0.30	0.30	1.00	0.10	0.07	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		3.0	2.5	
Lane Grp Cap (vph)	586	1787		430	1428		449	463	1583	354	136	1583
v/s Ratio Prot	c0.05	0.11		0.00	0.15		c0.06	0.06		c0.05	c0.04	
v/s Ratio Perm	c0.16			0.04			0.04	0.04	0.03			0.17
v/c Ratio	0.35	0.21		0.09	0.38		0.35	0.35	0.03	0.48	0.59	0.17
Uniform Delay, d1	17.0	15.4		20.9	25.0		33.7	32.9	0.0	50.8	53.8	0.0
Progression Factor	0.52	0.28		0.78	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3		0.1	0.7		0.3	0.3	0.0	1.0	5.3	0.2
Delay (s)	9.0	4.6		16.3	24.6		34.1	33.2	0.0	51.8	59.1	0.2
Level of Service	A	A		B	C		C	C	A	D	E	A
Approach Delay (s)		6.1			24.1			29.0			26.2	
Approach LOS		A			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.41			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	57.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

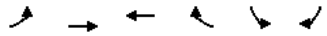
HCM Signalized Intersection Capacity Analysis
11: MD 18 (Main Street) & S. Piney Road

2030 Build Alt 3
Timing Plan: PM Peak



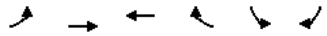
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	176	237	416	47	39	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1837		1770	1583
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	675	1863	1837		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	191	258	452	51	42	103
RTOR Reduction (vph)	0	0	3	0	0	85
Lane Group Flow (vph)	191	258	500	0	42	18
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6					4
Actuated Green, G (s)	87.0	87.0	71.5		21.0	21.0
Effective Green, g (s)	87.0	87.0	71.5		21.0	21.0
Actuated g/C Ratio	0.72	0.72	0.60		0.18	0.18
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	576	1350	1094		309	277
v/s Ratio Prot	c0.03	0.14	c0.27		c0.02	
v/s Ratio Perm	0.21					0.01
v/c Ratio	0.33	0.19	0.46		0.14	0.07
Uniform Delay, d1	7.0	5.3	13.5		41.8	41.3
Progression Factor	1.01	0.71	0.38		1.00	1.00
Incremental Delay, d2	0.3	0.3	1.3		0.9	0.5
Delay (s)	7.3	4.1	6.4		42.7	41.8
Level of Service	A	A	A		D	D
Approach Delay (s)		5.5	6.4		42.0	
Approach LOS		A	A		D	

Intersection Summary				
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.38			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	52.8%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	130	147	356	47	54	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1833		1770	1583
Flt Permitted	0.40	1.00	1.00		0.95	1.00
Satd. Flow (perm)	743	1863	1833		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	160	387	51	59	116
RTOR Reduction (vph)	0	0	3	0	0	93
Lane Group Flow (vph)	141	160	435	0	59	23
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	84.0	84.0	69.4		24.0	24.0
Effective Green, g (s)	84.0	84.0	69.4		24.0	24.0
Actuated g/C Ratio	0.70	0.70	0.58		0.20	0.20
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	593	1304	1060		354	316
v/s Ratio Prot	c0.02	0.09	c0.24		c0.03	
v/s Ratio Perm	0.15					0.01
v/c Ratio	0.24	0.12	0.41		0.17	0.07
Uniform Delay, d1	7.2	5.9	14.0		39.7	39.0
Progression Factor	0.90	0.75	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.2	1.2		1.0	0.5
Delay (s)	6.6	4.6	15.2		40.7	39.4
Level of Service	A	A	B		D	D
Approach Delay (s)		5.6	15.2		39.9	
Approach LOS		A	B		D	

Intersection Summary				
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.34			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	47.1%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	70	131	391	23	6	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	142	425	25	7	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		369				
pX, platoon unblocked						
vC, conflicting volume	450				732	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	450				732	438
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				98	98
cM capacity (veh/h)	1110				362	619

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	76	142	450	20
Volume Left	76	0	0	7
Volume Right	0	0	25	13
cSH	1110	1700	1700	500
Volume to Capacity	0.07	0.08	0.26	0.04
Queue Length 95th (ft)	6	0	0	3
Control Delay (s)	8.5	0.0	0.0	12.5
Lane LOS	A			B
Approach Delay (s)	3.0		0.0	12.5
Approach LOS				B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

2030 Build Alt 3
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	7	8	104	7	275	10	765	76	390	1283	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1763			1780	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.61			0.73	1.00	0.19	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)		1121			1351	1583	359	3539	1583	449	3539	1583
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)	47	8	9	113	8	299	11	832	83	424	1395	62
RTOR Reduction (vph)	0	6	0	0	0	259	0	0	39	0	0	13
Lane Group Flow (vph)	0	58	0	0	121	40	11	832	44	424	1395	49
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		18.2			18.2	18.2	68.3	68.3	68.3	104.8	104.8	104.8
Effective Green, g (s)		18.2			18.2	18.2	68.3	68.3	68.3	104.8	104.8	104.8
Actuated g/C Ratio		0.13			0.13	0.13	0.51	0.51	0.51	0.78	0.78	0.78
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		151			182	213	181	1790	800	647	2747	1228
v/s Ratio Prot								0.24		c0.15	0.39	
v/s Ratio Perm		0.05			c0.09	0.03	0.03		0.03	c0.36		0.03
v/c Ratio		0.38			0.66	0.19	0.06	0.46	0.06	0.66	0.51	0.04
Uniform Delay, d1		53.3			55.5	51.8	17.0	21.5	17.0	9.6	5.6	3.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	2.25	0.44	0.39
Incremental Delay, d2		1.6			8.8	0.4	0.6	0.9	0.1	2.2	0.6	0.1
Delay (s)		54.9			64.3	52.3	17.6	22.4	17.1	23.9	3.1	1.4
Level of Service		D			E	D	B	C	B	C	A	A
Approach Delay (s)		54.9			55.8			21.9			7.7	
Approach LOS		D			E			C			A	

Intersection Summary				
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	67.7%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: US 50/301 EB Ramps & MD 8

2030 Build Alt 3
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	449	0	656	0	0	0	0	663	420	536	1074	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.0					6.0	4.0	5.0	6.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.14	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	267	3539	
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)	488	0	713	0	0	0	0	721	457	583	1167	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	488	0	713	0	0	0	0	721	457	583	1167	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	24.5		135.0					36.0	135.0	98.5	98.5	
Effective Green, g (s)	24.5		135.0					36.0	135.0	98.5	98.5	
Actuated g/C Ratio	0.18		1.00					0.27	1.00	0.73	0.73	
Clearance Time (s)	6.0							6.0		5.0		
Vehicle Extension (s)	3.0							4.0		5.0		
Lane Grp Cap (vph)	623		1583					943	1583	834	2582	
v/s Ratio Prot	c0.14							c0.20		c0.30	0.33	
v/s Ratio Perm			0.45						0.29	0.21		
v/c Ratio	0.78		0.45					0.76	0.29	0.70	0.45	
Uniform Delay, d1	52.7		0.0					45.6	0.0	22.4	7.4	
Progression Factor	1.00		1.00					0.73	1.00	1.00	0.25	
Incremental Delay, d2	6.4		0.9					5.4	0.4	3.1	0.4	
Delay (s)	59.1		0.9					38.9	0.4	25.6	2.2	
Level of Service	E		A					D	A	C	A	
Approach Delay (s)		24.6			0.0			24.0			10.0	
Approach LOS		C			A			C			A	

Intersection Summary				
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	78.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	882	0	336	263	849	0	0	727	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0	6.0	6.0			6.0	4.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.25	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	462	3539			3539	1583
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)	0	0	0	959	0	365	286	923	0	0	790	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	959	0	365	286	923	0	0	790	248
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				40.2		135.0	84.8	84.8			54.8	135.0
Effective Green, g (s)				40.2		135.0	84.8	84.8			54.8	135.0
Actuated g/C Ratio				0.30		1.00	0.63	0.63			0.41	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			3.0				3.0	
Lane Grp Cap (vph)				1022		1583	522	2223			1436	1583
v/s Ratio Prot				c0.28			c0.10	0.26			0.22	
v/s Ratio Perm						0.23	c0.25					0.16
v/c Ratio				0.94		0.23	0.55	0.42			0.55	0.16
Uniform Delay, d1				46.2		0.0	28.4	12.6			30.7	0.0
Progression Factor				1.00		1.00	0.29	0.01			1.00	1.00
Incremental Delay, d2				15.3		0.3	0.9	0.1			1.5	0.2
Delay (s)				61.5		0.3	9.2	0.2			32.1	0.2
Level of Service				E		A	A	A			C	A
Approach Delay (s)		0.0			44.7			2.3			24.5	
Approach LOS		A			D			A			C	

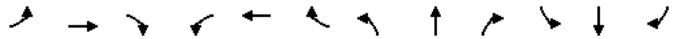
Intersection Summary				
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	80.6%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	281	15	87	60	666	459	202	480	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	4.0		3.0	3.0	6.0	6.0	4.0	3.0	6.5	1.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1778	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.46	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)		1854	1583		1778	1583	854	3539	1583	517	3539	1583
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)	5	49	212	305	16	95	65	724	499	220	522	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	54	212	0	321	95	65	724	499	220	522	5
Turn Type	Split	NA	Free	Split	NA	Free	Perm	NA	Free	pm+pt	NA	Free
Protected Phases	4	4		3	3			2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Actuated Green, G (s)		8.7	135.0		29.1	135.0	59.8	59.8	135.0	78.7	78.7	135.0
Effective Green, g (s)		11.7	135.0		32.1	135.0	59.8	59.8	135.0	81.7	78.7	135.0
Actuated g/C Ratio		0.09	1.00		0.24	1.00	0.44	0.44	1.00	0.61	0.58	1.00
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		160	1583		422	1583	378	1567	1583	465	2063	1583
v/s Ratio Prot		0.03			c0.18			0.20		c0.06	0.15	
v/s Ratio Perm			0.13			0.06	0.08		c0.32	c0.23		0.00
v/c Ratio		0.34	0.13		0.76	0.06	0.17	0.46	0.32	0.47	0.25	0.00
Uniform Delay, d1		58.0	0.0		47.9	0.0	22.7	26.3	0.0	13.6	13.8	0.0
Progression Factor		1.00	1.00		1.00	1.00	0.64	0.68	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.3	0.2		7.9	0.1	0.9	0.9	0.5	0.8	0.3	0.0
Delay (s)		59.3	0.2		55.8	0.1	15.5	18.8	0.5	14.4	14.1	0.0
Level of Service		E	A		E	A	B	B	A	B	B	A
Approach Delay (s)		12.2			43.0			11.6			14.1	
Approach LOS		B			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	78.4%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
7: MD 18 (Main Street) & Piney Creek Rd

2030 Build Alt 3
Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	314	748	27	29	599	158	73	6	74	223	6	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3428			1781	1583		1776	1583
Flt Permitted	0.25	1.00	1.00	0.25	1.00			0.37	1.00		0.67	1.00
Satd. Flow (perm)	470	1863	1583	463	3428			686	1583		1248	1583
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)	341	813	29	32	651	172	79	7	80	242	7	368
RTOR Reduction (vph)	0	0	11	0	15	0	0	0	62	0	0	286
Lane Group Flow (vph)	341	813	18	32	808	0	0	86	18	0	249	82
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	96.7	88.1	88.1	76.7	74.1			31.3	31.3		31.3	31.3
Effective Green, g (s)	96.7	88.1	88.1	76.7	74.1			31.3	31.3		31.3	31.3
Actuated g/C Ratio	0.69	0.63	0.63	0.55	0.53			0.22	0.22		0.22	0.22
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	478	1172	996	277	1814			153	353		279	353
v/s Ratio Prot	c0.08	0.44		0.00	0.24							
v/s Ratio Perm	c0.41		0.01	0.06				0.13	0.01		c0.20	0.05
v/c Ratio	0.71	0.69	0.02	0.12	0.45			0.56	0.05		0.89	0.23
Uniform Delay, d1	11.7	17.1	9.7	16.5	20.3			48.3	42.7		52.7	44.5
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	5.0	3.4	0.0	0.2	0.8			4.7	0.1		28.0	0.3
Delay (s)	16.7	20.5	9.8	16.7	21.1			52.9	42.7		80.7	44.9
Level of Service	B	C	A	B	C			D	D		F	D
Approach Delay (s)		19.1			20.9			48.0			59.3	
Approach LOS		B			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	77.0%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
8: MD 18 (Main Street)

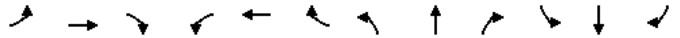
2030 Build Alt 3
Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	769	276	359	1537	223	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.96		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3399		1770	3539	1770	
Flt Permitted	1.00		0.14	1.00	0.95	
Satd. Flow (perm)	3399		262	3539	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	836	300	390	1671	242	0
RTOR Reduction (vph)	47	0	0	0	0	0
Lane Group Flow (vph)	1089	0	390	1671	242	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases			2			
Actuated Green, G (s)	30.1		48.1	48.1	13.9	
Effective Green, g (s)	30.1		48.1	48.1	13.9	
Actuated g/C Ratio	0.41		0.65	0.65	0.19	
Clearance Time (s)	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1382		414	2300	332	
v/s Ratio Prot	0.32		c0.15	0.47	c0.14	
v/s Ratio Perm			c0.46			
v/c Ratio	0.79		0.94	0.73	0.73	
Uniform Delay, d1	19.2		20.3	8.6	28.3	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	4.6		29.8	2.0	7.8	
Delay (s)	23.8		50.2	10.6	36.1	
Level of Service	C		D	B	D	
Approach Delay (s)	23.8			18.1	36.1	
Approach LOS	C			B	D	

Intersection Summary				
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	74.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	77.3%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

2030 Build Alt 3
Timing Plan: PM Peak

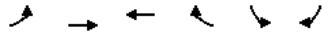


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	662	229	55	1165	59	355	70	77	461	270	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	0.97	1.00	1.00
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3403		1770	3514		1681	1712	1583	3433	1863	1583
Flt Permitted	0.07	1.00		0.27	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	128	3403		497	3514		1681	1712	1583	3433	1863	1583
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)	332	720	249	60	1266	64	386	76	84	501	293	408
RTOR Reduction (vph)	0	24	0	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	332	945	0	60	1327	0	228	234	84	501	293	408
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Free	Split	NA	Free
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases	6			2					Free			Free
Actuated Green, G (s)	79.0	69.0		56.0	52.0		18.4	18.4	140.0	24.6	24.6	140.0
Effective Green, g (s)	79.0	69.0		56.0	52.0		18.4	18.4	140.0	24.6	24.6	140.0
Actuated g/C Ratio	0.56	0.49		0.40	0.37		0.13	0.13	1.00	0.18	0.18	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	318	1677		235	1305		220	225	1583	603	327	1583
v/s Ratio Prot	c0.16	0.28		0.01	0.38		0.14	c0.14		0.15	c0.16	
v/s Ratio Perm	c0.43			0.09					0.05			0.26
v/c Ratio	1.04	0.56		0.26	1.02		1.04	1.04	0.05	0.83	0.90	0.26
Uniform Delay, d1	47.2	24.9		26.2	44.0		60.8	60.8	0.0	55.7	56.4	0.0
Progression Factor	1.00	1.00		1.29	1.10		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	62.4	1.4		0.2	23.5		70.5	70.8	0.1	9.3	25.3	0.4
Delay (s)	109.6	26.3		34.0	72.0		131.3	131.6	0.1	65.0	81.8	0.4
Level of Service	F	C		C	E		F	F	A	E	F	A
Approach Delay (s)		47.6			70.3			111.3			47.2	
Approach LOS		D			E			F			D	

Intersection Summary				
HCM 2000 Control Delay	62.4	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.04			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	96.9%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
11: MD 18 (Main Street) & S. Piney Road

2030 Build Alt 3
Timing Plan: PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	550	637	850	41	110	378
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1851		1770	1583
Flt Permitted	0.05	1.00	1.00		0.95	1.00
Satd. Flow (perm)	98	1863	1851		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	598	692	924	45	120	411
RTOR Reduction (vph)	0	0	2	0	0	371
Lane Group Flow (vph)	598	692	968	0	120	40
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6					4
Actuated Green, G (s)	114.3	114.3	70.0		13.7	13.7
Effective Green, g (s)	114.3	114.3	70.0		13.7	13.7
Actuated g/C Ratio	0.82	0.82	0.50		0.10	0.10
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	537	1521	925		173	154
v/s Ratio Prot	c0.30	0.37	0.52		c0.07	
v/s Ratio Perm	c0.60					0.03
v/c Ratio	1.11	0.45	1.05		0.69	0.26
Uniform Delay, d1	46.2	3.8	35.0		61.1	58.5
Progression Factor	0.85	0.32	0.52		1.00	1.00
Incremental Delay, d2	61.9	0.4	37.0		11.4	0.9
Delay (s)	101.0	1.6	55.2		72.5	59.4
Level of Service	F	A	E		E	E
Approach Delay (s)		47.7	55.2		62.3	
Approach LOS		D	E		E	

Intersection Summary				
HCM 2000 Control Delay	53.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.09			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	98.8%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	360	387	712	60	61	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1843		1770	1583
Flt Permitted	0.14	1.00	1.00		0.95	1.00
Satd. Flow (perm)	266	1863	1843		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	421	774	65	66	193
RTOR Reduction (vph)	0	0	2	0	0	171
Lane Group Flow (vph)	391	421	837	0	66	22
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	112.0	112.0	81.0		16.0	16.0
Effective Green, g (s)	112.0	112.0	81.0		16.0	16.0
Actuated g/C Ratio	0.80	0.80	0.58		0.11	0.11
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	481	1490	1066		202	180
v/s Ratio Prot	c0.15	0.23	0.45		c0.04	
v/s Ratio Perm	c0.50					0.01
v/c Ratio	0.81	0.28	0.79		0.33	0.12
Uniform Delay, d1	31.0	3.6	22.8		57.0	55.7
Progression Factor	1.28	0.99	1.00		1.00	1.00
Incremental Delay, d2	9.1	0.4	5.8		4.3	1.4
Delay (s)	49.0	4.0	28.6		61.3	57.1
Level of Service	D	A	C		E	E
Approach Delay (s)		25.7	28.6		58.2	
Approach LOS		C	C		E	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

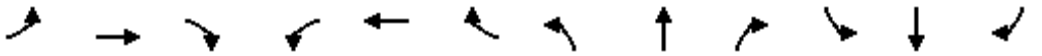
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	131	316	754	6	6	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	142	343	820	7	7	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		369				
pX, platoon unblocked					0.97	
vC, conflicting volume	826				1451	823
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	826				1449	823
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				94	95
cM capacity (veh/h)	805				115	374

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	142	343	826	26
Volume Left	142	0	0	7
Volume Right	0	0	7	20
cSH	805	1700	1700	239
Volume to Capacity	0.18	0.20	0.49	0.11
Queue Length 95th (ft)	16	0	0	9
Control Delay (s)	10.4	0.0	0.0	21.9
Lane LOS	B			C
Approach Delay (s)	3.1		0.0	21.9
Approach LOS				C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	25	5	150	5	950	65	85	350	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.95			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1787	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.91			0.75	1.00	0.53	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)		1621			1395	1583	981	3539	1583	445	3539	1583
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)	5	5	5	27	5	163	5	1033	71	92	380	11
RTOR Reduction (vph)	0	5	0	0	0	150	0	0	18	0	0	2
Lane Group Flow (vph)	0	10	0	0	32	13	5	1033	53	92	380	9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		8.0			8.0	8.0	74.7	74.7	74.7	84.0	84.0	84.0
Effective Green, g (s)		8.0			8.0	8.0	74.7	74.7	74.7	84.0	84.0	84.0
Actuated g/C Ratio		0.08			0.08	0.08	0.75	0.75	0.75	0.84	0.84	0.84
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		129			111	126	732	2643	1182	444	2972	1329
v/s Ratio Prot								c0.29		c0.01	0.11	
v/s Ratio Perm		0.01			c0.02	0.01	0.01		0.03	0.16		0.01
v/c Ratio		0.08			0.29	0.10	0.01	0.39	0.04	0.21	0.13	0.01
Uniform Delay, d1		42.6			43.3	42.7	3.2	4.5	3.3	2.1	1.4	1.3
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	0.80	0.56	0.35
Incremental Delay, d2		0.3			1.4	0.4	0.0	0.4	0.1	0.2	0.1	0.0
Delay (s)		42.9			44.8	43.0	3.2	5.0	3.4	1.9	0.9	0.5
Level of Service		D			D	D	A	A	A	A	A	A
Approach Delay (s)		42.9			43.3			4.8			1.1	
Approach LOS		D			D			A			A	

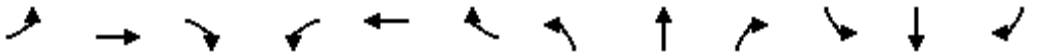
Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	0	70	0	0	0	0	900	205	280	375	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.19	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	355	3539	
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)	185	0	76	0	0	0	0	978	223	304	408	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	185	0	76	0	0	0	0	978	223	304	408	0
Turn Type	custom		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	12.6		100.0					50.3	100.0	76.4	76.4	
Effective Green, g (s)	15.6		100.0					53.3	100.0	78.4	79.4	
Actuated g/C Ratio	0.16		1.00					0.53	1.00	0.78	0.79	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	535		1583					1886	1583	591	2809	
v/s Ratio Prot	c0.05							0.28		c0.11	0.12	
v/s Ratio Perm			0.05						0.14	c0.29		
v/c Ratio	0.35		0.05					0.52	0.14	0.51	0.15	
Uniform Delay, d1	37.6		0.0					15.1	0.0	7.2	2.4	
Progression Factor	1.00		1.00					0.76	1.00	4.20	0.00	
Incremental Delay, d2	0.8		0.1					1.0	0.2	1.0	0.1	
Delay (s)	38.5		0.1					12.4	0.2	31.2	0.1	
Level of Service	D		A					B	A	C	A	
Approach Delay (s)		27.3			0.0			10.1			13.4	
Approach LOS		C			A			B			B	

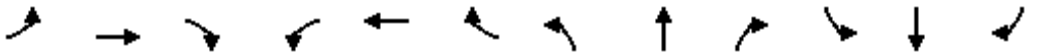
Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



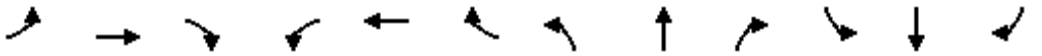
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	315	0	335	535	535	0	0	340	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.49	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	907	3539			3539	1583
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)	0	0	0	342	0	364	582	582	0	0	370	397
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	342	0	364	582	582	0	0	370	397
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				15.1		100.0	68.9	74.9			41.4	100.0
Effective Green, g (s)				18.1		100.0	74.9	77.9			44.4	100.0
Actuated g/C Ratio				0.18		1.00	0.75	0.78			0.44	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				621		1583	942	2756			1571	1583
v/s Ratio Prot				c0.10			c0.19	0.16			0.10	
v/s Ratio Perm						0.23	c0.27					0.25
v/c Ratio				0.55		0.23	0.62	0.21			0.24	0.25
Uniform Delay, d1				37.3		0.0	10.2	2.9			17.3	0.0
Progression Factor				1.00		1.00	0.97	0.08			1.00	1.00
Incremental Delay, d2				1.1		0.3	1.6	0.1			0.4	0.4
Delay (s)				38.3		0.3	11.5	0.3			17.6	0.4
Level of Service				D		A	B	A			B	A
Approach Delay (s)		0.0			18.7			5.9			8.7	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	190	25	35	215	425	230	35	465	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	1.0	2.0	2.5	1.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1784	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.40	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)		1848	1583		1784	1583	743	3539	1583	906	3539	1583
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)	5	27	54	207	27	38	234	462	250	38	505	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	32	54	0	234	38	234	462	250	38	505	5
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Actuated Green, G (s)		5.7	125.3		22.3	125.3	79.8	69.5	125.3	68.2	62.9	125.3
Effective Green, g (s)		8.7	125.3		25.3	125.3	82.8	72.5	125.3	74.2	65.9	125.3
Actuated g/C Ratio		0.07	1.00		0.20	1.00	0.66	0.58	1.00	0.59	0.53	1.00
Clearance Time (s)		6.0			6.0		5.0	5.5		5.0	5.5	
Vehicle Extension (s)		4.0			4.0		3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		128	1583		360	1583	613	2047	1583	593	1861	1583
v/s Ratio Prot		c0.02			c0.13		c0.05	0.13		0.00	c0.14	
v/s Ratio Perm			0.03			0.02	0.21		0.16	0.03		0.00
v/c Ratio		0.25	0.03		0.65	0.02	0.38	0.23	0.16	0.06	0.27	0.00
Uniform Delay, d1		55.2	0.0		45.9	0.0	8.8	12.8	0.0	10.6	16.4	0.0
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.4	0.0		4.6	0.0	0.4	0.3	0.2	0.0	0.4	0.0
Delay (s)		56.6	0.0		50.5	0.0	9.2	13.1	0.2	10.7	16.8	0.0
Level of Service		E	A		D	A	A	B	A	B	B	A
Approach Delay (s)		21.1			43.5			8.7			16.2	
Approach LOS		C			D			A			B	

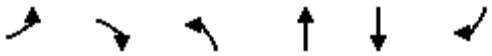
Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	125.3	Sum of lost time (s)	16.5
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	300	60	45	605	25	20	0	15	30	10	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	326	65	49	658	27	22	0	16	33	11	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	685			326			1136	1141	326	1128	1128	671
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	685			326			1136	1141	326	1128	1128	671
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			96			86	100	98	81	94	93
cM capacity (veh/h)	909			1234			152	189	715	170	193	456

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	16	326	65	49	685	38	76
Volume Left	16	0	0	49	0	22	33
Volume Right	0	0	65	0	27	16	33
cSH	909	1700	1700	1234	1700	267	307
Volume to Capacity	0.02	0.19	0.04	0.04	0.40	0.14	0.25
Queue Length 95th (ft)	1	0	0	3	0	12	24
Control Delay (s)	9.0	0.0	0.0	8.0	0.0	22.9	24.2
Lane LOS	A			A		C	C
Approach Delay (s)	0.4			0.5		22.9	24.2
Approach LOS						C	C

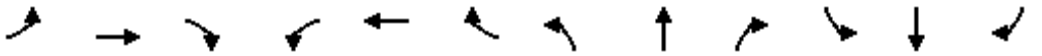
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	52.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	160	0	40	515	250	95
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	174	0	43	560	272	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	918	272	375			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	918	272	375			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	100	96			
cM capacity (veh/h)	290	767	1183			

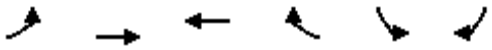
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	174	43	560	272	103
Volume Left	174	43	0	0	0
Volume Right	0	0	0	0	103
cSH	290	1183	1700	1700	1700
Volume to Capacity	0.60	0.04	0.33	0.16	0.06
Queue Length 95th (ft)	90	3	0	0	0
Control Delay (s)	34.3	8.2	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	34.3	0.6		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	125	40	30	200	15	150	40	40	20	40	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1796		1770	1844		1770	1863	1583	1770	1863	1583
Flt Permitted	0.49	1.00		0.64	1.00		0.13	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	905	1796		1200	1844		247	1863	1583	1358	1863	1583
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)	130	136	43	33	217	16	163	43	43	22	43	223
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	130	173	0	33	232	0	163	43	43	22	43	223
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	57.7	48.3		46.5	42.7		30.2	30.2	113.0	6.7	6.7	113.0
Effective Green, g (s)	57.7	48.3		46.5	42.7		30.2	30.2	113.0	6.7	6.7	113.0
Actuated g/C Ratio	0.51	0.43		0.41	0.38		0.27	0.27	1.00	0.06	0.06	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	534	767		512	696		66	497	1583	80	110	1583
v/s Ratio Prot	c0.02	0.10		0.00	c0.13			0.02			c0.02	
v/s Ratio Perm	0.10			0.02			c0.66		0.03	0.02		0.14
v/c Ratio	0.24	0.23		0.06	0.33		2.47	0.09	0.03	0.28	0.39	0.14
Uniform Delay, d1	15.1	20.5		19.9	25.0		41.4	31.1	0.0	50.8	51.2	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.7		0.0	1.3		704.4	0.1	0.0	1.4	1.7	0.2
Delay (s)	15.3	21.2		20.0	26.3		745.8	31.1	0.0	52.2	52.9	0.2
Level of Service	B	C		B	C		F	C	A	D	D	A
Approach Delay (s)		18.7			25.5			493.6			12.0	
Approach LOS		B			C			F			B	

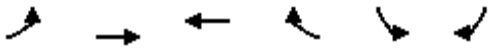
Intersection Summary			
HCM 2000 Control Delay	124.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	113.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	70	115	205	40	5	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	125	223	43	5	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	266				522	245
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	266				522	245
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				99	95
cM capacity (veh/h)	1298				485	794

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	201	266	49
Volume Left	76	0	5
Volume Right	0	43	43
cSH	1298	1700	742
Volume to Capacity	0.06	0.16	0.07
Queue Length 95th (ft)	5	0	5
Control Delay (s)	3.3	0.0	10.2
Lane LOS	A		B
Approach Delay (s)	3.3	0.0	10.2
Approach LOS			B

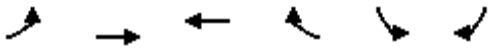
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	105	225	25	5	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	114	245	27	5	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	272				405	258
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	272				405	258
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	97
cM capacity (veh/h)	1292				594	780

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	130	272	27
Volume Left	16	0	5
Volume Right	0	27	22
cSH	1292	1700	734
Volume to Capacity	0.01	0.16	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	1.1	0.0	10.1
Lane LOS	A		B
Approach Delay (s)	1.1	0.0	10.1
Approach LOS			B

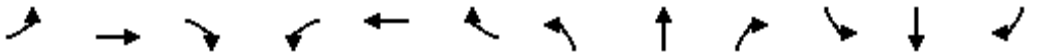
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	95	240	20	5	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	103	261	22	5	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	283				408	272
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	283				408	272
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1280				592	767

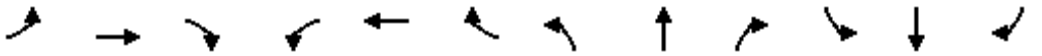
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	120	283	16
Volume Left	16	0	5
Volume Right	0	22	11
cSH	1280	1700	698
Volume to Capacity	0.01	0.17	0.02
Queue Length 95th (ft)	1	0	2
Control Delay (s)	1.2	0.0	10.3
Lane LOS	A		B
Approach Delay (s)	1.2	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		



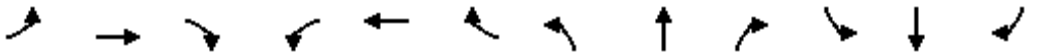
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	5	5	200	5	205	5	470	90	330	770	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1760			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.81			0.71	1.00	0.34	1.00	1.00	0.41	1.00	1.00
Satd. Flow (perm)		1472			1326	1583	627	3539	1583	762	3539	1583
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)	16	5	5	217	5	223	5	511	98	359	837	16
RTOR Reduction (vph)	0	4	0	0	0	160	0	0	40	0	0	4
Lane Group Flow (vph)	0	22	0	0	222	63	5	511	58	359	837	12
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		28.3			28.3	28.3	79.3	79.3	79.3	98.7	98.7	98.7
Effective Green, g (s)		28.3			28.3	28.3	79.3	79.3	79.3	98.7	98.7	98.7
Actuated g/C Ratio		0.21			0.21	0.21	0.59	0.59	0.59	0.73	0.73	0.73
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		308			277	331	368	2078	929	672	2587	1157
v/s Ratio Prot								0.14		c0.06	0.24	
v/s Ratio Perm		0.01			c0.17	0.04	0.01		0.04	c0.33		0.01
v/c Ratio		0.07			0.80	0.19	0.01	0.25	0.06	0.53	0.32	0.01
Uniform Delay, d1		42.8			50.7	43.9	11.6	13.4	11.9	6.7	6.4	4.9
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	0.52	0.48	0.20
Incremental Delay, d2		0.1			15.2	0.3	0.1	0.3	0.1	0.8	0.3	0.0
Delay (s)		42.9			65.9	44.2	11.7	13.7	12.1	4.3	3.4	1.0
Level of Service		D			E	D	B	B	B	A	A	A
Approach Delay (s)		42.9			55.0			13.4			3.6	
Approach LOS		D			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



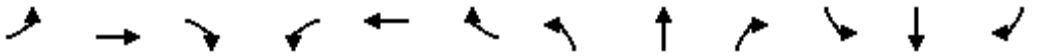
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	390	0	465	0	0	0	0	485	205	425	650	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.26	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	488	3539	
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)	424	0	505	0	0	0	0	527	223	462	707	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	424	0	505	0	0	0	0	527	223	462	707	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	22.1		135.0					36.0	135.0	100.9	100.9	
Effective Green, g (s)	25.1		135.0					39.0	135.0	102.9	103.9	
Actuated g/C Ratio	0.19		1.00					0.29	1.00	0.76	0.77	
Clearance Time (s)	6.0							6.0		5.0		
Vehicle Extension (s)	3.0							4.0		5.0		
Lane Grp Cap (vph)	638		1583					1022	1583	959	2723	
v/s Ratio Prot	c0.12							c0.15		c0.22	0.20	
v/s Ratio Perm			0.32						0.14	0.15		
v/c Ratio	0.66		0.32					0.52	0.14	0.48	0.26	
Uniform Delay, d1	51.0		0.0					40.1	0.0	7.6	4.5	
Progression Factor	1.00		1.00					0.80	1.00	0.53	0.45	
Incremental Delay, d2	2.6		0.5					1.8	0.2	1.6	0.2	
Delay (s)	53.7		0.5					33.8	0.2	5.7	2.3	
Level of Service	D		A					C	A	A	A	
Approach Delay (s)		24.8			0.0			23.8			3.6	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



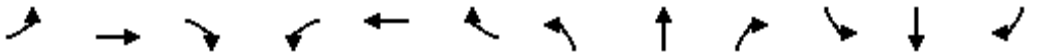
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	490	0	140	165	710	0	0	585	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	1.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.37	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	696	3539			3539	1583
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)	0	0	0	533	0	152	179	772	0	0	636	212
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	533	0	152	179	772	0	0	636	212
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				26.6		135.0	92.4	98.4			84.4	135.0
Effective Green, g (s)				29.6		135.0	98.4	101.4			87.4	135.0
Actuated g/C Ratio				0.22		1.00	0.73	0.75			0.65	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				752		1583	594	2658			2291	1583
v/s Ratio Prot				c0.16			0.02	c0.22			0.18	
v/s Ratio Perm						0.10	c0.19					0.13
v/c Ratio				0.71		0.10	0.30	0.29			0.28	0.13
Uniform Delay, d1				48.7		0.0	9.6	5.3			10.2	0.0
Progression Factor				1.00		1.00	0.14	0.08			1.00	1.00
Incremental Delay, d2				3.1		0.1	0.5	0.1			0.3	0.2
Delay (s)				51.8		0.1	1.9	0.6			10.5	0.2
Level of Service				D		A	A	A			B	A
Approach Delay (s)		0.0			40.3			0.8			7.9	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	275	15	45	60	430	360	65	310	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1778	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.49	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)		1854	1583		1778	1583	909	3539	1583	715	3539	1583
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)	5	49	212	299	16	49	65	467	391	71	337	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	253	0	0	3
Lane Group Flow (vph)	0	54	212	0	315	49	65	467	138	71	337	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		7.5	83.4		20.8	83.4	32.5	26.5	26.5	32.7	26.6	26.6
Effective Green, g (s)		10.5	83.4		23.8	83.4	38.5	29.5	29.5	38.7	29.6	29.6
Actuated g/C Ratio		0.13	1.00		0.29	1.00	0.46	0.35	0.35	0.46	0.35	0.35
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		233	1583		507	1583	512	1251	559	446	1256	561
v/s Ratio Prot		c0.03			c0.18		0.01	c0.13		c0.02	0.10	
v/s Ratio Perm			c0.13			0.03	0.04		0.09	0.06		0.00
v/c Ratio		0.23	0.13		0.62	0.03	0.13	0.37	0.25	0.16	0.27	0.00
Uniform Delay, d1		32.8	0.0		25.9	0.0	12.6	20.1	19.1	12.7	19.2	17.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.5	0.2		2.4	0.0	0.1	0.2	0.2	0.2	0.1	0.0
Delay (s)		33.3	0.2		28.3	0.0	12.7	20.3	19.3	12.9	19.3	17.4
Level of Service		C	A		C	A	B	C	B	B	B	B
Approach Delay (s)		6.9			24.5			19.3			18.2	
Approach LOS		A			C			B			B	

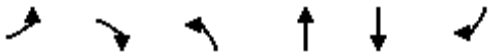
Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	83.4	Sum of lost time (s)	16.5
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	590	20	15	730	45	45	5	60	35	5	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	641	22	16	793	49	49	5	65	38	5	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	842			641			1541	1571	641	1549	1546	818
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	842			641			1541	1571	641	1549	1546	818
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			38	95	86	49	95	91
cM capacity (veh/h)	793			943			79	105	475	74	109	376

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	27	641	22	16	842	120	76
Volume Left	27	0	0	16	0	49	38
Volume Right	0	0	22	0	49	65	33
cSH	793	1700	1700	943	1700	180	137
Volume to Capacity	0.03	0.38	0.01	0.02	0.50	0.66	0.56
Queue Length 95th (ft)	3	0	0	1	0	98	69
Control Delay (s)	9.7	0.0	0.0	8.9	0.0	57.7	62.4
Lane LOS	A			A		F	F
Approach Delay (s)	0.4			0.2		57.7	62.4
Approach LOS						F	F

Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	57.8%	ICU Level of Service	B	
Analysis Period (min)	15			



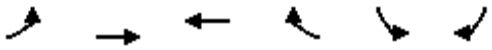
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	0	155	770	500	185
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	0	168	837	543	201
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1717	543	745			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1717	543	745			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	80			
cM capacity (veh/h)	79	539	863			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	109	168	837	543	201
Volume Left	109	168	0	0	0
Volume Right	0	0	0	0	201
cSH	79	863	1700	1700	1700
Volume to Capacity	1.37	0.20	0.49	0.32	0.12
Queue Length 95th (ft)	212	18	0	0	0
Control Delay (s)	319.4	10.2	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	319.4	1.7		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	19.6		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	225	325	140	45	445	50	165	60	65	95	155	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1779		1770	1835		1770	1863	1583	1770	1863	1583
Flt Permitted	0.13	1.00		0.35	1.00		0.13	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	242	1779		658	1835		248	1863	1583	1331	1863	1583
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)	245	353	152	49	484	54	179	65	71	103	168	342
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	245	496	0	49	535	0	179	65	71	103	168	342
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	69.9	58.2		52.1	46.4		30.1	30.1	134.9	16.9	16.9	134.9
Effective Green, g (s)	69.9	58.2		52.1	46.4		30.1	30.1	134.9	16.9	16.9	134.9
Actuated g/C Ratio	0.52	0.43		0.39	0.34		0.22	0.22	1.00	0.13	0.13	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	323	767		301	631		55	415	1583	166	233	1583
v/s Ratio Prot	c0.10	0.28		0.01	c0.29			0.03			c0.09	
v/s Ratio Perm	0.29			0.06			c0.72		0.04	0.08		0.22
v/c Ratio	0.76	0.65		0.16	0.85		3.25	0.16	0.04	0.62	0.72	0.22
Uniform Delay, d1	25.9	30.3		26.7	41.0		52.4	42.2	0.0	56.0	56.7	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	4.2		0.2	13.4		1059.8	0.1	0.1	6.1	9.8	0.3
Delay (s)	35.3	34.4		26.9	54.3		1112.2	42.3	0.1	62.1	66.6	0.3
Level of Service	D	C		C	D		F	D	A	E	E	A
Approach Delay (s)		34.7			52.1			640.7			28.8	
Approach LOS		C			D			F			C	

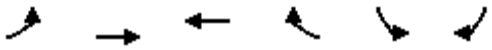
Intersection Summary			
HCM 2000 Control Delay	121.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	134.9	Sum of lost time (s)	24.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	215	270	350	35	20	190
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	234	293	380	38	22	207
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418				1160	399
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418				1160	399
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				87	68
cM capacity (veh/h)	1141				172	650

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	527	418	228
Volume Left	234	0	22
Volume Right	0	38	207
cSH	1141	1700	514
Volume to Capacity	0.20	0.25	0.44
Queue Length 95th (ft)	19	0	56
Control Delay (s)	5.2	0.0	17.5
Lane LOS	A		C
Approach Delay (s)	5.2	0.0	17.5
Approach LOS			C

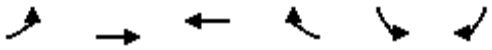
Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	25	265	350	15	10	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	288	380	16	11	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	397				731	389
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	397				731	389
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				97	94
cM capacity (veh/h)	1162				380	660

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	315	397	49
Volume Left	27	0	11
Volume Right	0	16	38
cSH	1162	1700	567
Volume to Capacity	0.02	0.23	0.09
Queue Length 95th (ft)	2	0	7
Control Delay (s)	0.9	0.0	12.0
Lane LOS	A		B
Approach Delay (s)	0.9	0.0	12.0
Approach LOS			B

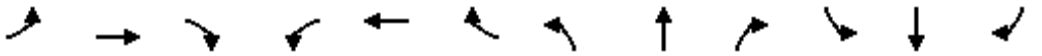
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	255	350	5	5	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	277	380	5	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	386				704	383
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	386				704	383
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	98
cM capacity (veh/h)	1173				396	664

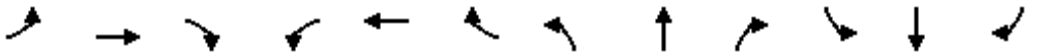
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	299	386	22
Volume Left	22	0	5
Volume Right	0	5	16
cSH	1173	1700	568
Volume to Capacity	0.02	0.23	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	0.8	0.0	11.6
Lane LOS	A		B
Approach Delay (s)	0.8	0.0	11.6
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		



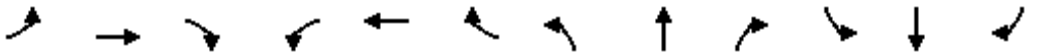
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	7	42	5	151	9	1332	109	99	501	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.81	1.00	0.45	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)		1448			1509	1583	836	3539	1583	247	3539	1583
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)	21	5	8	46	5	164	10	1448	118	108	545	53
RTOR Reduction (vph)	0	7	0	0	0	149	0	0	33	0	0	9
Lane Group Flow (vph)	0	27	0	0	51	15	10	1448	85	108	545	44
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Effective Green, g (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Actuated g/C Ratio		0.09			0.09	0.09	0.72	0.72	0.72	0.83	0.83	0.83
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		130			135	142	599	2537	1135	316	2937	1313
v/s Ratio Prot								c0.41		c0.02	0.15	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.05	0.26		0.03
v/c Ratio		0.21			0.38	0.10	0.02	0.57	0.07	0.34	0.19	0.03
Uniform Delay, d1		42.2			42.9	41.8	4.1	6.8	4.2	4.7	1.7	1.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	4.47	0.54	0.14
Incremental Delay, d2		0.8			1.8	0.3	0.1	0.9	0.1	0.6	0.1	0.0
Delay (s)		43.0			44.6	42.1	4.1	7.7	4.4	21.6	1.1	0.3
Level of Service		D			D	D	A	A	A	C	A	A
Approach Delay (s)		43.0			42.7			7.4			4.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



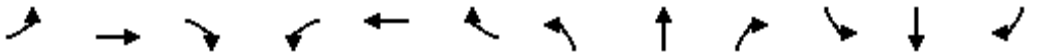
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	0	139	0	0	0	0	1107	396	300	510	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.12	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	225	3539	
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)	186	0	151	0	0	0	0	1203	430	326	554	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	186	0	151	0	0	0	0	1203	430	326	554	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	12.6		100.0					49.4	100.0	76.4	76.4	
Effective Green, g (s)	15.6		100.0					52.4	100.0	78.4	79.4	
Actuated g/C Ratio	0.16		1.00					0.52	1.00	0.78	0.79	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	535		1583					1854	1583	531	2809	
v/s Ratio Prot	c0.05							c0.34		c0.14	0.16	
v/s Ratio Perm			0.10						0.27	0.34		
v/c Ratio	0.35		0.10					0.65	0.27	0.61	0.20	
Uniform Delay, d1	37.7		0.0					17.2	0.0	17.6	2.5	
Progression Factor	1.00		1.00					0.67	1.00	2.94	0.00	
Incremental Delay, d2	0.8		0.1					1.5	0.4	2.1	0.1	
Delay (s)	38.5		0.1					13.0	0.4	54.0	0.1	
Level of Service	D		A					B	A	D	A	
Approach Delay (s)		21.3			0.0			9.7			20.1	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



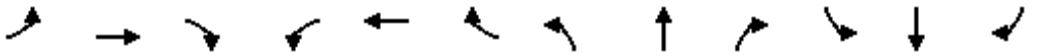
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	412	0	359	677	601	0	0	398	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.41	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	766	3539			3539	1583
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)	0	0	0	448	0	390	736	653	0	0	433	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	448	0	390	736	653	0	0	433	427
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				16.8		100.0	67.2	73.2			32.6	100.0
Effective Green, g (s)				19.8		100.0	73.2	76.2			35.6	100.0
Actuated g/C Ratio				0.20		1.00	0.73	0.76			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				679		1583	938	2696			1259	1583
v/s Ratio Prot				c0.13			c0.30	0.18			0.12	
v/s Ratio Perm						0.25	c0.28					0.27
v/c Ratio				0.66		0.25	0.78	0.24			0.34	0.27
Uniform Delay, d1				37.0		0.0	12.8	3.5			23.6	0.0
Progression Factor				1.00		1.00	1.04	0.02			1.00	1.00
Incremental Delay, d2				2.3		0.4	4.1	0.1			0.7	0.4
Delay (s)				39.3		0.4	17.4	0.2			24.4	0.4
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			21.2			9.3			12.5	
Approach LOS		A			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	239	25	41	215	488	257	40	502	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.37	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1848	1583		1782	1583	692	3539	1583	833	3539	1583
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)	5	27	54	260	27	45	234	530	279	43	546	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	2
Lane Group Flow (vph)	0	32	54	0	287	45	234	530	157	43	546	3
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		5.7	129.6		26.2	129.6	80.2	69.7	69.7	68.4	62.9	62.9
Effective Green, g (s)		8.7	129.6		29.2	129.6	83.2	72.7	72.7	74.4	65.9	65.9
Actuated g/C Ratio		0.07	1.00		0.23	1.00	0.64	0.56	0.56	0.57	0.51	0.51
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		124	1583		401	1583	571	1985	887	539	1799	804
v/s Ratio Prot		c0.02			c0.16		c0.05	0.15		0.01	c0.15	
v/s Ratio Perm			0.03			0.03	0.21		0.10	0.04		0.00
v/c Ratio		0.26	0.03		0.72	0.03	0.41	0.27	0.18	0.08	0.30	0.00
Uniform Delay, d1		57.4	0.0		46.4	0.0	10.3	14.7	13.9	12.1	18.5	15.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		6.4	0.0	0.5	0.3	0.4	0.1	0.4	0.0
Delay (s)		58.9	0.0		52.8	0.0	10.8	15.0	14.3	12.1	18.9	15.7
Level of Service		E	A		D	A	B	B	B	B	B	B
Approach Delay (s)		21.9			45.6			13.9			18.4	
Approach LOS		C			D			B			B	

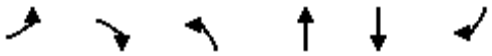
Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	129.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	343	75	59	813	46	29	0	16	81	11	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	373	82	64	884	50	32	0	17	88	12	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	934			373			1457	1480	373	1455	1455	909
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934			373			1457	1480	373	1455	1455	909
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			95			62	100	97	10	90	88
cM capacity (veh/h)	733			1186			82	115	673	98	119	333

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	23	373	82	64	934	49	140
Volume Left	23	0	0	64	0	32	88
Volume Right	0	0	82	0	50	17	40
cSH	733	1700	1700	1186	1700	127	141
Volume to Capacity	0.03	0.22	0.05	0.05	0.55	0.38	0.99
Queue Length 95th (ft)	2	0	0	4	0	40	180
Control Delay (s)	10.1	0.0	0.0	8.2	0.0	51.5	122.8
Lane LOS	B			A		F	F
Approach Delay (s)	0.5			0.5		51.5	122.8
Approach LOS						F	F

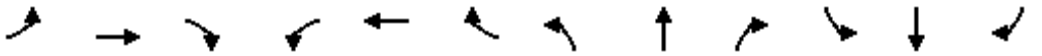
Intersection Summary				
Average Delay	12.3			
Intersection Capacity Utilization	67.4%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	174	0	52	744	339	101
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	189	0	57	809	368	110
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1290	368	478			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1290	368	478			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	95			
cM capacity (veh/h)	171	677	1084			

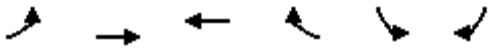
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	189	57	809	368	110
Volume Left	189	57	0	0	0
Volume Right	0	0	0	0	110
cSH	171	1084	1700	1700	1700
Volume to Capacity	1.11	0.05	0.48	0.22	0.06
Queue Length 95th (ft)	241	4	0	0	0
Control Delay (s)	155.1	8.5	0.0	0.0	0.0
Lane LOS	F	A			
Approach Delay (s)	155.1	0.6		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	19.5		
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	192	47	42	384	16	177	42	52	113	54	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1808		1770	1852		1770	1863	1583	1770	1863	1583
Flt Permitted	0.23	1.00		0.59	1.00		0.13	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	433	1808		1091	1852		248	1863	1583	1354	1863	1583
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)	160	209	51	46	417	17	192	46	57	123	59	254
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	160	255	0	46	433	0	192	46	57	123	59	254
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	59.0	47.4		47.2	41.5		30.1	30.1	123.1	15.9	15.9	123.1
Effective Green, g (s)	59.0	47.4		47.2	41.5		30.1	30.1	123.1	15.9	15.9	123.1
Actuated g/C Ratio	0.48	0.39		0.38	0.34		0.24	0.24	1.00	0.13	0.13	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	333	696		449	624		60	455	1583	174	240	1583
v/s Ratio Prot	c0.05	0.14		0.00	c0.23			0.02			0.03	
v/s Ratio Perm	0.18			0.03			c0.78		0.04	c0.09		0.16
v/c Ratio	0.48	0.37		0.10	0.69		3.20	0.10	0.04	0.71	0.25	0.16
Uniform Delay, d1	21.6	27.1		24.0	35.3		46.5	36.0	0.0	51.4	48.2	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	1.5		0.1	6.3		1031.9	0.1	0.0	11.5	0.4	0.2
Delay (s)	22.4	28.6		24.1	41.6		1078.4	36.1	0.0	62.8	48.6	0.2
Level of Service	C	C		C	D		F	D	A	E	D	A
Approach Delay (s)		26.2			39.9			707.5			24.4	
Approach LOS		C			D			F			C	

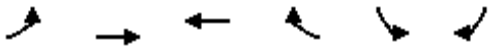
Intersection Summary			
HCM 2000 Control Delay	153.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	123.1	Sum of lost time (s)	24.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	120	140	317	42	32	66
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	152	345	46	35	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	390				780	367
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	390				780	367
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				89	89
cM capacity (veh/h)	1168				323	678

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	283	390	107
Volume Left	130	0	35
Volume Right	0	46	72
cSH	1168	1700	499
Volume to Capacity	0.11	0.23	0.21
Queue Length 95th (ft)	9	0	20
Control Delay (s)	4.5	0.0	14.2
Lane LOS	A		B
Approach Delay (s)	4.5	0.0	14.2
Approach LOS			B

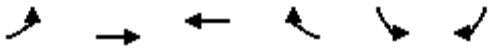
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	49	123	285	45	33	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	134	310	49	36	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	359				574	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359				574	334
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				92	89
cM capacity (veh/h)	1200				459	708

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	187	359	116
Volume Left	53	0	36
Volume Right	0	49	80
cSH	1200	1700	606
Volume to Capacity	0.04	0.21	0.19
Queue Length 95th (ft)	3	0	18
Control Delay (s)	2.6	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	2.6	0.0	12.3
Approach LOS			B

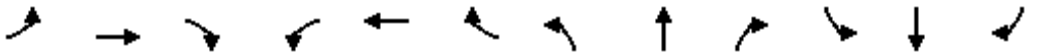
Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	101	318	21	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	110	346	23	5	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	368				589	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	368				589	357
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	98
cM capacity (veh/h)	1190				447	687

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	171	368	17
Volume Left	61	0	5
Volume Right	0	23	12
cSH	1190	1700	588
Volume to Capacity	0.05	0.22	0.03
Queue Length 95th (ft)	4	0	2
Control Delay (s)	3.2	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	3.2	0.0	11.3
Approach LOS			B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

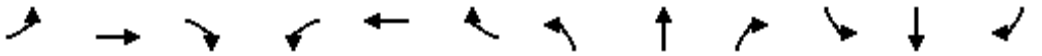


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	5	8	248	5	210	10	765	120	344	1223	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1758			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.49			0.71	1.00	0.21	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)		902			1329	1583	384	3539	1583	463	3539	1583
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	5	9	270	5	228	11	832	130	374	1329	64
RTOR Reduction (vph)	0	6	0	0	0	162	0	0	61	0	0	19
Lane Group Flow (vph)	0	57	0	0	275	66	11	832	69	374	1329	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Effective Green, g (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Actuated g/C Ratio		0.22			0.22	0.22	0.53	0.53	0.53	0.70	0.70	0.70
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		196			289	345	203	1872	837	498	2484	1111
v/s Ratio Prot								0.24		c0.10	0.38	
v/s Ratio Perm		0.06			c0.21	0.04	0.03		0.04	c0.43		0.03
v/c Ratio		0.29			0.95	0.19	0.05	0.44	0.08	0.75	0.54	0.04
Uniform Delay, d1		32.6			38.6	31.9	11.4	14.5	11.6	8.4	7.1	4.6
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.78	0.65	1.15
Incremental Delay, d2		0.8			39.8	0.3	0.5	0.8	0.2	5.8	0.8	0.1
Delay (s)		33.5			78.4	32.2	11.9	15.3	11.8	20.9	5.4	5.3
Level of Service		C			E	C	B	B	B	C	A	A
Approach Delay (s)		33.5			57.4			14.8			8.7	
Approach LOS		C			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

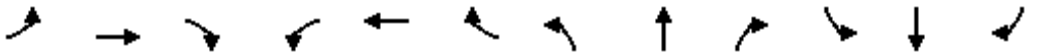
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	0	653	0	0	0	0	639	380	483	972	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.28	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	521	3539	
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)	429	0	710	0	0	0	0	695	413	525	1057	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	429	0	710	0	0	0	0	695	413	525	1057	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	18.4		100.0					45.1	100.0	70.6	70.6	
Effective Green, g (s)	21.4		100.0					48.1	100.0	72.6	73.6	
Actuated g/C Ratio	0.21		1.00					0.48	1.00	0.73	0.74	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	734		1583					1702	1583	646	2604	
v/s Ratio Prot	c0.12							0.20		c0.17	0.30	
v/s Ratio Perm			0.45						0.26	c0.42		
v/c Ratio	0.58		0.45					0.41	0.26	0.81	0.41	
Uniform Delay, d1	35.3		0.0					16.8	0.0	9.2	5.0	
Progression Factor	1.00		1.00					0.54	1.00	1.46	0.01	
Incremental Delay, d2	1.8		0.9					0.7	0.4	6.4	0.4	
Delay (s)	37.2		0.9					9.6	0.4	19.8	0.4	
Level of Service	D		A					A	A	B	A	
Approach Delay (s)		14.6			0.0			6.2			6.9	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



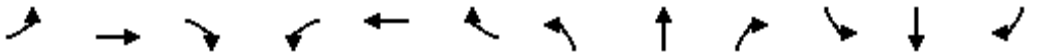
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	728	0	198	261	772	0	0	727	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.20	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	365	3539			3539	1583
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)	0	0	0	791	0	215	284	839	0	0	790	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	791	0	215	284	839	0	0	790	248
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				32.2		100.0	51.8	57.8			33.3	100.0
Effective Green, g (s)				35.2		100.0	57.8	60.8			36.3	100.0
Actuated g/C Ratio				0.35		1.00	0.58	0.61			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				1208		1583	513	2151			1284	1583
v/s Ratio Prot				c0.23			c0.12	0.24			c0.22	
v/s Ratio Perm						0.14	0.20					0.16
v/c Ratio				0.65		0.14	0.55	0.39			0.62	0.16
Uniform Delay, d1				27.3		0.0	24.0	10.1			26.1	0.0
Progression Factor				1.00		1.00	0.94	0.96			1.00	1.00
Incremental Delay, d2				1.3		0.2	2.0	0.2			2.2	0.2
Delay (s)				28.6		0.2	24.6	9.8			28.3	0.2
Level of Service				C		A	C	A			C	A
Approach Delay (s)		0.0			22.5			13.6			21.6	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	347	15	59	60	514	396	81	413	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.45	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)		1854	1583		1777	1583	839	3539	1583	658	3539	1583
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)	5	49	212	377	16	64	65	559	430	88	449	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	225	0	0	3
Lane Group Flow (vph)	0	54	212	0	393	64	65	559	205	88	449	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		8.9	136.6		34.5	136.6	68.3	62.0	62.0	73.1	64.4	64.4
Effective Green, g (s)		11.9	136.6		37.5	136.6	74.3	65.0	65.0	78.7	67.4	67.4
Actuated g/C Ratio		0.09	1.00		0.27	1.00	0.54	0.48	0.48	0.58	0.49	0.49
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		161	1583		487	1583	519	1684	753	474	1746	781
v/s Ratio Prot		c0.03			c0.22		0.01	c0.16		c0.02	0.13	
v/s Ratio Perm			0.13			0.04	0.06		0.13	0.09		0.00
v/c Ratio		0.34	0.13		0.81	0.04	0.13	0.33	0.27	0.19	0.26	0.00
Uniform Delay, d1		58.6	0.0		46.2	0.0	14.9	22.3	21.6	13.7	20.1	17.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.7	0.2		10.0	0.0	0.1	0.5	0.9	0.2	0.4	0.0
Delay (s)		60.3	0.2		56.2	0.0	15.0	22.8	22.4	13.8	20.4	17.6
Level of Service		E	A		E	A	B	C	C	B	C	B
Approach Delay (s)		12.4			48.3			22.2			19.3	
Approach LOS		B			D			C			B	

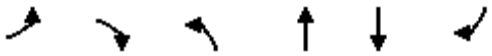
Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	136.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	681	28	23	1205	110	72	5	64	122	5	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	46	740	30	25	1310	120	78	5	70	133	5	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1429			740			2214	2311	740	2254	2251	1370
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1429			740			2214	2311	740	2254	2251	1370
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			97			0	84	83	0	85	78
cM capacity (veh/h)	476			866			20	33	417	19	36	179

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	46	740	30	25	1429	153	178
Volume Left	46	0	0	25	0	78	133
Volume Right	0	0	30	0	120	70	40
cSH	476	1700	1700	866	1700	36	25
Volume to Capacity	0.10	0.44	0.02	0.03	0.84	4.29	7.16
Queue Length 95th (ft)	8	0	0	2	0	Err	Err
Control Delay (s)	13.4	0.0	0.0	9.3	0.0	Err	Err
Lane LOS	B			A		F	F
Approach Delay (s)	0.7			0.2		Err	Err
Approach LOS						F	F

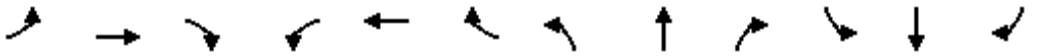
Intersection Summary				
Average Delay	1274.2			
Intersection Capacity Utilization	90.4%	ICU Level of Service	E	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	110	0	194	1313	671	196
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	0	211	1427	729	213
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2578	729	942			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2578	729	942			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	71			
cM capacity (veh/h)	20	423	728			

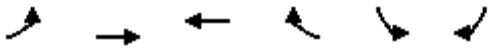
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	120	211	1427	729	213
Volume Left	120	211	0	0	0
Volume Right	0	0	0	0	213
cSH	20	728	1700	1700	1700
Volume to Capacity	5.96	0.29	0.84	0.43	0.13
Queue Length 95th (ft)	Err	30	0	0	0
Control Delay (s)	Err	12.0	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	Err	1.5		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	443.7			
Intersection Capacity Utilization	81.9%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	253	486	164	79	917	53	227	64	99	291	201	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1792		1770	1847		1770	1863	1583	1770	1863	1583
Flt Permitted	0.09	1.00		0.10	1.00		0.13	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	162	1792		186	1847		248	1863	1583	1325	1863	1583
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)	275	528	178	86	997	58	247	70	108	316	218	393
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	275	699	0	86	1054	0	247	70	108	316	218	393
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	67.1	52.0		49.1	40.0		30.0	30.0	145.1	30.0	30.0	145.1
Effective Green, g (s)	67.1	52.0		49.1	40.0		30.0	30.0	145.1	30.0	30.0	145.1
Actuated g/C Ratio	0.46	0.36		0.34	0.28		0.21	0.21	1.00	0.21	0.21	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	308	642		162	509		51	385	1583	273	385	1583
v/s Ratio Prot	c0.13	c0.39		0.03	c0.57			0.04			0.12	
v/s Ratio Perm	0.28			0.15			c0.99		0.07	c0.24		0.25
v/c Ratio	0.89	1.09		0.53	2.07		4.84	0.18	0.07	1.16	0.57	0.25
Uniform Delay, d1	44.0	46.5		38.1	52.5		57.5	47.4	0.0	57.5	51.7	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.0	62.0		2.6	488.2		1772.8	0.2	0.1	103.9	1.6	0.4
Delay (s)	70.0	108.6		40.6	540.7		1830.4	47.6	0.1	161.5	53.3	0.4
Level of Service	E	F		D	F		F	D	A	F	D	A
Approach Delay (s)		97.8			503.0			1071.6			67.7	
Approach LOS		F			F			F			E	

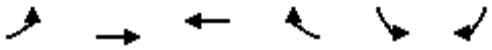
Intersection Summary			
HCM 2000 Control Delay	342.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.34		
Actuated Cycle Length (s)	145.1	Sum of lost time (s)	24.0
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	368	339	576	37	83	274
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	400	368	626	40	90	298
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	666				1815	646
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666				1815	646
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	57				0	37
cM capacity (veh/h)	923				49	471

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	768	666	388
Volume Left	400	0	90
Volume Right	0	40	298
cSH	923	1700	156
Volume to Capacity	0.43	0.39	2.48
Queue Length 95th (ft)	55	0	834
Control Delay (s)	9.3	0.0	732.6
Lane LOS	A		F
Approach Delay (s)	9.3	0.0	732.6
Approach LOS			F

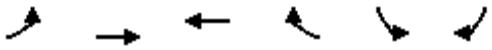
Intersection Summary			
Average Delay	159.9		
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	103	319	514	57	44	99
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	347	559	62	48	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	621				1160	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621				1160	590
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				75	79
cM capacity (veh/h)	960				191	508

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	459	621	155
Volume Left	112	0	48
Volume Right	0	62	108
cSH	960	1700	336
Volume to Capacity	0.12	0.37	0.46
Queue Length 95th (ft)	10	0	58
Control Delay (s)	3.3	0.0	24.6
Lane LOS	A		C
Approach Delay (s)	3.3	0.0	24.6
Approach LOS			C

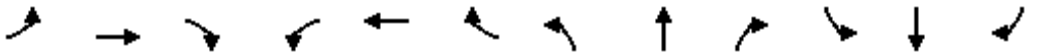
Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	89	274	555	5	5	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	298	603	5	5	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	609				1097	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609				1097	606
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				97	97
cM capacity (veh/h)	970				212	497

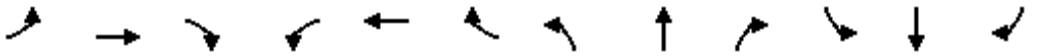
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	395	609	23
Volume Left	97	0	5
Volume Right	0	5	17
cSH	970	1700	377
Volume to Capacity	0.10	0.36	0.06
Queue Length 95th (ft)	8	0	5
Control Delay (s)	3.1	0.0	15.2
Lane LOS	A		C
Approach Delay (s)	3.1	0.0	15.2
Approach LOS			C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		



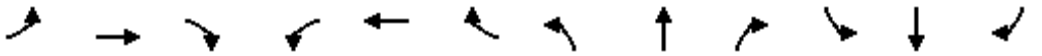
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	7	42	5	151	9	1332	109	99	501	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.81	1.00	0.45	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)		1448			1509	1583	836	3539	1583	247	3539	1583
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)	21	5	8	46	5	164	10	1448	118	108	545	53
RTOR Reduction (vph)	0	7	0	0	0	149	0	0	33	0	0	9
Lane Group Flow (vph)	0	27	0	0	51	15	10	1448	85	108	545	44
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Effective Green, g (s)		9.0			9.0	9.0	71.7	71.7	71.7	83.0	83.0	83.0
Actuated g/C Ratio		0.09			0.09	0.09	0.72	0.72	0.72	0.83	0.83	0.83
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		130			135	142	599	2537	1135	316	2937	1313
v/s Ratio Prot								c0.41		c0.02	0.15	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.05	0.26		0.03
v/c Ratio		0.21			0.38	0.10	0.02	0.57	0.07	0.34	0.19	0.03
Uniform Delay, d1		42.2			42.9	41.8	4.1	6.8	4.2	4.7	1.7	1.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	4.47	0.54	0.14
Incremental Delay, d2		0.8			1.8	0.3	0.1	0.9	0.1	0.6	0.1	0.0
Delay (s)		43.0			44.6	42.1	4.1	7.7	4.4	21.6	1.1	0.3
Level of Service		D			D	D	A	A	A	C	A	A
Approach Delay (s)		43.0			42.7			7.4			4.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



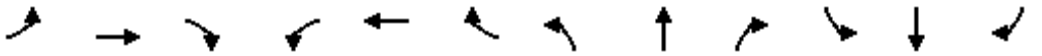
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	0	139	0	0	0	0	1107	396	300	510	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.12	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	225	3539	
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)	186	0	151	0	0	0	0	1203	430	326	554	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	186	0	151	0	0	0	0	1203	430	326	554	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	12.6		100.0					49.4	100.0	76.4	76.4	
Effective Green, g (s)	15.6		100.0					52.4	100.0	78.4	79.4	
Actuated g/C Ratio	0.16		1.00					0.52	1.00	0.78	0.79	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	535		1583					1854	1583	531	2809	
v/s Ratio Prot	c0.05							c0.34		c0.14	0.16	
v/s Ratio Perm			0.10						0.27	0.34		
v/c Ratio	0.35		0.10					0.65	0.27	0.61	0.20	
Uniform Delay, d1	37.7		0.0					17.2	0.0	17.6	2.5	
Progression Factor	1.00		1.00					0.67	1.00	2.94	0.00	
Incremental Delay, d2	0.8		0.1					1.5	0.4	2.1	0.1	
Delay (s)	38.5		0.1					13.0	0.4	54.0	0.1	
Level of Service	D		A					B	A	D	A	
Approach Delay (s)		21.3			0.0			9.7			20.1	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



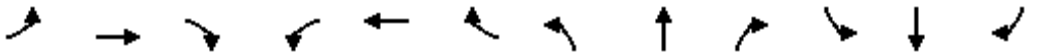
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	412	0	359	677	601	0	0	398	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.41	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	766	3539			3539	1583
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)	0	0	0	448	0	390	736	653	0	0	433	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	448	0	390	736	653	0	0	433	427
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				16.8		100.0	67.2	73.2			32.6	100.0
Effective Green, g (s)				19.8		100.0	73.2	76.2			35.6	100.0
Actuated g/C Ratio				0.20		1.00	0.73	0.76			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				679		1583	938	2696			1259	1583
v/s Ratio Prot				c0.13			c0.30	0.18			0.12	
v/s Ratio Perm						0.25	c0.28					0.27
v/c Ratio				0.66		0.25	0.78	0.24			0.34	0.27
Uniform Delay, d1				37.0		0.0	12.8	3.5			23.6	0.0
Progression Factor				1.00		1.00	1.04	0.02			1.00	1.00
Incremental Delay, d2				2.3		0.4	4.1	0.1			0.7	0.4
Delay (s)				39.3		0.4	17.4	0.2			24.4	0.4
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			21.2			9.3			12.5	
Approach LOS		A			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	239	25	41	215	488	257	40	502	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.37	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1848	1583		1782	1583	692	3539	1583	833	3539	1583
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)	5	27	54	260	27	45	234	530	279	43	546	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	2
Lane Group Flow (vph)	0	32	54	0	287	45	234	530	157	43	546	3
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		5.7	129.6		26.2	129.6	80.2	69.7	69.7	68.4	62.9	62.9
Effective Green, g (s)		8.7	129.6		29.2	129.6	83.2	72.7	72.7	74.4	65.9	65.9
Actuated g/C Ratio		0.07	1.00		0.23	1.00	0.64	0.56	0.56	0.57	0.51	0.51
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		124	1583		401	1583	571	1985	887	539	1799	804
v/s Ratio Prot		c0.02			c0.16		c0.05	0.15		0.01	c0.15	
v/s Ratio Perm			0.03			0.03	0.21		0.10	0.04		0.00
v/c Ratio		0.26	0.03		0.72	0.03	0.41	0.27	0.18	0.08	0.30	0.00
Uniform Delay, d1		57.4	0.0		46.4	0.0	10.3	14.7	13.9	12.1	18.5	15.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		6.4	0.0	0.5	0.3	0.4	0.1	0.4	0.0
Delay (s)		58.9	0.0		52.8	0.0	10.8	15.0	14.3	12.1	18.9	15.7
Level of Service		E	A		D	A	B	B	B	B	B	B
Approach Delay (s)		21.9			45.6			13.9			18.4	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	129.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

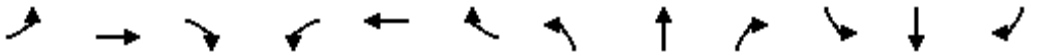


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	343	75	59	813	46	29	0	16	81	11	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	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	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1848			1770	1583		1784	1583
Flt Permitted	0.19	1.00	1.00	0.51	1.00			0.69	1.00		0.73	1.00
Satd. Flow (perm)	352	1863	1583	947	1848			1285	1583		1357	1583
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)	23	373	82	64	884	50	32	0	17	88	12	40
RTOR Reduction (vph)	0	0	26	0	2	0	0	0	15	0	0	34
Lane Group Flow (vph)	23	373	56	64	932	0	0	32	2	0	100	6
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	84.2	81.8	81.8	85.8	82.6			17.0	17.0		17.0	17.0
Effective Green, g (s)	84.2	81.8	81.8	85.8	82.6			17.0	17.0		17.0	17.0
Actuated g/C Ratio	0.70	0.68	0.68	0.71	0.69			0.14	0.14		0.14	0.14
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	275	1269	1079	699	1272			182	224		192	224
v/s Ratio Prot	0.00	0.20		c0.00	c0.50							
v/s Ratio Perm	0.06		0.04	0.06				0.02	0.00		c0.07	0.00
v/c Ratio	0.08	0.29	0.05	0.09	0.73			0.18	0.01		0.52	0.03
Uniform Delay, d1	10.3	7.6	6.3	5.2	11.8			45.3	44.3		47.7	44.4
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.6	0.1	0.1	3.8			2.1	0.1		9.7	0.2
Delay (s)	10.4	8.2	6.4	5.2	15.5			47.4	44.4		57.5	44.6
Level of Service	B	A	A	A	B			D	D		E	D
Approach Delay (s)		8.0			14.9			46.4			53.8	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

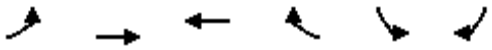
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	339	101	52	744	174	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	1.00	1.00	0.95	1.00	0.95	
Satd. Flow (prot)	1863	1583	1770	1863	1770	
Flt Permitted	1.00	1.00	0.41	1.00	0.95	
Satd. Flow (perm)	1863	1583	759	1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	368	110	57	809	189	0
RTOR Reduction (vph)	0	59	0	0	0	0
Lane Group Flow (vph)	368	51	57	809	189	0
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases		6	2			
Actuated Green, G (s)	28.6	28.6	38.7	38.7	11.3	
Effective Green, g (s)	28.6	28.6	38.7	38.7	11.3	
Actuated g/C Ratio	0.46	0.46	0.62	0.62	0.18	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	859	730	540	1162	322	
v/s Ratio Prot	0.20		0.01	c0.43	c0.11	
v/s Ratio Perm		0.03	0.06			
v/c Ratio	0.43	0.07	0.11	0.70	0.59	
Uniform Delay, d1	11.2	9.3	5.2	7.7	23.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.2	0.1	3.5	2.7	
Delay (s)	12.8	9.5	5.2	11.2	25.9	
Level of Service	B	A	A	B	C	
Approach Delay (s)	12.0			10.8	25.9	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



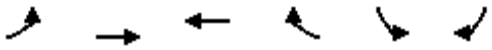
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	192	47	42	384	16	177	42	52	113	54	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1852		1681	1716	1583	1770	1863	1583
Flt Permitted	0.37	1.00	1.00	0.63	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	688	1863	1583	1168	1852		1681	1716	1583	1770	1863	1583
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)	160	209	51	46	417	17	192	46	57	123	59	254
RTOR Reduction (vph)	0	0	23	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	160	209	28	46	433	0	117	121	57	123	59	254
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Free	Split	NA	Free
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases	6		6	2					Free			Free
Actuated Green, G (s)	74.9	65.2	65.2	64.9	60.2		13.2	13.2	120.0	12.9	12.9	120.0
Effective Green, g (s)	74.9	65.2	65.2	64.9	60.2		13.2	13.2	120.0	12.9	12.9	120.0
Actuated g/C Ratio	0.62	0.54	0.54	0.54	0.50		0.11	0.11	1.00	0.11	0.11	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5	3.5	2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	516	1012	860	655	929		184	188	1583	190	200	1583
v/s Ratio Prot	c0.03	0.11		0.00	c0.23		0.07	c0.07		c0.07	0.03	
v/s Ratio Perm	0.17		0.02	0.04					0.04			c0.16
v/c Ratio	0.31	0.21	0.03	0.07	0.47		0.64	0.64	0.04	0.65	0.29	0.16
Uniform Delay, d1	10.9	14.1	12.7	13.0	19.4		51.1	51.1	0.0	51.4	49.4	0.0
Progression Factor	1.00	1.00	1.00	0.72	0.71		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.5	0.1	0.0	1.6		6.2	6.5	0.0	6.5	0.6	0.2
Delay (s)	11.2	14.6	12.8	9.3	15.5		57.3	57.7	0.0	57.9	50.0	0.2
Level of Service	B	B	B	A	B		E	E	A	E	D	A
Approach Delay (s)		13.1			14.9			46.4			23.2	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	120	140	317	42	32	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.98		0.91	
Flt Protected		0.98	1.00		0.98	
Satd. Flow (prot)		1821	1833		1666	
Flt Permitted		0.59	1.00		0.98	
Satd. Flow (perm)		1106	1833		1666	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	152	345	46	35	72
RTOR Reduction (vph)	0	0	3	0	59	0
Lane Group Flow (vph)	0	282	388	0	48	0
Turn Type	custom	NA	NA		Prot	
Protected Phases	1	1 6	2		4	
Permitted Phases	6					
Actuated Green, G (s)		86.0	68.2		22.0	
Effective Green, g (s)		86.0	68.2		22.0	
Actuated g/C Ratio		0.72	0.57		0.18	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		862	1041		305	
v/s Ratio Prot		c0.03	c0.21		c0.03	
v/s Ratio Perm		0.20				
v/c Ratio		0.33	0.37		0.16	
Uniform Delay, d1		6.3	14.2		41.2	
Progression Factor		0.62	1.00		1.00	
Incremental Delay, d2		0.2	1.0		1.1	
Delay (s)		4.1	15.2		42.3	
Level of Service		A	B		D	
Approach Delay (s)		4.1	15.2		42.3	
Approach LOS		A	B		D	

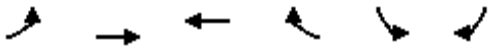
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	49	123	285	45	33	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	134	310	49	36	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	359				574	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359				574	334
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				92	89
cM capacity (veh/h)	1200				459	708

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	187	359	116
Volume Left	53	0	36
Volume Right	0	49	80
cSH	1200	1700	606
Volume to Capacity	0.04	0.21	0.19
Queue Length 95th (ft)	3	0	18
Control Delay (s)	2.6	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	2.6	0.0	12.3
Approach LOS			B

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		



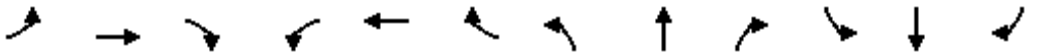
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	101	318	21	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	110	346	23	5	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	368				589	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	368				589	357
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	98
cM capacity (veh/h)	1190				447	687

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	171	368	17
Volume Left	61	0	5
Volume Right	0	23	12
cSH	1190	1700	588
Volume to Capacity	0.05	0.22	0.03
Queue Length 95th (ft)	4	0	2
Control Delay (s)	3.2	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	3.2	0.0	11.3
Approach LOS			B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

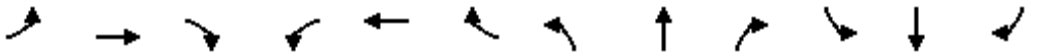
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	5	8	248	5	210	10	765	120	344	1223	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1758			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.49			0.71	1.00	0.21	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)		902			1329	1583	384	3539	1583	463	3539	1583
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	5	9	270	5	228	11	832	130	374	1329	64
RTOR Reduction (vph)	0	6	0	0	0	162	0	0	61	0	0	19
Lane Group Flow (vph)	0	57	0	0	275	66	11	832	69	374	1329	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Effective Green, g (s)		21.8			21.8	21.8	52.9	52.9	52.9	70.2	70.2	70.2
Actuated g/C Ratio		0.22			0.22	0.22	0.53	0.53	0.53	0.70	0.70	0.70
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		196			289	345	203	1872	837	498	2484	1111
v/s Ratio Prot								0.24		c0.10	0.38	
v/s Ratio Perm		0.06			c0.21	0.04	0.03		0.04	c0.43		0.03
v/c Ratio		0.29			0.95	0.19	0.05	0.44	0.08	0.75	0.54	0.04
Uniform Delay, d1		32.6			38.6	31.9	11.4	14.5	11.6	8.4	7.1	4.6
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.60	0.50	0.55
Incremental Delay, d2		0.8			39.8	0.3	0.5	0.8	0.2	5.8	0.8	0.1
Delay (s)		33.5			78.4	32.2	11.9	15.3	11.8	19.3	4.3	2.6
Level of Service		C			E	C	B	B	B	B	A	A
Approach Delay (s)		33.5			57.4			14.8			7.4	
Approach LOS		C			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	0	653	0	0	0	0	639	380	483	972	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.26	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	480	3539	
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)	429	0	710	0	0	0	0	695	413	525	1057	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	429	0	710	0	0	0	0	695	413	525	1057	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	19.7		100.0					40.2	100.0	69.3	69.3	
Effective Green, g (s)	22.7		100.0					43.2	100.0	71.3	72.3	
Actuated g/C Ratio	0.23		1.00					0.43	1.00	0.71	0.72	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	779		1583					1528	1583	666	2558	
v/s Ratio Prot	c0.12							0.20		c0.20	0.30	
v/s Ratio Perm			0.45						0.26	c0.36		
v/c Ratio	0.55		0.45					0.45	0.26	0.79	0.41	
Uniform Delay, d1	34.1		0.0					20.1	0.0	11.7	5.5	
Progression Factor	1.00		1.00					0.64	1.00	1.46	0.31	
Incremental Delay, d2	1.4		0.9					0.9	0.4	5.1	0.4	
Delay (s)	35.6		0.9					13.7	0.4	22.2	2.1	
Level of Service	D		A					B	A	C	A	
Approach Delay (s)		14.0			0.0			8.7			8.8	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

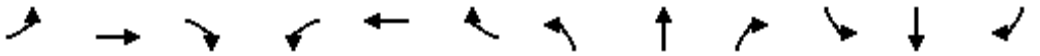


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	728	0	198	261	772	0	0	727	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.20	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	365	3539			3539	1583
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)	0	0	0	791	0	215	284	839	0	0	790	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	791	0	215	284	839	0	0	790	248
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				32.2		100.0	51.8	57.8			33.3	100.0
Effective Green, g (s)				35.2		100.0	57.8	60.8			36.3	100.0
Actuated g/C Ratio				0.35		1.00	0.58	0.61			0.36	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				1208		1583	513	2151			1284	1583
v/s Ratio Prot				c0.23			c0.12	0.24			c0.22	
v/s Ratio Perm						0.14	0.20					0.16
v/c Ratio				0.65		0.14	0.55	0.39			0.62	0.16
Uniform Delay, d1				27.3		0.0	24.0	10.1			26.1	0.0
Progression Factor				1.00		1.00	0.34	0.16			1.00	1.00
Incremental Delay, d2				1.3		0.2	2.0	0.2			2.2	0.2
Delay (s)				28.6		0.2	10.0	1.8			28.3	0.2
Level of Service				C		A	B	A			C	A
Approach Delay (s)		0.0			22.5			3.9			21.6	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	347	15	59	60	514	396	81	413	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.45	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)		1854	1583		1777	1583	839	3539	1583	658	3539	1583
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)	5	49	212	377	16	64	65	559	430	88	449	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	225	0	0	3
Lane Group Flow (vph)	0	54	212	0	393	64	65	559	205	88	449	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		8.9	136.6		34.5	136.6	68.3	62.0	62.0	73.1	64.4	64.4
Effective Green, g (s)		11.9	136.6		37.5	136.6	74.3	65.0	65.0	78.7	67.4	67.4
Actuated g/C Ratio		0.09	1.00		0.27	1.00	0.54	0.48	0.48	0.58	0.49	0.49
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		161	1583		487	1583	519	1684	753	474	1746	781
v/s Ratio Prot		c0.03			c0.22		0.01	c0.16		c0.02	0.13	
v/s Ratio Perm			0.13			0.04	0.06		0.13	0.09		0.00
v/c Ratio		0.34	0.13		0.81	0.04	0.13	0.33	0.27	0.19	0.26	0.00
Uniform Delay, d1		58.6	0.0		46.2	0.0	14.9	22.3	21.6	13.7	20.1	17.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.7	0.2		10.0	0.0	0.1	0.5	0.9	0.2	0.4	0.0
Delay (s)		60.3	0.2		56.2	0.0	15.0	22.8	22.4	13.8	20.4	17.6
Level of Service		E	A		E	A	B	C	C	B	C	B
Approach Delay (s)		12.4			48.3			22.2			19.3	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	136.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	681	28	23	1205	110	72	5	64	122	5	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	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	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1839			1779	1583		1777	1583
Flt Permitted	0.04	1.00	1.00	0.31	1.00			0.47	1.00		0.67	1.00
Satd. Flow (perm)	72	1863	1583	586	1839			875	1583		1255	1583
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)	46	740	30	25	1310	120	78	5	70	133	5	40
RTOR Reduction (vph)	0	0	8	0	2	0	0	0	62	0	0	35
Lane Group Flow (vph)	46	740	22	25	1428	0	0	83	8	0	138	5
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	106.8	103.6	103.6	105.2	102.8			16.0	16.0		16.0	16.0
Effective Green, g (s)	106.8	103.6	103.6	105.2	102.8			16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.76	0.74	0.74	0.75	0.73			0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	93	1378	1171	460	1350			100	180		143	180
v/s Ratio Prot	c0.01	0.40		0.00	c0.78							
v/s Ratio Perm	0.36		0.01	0.04				0.09	0.01		c0.11	0.00
v/c Ratio	0.49	0.54	0.02	0.05	1.06			0.83	0.04		0.97	0.03
Uniform Delay, d1	40.4	7.9	4.8	5.7	18.6			60.7	55.2		61.7	55.1
Progression Factor	1.00	1.00	1.00	0.84	1.05			1.00	1.00		1.00	1.00
Incremental Delay, d2	4.1	1.5	0.0	0.0	27.9			52.2	0.5		66.5	0.3
Delay (s)	44.5	9.4	4.8	4.8	47.4			112.9	55.7		128.2	55.3
Level of Service	D	A	A	A	D			F	E		F	E
Approach Delay (s)		11.2			46.7			86.7			111.8	
Approach LOS		B			D			F			F	

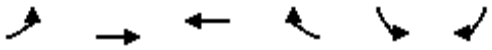
Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	671	196	194	1313	110	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	1.00	1.00	0.95	1.00	0.95	
Satd. Flow (prot)	1863	1583	1770	1863	1770	
Flt Permitted	1.00	1.00	0.23	1.00	0.95	
Satd. Flow (perm)	1863	1583	420	1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	729	213	211	1427	120	0
RTOR Reduction (vph)	0	88	0	0	0	0
Lane Group Flow (vph)	729	125	211	1427	120	0
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases		6	2			
Actuated Green, G (s)	41.0	41.0	53.0	53.0	5.0	
Effective Green, g (s)	41.0	41.0	53.0	53.0	5.0	
Actuated g/C Ratio	0.59	0.59	0.76	0.76	0.07	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1091	927	433	1410	126	
v/s Ratio Prot	0.39		0.04	c0.77	c0.07	
v/s Ratio Perm		0.08	0.33			
v/c Ratio	0.67	0.13	0.49	1.01	0.95	
Uniform Delay, d1	9.9	6.5	6.3	8.5	32.4	
Progression Factor	1.20	2.94	1.78	1.99	1.00	
Incremental Delay, d2	2.7	0.3	0.2	15.0	65.1	
Delay (s)	14.6	19.4	11.4	32.0	97.5	
Level of Service	B	B	B	C	F	
Approach Delay (s)	15.7			29.3	97.5	
Approach LOS	B			C	F	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

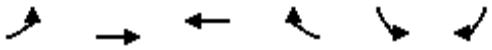
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	253	486	164	79	917	53	227	64	99	291	201	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1847		1681	1721	1583	1770	1863	1583
Flt Permitted	0.06	1.00	1.00	0.37	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	106	1863	1583	697	1847		1681	1721	1583	1770	1863	1583
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)	275	528	178	86	997	58	247	70	108	316	218	393
RTOR Reduction (vph)	0	0	85	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	275	528	93	86	1053	0	156	161	108	316	218	393
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Free	Split	NA	Free
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases	6		6	2					Free			Free
Actuated Green, G (s)	84.0	73.0	73.0	69.0	64.0		11.6	11.6	140.0	26.4	26.4	140.0
Effective Green, g (s)	84.0	73.0	73.0	69.0	64.0		11.6	11.6	140.0	26.4	26.4	140.0
Actuated g/C Ratio	0.60	0.52	0.52	0.49	0.46		0.08	0.08	1.00	0.19	0.19	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5	3.5	2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	230	971	825	381	844		139	142	1583	333	351	1583
v/s Ratio Prot	c0.12	0.28		0.01	c0.57		0.09	c0.09		c0.18	0.12	
v/s Ratio Perm	0.60		0.06	0.10					0.07			0.25
v/c Ratio	1.20	0.54	0.11	0.23	1.25		1.12	1.13	0.07	0.95	0.62	0.25
Uniform Delay, d1	48.0	22.4	17.0	19.6	38.0		64.2	64.2	0.0	56.1	52.2	0.0
Progression Factor	1.05	0.95	2.78	1.25	0.92		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	119.2	1.9	0.2	0.2	119.5		112.9	116.0	0.1	35.6	2.9	0.4
Delay (s)	169.5	23.3	47.6	24.7	154.5		177.1	180.2	0.1	91.7	55.1	0.4
Level of Service	F	C	D	C	F		F	F	A	F	E	A
Approach Delay (s)		68.7			144.7			133.3			44.4	
Approach LOS		E			F			F			D	

Intersection Summary			
HCM 2000 Control Delay	95.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	368	339	576	37	83	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.99		0.90	
Flt Protected		0.97	1.00		0.99	
Satd. Flow (prot)		1815	1848		1650	
Flt Permitted		0.06	1.00		0.99	
Satd. Flow (perm)		109	1848		1650	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	400	368	626	40	90	298
RTOR Reduction (vph)	0	0	2	0	85	0
Lane Group Flow (vph)	0	768	664	0	303	0
Turn Type	custom	NA	NA		Prot	
Protected Phases	7	4 7	8		6	
Permitted Phases	4					
Actuated Green, G (s)		104.0	49.0		24.0	
Effective Green, g (s)		104.0	49.0		24.0	
Actuated g/C Ratio		0.74	0.35		0.17	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		714	646		282	
v/s Ratio Prot		c0.40	0.36		c0.18	
v/s Ratio Perm		c0.40				
v/c Ratio		1.08	1.03		1.07	
Uniform Delay, d1		18.0	45.5		58.0	
Progression Factor		0.95	1.00		1.00	
Incremental Delay, d2		54.3	42.7		74.4	
Delay (s)		71.5	88.2		132.4	
Level of Service		E	F		F	
Approach Delay (s)		71.5	88.2		132.4	
Approach LOS		E	F		F	

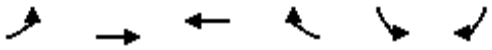
Intersection Summary			
HCM 2000 Control Delay	90.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	107.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	103	319	514	57	44	99
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	347	559	62	48	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	621				1160	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621				1160	590
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				75	79
cM capacity (veh/h)	960				191	508

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	459	621	155
Volume Left	112	0	48
Volume Right	0	62	108
cSH	960	1700	336
Volume to Capacity	0.12	0.37	0.46
Queue Length 95th (ft)	10	0	58
Control Delay (s)	3.3	0.0	24.6
Lane LOS	A		C
Approach Delay (s)	3.3	0.0	24.6
Approach LOS			C

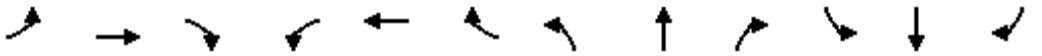
Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	89	274	555	5	5	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	298	603	5	5	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	609				1097	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609				1097	606
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				97	97
cM capacity (veh/h)	970				212	497

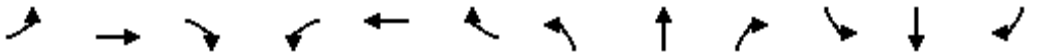
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	395	609	23
Volume Left	97	0	5
Volume Right	0	5	17
cSH	970	1700	377
Volume to Capacity	0.10	0.36	0.06
Queue Length 95th (ft)	8	0	5
Control Delay (s)	3.1	0.0	15.2
Lane LOS	A		C
Approach Delay (s)	3.1	0.0	15.2
Approach LOS			C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		



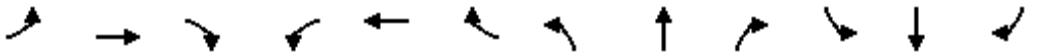
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	7	42	5	180	9	1418	109	149	576	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1750			1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.81	1.00	0.41	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)		1450			1507	1583	772	3539	1583	204	3539	1583
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)	21	5	8	46	5	196	10	1541	118	162	626	53
RTOR Reduction (vph)	0	7	0	0	0	178	0	0	36	0	0	9
Lane Group Flow (vph)	0	27	0	0	51	18	10	1541	82	162	626	44
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		9.1			9.1	9.1	69.5	69.5	69.5	82.9	82.9	82.9
Effective Green, g (s)		9.1			9.1	9.1	69.5	69.5	69.5	82.9	82.9	82.9
Actuated g/C Ratio		0.09			0.09	0.09	0.70	0.70	0.70	0.83	0.83	0.83
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		131			137	144	536	2459	1100	316	2933	1312
v/s Ratio Prot								c0.44		c0.05	0.18	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.05	0.38		0.03
v/c Ratio		0.20			0.37	0.12	0.02	0.63	0.07	0.51	0.21	0.03
Uniform Delay, d1		42.1			42.8	41.8	4.7	8.2	4.9	8.2	1.8	1.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	4.02	0.54	0.34
Incremental Delay, d2		0.8			1.7	0.4	0.1	1.2	0.1	1.4	0.2	0.0
Delay (s)		42.9			44.5	42.2	4.8	9.5	5.0	34.3	1.1	0.6
Level of Service		D			D	D	A	A	A	C	A	A
Approach Delay (s)		42.9			42.6			9.1			7.5	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



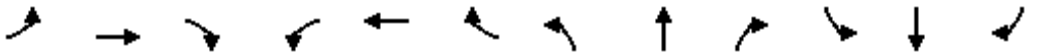
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	0	139	0	0	0	0	1204	413	315	635	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0		3.0					3.0	3.0	4.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.09	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	165	3539	
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)	217	0	151	0	0	0	0	1309	449	342	690	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	217	0	151	0	0	0	0	1309	449	342	690	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2	
Permitted Phases	4		Free						Free	2		
Actuated Green, G (s)	13.5		100.0					48.1	100.0	75.5	75.5	
Effective Green, g (s)	16.5		100.0					51.1	100.0	77.5	78.5	
Actuated g/C Ratio	0.16		1.00					0.51	1.00	0.78	0.78	
Clearance Time (s)	5.0							6.0		6.0	6.0	
Vehicle Extension (s)	5.0							4.0		4.0	4.0	
Lane Grp Cap (vph)	566		1583					1808	1583	503	2778	
v/s Ratio Prot	c0.06							c0.37		c0.16	0.19	
v/s Ratio Perm			0.10						0.28	0.37		
v/c Ratio	0.38		0.10					0.72	0.28	0.68	0.25	
Uniform Delay, d1	37.2		0.0					19.0	0.0	23.5	2.9	
Progression Factor	1.00		1.00					0.62	1.00	2.36	0.00	
Incremental Delay, d2	0.9		0.1					2.1	0.4	3.2	0.2	
Delay (s)	38.1		0.1					13.8	0.4	58.8	0.2	
Level of Service	D		A					B	A	E	A	
Approach Delay (s)		22.5			0.0			10.4			19.6	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



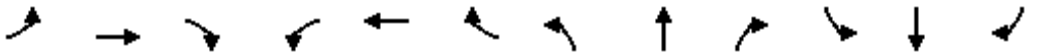
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	517	0	427	677	726	0	0	433	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	3.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.38	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	699	3539			3539	1583
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)	0	0	0	562	0	464	736	789	0	0	471	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	562	0	464	736	789	0	0	471	427
Turn Type				Prot		Free	pm+pt	NA			NA	Free
Protected Phases				3			1	1 6			2	
Permitted Phases						Free	1 6					Free
Actuated Green, G (s)				18.0		100.0	66.0	72.0			31.0	100.0
Effective Green, g (s)				21.0		100.0	72.0	75.0			34.0	100.0
Actuated g/C Ratio				0.21		1.00	0.72	0.75			0.34	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				720		1583	910	2654			1203	1583
v/s Ratio Prot				c0.16			c0.31	0.22			0.13	
v/s Ratio Perm						0.29	c0.28					0.27
v/c Ratio				0.78		0.29	0.81	0.30			0.39	0.27
Uniform Delay, d1				37.3		0.0	14.3	4.0			25.1	0.0
Progression Factor				1.00		1.00	0.93	0.02			1.00	1.00
Incremental Delay, d2				5.5		0.5	4.6	0.1			1.0	0.4
Delay (s)				42.8		0.5	17.9	0.2			26.1	0.4
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			23.7			8.7			13.9	
Approach LOS		A			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	259	25	62	215	555	383	127	518	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1781	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.36	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)		1848	1583		1781	1583	668	3539	1583	685	3539	1583
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)	5	27	54	282	27	67	234	603	416	138	563	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	202	0	0	3
Lane Group Flow (vph)	0	32	54	0	309	67	234	603	214	138	563	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		5.7	130.2		27.9	130.2	76.5	64.1	64.1	71.7	61.7	61.7
Effective Green, g (s)		8.7	130.2		30.9	130.2	82.1	67.1	67.1	77.7	64.7	64.7
Actuated g/C Ratio		0.07	1.00		0.24	1.00	0.63	0.52	0.52	0.60	0.50	0.50
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		123	1583		422	1583	551	1823	815	517	1758	786
v/s Ratio Prot		c0.02			c0.17		c0.05	c0.17		0.03	0.16	
v/s Ratio Perm			0.03			0.04	0.22		0.14	0.13		0.00
v/c Ratio		0.26	0.03		0.73	0.04	0.42	0.33	0.26	0.27	0.32	0.00
Uniform Delay, d1		57.7	0.0		45.8	0.0	11.1	18.4	17.7	11.8	19.6	16.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		6.9	0.1	0.5	0.5	0.8	0.3	0.5	0.0
Delay (s)		59.2	0.0		52.7	0.1	11.6	18.9	18.5	12.1	20.1	16.5
Level of Service		E	A		D	A	B	B	B	B	C	B
Approach Delay (s)		22.1			43.3			17.4			18.5	
Approach LOS		C			D			B			B	

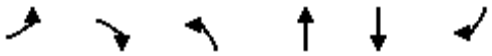
Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	130.2	Sum of lost time (s)	16.5
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	239	492	81	64	1020	124	31	0	18	160	12	218
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	260	535	88	70	1109	135	34	0	20	174	13	237
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1243			535			2427	2437	535	2370	2370	1176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1243			535			2427	2437	535	2370	2370	1176
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	54			93			0	100	96	0	25	0
cM capacity (veh/h)	560			1033			0	16	545	14	17	233

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	260	535	88	70	1243	53	424
Volume Left	260	0	0	70	0	34	174
Volume Right	0	0	88	0	135	20	237
cSH	560	1700	1700	1033	1700	0	30
Volume to Capacity	0.46	0.31	0.05	0.07	0.73	Err	14.00
Queue Length 95th (ft)	61	0	0	5	0	Err	Err
Control Delay (s)	16.9	0.0	0.0	8.7	0.0	Err	Err
Lane LOS	C			A		F	F
Approach Delay (s)	5.0			0.5		Err	Err
Approach LOS						F	F

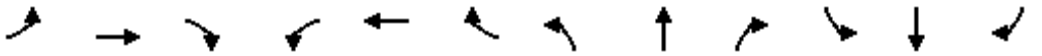
Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	100.6%	ICU Level of Service	G	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	225	0	67	984	531	138
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	245	0	73	1070	577	150
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1792	577	727			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1792	577	727			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	92			
cM capacity (veh/h)	81	516	876			

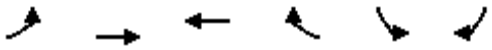
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	245	73	1070	577	150
Volume Left	245	73	0	0	0
Volume Right	0	0	0	0	150
cSH	81	876	1700	1700	1700
Volume to Capacity	3.01	0.08	0.63	0.34	0.09
Queue Length 95th (ft)	Err	7	0	0	0
Control Delay (s)	Err	9.5	0.0	0.0	0.0
Lane LOS	F	A			
Approach Delay (s)	Err	0.6		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	1157.0		
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	297	84	55	550	18	245	47	66	170	71	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	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	0.97		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1801		1770	1854		1770	1863	1583	1770	1863	1583
Flt Permitted	0.08	1.00		0.42	1.00		0.13	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	157	1801		781	1854		247	1863	1583	1348	1863	1583
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)	229	323	91	60	598	20	266	51	72	185	77	278
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	229	408	0	60	617	0	266	51	72	185	77	278
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Free	Perm	NA	Free
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		Free	4		Free
Actuated Green, G (s)	64.6	52.3		47.9	41.6		30.2	30.2	135.2	22.4	22.4	135.2
Effective Green, g (s)	64.6	52.3		47.9	41.6		30.2	30.2	135.2	22.4	22.4	135.2
Actuated g/C Ratio	0.48	0.39		0.35	0.31		0.22	0.22	1.00	0.17	0.17	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	277	696		322	570		55	416	1583	223	308	1583
v/s Ratio Prot	c0.10	0.23		0.01	c0.33			0.03			0.04	
v/s Ratio Perm	0.29			0.06			c1.08		0.05	c0.14		0.18
v/c Ratio	0.83	0.59		0.19	1.08		4.84	0.12	0.05	0.83	0.25	0.18
Uniform Delay, d1	38.2	32.9		29.4	46.8		52.5	41.9	0.0	54.6	49.1	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.6	3.6		0.2	62.1		1766.7	0.1	0.1	21.4	0.3	0.2
Delay (s)	55.8	36.5		29.6	108.9		1819.2	42.0	0.1	75.9	49.4	0.2
Level of Service	E	D		C	F		F	D	A	E	D	A
Approach Delay (s)		43.4			101.9			1249.5			33.2	
Approach LOS		D			F			F			C	

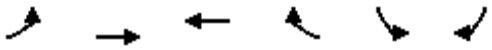
Intersection Summary			
HCM 2000 Control Delay	267.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.01		
Actuated Cycle Length (s)	135.2	Sum of lost time (s)	24.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	176	165	385	47	33	95
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	191	179	418	51	36	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	470				1006	444
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	470				1006	444
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				84	83
cM capacity (veh/h)	1092				220	614

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	371	470	139
Volume Left	191	0	36
Volume Right	0	51	103
cSH	1092	1700	420
Volume to Capacity	0.18	0.28	0.33
Queue Length 95th (ft)	16	0	36
Control Delay (s)	5.5	0.0	17.7
Lane LOS	A		C
Approach Delay (s)	5.5	0.0	17.7
Approach LOS			C

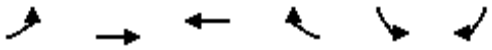
Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	51	147	356	47	34	76
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	160	387	51	37	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	438				683	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	438				683	412
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				91	87
cM capacity (veh/h)	1122				394	640

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	215	438	120
Volume Left	55	0	37
Volume Right	0	51	83
cSH	1122	1700	536
Volume to Capacity	0.05	0.26	0.22
Queue Length 95th (ft)	4	0	21
Control Delay (s)	2.5	0.0	13.6
Lane LOS	A		B
Approach Delay (s)	2.5	0.0	13.6
Approach LOS			B

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		



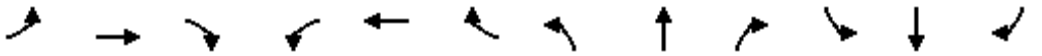
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	70	111	391	23	6	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	121	425	25	7	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	450				710	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	450				710	438
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				98	98
cM capacity (veh/h)	1110				372	619

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	197	450	20
Volume Left	76	0	7
Volume Right	0	25	13
cSH	1110	1700	507
Volume to Capacity	0.07	0.26	0.04
Queue Length 95th (ft)	6	0	3
Control Delay (s)	3.7	0.0	12.4
Lane LOS	A		B
Approach Delay (s)	3.7	0.0	12.4
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

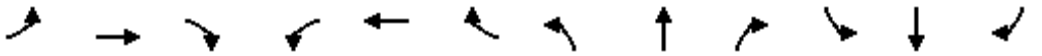
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	5	8	248	5	266	10	927	120	384	1381	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1758			1776	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.51			0.70	1.00	0.17	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)		924			1305	1583	323	3539	1583	265	3539	1583
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	5	9	270	5	289	11	1008	130	417	1501	64
RTOR Reduction (vph)	0	5	0	0	0	161	0	0	73	0	0	19
Lane Group Flow (vph)	0	58	0	0	275	128	11	1008	57	417	1501	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		33.1			33.1	33.1	59.3	59.3	59.3	93.9	93.9	93.9
Effective Green, g (s)		33.1			33.1	33.1	59.3	59.3	59.3	93.9	93.9	93.9
Actuated g/C Ratio		0.25			0.25	0.25	0.44	0.44	0.44	0.70	0.70	0.70
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		226			319	388	141	1554	695	525	2461	1101
v/s Ratio Prot								0.28		c0.18	0.42	
v/s Ratio Perm		0.06			c0.21	0.08	0.03		0.04	c0.37		0.03
v/c Ratio		0.26			0.86	0.33	0.08	0.65	0.08	0.79	0.61	0.04
Uniform Delay, d1		41.1			48.8	41.8	22.0	29.7	22.0	28.1	10.9	6.4
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.48	0.52	0.40
Incremental Delay, d2		0.6			20.6	0.5	1.1	2.1	0.2	7.3	1.0	0.1
Delay (s)		41.7			69.3	42.4	23.1	31.8	22.3	48.9	6.7	2.6
Level of Service		D			E	D	C	C	C	D	A	A
Approach Delay (s)		41.7			55.5			30.6			15.5	
Approach LOS		D			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



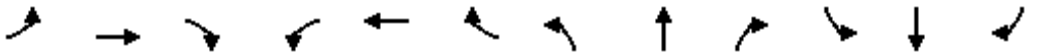
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	451	0	653	0	0	0	0	798	440	536	1170	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	182	3539	
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)	490	0	710	0	0	0	0	867	478	583	1272	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	490	0	710	0	0	0	0	867	478	583	1272	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	24.6		135.0					36.0	135.0	98.4	98.4	
Effective Green, g (s)	27.6		135.0					39.0	135.0	100.4	101.4	
Actuated g/C Ratio	0.20		1.00					0.29	1.00	0.74	0.75	
Clearance Time (s)	6.0							6.0		5.0		
Vehicle Extension (s)	3.0							4.0		5.0		
Lane Grp Cap (vph)	701		1583					1022	1583	834	2658	
v/s Ratio Prot	c0.14							c0.24		c0.31	0.36	
v/s Ratio Perm			0.45						0.30	0.21		
v/c Ratio	0.70		0.45					0.85	0.30	0.70	0.48	
Uniform Delay, d1	49.8		0.0					45.2	0.0	24.7	6.5	
Progression Factor	1.00		1.00					0.77	1.00	1.08	0.37	
Incremental Delay, d2	3.1		0.9					7.2	0.4	3.4	0.4	
Delay (s)	52.9		0.9					42.2	0.4	30.0	2.9	
Level of Service	D		A					D	A	C	A	
Approach Delay (s)		22.1			0.0			27.3			11.4	
Approach LOS		C			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	896	0	336	261	988	0	0	811	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				1.0		3.0	3.0	3.0			3.0	1.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.21	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	385	3539			3539	1583
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)	0	0	0	974	0	365	284	1074	0	0	882	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	974	0	365	284	1074	0	0	882	248
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				40.5		135.0	78.5	84.5			59.2	135.0
Effective Green, g (s)				43.5		135.0	84.5	87.5			62.2	135.0
Actuated g/C Ratio				0.32		1.00	0.63	0.65			0.46	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			5.0				4.0	
Lane Grp Cap (vph)				1106		1583	469	2293			1630	1583
v/s Ratio Prot				c0.28			c0.10	0.30			0.25	
v/s Ratio Perm						0.23	c0.28					0.16
v/c Ratio				0.88		0.23	0.61	0.47			0.54	0.16
Uniform Delay, d1				43.3		0.0	31.1	12.0			26.1	0.0
Progression Factor				1.00		1.00	0.46	0.00			1.00	1.00
Incremental Delay, d2				8.4		0.3	2.2	0.2			1.3	0.2
Delay (s)				51.7		0.3	16.6	0.2			27.4	0.2
Level of Service				D		A	B	A			C	A
Approach Delay (s)		0.0			37.7			3.6			21.5	
Approach LOS		A			D			A			C	

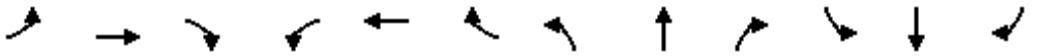
Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	377	15	101	60	653	611	215	467	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.42	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)		1854	1583		1777	1583	789	3539	1583	312	3539	1583
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)	5	49	212	410	16	110	65	710	664	234	508	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	465	0	0	3
Lane Group Flow (vph)	0	54	212	0	426	110	65	710	199	234	508	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		8.0	108.9		35.5	108.9	36.2	29.7	29.7	47.9	36.4	36.4
Effective Green, g (s)		11.0	108.9		38.5	108.9	42.2	32.7	32.7	50.9	39.4	39.4
Actuated g/C Ratio		0.10	1.00		0.35	1.00	0.39	0.30	0.30	0.47	0.36	0.36
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		187	1583		628	1583	391	1062	475	362	1280	572
v/s Ratio Prot		c0.03			c0.24		0.01	c0.20		c0.10	0.14	
v/s Ratio Perm			0.13			0.07	0.05		0.13	0.21		0.00
v/c Ratio		0.29	0.13		0.68	0.07	0.17	0.67	0.42	0.65	0.40	0.00
Uniform Delay, d1		45.3	0.0		29.9	0.0	21.2	33.4	30.5	20.4	25.9	22.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.9	0.2		2.9	0.1	0.2	1.6	0.6	3.9	0.2	0.0
Delay (s)		46.2	0.2		32.8	0.1	21.4	35.0	31.1	24.3	26.1	22.2
Level of Service		D	A		C	A	C	C	C	C	C	C
Approach Delay (s)		9.5			26.1			32.6			25.5	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	108.9	Sum of lost time (s)	16.5
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

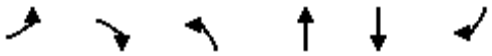
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	356	881	30	25	1705	244	77	6	70	291	6	337
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	387	958	33	27	1853	265	84	7	76	316	7	366
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			10
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2118			958			3826	3904	958	3775	3772	1986
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2118			958			3826	3904	958	3775	3772	1986
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	0			96			0	0	76	0	0	0
cM capacity (veh/h)	257			718			0	0	312	0	0	77

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	387	958	33	27	2118	166	689
Volume Left	387	0	0	27	0	84	316
Volume Right	0	0	33	0	265	76	366
cSH	257	1700	1700	718	1700	0	0
Volume to Capacity	1.50	0.56	0.02	0.04	1.25	Err	Err
Queue Length 95th (ft)	566	0	0	3	0	Err	Err
Control Delay (s)	281.8	0.0	0.0	10.2	0.0	Err	Err
Lane LOS	F			B		F	F
Approach Delay (s)	79.2			0.1		Err	Err
Approach LOS						F	F

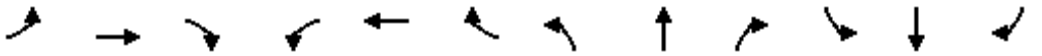
Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	157.4%	ICU Level of Service	H	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	169	0	244	1898	979	263
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	184	0	265	2063	1064	286
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3658	1064	1350			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3658	1064	1350			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	48			
cM capacity (veh/h)	3	271	510			

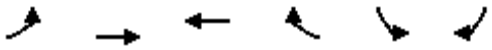
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	184	265	2063	1064	286
Volume Left	184	265	0	0	0
Volume Right	0	0	0	0	286
cSH	3	510	1700	1700	1700
Volume to Capacity	69.21	0.52	1.21	0.63	0.17
Queue Length 95th (ft)	Err	74	0	0	0
Control Delay (s)	Err	19.5	0.0	0.0	0.0
Lane LOS	F	C			
Approach Delay (s)	Err	2.2		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	476.9		
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	319	705	241	117	1395	59	349	70	140	490	258	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
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	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1792		1770	1851		1770	1863	1583	1770	1863	1583
Flt Permitted	0.08	1.00		0.09	1.00		0.13	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	146	1792		166	1851		248	1863	1583	1318	1863	1583
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)	347	766	262	127	1516	64	379	76	152	533	280	432
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	121	0	0	205
Lane Group Flow (vph)	347	1020	0	127	1579	0	379	76	31	533	280	227
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			3			4	
Permitted Phases	6			2			3		3	4		4
Actuated Green, G (s)	71.0	53.2		56.8	45.0		30.0	30.0	30.0	30.0	30.0	30.0
Effective Green, g (s)	71.0	53.2		56.8	45.0		30.0	30.0	30.0	30.0	30.0	30.0
Actuated g/C Ratio	0.48	0.36		0.38	0.30		0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	287	639		190	559		49	375	318	265	375	318
v/s Ratio Prot	c0.16	c0.57		0.05	c0.85			0.04			0.15	
v/s Ratio Perm	0.41			0.20			c1.53		0.02	c0.40		0.14
v/c Ratio	1.21	1.60		0.67	2.83		7.73	0.20	0.10	2.01	0.75	0.71
Uniform Delay, d1	48.8	47.9		36.8	52.0		59.5	49.5	48.5	59.5	55.9	55.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	122.0	275.8		7.8	826.3		3072.2	0.2	0.1	468.2	7.5	6.9
Delay (s)	170.8	323.7		44.6	878.3		3131.7	49.7	48.6	527.7	63.4	62.4
Level of Service	F	F		D	F		F	D	D	F	E	E
Approach Delay (s)		285.2			816.3			1973.8			261.8	
Approach LOS		F			F			F			F	

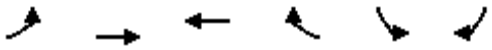
Intersection Summary			
HCM 2000 Control Delay	670.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.54		
Actuated Cycle Length (s)	149.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	148.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	550	409	773	41	85	378
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	598	445	840	45	92	411
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	885				2503	862
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	885				2503	862
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	22				0	0
cM capacity (veh/h)	765				7	354

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1042	885	503
Volume Left	598	0	92
Volume Right	0	45	411
cSH	765	1700	35
Volume to Capacity	0.78	0.52	14.55
Queue Length 95th (ft)	195	0	Err
Control Delay (s)	24.4	0.0	Err
Lane LOS	C		F
Approach Delay (s)	24.4	0.0	Err
Approach LOS			F

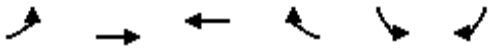
Intersection Summary			
Average Delay	2080.9		
Intersection Capacity Utilization	133.2%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	105	389	711	59	45	103
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	114	423	773	64	49	112
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	837				1456	805
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	837				1456	805
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				60	71
cM capacity (veh/h)	797				123	383

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	537	837	161
Volume Left	114	0	49
Volume Right	0	64	112
cSH	797	1700	232
Volume to Capacity	0.14	0.49	0.69
Queue Length 95th (ft)	12	0	112
Control Delay (s)	3.7	0.0	49.3
Lane LOS	A		E
Approach Delay (s)	3.7	0.0	49.3
Approach LOS			E

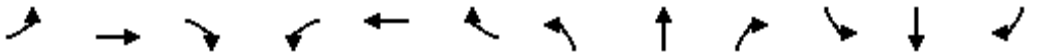
Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	128	258	692	5	5	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	139	280	752	5	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	758				1314	755
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	758				1314	755
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				96	96
cM capacity (veh/h)	854				146	409

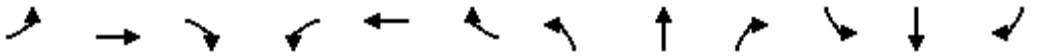
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	420	758	22
Volume Left	139	0	5
Volume Right	0	5	16
cSH	854	1700	282
Volume to Capacity	0.16	0.45	0.08
Queue Length 95th (ft)	15	0	6
Control Delay (s)	4.6	0.0	18.8
Lane LOS	A		C
Approach Delay (s)	4.6	0.0	18.8
Approach LOS			C

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		



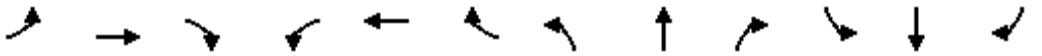
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	6	7	28	7	183	9	1332	59	146	536	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1756			1792	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.80			0.75	1.00	0.43	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)		1443			1391	1583	805	3539	1583	212	3539	1583
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)	21	7	8	30	8	199	10	1448	64	159	583	51
RTOR Reduction (vph)	0	7	0	0	0	182	0	0	23	0	0	10
Lane Group Flow (vph)	0	29	0	0	38	17	10	1448	41	159	583	41
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		8.5			8.5	8.5	64.0	64.0	64.0	79.5	79.5	79.5
Effective Green, g (s)		8.5			8.5	8.5	64.0	64.0	64.0	79.5	79.5	79.5
Actuated g/C Ratio		0.08			0.08	0.08	0.64	0.64	0.64	0.80	0.80	0.80
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		122			118	134	515	2264	1013	316	2813	1258
v/s Ratio Prot								c0.41		c0.05	0.16	
v/s Ratio Perm		0.02			c0.03	0.01	0.01		0.03	0.35		0.03
v/c Ratio		0.24			0.32	0.13	0.02	0.64	0.04	0.50	0.21	0.03
Uniform Delay, d1		42.7			43.0	42.3	6.6	11.0	6.7	8.9	2.5	2.2
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	3.03	0.17	0.00
Incremental Delay, d2		1.0			1.6	0.4	0.1	1.4	0.1	1.2	0.2	0.0
Delay (s)		43.7			44.6	42.7	6.6	12.4	6.7	28.1	0.6	0.0
Level of Service		D			D	D	A	B	A	C	A	A
Approach Delay (s)		43.7			43.0			12.1			6.1	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



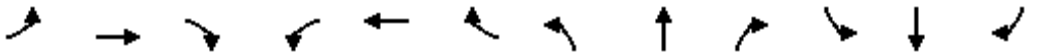
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	199	0	141	0	0	0	0	1132	402	315	587	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.0					6.0	4.0	6.0	6.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.11	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	209	3539	
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)	216	0	153	0	0	0	0	1230	437	342	638	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	216	0	153	0	0	0	0	1230	437	342	638	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	11.6		100.0					49.7	100.0	76.4	76.4	
Effective Green, g (s)	11.6		100.0					49.7	100.0	76.4	76.4	
Actuated g/C Ratio	0.12		1.00					0.50	1.00	0.76	0.76	
Clearance Time (s)	6.0							6.0		6.0		
Vehicle Extension (s)	3.0							3.0		3.0		
Lane Grp Cap (vph)	398		1583					1758	1583	482	2703	
v/s Ratio Prot	c0.06							0.35		c0.15	0.18	
v/s Ratio Perm			0.10						0.28	c0.39		
v/c Ratio	0.54		0.10					0.70	0.28	0.71	0.24	
Uniform Delay, d1	41.7		0.0					19.4	0.0	21.2	3.4	
Progression Factor	1.00		1.00					0.73	1.00	0.91	0.01	
Incremental Delay, d2	1.5		0.1					1.9	0.3	3.4	0.0	
Delay (s)	43.2		0.1					16.1	0.3	22.8	0.1	
Level of Service	D		A					B	A	C	A	
Approach Delay (s)		25.3			0.0			11.9			8.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



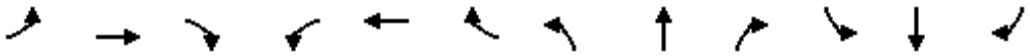
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	509	0	427	678	653	0	0	393	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0	6.0	6.0			6.0	4.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.40	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	747	3539			3539	1583
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)	0	0	0	553	0	464	737	710	0	0	427	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	553	0	464	737	710	0	0	427	427
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				19.6		100.0	70.4	70.4			20.4	100.0
Effective Green, g (s)				19.6		100.0	70.4	70.4			20.4	100.0
Actuated g/C Ratio				0.20		1.00	0.70	0.70			0.20	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			3.0				3.0	
Lane Grp Cap (vph)				672		1583	976	2491			721	1583
v/s Ratio Prot				c0.16			c0.33	0.20			0.12	
v/s Ratio Perm						0.29	c0.20					0.27
v/c Ratio				0.82		0.29	0.76	0.29			0.59	0.27
Uniform Delay, d1				38.5		0.0	12.9	5.5			36.0	0.0
Progression Factor				1.00		1.00	0.37	0.59			0.76	1.00
Incremental Delay, d2				8.0		0.5	2.6	0.0			3.4	0.4
Delay (s)				46.6		0.5	7.3	3.3			30.7	0.4
Level of Service				D		A	A	A			C	A
Approach Delay (s)		0.0			25.5			5.3			15.6	
Approach LOS		A			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	25	50	215	25	57	215	560	305	123	522	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	2.0	2.5	2.5	2.0	2.5	2.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.99	1.00		0.96	1.00	0.34	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)		1848	1583		1783	1583	627	3539	1583	709	3539	1583
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)	5	27	54	234	27	62	234	609	332	134	567	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	172	0	0	3
Lane Group Flow (vph)	0	32	54	0	261	62	234	609	160	134	567	2
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			Free			Free	2		2	6		6
Actuated Green, G (s)		6.0	100.0		19.9	100.0	56.1	45.2	45.2	47.1	40.7	40.7
Effective Green, g (s)		9.0	100.0		22.9	100.0	59.6	48.2	48.2	53.1	43.7	43.7
Actuated g/C Ratio		0.09	1.00		0.23	1.00	0.60	0.48	0.48	0.53	0.44	0.44
Clearance Time (s)		6.0			6.0		5.0	5.5	5.5	5.0	5.5	5.5
Vehicle Extension (s)		4.0			4.0		3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)		166	1583		408	1583	532	1705	763	476	1546	691
v/s Ratio Prot		c0.02			c0.15		c0.06	c0.17		0.03	0.16	
v/s Ratio Perm			0.03			0.04	0.20		0.10	0.12		0.00
v/c Ratio		0.19	0.03		0.64	0.04	0.44	0.36	0.21	0.28	0.37	0.00
Uniform Delay, d1		42.1	0.0		34.8	0.0	10.2	16.2	14.9	12.0	18.9	15.9
Progression Factor		1.00	1.00		1.00	1.00	1.04	0.94	1.43	1.00	1.00	1.00
Incremental Delay, d2		0.8	0.0		3.7	0.0	0.6	0.6	0.6	0.3	0.7	0.0
Delay (s)		42.9	0.0		38.5	0.0	11.2	15.8	22.0	12.3	19.5	15.9
Level of Service		D	A		D	A	B	B	C	B	B	B
Approach Delay (s)		16.0			31.1			16.7			18.2	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

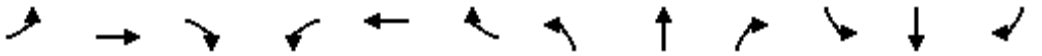


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	208	441	76	70	370	109	30	0	19	121	12	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3419			1770	1583		1782	1583
Flt Permitted	0.34	1.00	1.00	0.41	1.00			0.95	1.00		0.96	1.00
Satd. Flow (perm)	643	1863	1583	758	3419			1770	1583		1782	1583
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)	226	479	83	76	402	118	33	0	21	132	13	233
RTOR Reduction (vph)	0	0	44	0	21	0	0	0	18	0	0	194
Lane Group Flow (vph)	226	479	39	76	499	0	0	33	3	0	145	39
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases	6		6	2					8			4
Actuated Green, G (s)	66.0	56.0	56.0	50.7	46.7			16.0	16.0		20.0	20.0
Effective Green, g (s)	66.0	56.0	56.0	50.7	46.7			16.0	16.0		20.0	20.0
Actuated g/C Ratio	0.55	0.47	0.47	0.42	0.39			0.13	0.13		0.17	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	478	869	738	353	1330			236	211		297	263
v/s Ratio Prot	c0.05	c0.26		0.01	0.15			c0.02			c0.08	
v/s Ratio Perm	0.21		0.02	0.08					0.00			0.02
v/c Ratio	0.47	0.55	0.05	0.22	0.37			0.14	0.01		0.49	0.15
Uniform Delay, d1	14.9	23.0	17.5	21.2	26.2			45.9	45.1		45.4	42.7
Progression Factor	1.00	1.00	1.00	0.92	0.93			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	2.5	0.1	0.3	0.8			1.2	0.1		5.6	1.2
Delay (s)	15.6	25.5	17.6	19.7	25.2			47.2	45.3		51.0	43.9
Level of Service	B	C	B	B	C			D	D		D	D
Approach Delay (s)		21.8			24.5			46.4			46.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

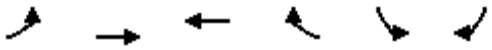
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	437	145	116	859	263	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.96		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3407		1770	3539	1771	
Flt Permitted	1.00		0.35	1.00	0.95	
Satd. Flow (perm)	3407		658	3539	1771	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	475	158	126	934	286	5
RTOR Reduction (vph)	19	0	0	0	1	0
Lane Group Flow (vph)	614	0	126	934	290	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases			2			
Actuated Green, G (s)	69.2		82.7	82.7	25.3	
Effective Green, g (s)	69.2		82.7	82.7	25.3	
Actuated g/C Ratio	0.58		0.69	0.69	0.21	
Clearance Time (s)	6.0		5.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1964		532	2438	373	
v/s Ratio Prot	0.18		0.02	c0.26	c0.16	
v/s Ratio Perm			0.15			
v/c Ratio	0.31		0.24	0.38	0.78	
Uniform Delay, d1	13.1		6.8	7.9	44.7	
Progression Factor	0.20		0.29	0.27	1.00	
Incremental Delay, d2	0.4		0.2	0.4	9.8	
Delay (s)	3.0		2.2	2.5	54.5	
Level of Service	A		A	A	D	
Approach Delay (s)	3.0			2.5	54.5	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



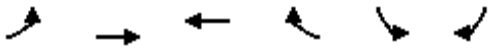
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	283	81	35	480	18	247	47	47	157	74	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	0.97	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3421		1770	3520		1681	1711	1583	3433	1863	1583
Flt Permitted	0.39	1.00		0.50	1.00		0.70	0.75	1.00	0.95	1.00	1.00
Satd. Flow (perm)	724	3421		936	3520		1248	1320	1583	3433	1863	1583
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)	208	308	88	38	522	20	268	51	51	171	80	271
RTOR Reduction (vph)	0	19	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	208	377	0	38	540	0	158	161	51	171	80	271
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Free	Prot	NA	Free
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8		Free			Free
Actuated Green, G (s)	72.1	62.7		52.1	48.7		35.9	35.9	120.0	12.4	8.8	120.0
Effective Green, g (s)	72.1	62.7		52.1	48.7		35.9	35.9	120.0	12.4	8.8	120.0
Actuated g/C Ratio	0.60	0.52		0.43	0.41		0.30	0.30	1.00	0.10	0.07	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		3.0	2.5	
Lane Grp Cap (vph)	586	1787		430	1428		449	463	1583	354	136	1583
v/s Ratio Prot	c0.05	0.11		0.00	0.15		c0.06	0.06		c0.05	c0.04	
v/s Ratio Perm	c0.16			0.04			0.04	0.04	0.03			0.17
v/c Ratio	0.35	0.21		0.09	0.38		0.35	0.35	0.03	0.48	0.59	0.17
Uniform Delay, d1	17.0	15.4		20.9	25.0		33.7	32.9	0.0	50.8	53.8	0.0
Progression Factor	0.52	0.28		0.78	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3		0.1	0.7		0.3	0.3	0.0	1.0	5.3	0.2
Delay (s)	9.0	4.6		16.3	24.6		34.1	33.2	0.0	51.8	59.1	0.2
Level of Service	A	A		B	C		C	C	A	D	E	A
Approach Delay (s)		6.1			24.1			29.0			26.2	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



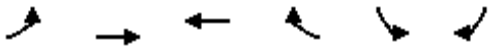
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	176	237	416	47	39	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1837		1770	1583
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	675	1863	1837		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	191	258	452	51	42	103
RTOR Reduction (vph)	0	0	3	0	0	85
Lane Group Flow (vph)	191	258	500	0	42	18
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6					4
Actuated Green, G (s)	87.0	87.0	71.5		21.0	21.0
Effective Green, g (s)	87.0	87.0	71.5		21.0	21.0
Actuated g/C Ratio	0.72	0.72	0.60		0.18	0.18
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	576	1350	1094		309	277
v/s Ratio Prot	c0.03	0.14	c0.27		c0.02	
v/s Ratio Perm	0.21					0.01
v/c Ratio	0.33	0.19	0.46		0.14	0.07
Uniform Delay, d1	7.0	5.3	13.5		41.8	41.3
Progression Factor	1.01	0.71	0.38		1.00	1.00
Incremental Delay, d2	0.3	0.3	1.3		0.9	0.5
Delay (s)	7.3	4.1	6.4		42.7	41.8
Level of Service	A	A	A		D	D
Approach Delay (s)		5.5	6.4		42.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	130	147	356	47	54	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1833		1770	1583
Flt Permitted	0.40	1.00	1.00		0.95	1.00
Satd. Flow (perm)	743	1863	1833		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	160	387	51	59	116
RTOR Reduction (vph)	0	0	3	0	0	93
Lane Group Flow (vph)	141	160	435	0	59	23
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	84.0	84.0	69.4		24.0	24.0
Effective Green, g (s)	84.0	84.0	69.4		24.0	24.0
Actuated g/C Ratio	0.70	0.70	0.58		0.20	0.20
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	593	1304	1060		354	316
v/s Ratio Prot	c0.02	0.09	c0.24		c0.03	
v/s Ratio Perm	0.15					0.01
v/c Ratio	0.24	0.12	0.41		0.17	0.07
Uniform Delay, d1	7.2	5.9	14.0		39.7	39.0
Progression Factor	0.90	0.75	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.2	1.2		1.0	0.5
Delay (s)	6.6	4.6	15.2		40.7	39.4
Level of Service	A	A	B		D	D
Approach Delay (s)		5.6	15.2		39.9	
Approach LOS		A	B		D	

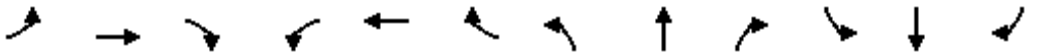
Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	70	131	391	23	6	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	142	425	25	7	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		369				
pX, platoon unblocked						
vC, conflicting volume	450				732	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	450				732	438
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				98	98
cM capacity (veh/h)	1110				362	619

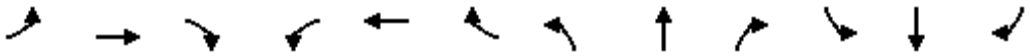
Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	76	142	450	20
Volume Left	76	0	0	7
Volume Right	0	0	25	13
cSH	1110	1700	1700	500
Volume to Capacity	0.07	0.08	0.26	0.04
Queue Length 95th (ft)	6	0	0	3
Control Delay (s)	8.5	0.0	0.0	12.5
Lane LOS	A			B
Approach Delay (s)	3.0		0.0	12.5
Approach LOS				B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		



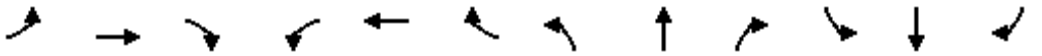
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	7	8	104	7	275	10	765	76	390	1283	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1763			1780	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.61			0.73	1.00	0.19	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)		1121			1351	1583	359	3539	1583	449	3539	1583
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)	47	8	9	113	8	299	11	832	83	424	1395	62
RTOR Reduction (vph)	0	6	0	0	0	259	0	0	39	0	0	13
Lane Group Flow (vph)	0	58	0	0	121	40	11	832	44	424	1395	49
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)		18.2			18.2	18.2	68.3	68.3	68.3	104.8	104.8	104.8
Effective Green, g (s)		18.2			18.2	18.2	68.3	68.3	68.3	104.8	104.8	104.8
Actuated g/C Ratio		0.13			0.13	0.13	0.51	0.51	0.51	0.78	0.78	0.78
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		151			182	213	181	1790	800	647	2747	1228
v/s Ratio Prot								0.24		c0.15	0.39	
v/s Ratio Perm		0.05			c0.09	0.03	0.03		0.03	c0.36		0.03
v/c Ratio		0.38			0.66	0.19	0.06	0.46	0.06	0.66	0.51	0.04
Uniform Delay, d1		53.3			55.5	51.8	17.0	21.5	17.0	9.6	5.6	3.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	2.25	0.44	0.39
Incremental Delay, d2		1.6			8.8	0.4	0.6	0.9	0.1	2.2	0.6	0.1
Delay (s)		54.9			64.3	52.3	17.6	22.4	17.1	23.9	3.1	1.4
Level of Service		D			E	D	B	C	B	C	A	A
Approach Delay (s)		54.9			55.8			21.9			7.7	
Approach LOS		D			E			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



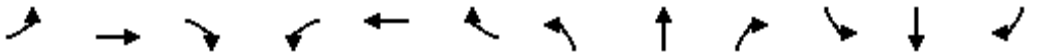
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	449	0	656	0	0	0	0	663	420	536	1074	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.0					6.0	4.0	5.0	6.0	
Lane Util. Factor	0.97		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	1770	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.14	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	267	3539	
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)	488	0	713	0	0	0	0	721	457	583	1167	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	488	0	713	0	0	0	0	721	457	583	1167	0
Turn Type	Prot		Free					NA	Free	pm+pt	NA	
Protected Phases	4							6		5	2 5	
Permitted Phases			Free						Free	2 5		
Actuated Green, G (s)	24.5		135.0					36.0	135.0	98.5	98.5	
Effective Green, g (s)	24.5		135.0					36.0	135.0	98.5	98.5	
Actuated g/C Ratio	0.18		1.00					0.27	1.00	0.73	0.73	
Clearance Time (s)	6.0							6.0		5.0		
Vehicle Extension (s)	3.0							4.0		5.0		
Lane Grp Cap (vph)	623		1583					943	1583	834	2582	
v/s Ratio Prot	c0.14							c0.20		c0.30	0.33	
v/s Ratio Perm			0.45						0.29	0.21		
v/c Ratio	0.78		0.45					0.76	0.29	0.70	0.45	
Uniform Delay, d1	52.7		0.0					45.6	0.0	22.4	7.4	
Progression Factor	1.00		1.00					0.73	1.00	1.00	0.25	
Incremental Delay, d2	6.4		0.9					5.4	0.4	3.1	0.4	
Delay (s)	59.1		0.9					38.9	0.4	25.6	2.2	
Level of Service	E		A					D	A	C	A	
Approach Delay (s)		24.6			0.0			24.0			10.0	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



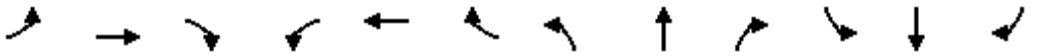
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	882	0	336	263	849	0	0	727	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0	6.0	6.0			6.0	4.0
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.25	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	462	3539			3539	1583
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)	0	0	0	959	0	365	286	923	0	0	790	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	959	0	365	286	923	0	0	790	248
Turn Type				Prot		Free	custom	NA			NA	Free
Protected Phases				4			1	1 6			2	
Permitted Phases						Free	6					Free
Actuated Green, G (s)				40.2		135.0	84.8	84.8			54.8	135.0
Effective Green, g (s)				40.2		135.0	84.8	84.8			54.8	135.0
Actuated g/C Ratio				0.30		1.00	0.63	0.63			0.41	1.00
Clearance Time (s)				4.0			6.0				6.0	
Vehicle Extension (s)				3.0			3.0				3.0	
Lane Grp Cap (vph)				1022		1583	522	2223			1436	1583
v/s Ratio Prot				c0.28			c0.10	0.26			0.22	
v/s Ratio Perm						0.23	c0.25					0.16
v/c Ratio				0.94		0.23	0.55	0.42			0.55	0.16
Uniform Delay, d1				46.2		0.0	28.4	12.6			30.7	0.0
Progression Factor				1.00		1.00	0.29	0.01			1.00	1.00
Incremental Delay, d2				15.3		0.3	0.9	0.1			1.5	0.2
Delay (s)				61.5		0.3	9.2	0.2			32.1	0.2
Level of Service				E		A	A	A			C	A
Approach Delay (s)		0.0			44.7			2.3			24.5	
Approach LOS		A			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	45	195	281	15	87	60	666	459	202	480	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	4.0		3.0	3.0	6.0	6.0	4.0	3.0	6.5	1.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1854	1583		1778	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		1.00	1.00		0.95	1.00	0.46	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)		1854	1583		1778	1583	854	3539	1583	517	3539	1583
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)	5	49	212	305	16	95	65	724	499	220	522	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	54	212	0	321	95	65	724	499	220	522	5
Turn Type	Split	NA	Free	Split	NA	Free	Perm	NA	Free	pm+pt	NA	Free
Protected Phases	4	4		3	3			2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Actuated Green, G (s)		8.7	135.0		29.1	135.0	59.8	59.8	135.0	78.7	78.7	135.0
Effective Green, g (s)		11.7	135.0		32.1	135.0	59.8	59.8	135.0	81.7	78.7	135.0
Actuated g/C Ratio		0.09	1.00		0.24	1.00	0.44	0.44	1.00	0.61	0.58	1.00
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		160	1583		422	1583	378	1567	1583	465	2063	1583
v/s Ratio Prot		0.03			c0.18			0.20		c0.06	0.15	
v/s Ratio Perm			0.13			0.06	0.08		c0.32	c0.23		0.00
v/c Ratio		0.34	0.13		0.76	0.06	0.17	0.46	0.32	0.47	0.25	0.00
Uniform Delay, d1		58.0	0.0		47.9	0.0	22.7	26.3	0.0	13.6	13.8	0.0
Progression Factor		1.00	1.00		1.00	1.00	0.64	0.68	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.3	0.2		7.9	0.1	0.9	0.9	0.5	0.8	0.3	0.0
Delay (s)		59.3	0.2		55.8	0.1	15.5	18.8	0.5	14.4	14.1	0.0
Level of Service		E	A		E	A	B	B	A	B	B	A
Approach Delay (s)		12.2			43.0			11.6			14.1	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

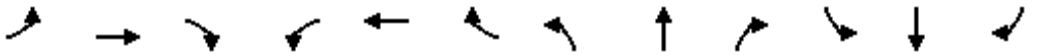


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	314	748	27	29	599	158	73	6	74	223	6	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3428			1781	1583		1776	1583
Flt Permitted	0.25	1.00	1.00	0.25	1.00			0.37	1.00		0.67	1.00
Satd. Flow (perm)	470	1863	1583	463	3428			686	1583		1248	1583
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)	341	813	29	32	651	172	79	7	80	242	7	368
RTOR Reduction (vph)	0	0	11	0	15	0	0	0	62	0	0	286
Lane Group Flow (vph)	341	813	18	32	808	0	0	86	18	0	249	82
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	96.7	88.1	88.1	76.7	74.1			31.3	31.3		31.3	31.3
Effective Green, g (s)	96.7	88.1	88.1	76.7	74.1			31.3	31.3		31.3	31.3
Actuated g/C Ratio	0.69	0.63	0.63	0.55	0.53			0.22	0.22		0.22	0.22
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	478	1172	996	277	1814			153	353		279	353
v/s Ratio Prot	c0.08	0.44		0.00	0.24							
v/s Ratio Perm	c0.41		0.01	0.06				0.13	0.01		c0.20	0.05
v/c Ratio	0.71	0.69	0.02	0.12	0.45			0.56	0.05		0.89	0.23
Uniform Delay, d1	11.7	17.1	9.7	16.5	20.3			48.3	42.7		52.7	44.5
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	5.0	3.4	0.0	0.2	0.8			4.7	0.1		28.0	0.3
Delay (s)	16.7	20.5	9.8	16.7	21.1			52.9	42.7		80.7	44.9
Level of Service	B	C	A	B	C			D	D		F	D
Approach Delay (s)		19.1			20.9			48.0			59.3	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

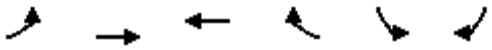
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	769	276	359	1537	223	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.96		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3399		1770	3539	1770	
Flt Permitted	1.00		0.14	1.00	0.95	
Satd. Flow (perm)	3399		262	3539	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	836	300	390	1671	242	0
RTOR Reduction (vph)	47	0	0	0	0	0
Lane Group Flow (vph)	1089	0	390	1671	242	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	6		5	2	4	
Permitted Phases			2			
Actuated Green, G (s)	30.1		48.1	48.1	13.9	
Effective Green, g (s)	30.1		48.1	48.1	13.9	
Actuated g/C Ratio	0.41		0.65	0.65	0.19	
Clearance Time (s)	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1382		414	2300	332	
v/s Ratio Prot	0.32		c0.15	0.47	c0.14	
v/s Ratio Perm			c0.46			
v/c Ratio	0.79		0.94	0.73	0.73	
Uniform Delay, d1	19.2		20.3	8.6	28.3	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	4.6		29.8	2.0	7.8	
Delay (s)	23.8		50.2	10.6	36.1	
Level of Service	C		D	B	D	
Approach Delay (s)	23.8			18.1	36.1	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	74.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



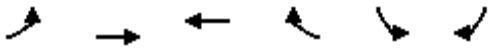
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	662	229	55	1165	59	355	70	77	461	270	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	0.97	1.00	1.00
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3403		1770	3514		1681	1712	1583	3433	1863	1583
Flt Permitted	0.07	1.00		0.27	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	128	3403		497	3514		1681	1712	1583	3433	1863	1583
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)	332	720	249	60	1266	64	386	76	84	501	293	408
RTOR Reduction (vph)	0	24	0	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	332	945	0	60	1327	0	228	234	84	501	293	408
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Free	Split	NA	Free
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases	6			2					Free			Free
Actuated Green, G (s)	79.0	69.0		56.0	52.0		18.4	18.4	140.0	24.6	24.6	140.0
Effective Green, g (s)	79.0	69.0		56.0	52.0		18.4	18.4	140.0	24.6	24.6	140.0
Actuated g/C Ratio	0.56	0.49		0.40	0.37		0.13	0.13	1.00	0.18	0.18	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.5	3.5		2.5	3.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	318	1677		235	1305		220	225	1583	603	327	1583
v/s Ratio Prot	c0.16	0.28		0.01	0.38		0.14	c0.14		0.15	c0.16	
v/s Ratio Perm	c0.43			0.09					0.05			0.26
v/c Ratio	1.04	0.56		0.26	1.02		1.04	1.04	0.05	0.83	0.90	0.26
Uniform Delay, d1	47.2	24.9		26.2	44.0		60.8	60.8	0.0	55.7	56.4	0.0
Progression Factor	1.00	1.00		1.29	1.10		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	62.4	1.4		0.2	23.5		70.5	70.8	0.1	9.3	25.3	0.4
Delay (s)	109.6	26.3		34.0	72.0		131.3	131.6	0.1	65.0	81.8	0.4
Level of Service	F	C		C	E		F	F	A	E	F	A
Approach Delay (s)		47.6			70.3			111.3			47.2	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM 2000 Control Delay	62.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



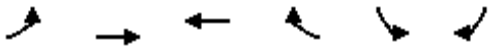
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	550	637	850	41	110	378
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1851		1770	1583
Flt Permitted	0.05	1.00	1.00		0.95	1.00
Satd. Flow (perm)	98	1863	1851		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	598	692	924	45	120	411
RTOR Reduction (vph)	0	0	2	0	0	371
Lane Group Flow (vph)	598	692	968	0	120	40
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6					4
Actuated Green, G (s)	114.3	114.3	70.0		13.7	13.7
Effective Green, g (s)	114.3	114.3	70.0		13.7	13.7
Actuated g/C Ratio	0.82	0.82	0.50		0.10	0.10
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	537	1521	925		173	154
v/s Ratio Prot	c0.30	0.37	0.52		c0.07	
v/s Ratio Perm	c0.60					0.03
v/c Ratio	1.11	0.45	1.05		0.69	0.26
Uniform Delay, d1	46.2	3.8	35.0		61.1	58.5
Progression Factor	0.85	0.32	0.52		1.00	1.00
Incremental Delay, d2	61.9	0.4	37.0		11.4	0.9
Delay (s)	101.0	1.6	55.2		72.5	59.4
Level of Service	F	A	E		E	E
Approach Delay (s)		47.7	55.2		62.3	
Approach LOS		D	E		E	

Intersection Summary			
HCM 2000 Control Delay	53.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	360	387	712	60	61	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1843		1770	1583
Flt Permitted	0.14	1.00	1.00		0.95	1.00
Satd. Flow (perm)	266	1863	1843		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	421	774	65	66	193
RTOR Reduction (vph)	0	0	2	0	0	171
Lane Group Flow (vph)	391	421	837	0	66	22
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	112.0	112.0	81.0		16.0	16.0
Effective Green, g (s)	112.0	112.0	81.0		16.0	16.0
Actuated g/C Ratio	0.80	0.80	0.58		0.11	0.11
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	481	1490	1066		202	180
v/s Ratio Prot	c0.15	0.23	0.45		c0.04	
v/s Ratio Perm	c0.50					0.01
v/c Ratio	0.81	0.28	0.79		0.33	0.12
Uniform Delay, d1	31.0	3.6	22.8		57.0	55.7
Progression Factor	1.28	0.99	1.00		1.00	1.00
Incremental Delay, d2	9.1	0.4	5.8		4.3	1.4
Delay (s)	49.0	4.0	28.6		61.3	57.1
Level of Service	D	A	C		E	E
Approach Delay (s)		25.7	28.6		58.2	
Approach LOS		C	C		E	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	131	316	754	6	6	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	142	343	820	7	7	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		369				
pX, platoon unblocked					0.97	
vC, conflicting volume	826				1451	823
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	826				1449	823
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				94	95
cM capacity (veh/h)	805				115	374

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	142	343	826	26
Volume Left	142	0	0	7
Volume Right	0	0	7	20
cSH	805	1700	1700	239
Volume to Capacity	0.18	0.20	0.49	0.11
Queue Length 95th (ft)	16	0	0	9
Control Delay (s)	10.4	0.0	0.0	21.9
Lane LOS	B			C
Approach Delay (s)	3.1		0.0	21.9
Approach LOS				C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	21	70	99	27	137	138	31	122	19	57	11
Average Queue (ft)	6	32	49	2	38	46	3	33	2	8	1
95th Queue (ft)	20	72	85	14	97	110	16	75	10	31	5
Link Distance (ft)	1748	1933			2571	2571			572	572	572
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)			0								
Queuing Penalty (veh)			0								

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	L	T	T	R	L	T
Maximum Queue (ft)	132	93	320	294	138	238	39
Average Queue (ft)	61	40	107	114	0	103	1
95th Queue (ft)	113	82	249	253	0	195	13
Link Distance (ft)		1404	572	572	572	387	387
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	285						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	L	T	T	T	T	R
Maximum Queue (ft)	236	207	289	89	117	173	111	287
Average Queue (ft)	87	94	140	22	30	77	37	10
95th Queue (ft)	177	174	256	65	80	144	94	98
Link Distance (ft)			387	387	387	621	621	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	355	355						500
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	90	412	125	238	101	106	46	70	149	149
Average Queue (ft)	33	137	21	72	29	49	2	14	84	93
95th Queue (ft)	72	263	96	150	76	96	16	46	144	160
Link Distance (ft)	882	1210			755	755				
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			100	250			255	180		
Storage Blk Time (%)	0	20	0	0						
Queuing Penalty (veh)	0	7	0	0						

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 O

Movement	EB	NB	SB
Directions Served	TR	LTR	TR
Maximum Queue (ft)	32	56	55
Average Queue (ft)	4	4	13
95th Queue (ft)	22	22	43
Link Distance (ft)	1555	1485	118
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	116	168	53	75
Average Queue (ft)	54	73	18	30
95th Queue (ft)	101	143	47	63
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LT	LT	R
Maximum Queue (ft)	25	31	49	51	48
Average Queue (ft)	6	7	11	25	17
95th Queue (ft)	22	28	37	53	43
Link Distance (ft)			285	1025	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	150			250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB
Directions Served	L	L
Maximum Queue (ft)	90	50
Average Queue (ft)	59	14
95th Queue (ft)	89	41
Link Distance (ft)	73	
Upstream Blk Time (%)	6	
Queuing Penalty (veh)	11	
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	L	T	R
Maximum Queue (ft)	152	177	53	155	182	93	67	113	56
Average Queue (ft)	48	54	17	69	78	26	16	29	19
95th Queue (ft)	103	112	45	141	147	66	47	63	59
Link Distance (ft)		385		2997		2496	298	298	298
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	130		100		160				
Storage Blk Time (%)	1			3	1				
Queuing Penalty (veh)	1			1	1				

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	75	78
Average Queue (ft)	24	24
95th Queue (ft)	63	52
Link Distance (ft)	2997	426
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	75	43
Average Queue (ft)	5	9
95th Queue (ft)	30	28
Link Distance (ft)	1908	788
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	79	26
Average Queue (ft)	4	7
95th Queue (ft)	22	26
Link Distance (ft)	284	1257
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	84	514	135	30	274	343	76	184	86	119	13
Average Queue (ft)	13	229	97	7	44	124	29	79	24	39	1
95th Queue (ft)	46	444	176	27	133	253	64	143	63	85	7
Link Distance (ft)	1748	1933			2571	2571			572	572	572
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)		28	0		0						
Queuing Penalty (veh)		58	0		0						

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	309	377	225	430	468	129	312	96	92
Average Queue (ft)	163	178	40	128	272	5	174	33	36
95th Queue (ft)	241	271	181	330	416	44	294	75	68
Link Distance (ft)		5457		572	572	572	389	389	389
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	285		200						
Storage Blk Time (%)		5	0						
Queuing Penalty (veh)		35	1						

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	T
Maximum Queue (ft)	358	379	389	128	69	94	279	284
Average Queue (ft)	180	225	24	36	5	11	170	102
95th Queue (ft)	321	337	168	82	28	49	274	182
Link Distance (ft)			1175	389	389	389	571	571
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	355	355						
Storage Blk Time (%)	1	0	0					
Queuing Penalty (veh)	1	0	0					

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	73	45	277	125	70	155	153	129	71	152	104
Average Queue (ft)	38	2	143	26	24	72	80	47	36	88	44
95th Queue (ft)	77	15	230	110	55	142	144	115	67	148	99
Link Distance (ft)	884		1224			327	327				
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		100		100	250			255	180		
Storage Blk Time (%)			25	0							
Queuing Penalty (veh)			11	0							

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 O

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	98	133	150
Average Queue (ft)	36	43	36
95th Queue (ft)	86	99	90
Link Distance (ft)	1555	1485	135
Upstream Blk Time (%)			2
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	190	321	76	77
Average Queue (ft)	112	137	32	37
95th Queue (ft)	179	298	68	64
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LT	LT	R
Maximum Queue (ft)	44	30	54	71	53
Average Queue (ft)	9	4	32	22	22
95th Queue (ft)	32	21	58	54	50
Link Distance (ft)			285	1025	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	150			250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB	SB
Directions Served	L	L	R
Maximum Queue (ft)	73	93	22
Average Queue (ft)	53	37	3
95th Queue (ft)	80	74	15
Link Distance (ft)	73		
Upstream Blk Time (%)	8		
Queuing Penalty (veh)	8		
Storage Bay Dist (ft)		150	200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Dominion Rd & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	154	403	124	438	182	113	86	174	246	258
Average Queue (ft)	112	198	29	249	106	41	11	78	111	96
95th Queue (ft)	180	382	87	395	175	87	51	148	201	182
Link Distance (ft)		386		2997		2496			304	304
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		3								
Storage Bay Dist (ft)	130		100		160		240	150		
Storage Blk Time (%)	6	13	0	28	3				4	
Queuing Penalty (veh)	27	30	0	13	4				4	

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	236	354
Average Queue (ft)	67	65
95th Queue (ft)	161	190
Link Distance (ft)	2997	426
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	96	40
Average Queue (ft)	10	11
95th Queue (ft)	49	27
Link Distance (ft)	1908	788
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	32	26
Average Queue (ft)	3	8
95th Queue (ft)	19	27
Link Distance (ft)	284	1257
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	68	123	126	36	324	620	109	162	74	88	23
Average Queue (ft)	19	40	66	8	138	193	23	67	12	25	3
95th Queue (ft)	49	87	112	31	274	341	82	132	45	65	13
Link Distance (ft)	1748	1933			2571	2571			572	572	572
Upstream Blk Time (%)						0					
Queuing Penalty (veh)						0					
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)		0	2		1	0		0			
Queuing Penalty (veh)		1	1		0	0		1			

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	223	248	133	457	462	173	375	21	11
Average Queue (ft)	90	98	6	224	219	15	199	1	1
95th Queue (ft)	178	197	62	440	447	118	341	10	6
Link Distance (ft)		1404		572	572	572	387	387	387
Upstream Blk Time (%)				0	0		1		
Queuing Penalty (veh)				1	1		2		
Storage Bay Dist (ft)	285		200						
Storage Blk Time (%)	0	1	0						
Queuing Penalty (veh)	0	2	0						

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	367	380	973	414	155	144	232	199	366
Average Queue (ft)	220	274	314	264	30	30	128	93	58
95th Queue (ft)	409	417	963	434	100	97	203	166	268
Link Distance (ft)			1175	387	387	387	1427	1427	
Upstream Blk Time (%)			4	2					
Queuing Penalty (veh)			0	11					
Storage Bay Dist (ft)	355	355							500
Storage Blk Time (%)	2	11	1						0
Queuing Penalty (veh)	8	50	7						0

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	101	37	335	125	184	171	190	134	112	158	157
Average Queue (ft)	34	1	171	33	75	81	96	37	52	101	110
95th Queue (ft)	77	23	282	123	142	151	164	101	100	169	176
Link Distance (ft)	882		1210			1427	1427				
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		100		100	250			255	180		
Storage Blk Time (%)	1		29	0	0					0	
Queuing Penalty (veh)	0		18	0	0					0	

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 O

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	66	67	79
Average Queue (ft)	12	13	22
95th Queue (ft)	43	45	60
Link Distance (ft)	1555	1485	118
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	1296	487	110	305
Average Queue (ft)	734	477	46	128
95th Queue (ft)	1438	484	85	245
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)		10		
Queuing Penalty (veh)		125		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	EB	EB	WB	WB	B16	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	T	LT	R	LT	R
Maximum Queue (ft)	114	20	4	175	327	1595	307	157	1061	275
Average Queue (ft)	46	1	0	117	291	1561	234	16	1030	265
95th Queue (ft)	87	20	5	250	313	1734	363	100	1068	299
Link Distance (ft)		476			209	1584	285		1025	
Upstream Blk Time (%)					93	9	60		97	
Queuing Penalty (veh)					1145	107	0		0	
Storage Bay Dist (ft)	150		150	150				150		250
Storage Blk Time (%)	0			0	92		80	0	14	90
Queuing Penalty (veh)	1			0	60		15	0	32	158

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB	NB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	91	86	158	24
Average Queue (ft)	75	22	126	1
95th Queue (ft)	84	66	180	11
Link Distance (ft)	73		142	
Upstream Blk Time (%)	96	0	8	
Queuing Penalty (veh)	220	0	82	
Storage Bay Dist (ft)		150		200
Storage Blk Time (%)		0	8	
Queuing Penalty (veh)		0	5	

Intersection: 10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	154	269	125	1553	185	2028	265	242	130	273
Average Queue (ft)	90	126	45	1237	177	1148	132	123	56	119
95th Queue (ft)	160	228	133	2048	212	2466	348	207	112	233
Link Distance (ft)		385		1538		2495		298	298	298
Upstream Blk Time (%)				31		10		0		1
Queuing Penalty (veh)				198		0		0		1
Storage Bay Dist (ft)	130		100		160		240			
Storage Blk Time (%)	2	7	0	77	82	0	0			
Queuing Penalty (veh)	7	15	0	44	94	1	0			

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	126	25	107
Average Queue (ft)	41	2	43
95th Queue (ft)	96	27	80
Link Distance (ft)	1388	1906	432
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	80	6	76
Average Queue (ft)	15	0	29
95th Queue (ft)	52	4	58
Link Distance (ft)	1906	284	788
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	73	6	35
Average Queue (ft)	18	0	11
95th Queue (ft)	54	5	32
Link Distance (ft)	284	498	1257
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	121	567	135	88	403	467	82	225	301	240	27
Average Queue (ft)	40	279	115	10	168	255	34	137	89	90	6
95th Queue (ft)	90	493	171	51	310	400	67	227	223	189	22
Link Distance (ft)	1748	2033			2558	2558			616	616	616
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)		34	4		3	0		4	0		
Queuing Penalty (veh)		92	12		0	0		31	0		

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	310	5438	225	520	537	378	339	140	126
Average Queue (ft)	186	3891	220	302	320	68	154	34	36
95th Queue (ft)	387	6305	271	519	535	259	293	99	99
Link Distance (ft)		5481		616	616	616	374	374	374
Upstream Blk Time (%)		25		1	1	0	0		
Queuing Penalty (veh)		0		4	4	1	1		
Storage Bay Dist (ft)	285		200						
Storage Blk Time (%)	0	38	17						
Queuing Penalty (veh)	0	344	77						

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	T
Maximum Queue (ft)	367	380	1794	246	165	220	336	292
Average Queue (ft)	349	377	1623	79	31	40	141	108
95th Queue (ft)	443	392	2195	197	171	187	308	244
Link Distance (ft)			1742	374	374	374	1409	1409
Upstream Blk Time (%)			42		1	1		
Queuing Penalty (veh)			0		4	6		
Storage Bay Dist (ft)	355	355						
Storage Blk Time (%)	6	38	2					
Queuing Penalty (veh)	20	131	19					

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	870	107	298	125	121	1244	1362	280	151	152	137
Average Queue (ft)	328	6	147	31	29	424	508	203	108	57	38
95th Queue (ft)	935	51	255	119	78	1186	1358	345	170	155	113
Link Distance (ft)	858		1267			1409	1409				
Upstream Blk Time (%)	27					1	9				
Queuing Penalty (veh)	0					7	58				
Storage Bay Dist (ft)		100		100	250			255	180		
Storage Blk Time (%)	42	0	26	0		1	1	43		0	
Queuing Penalty (veh)	82	0	26	0		1	5	139		0	

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 O

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	158	101	156
Average Queue (ft)	47	42	47
95th Queue (ft)	115	85	112
Link Distance (ft)	1555	1485	135
Upstream Blk Time (%)			1
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	3458	489	343	890
Average Queue (ft)	3379	478	88	461
95th Queue (ft)	3802	486	232	1053
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)	28	14	0	
Queuing Penalty (veh)	299	310	2	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	EB	WB	WB	B16	NB	NB	SB	SB
Directions Served	L	T	L	TR	T	LT	R	LT	R
Maximum Queue (ft)	119	277	174	326	1596	311	158	1062	275
Average Queue (ft)	43	21	36	290	1503	283	24	1034	266
95th Queue (ft)	89	184	151	312	1903	324	124	1052	311
Link Distance (ft)		476		209	1584	285		1025	
Upstream Blk Time (%)		3		94	12	97		100	
Queuing Penalty (veh)		37		1993	252	0		0	
Storage Bay Dist (ft)	150		150				150		250
Storage Blk Time (%)	0	4	0	92		98	0	27	79
Queuing Penalty (veh)	1	15	0	23		70	0	95	239

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB	NB	SB	SB	B16	B16
Directions Served	L	L	T	T	R	T	
Maximum Queue (ft)	90	175	335	1467	182	219	20
Average Queue (ft)	70	128	244	214	10	18	1
95th Queue (ft)	100	245	428	1047	82	124	20
Link Distance (ft)	73		188	1584		209	209
Upstream Blk Time (%)	83	1	67	7		5	0
Queuing Penalty (veh)	145	0	1480	91		31	0
Storage Bay Dist (ft)		150			200		
Storage Blk Time (%)		0	72	15	0		
Queuing Penalty (veh)		4	179	40	0		

Intersection: 10: Dominion Rd & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	155	453	124	1487	185	870	265	175	325	274
Average Queue (ft)	96	336	43	795	181	589	158	150	307	126
95th Queue (ft)	194	524	121	1798	197	981	357	244	330	267
Link Distance (ft)		336		1544		1245			304	304
Upstream Blk Time (%)		29		12					51	1
Queuing Penalty (veh)		368		184					296	5
Storage Bay Dist (ft)	130		100		160		240	150		
Storage Blk Time (%)	4	46	7	52	77	0	0	49	24	
Queuing Penalty (veh)	37	148	106	62	166	1	0	129	120	

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	220	1921	443
Average Queue (ft)	57	1791	435
95th Queue (ft)	148	2273	442
Link Distance (ft)	1382	1906	432
Upstream Blk Time (%)		19	93
Queuing Penalty (veh)		159	439
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	98	296	816
Average Queue (ft)	18	220	494
95th Queue (ft)	65	408	1021
Link Distance (ft)	1906	284	788
Upstream Blk Time (%)		20	41
Queuing Penalty (veh)		146	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	WB	B42	SB
Directions Served	LT	TR	T	LR
Maximum Queue (ft)	91	582	1055	101
Average Queue (ft)	17	319	388	29
95th Queue (ft)	60	743	1306	85
Link Distance (ft)	284	498	1670	1257
Upstream Blk Time (%)		38	2	
Queuing Penalty (veh)		296	13	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	21	70	99	27	137	138	31	122	19	57	11
Average Queue (ft)	6	32	49	2	38	46	3	33	2	8	1
95th Queue (ft)	20	72	85	14	97	110	16	75	10	31	5
Link Distance (ft)	1748	1933			2571	2571			572	572	572
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)			0								
Queuing Penalty (veh)			0								

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	L	T	T	R	L	T
Maximum Queue (ft)	132	93	320	294	138	238	39
Average Queue (ft)	61	40	107	114	0	103	1
95th Queue (ft)	113	82	249	253	0	195	13
Link Distance (ft)		1404	572	572	572	387	387
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	285						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	L	T	T	T	T	R
Maximum Queue (ft)	236	207	289	89	117	173	111	287
Average Queue (ft)	87	94	140	22	30	77	37	10
95th Queue (ft)	177	174	256	65	80	144	94	98
Link Distance (ft)			387	387	387	621	621	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	355	355						500
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	90	412	125	238	101	106	46	70	149	149
Average Queue (ft)	33	137	21	72	29	49	2	14	84	93
95th Queue (ft)	72	263	96	150	76	96	16	46	144	160
Link Distance (ft)	882	1210			755	755				
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			100	250			255	180		
Storage Blk Time (%)	0	20	0	0						
Queuing Penalty (veh)	0	7	0	0						

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 C

Movement	EB	NB	SB
Directions Served	TR	LTR	TR
Maximum Queue (ft)	32	56	55
Average Queue (ft)	4	4	13
95th Queue (ft)	22	22	43
Link Distance (ft)	1555	1485	118
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	116	168	53	75
Average Queue (ft)	54	73	18	30
95th Queue (ft)	101	143	47	63
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LT	LT	R
Maximum Queue (ft)	25	31	49	51	48
Average Queue (ft)	6	7	11	25	17
95th Queue (ft)	22	28	37	53	43
Link Distance (ft)			285	1025	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	150			250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB
Directions Served	L	L
Maximum Queue (ft)	90	50
Average Queue (ft)	59	14
95th Queue (ft)	89	41
Link Distance (ft)	73	
Upstream Blk Time (%)	6	
Queuing Penalty (veh)	11	
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	L	T	R
Maximum Queue (ft)	152	177	53	155	182	93	67	113	56
Average Queue (ft)	48	54	17	69	78	26	16	29	19
95th Queue (ft)	103	112	45	141	147	66	47	63	59
Link Distance (ft)		385		2997		2496	298	298	298
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	130		100		160				
Storage Blk Time (%)	1			3	1				
Queuing Penalty (veh)	1			1	1				

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	75	78
Average Queue (ft)	24	24
95th Queue (ft)	63	52
Link Distance (ft)	2997	426
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	75	43
Average Queue (ft)	5	9
95th Queue (ft)	30	28
Link Distance (ft)	1908	788
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	79	26
Average Queue (ft)	4	7
95th Queue (ft)	22	26
Link Distance (ft)	284	1257
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	84	514	135	30	274	343	76	184	86	119	13
Average Queue (ft)	13	229	97	7	44	124	29	79	24	39	1
95th Queue (ft)	46	444	176	27	133	253	64	143	63	85	7
Link Distance (ft)	1748	1933			2571	2571			572	572	572
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)		28	0		0						
Queuing Penalty (veh)		58	0		0						

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	309	377	225	430	468	129	312	96	92
Average Queue (ft)	163	178	40	128	272	5	174	33	36
95th Queue (ft)	241	271	181	330	416	44	294	75	68
Link Distance (ft)		5457		572	572	572	389	389	389
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	285		200						
Storage Blk Time (%)		5	0						
Queuing Penalty (veh)		35	1						

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	T
Maximum Queue (ft)	358	379	389	128	69	94	279	284
Average Queue (ft)	180	225	24	36	5	11	170	102
95th Queue (ft)	321	337	168	82	28	49	274	182
Link Distance (ft)			1175	389	389	389	571	571
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	355	355						
Storage Blk Time (%)	1	0	0					
Queuing Penalty (veh)	1	0	0					

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	73	45	277	125	70	155	153	129	71	152	104
Average Queue (ft)	38	2	143	26	24	72	80	47	36	88	44
95th Queue (ft)	77	15	230	110	55	142	144	115	67	148	99
Link Distance (ft)	884		1224			327	327				
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		100		100	250			255	180		
Storage Blk Time (%)			25	0							
Queuing Penalty (veh)			11	0							

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 C

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	98	133	150
Average Queue (ft)	36	43	36
95th Queue (ft)	86	99	90
Link Distance (ft)	1555	1485	135
Upstream Blk Time (%)			2
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	190	321	76	77
Average Queue (ft)	112	137	32	37
95th Queue (ft)	179	298	68	64
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LT	LT	R
Maximum Queue (ft)	44	30	54	71	53
Average Queue (ft)	9	4	32	22	22
95th Queue (ft)	32	21	58	54	50
Link Distance (ft)			285	1025	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	150			250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB	SB
Directions Served	L	L	R
Maximum Queue (ft)	73	93	22
Average Queue (ft)	53	37	3
95th Queue (ft)	80	74	15
Link Distance (ft)	73		
Upstream Blk Time (%)	8		
Queuing Penalty (veh)	8		
Storage Bay Dist (ft)		150	200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Dominion Rd & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	154	403	124	438	182	113	86	174	246	258
Average Queue (ft)	112	198	29	249	106	41	11	78	111	96
95th Queue (ft)	180	382	87	395	175	87	51	148	201	182
Link Distance (ft)		386		2997		2496			304	304
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		3								
Storage Bay Dist (ft)	130		100		160		240	150		
Storage Blk Time (%)	6	13	0	28	3				4	
Queuing Penalty (veh)	27	30	0	13	4				4	

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	236	354
Average Queue (ft)	67	65
95th Queue (ft)	161	190
Link Distance (ft)	2997	426
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	96	40
Average Queue (ft)	10	11
95th Queue (ft)	49	27
Link Distance (ft)	1908	788
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	32	26
Average Queue (ft)	3	8
95th Queue (ft)	19	27
Link Distance (ft)	284	1257
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	68	123	126	36	324	620	109	162	74	88	23
Average Queue (ft)	19	40	66	8	138	193	23	67	12	25	3
95th Queue (ft)	49	87	112	31	274	341	82	132	45	65	13
Link Distance (ft)	1748	1933			2571	2571			572	572	572
Upstream Blk Time (%)						0					
Queuing Penalty (veh)						0					
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)		0	2		1	0		0			
Queuing Penalty (veh)		1	1		0	0		1			

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	223	248	133	457	462	173	375	21	11
Average Queue (ft)	90	98	6	224	219	15	199	1	1
95th Queue (ft)	178	197	62	440	447	118	341	10	6
Link Distance (ft)		1404		572	572	572	387	387	387
Upstream Blk Time (%)				0	0		1		
Queuing Penalty (veh)				1	1		2		
Storage Bay Dist (ft)	285		200						
Storage Blk Time (%)	0	1	0						
Queuing Penalty (veh)	0	2	0						

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	367	380	973	414	155	144	232	199	366
Average Queue (ft)	220	274	314	264	30	30	128	93	58
95th Queue (ft)	409	417	963	434	100	97	203	166	268
Link Distance (ft)			1175	387	387	387	1427	1427	
Upstream Blk Time (%)			4	2					
Queuing Penalty (veh)			0	11					
Storage Bay Dist (ft)	355	355							500
Storage Blk Time (%)	2	11	1						0
Queuing Penalty (veh)	8	50	7						0

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	101	37	335	125	184	171	190	134	112	158	157
Average Queue (ft)	34	1	171	33	75	81	96	37	52	101	110
95th Queue (ft)	77	23	282	123	142	151	164	101	100	169	176
Link Distance (ft)	882		1210			1427	1427				
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		100		100	250			255	180		
Storage Blk Time (%)	1		29	0	0					0	
Queuing Penalty (veh)	0		18	0	0					0	

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 C

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	66	67	79
Average Queue (ft)	12	13	22
95th Queue (ft)	43	45	60
Link Distance (ft)	1555	1485	118
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	1296	487	110	305
Average Queue (ft)	734	477	46	128
95th Queue (ft)	1438	484	85	245
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)		10		
Queuing Penalty (veh)		125		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	EB	EB	WB	WB	B16	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	T	LT	R	LT	R
Maximum Queue (ft)	114	20	4	175	327	1595	307	157	1061	275
Average Queue (ft)	46	1	0	117	291	1561	234	16	1030	265
95th Queue (ft)	87	20	5	250	313	1734	363	100	1068	299
Link Distance (ft)		476			209	1584	285		1025	
Upstream Blk Time (%)					93	9	60		97	
Queuing Penalty (veh)					1145	107	0		0	
Storage Bay Dist (ft)	150		150	150				150		250
Storage Blk Time (%)	0			0	92		80	0	14	90
Queuing Penalty (veh)	1			0	60		15	0	32	158

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB	NB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	91	86	158	24
Average Queue (ft)	75	22	126	1
95th Queue (ft)	84	66	180	11
Link Distance (ft)	73		142	
Upstream Blk Time (%)	96	0	8	
Queuing Penalty (veh)	220	0	82	
Storage Bay Dist (ft)		150		200
Storage Blk Time (%)		0	8	
Queuing Penalty (veh)		0	5	

Intersection: 10: MD Route 552 (Dominion Rd) & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	154	269	125	1553	185	2028	265	242	130	273
Average Queue (ft)	90	126	45	1237	177	1148	132	123	56	119
95th Queue (ft)	160	228	133	2048	212	2466	348	207	112	233
Link Distance (ft)		385		1538		2495		298	298	298
Upstream Blk Time (%)				31		10		0		1
Queuing Penalty (veh)				198		0		0		1
Storage Bay Dist (ft)	130		100		160		240			
Storage Blk Time (%)	2	7	0	77	82	0	0			
Queuing Penalty (veh)	7	15	0	44	94	1	0			

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	126	25	107
Average Queue (ft)	41	2	43
95th Queue (ft)	96	27	80
Link Distance (ft)	1388	1906	432
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	80	6	76
Average Queue (ft)	15	0	29
95th Queue (ft)	52	4	58
Link Distance (ft)	1906	284	788
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	73	6	35
Average Queue (ft)	18	0	11
95th Queue (ft)	54	5	32
Link Distance (ft)	284	498	1257
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 1: MD 8 (Romancoke Road) & Pier 1 Road/Thompson Creek Road

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	121	567	135	88	403	467	82	225	301	240	27
Average Queue (ft)	40	279	115	10	168	255	34	137	89	90	6
95th Queue (ft)	90	493	171	51	310	400	67	227	223	189	22
Link Distance (ft)	1748	2033			2558	2558			616	616	616
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			110	245			510	205			
Storage Blk Time (%)		34	4		3	0		4	0		
Queuing Penalty (veh)		92	12		0	0		31	0		

Intersection: 2: MD 8 (Romancoke Road) & US Route 50 Off-Ramp/US Route 50 On-Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	310	5438	225	520	537	378	339	140	126
Average Queue (ft)	186	3891	220	302	320	68	154	34	36
95th Queue (ft)	387	6305	271	519	535	259	293	99	99
Link Distance (ft)		5481		616	616	616	374	374	374
Upstream Blk Time (%)		25		1	1	0	0		
Queuing Penalty (veh)		0		4	4	1	1		
Storage Bay Dist (ft)	285		200						
Storage Blk Time (%)	0	38	17						
Queuing Penalty (veh)	0	344	77						

Intersection: 3: MD 8 (Romancoke Road) & US Route 50 On-Ramp/US Route 50 Off-ramp

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	T
Maximum Queue (ft)	367	380	1794	246	165	220	336	292
Average Queue (ft)	349	377	1623	79	31	40	141	108
95th Queue (ft)	443	392	2195	197	171	187	308	244
Link Distance (ft)			1742	374	374	374	1409	1409
Upstream Blk Time (%)			42		1	1		
Queuing Penalty (veh)			0		4	6		
Storage Bay Dist (ft)	355	355						
Storage Blk Time (%)	6	38	2					
Queuing Penalty (veh)	20	131	19					

Intersection: 4: MD 8 (Romancoke Road) & Skipjack Parkway /MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	870	107	298	125	121	1244	1362	280	151	152	137
Average Queue (ft)	328	6	147	31	29	424	508	203	108	57	38
95th Queue (ft)	935	51	255	119	78	1186	1358	345	170	155	113
Link Distance (ft)	858		1267			1409	1409				
Upstream Blk Time (%)	27					1	9				
Queuing Penalty (veh)	0					7	58				
Storage Bay Dist (ft)		100		100	250			255	180		
Storage Blk Time (%)	42	0	26	0		1	1	43		0	
Queuing Penalty (veh)	82	0	26	0		1	5	139		0	

Intersection: 5: Thompson Creek Road /US Route 50 On-Ramp & Thompson Creek Road/US Route 50 C

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	158	101	156
Average Queue (ft)	47	42	47
95th Queue (ft)	115	85	112
Link Distance (ft)	1555	1485	135
Upstream Blk Time (%)			1
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Castle Marina Road & MD 18 (Main Street)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	3458	489	343	890
Average Queue (ft)	3379	478	88	461
95th Queue (ft)	3802	486	232	1053
Link Distance (ft)	3448	476	784	2399
Upstream Blk Time (%)	28	14	0	
Queuing Penalty (veh)	299	310	2	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: MD 18 (Main Street) & Piney Creek Rd

Movement	EB	EB	WB	WB	B16	NB	NB	SB	SB
Directions Served	L	T	L	TR	T	LT	R	LT	R
Maximum Queue (ft)	119	277	174	326	1596	311	158	1062	275
Average Queue (ft)	43	21	36	290	1503	283	24	1034	266
95th Queue (ft)	89	184	151	312	1903	324	124	1052	311
Link Distance (ft)		476		209	1584	285		1025	
Upstream Blk Time (%)		3		94	12	97		100	
Queuing Penalty (veh)		37		1993	252	0		0	
Storage Bay Dist (ft)	150		150				150		250
Storage Blk Time (%)	0	4	0	92		98	0	27	79
Queuing Penalty (veh)	1	15	0	23		70	0	95	239

Intersection: 8: MD 18 (Main Street)

Movement	EB	NB	NB	SB	SB	B16	B16
Directions Served	L	L	T	T	R	T	
Maximum Queue (ft)	90	175	335	1467	182	219	20
Average Queue (ft)	70	128	244	214	10	18	1
95th Queue (ft)	100	245	428	1047	82	124	20
Link Distance (ft)	73		188	1584		209	209
Upstream Blk Time (%)	83	1	67	7		5	0
Queuing Penalty (veh)	145	0	1480	91		31	0
Storage Bay Dist (ft)		150			200		
Storage Blk Time (%)		0	72	15	0		
Queuing Penalty (veh)		4	179	40	0		

Intersection: 10: Dominion Rd & MD 18 (Main Street)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	155	453	124	1487	185	870	265	175	325	274
Average Queue (ft)	96	336	43	795	181	589	158	150	307	126
95th Queue (ft)	194	524	121	1798	197	981	357	244	330	267
Link Distance (ft)		336		1544		1245			304	304
Upstream Blk Time (%)		29		12					51	1
Queuing Penalty (veh)		368		184					296	5
Storage Bay Dist (ft)	130		100		160		240	150		
Storage Blk Time (%)	4	46	7	52	77	0	0	49	24	
Queuing Penalty (veh)	37	148	106	62	166	1	0	129	120	

Intersection: 11: MD 18 (Main Street) & S. Piney Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	220	1921	443
Average Queue (ft)	57	1791	435
95th Queue (ft)	148	2273	442
Link Distance (ft)	1382	1906	432
Upstream Blk Time (%)		19	93
Queuing Penalty (veh)		159	439
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: MD 18 (Main Street) & Shamrock Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	98	296	816
Average Queue (ft)	18	220	494
95th Queue (ft)	65	408	1021
Link Distance (ft)	1906	284	788
Upstream Blk Time (%)		20	41
Queuing Penalty (veh)		146	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: MD 18 (Main Street) & Dundee Avenue

Movement	EB	WB	B42	SB
Directions Served	LT	TR	T	LR
Maximum Queue (ft)	91	582	1055	101
Average Queue (ft)	17	319	388	29
95th Queue (ft)	60	743	1306	85
Link Distance (ft)	284	498	1670	1257
Upstream Blk Time (%)		38	2	
Queuing Penalty (veh)		296	13	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

APPENDIX E – DETAILED LOS TABLES

Summary of Intersection Capacity Analysis Results
Level of Service (Delay, Seconds per Vehicle)

Intersection		Existing AM		Existing PM		2020 Without Improvements AM		2020 Without Improvements PM		2020 With Improvements AM		2020 With Improvements PM		2030 Without Improvements AM		2030 Without Improvements PM		2030 With Improvements AM		2030 With Improvements PM	
Approach	**Movement**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
MD 8 at Pier 1 Road/ Thompson Creek Road (Signalized)																					
Eastbound *(Pier 1 Road)*	LTR	42.9	D	42.9	D	43.0	D	33.5	C	43.0	D	33.5	C	42.9	D	41.7	D	VISSIM Analysis			
	Overall	*42.9*	D	*42.9*	D	*43.0*	D	*33.5*	C	*43.0*	D	*33.5*	C	*42.9*	D	*41.7*	D				
Westbound *(Thompson Creek Road)*	LT	44.8	D	65.9	E	44.6	D	78.4	E	44.6	D	78.4	E	44.5	D	69.3	E				
	R	43.0	D	44.2	D	42.1	D	32.2	C	42.1	D	32.2	C	42.2	D	42.4	D				
	Overall	*43.3*	D	*55.0*	F	*42.7*	D	*57.4*	E	*42.7*	D	*57.4*	E	*42.6*	D	*55.5*	E				
Northbound *(MD 8)*	L	3.2	A	11.7	B	4.1	A	11.9	B	4.1	A	11.9	B	4.8	A	23.1	C				
	T	5.0	A	13.7	B	7.7	A	15.3	B	7.7	A	15.3	B	9.5	A	31.8	C				
	R	3.4	A	12.1	B	4.4	A	11.8	B	4.4	A	11.8	B	5.0	A	22.3	C				
	Overall	*4.8*	A	*13.4*	B	*7.4*	A	*14.8*	B	*7.4*	A	*14.8*	B	*9.1*	A	*30.6*	C				
Southbound *(MD 8)*	L	1.9	A	4.3	A	21.6	C	20.9	C	21.6	C	19.3	B	34.1	C	48.9	D				
	T	0.9	A	3.4	A	1.1	A	5.4	A	1.1	A	4.3	A	1.1	A	6.7	A				
	R	0.5	A	1.0	A	0.3	A	5.3	A	0.3	A	2.6	A	0.6	A	2.6	A				
	Overall	*1.1*	A	*3.6*	A	*4.2*	A	*8.7*	A	4.2	A	7.4	A	*7.4*	A	*15.5*	B				
Overall Intersection		**8.3**	**A**	**16.7**	**B**	**10.0**	**A**	**18.4**	**B**	**10.0**	**A**	**17.7**	**B**	**12.0**	**B**	**26.5**	**C**	**5.3**	**A**	**10.0**	**A**
MD 8 at US 50 EB Ramps (Signalized)																					
Eastbound *(US 50 EB Off Ramp)*	L	38.5	D	53.7	D	38.5	D	37.2	D	38.5	D	35.6	D	38.1	D	52.9	D	VISSIM Analysis			
	R	0.1	A	0.5	A	0.1	A	0.9	A	0.1	A	0.9	A	0.1	A	0.9	A				
	Overall	*27.3*	C	*24.8*	C	*21.3*	C	*14.6*	B	21.3	C	14.0	B	*22.5*	C	*22.1*	C				
Northbound *(MD 8)*	T	12.4	B	33.8	C	13.0	B	9.6	A	13.0	B	13.7	B	13.8	B	42.2	D				
	R	0.2	A	0.2	A	0.4	A	0.4	A	0.4	A	0.4	A	0.4	A	0.4	A				
	Overall	*10.1*	*B*	*23.8*	*C*	*9.7*	*A*	*6.2*	*A*	*9.7*	*A*	*8.7*	*A*	*10.4*	*B*	*27.3*	*C*				
Southbound *(MD 8)*	L	31.2	C	5.7	A	54.0	D	19.8	B	54.0	D	22.2	C	58.8	E	30.0	C				
	T	0.1	A	2.3	A	0.1	A	0.4	A	0.1	A	2.1	A	0.2	A	2.9	A				
	Overall	*13.4*	B	*3.6*	A	*20.1*	C	*6.9*	A	20.1	C	8.8	A	*19.6*	B	*11.4*	B				
Overall Intersection		**13.3**	**B**	**15.8**	**B**	**14.3**	**B**	**9.0**	**A**	**14.3**	**B**	**10.3**	**B**	**14.8**	**B**	**19.2**	**B**	**17.4**	**B**	**18.2**	**B**
MD 8 at US 50 WB Ramps (Signalized)																					
Westbound *(US 50 WB Off Ramp)*	L	38.3	D	51.8	D	39.3	D	28.6	C	39.3	D	28.6	C	42.8	D	51.7	D	VISSIM Analysis			
	R	0.3	A	0.1	A	0.4	A	0.2	A	0.4	A	0.2	A	0.5	A	0.3	A				
	Overall	*18.7*	*B*	*40.3*	*D*	*21.2*	*C*	*22.5*	*C*	*21.2*	*C*	*22.5*	*C*	*23.7*	*C*	*37.7*	*D*				
Northbound *(MD 8)*	L	11.5	B	1.9	A	17.4	B	24.6	C	17.4	B	10.0	A	17.9	B	16.6	B				
	T	0.3	A	0.6	A	0.2	A	9.8	A	0.2	A	1.8	A	0.2	A	0.2	A				
	Overall	*5.9*	*A*	*0.8*	*A*	*9.3*	*A*	*13.6*	*B*	*9.3*	*A*	*3.9*	*A*	*8.7*	*A*	*3.6*	*A*				
Southbound *(MD 8)*	T	17.6	B	10.5	B	24.4	C	28.3	C	24.4	C	28.3	C	26.1	C	27.4	C				
	R	0.4	A	0.2	A	0.4	A	0.2	A	0.4	A	0.2	A	0.4	A	0.2	A				
	Overall	*8.7*	*A*	*7.9*	*A*	*12.5*	*B*	*21.6*	*C*	*12.5*	*B*	*21.6*	*C*	*13.9*	*B*	*21.5*	*C*				
Overall Intersection		**10.1**	**B**	**14.1**	**B**	**13.4**	**B**	**19.0**	**B**	**13.4**	**B**	**15.6**	**B**	**14.5**	**B**	**20.8**	**C**	**10.7**	**B**	**27.7**	**C**

Summary of Intersection Capacity Analysis Results
Level of Service (Delay, Seconds per Vehicle)

Intersection		Existing AM		Existing PM		2020 Without Improvements AM		2020 Without Improvements PM		2020 With Improvements AM		2020 With Improvements PM		2030 Without Improvements AM		2030 Without Improvements PM		2030 With Improvements AM		2030 With Improvements PM	
Approach	**Movement**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
MD 8 at Skipjack Parkway/ MD 18 (Main Street) (Signalized)																					
Eastbound *(Skipjack Parkway)*	LT	56.6	E	33.3	C	58.9	E	60.3	E	58.9	E	60.3	E	59.2	E	46.2	D	VISSIM Analysis			
	R	0.0	A	0.2	A	0.0	A	0.2	A	0.0	A	0.2	A	0.0	A	0.2	A				
	Overall	*21.1*	*C*	*6.9*	*A*	*21.9*	*C*	*12.4*	*B*	*21.9*	*C*	*12.4*	*B*	*22.1*	*C*	*9.5*	*A*				
Westbound *(Main Street)*	LT	50.5	D	28.3	C	52.8	D	56.2	E	52.8	D	56.2	E	52.7	D	32.8	C				
	R	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.1	A	0.1	A				
	Overall	*43.5*	*D*	*24.5*	*C*	*45.6*	*D*	*48.3*	*D*	*45.6*	*D*	*48.3*	*D*	*43.3*	*D*	*26.1*	*C*				
Northbound *(MD 8)*	L	9.2	A	12.7	B	10.8	B	15.0	B	10.8	B	15.0	B	11.6	B	21.4	C				
	T	13.1	B	20.3	C	15.0	B	22.8	C	15.0	B	22.8	C	18.9	B	35.0	F				
	R	0.2	A	19.3	B	14.3	B	22.4	C	14.3	B	22.4	C	18.5	B	31.1	C				
	Overall	*8.7*	*A*	*19.3*	*B*	*13.9*	*B*	*22.2*	*C*	*13.9*	*B*	*22.2*	*C*	*17.4*	*B*	*32.6*	*C*				
Southbound *(MD 8)*	L	10.7	B	12.9	B	12.1	B	13.8	B	12.1	B	13.8	B	12.1	B	24.3	C				
	T	16.8	B	19.3	B	18.9	B	20.4	C	18.9	B	20.4	C	20.1	C	26.1	C				
	R	0.0	A	17.4	B	15.7	B	17.6	B	15.7	B	17.6	B	16.5	B	22.2	C				
	Overall	*16.2*	*B*	*18.2*	*B*	*18.4*	*B*	*19.3*	*B*	*18.4*	*B*	*19.3*	*B*	*18.5*	*B*	*25.5*	*C*				
Overall Intersection		**16.6**	**B**	**18.4**	**B**	**20.7**	**C**	**25.5**	**C**	**20.7**	**C**	**25.5**	**C**	**21.9**	**C**	**27.6**	**C**	**12.7**	**B**	**19.0**	**B**
MD 18 at Piney Creek Rd (Signalized in Build Condition)																					
Eastbound *(MD 18)*	L	9.0	A	9.7	A	10.1	B	13.4	B	10.4	B	44.5	D	16.9	C	281.8	F	15.6	B	16.7	B
	T	-	-	-	-	-	-	-	-	8.2	A	9.4	A	-	-	-	-	25.5	C	20.5	C
	R	-	-	-	-	-	-	-	-	6.4	A	4.8	A	-	-	-	-	17.6	B	9.8	A
	Overall	-	-	-	-	-	-	-	-	*8.0*	*A*	*11.2*	*B*	-	-	-	-	*21.8*	*C*	*19.1*	*B*
Westbound *(MD 18)*	L	8.0	A	8.9	A	8.2	A	9.3	A	5.2	A	4.7	A	8.7	A	10.2	B	19.7	B	16.7	B
	TR	-	-	-	-	-	-	-	-	15.5	B	47.4	D	-	-	-	-	25.2	C	21.1	C
	Overall	-	-	-	-	-	-	-	-	14.9	B	46.6	D	-	-	-	-	*24.5*	*C*	*20.9*	C
Northbound *(Piney Creek)*	TL	-	-	-	-	-	-	-	-	47.4	D	112.9	F	-	-	-	-	47.2	D	52.9	D
	R	-	-	-	-	-	-	-	-	44.4	D	55.7	E	-	-	-	-	45.3	D	42.7	D
	Overall	*22.9*	*C*	*57.7*	*F*	*51.5*	*F*	*Err*	*F*	*46.4*	*D*	*86.7*	*F*	*Err*	*F*	*Err*	*F*	*46.4*	*D*	*48.0*	*D*
Southbound *(Piney Creek)*	LT	-	-	-	-	-	-	-	-	57.5	E	128.2	F	-	-	-	-	51.0	D	80.7	F
	R	-	-	-	-	-	-	-	-	44.6	D	55.3	E	-	-	-	-	43.9	D	44.9	D
	Overall	*24.2*	*C*	*62.4*	*F*	*122.8*	*F*	*Err*	*F*	*53.8*	*D*	*111.8*	*F*	*Err*	*F*	*Err*	*F*	*46.6*	*D*	*59.3*	*E*
Overall Intersection		**2.6**	**A**	**6.9**	**A**	**12.3**	**B**	**1274.2**	**F**	**17.1**	**B**	**42.3**	**D**	**Err**	**F**	**Err**	**F**	**28.6**	**C**	**30.2**	**C**
MD 18 at Postal Rd (Signalized in Build Condition)																					
Eastbound *(Postal Rd)*	L	34.3	D	319.4	F	155.1	F	Err	F	25.9	C	97.5	F	Err	F	Err	F	54.5	D	36.1	D
Northbound *(MD 18)*	L	8.2	A	10.2	B	8.5	A	12.0	B	5.2	A	11.4	B	9.5	A	19.5	C	2.2	A	50.2	D
	T	-	-	-	-	-	-	-	-	11.2	B	32.0	C	-	-	-	-	2.5	A	10.6	B
	Overall	-	-	-	-	-	-	-	-	*10.8*	B	*29.3*	C	-	-	-	-	*2.5*	*A*	*18.1*	*B*
Southbound *(MD 18)*	T	-	-	-	-	-	-	-	-	12.8	B	14.6	B	-	-	-	-	3.0	A	23.8	C
	R	-	-	-	-	-	-	-	-	9.5	A	19.4	B	-	-	-	-		A		A
	Overall	-	-	-	-	-	-	-	-	*12.0*	B	*15.7*	B	-	-	-	-	*3.0*	*A*	*23.8*	*C*
Overall Intersection		**5.5**	**A**	**19.6**	**C**	**19.5**	**C**	**443.7**	**F**	**13.1**	**B**	**27.6**	**C**	**1157.0**	**F**	**476.9**	**F**	**10.3**	**B**	**21.2**	**C**

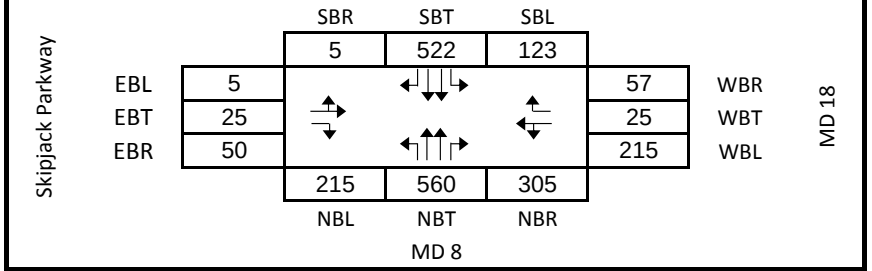
Summary of Intersection Capacity Analysis Results
Level of Service (Delay, Seconds per Vehicle)

Intersection		Existing AM		Existing PM		2020 Without Improvements AM		2020 Without Improvements PM		2020 With Improvements AM		2020 With Improvements PM		2030 Without Improvements AM		2030 Without Improvements PM		2030 With Improvements AM		2030 With Improvements PM	
Approach	**Movement**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
MD 552 (Dominion Rd) at MD 18 (Main Street) (Signalized)																					
Eastbound *(Main Street)*	L	15.3	B	35.3	D	22.4	C	70.0	E	11.2	B	169.5	F	55.8	E	170.8	F	9.0	A	109.6	F
	T (TR)	21.2	C	34.4	C	28.6	C	108.6	F	14.6	B	23.3	C	36.5	D	323.7	F	4.6	A	26.3	C
	R			-	-	-	-	-	-	12.8	B	47.6	D								
	Overall	*18.7*	*B*	*34.7*	*C*	*26.2*	*C*	*97.8*	*F*	*13.1*	*B*	*68.7*	*E*	*43.4*	*D*	*285.2*	*F*	*6.1*	*A*	*47.6*	*D*
Westbound *(Main Street)*	L	20.0	B	26.9	C	24.1	C	40.6	D	9.3	A	24.7	C	29.6	C	44.6	D	16.3	B	34.0	C
	TR	26.3	C	54.3	D	41.6	D	540.7	F	15.5	B	154.5	F	108.9	F	878.3	F	24.6	C	72.0	E
	Overall	*25.5*	*C*	*52.1*	*D*	*39.9*	*D*	*503.0*	*F*	*14.9*	*B*	*144.7*	*F*	*101.9*	*F*	*816.3*	*F*	*24.1*	*C*	*70.3*	*E*
Northbound *(MD 552)*	L	745.8	F	1112.2	F	1078.4	F	1830.4	F	57.3	E	177.1	F	1819.2	F	3131.7	F	34.1	C	131.3	F
	T	31.1	C	42.3	D	36.1	D	47.6	D	57.7	E	180.2	F	42.0	D	49.7	D	33.2	C	131.6	F
	R	0.0	A	0.1	A	0.0	A	0.1	A	0.0	A	0.1	A	0.1	A	48.6	D	0.0	A	0.1	A
	Overall	*493.6*	*F*	*640.7*	*F*	*707.5*	*F*	*1071.6*	*F*	*46.4*	*D*	*133.3*	*F*	*1249.5*	*F*	*1973.8*	*F*	*29.0*	*C*	*111.3*	*F*
Southbound *(MD 552)*	L	52.2	D	62.1	E	62.8	E	161.5	F	57.9	E	91.7	F	75.9	E	527.7	F	51.8	D	65.0	E
	T	52.9	D	66.6	E	48.6	D	53.3	D	50.0	D	55.1	E	49.4	D	63.4	E	59.1	E	81.8	F
	R	0.2	A	0.3	A	0.2	A	0.4	A	0.2	A	0.4	A	0.2	A	62.4	E	0.2	A	0.4	A
	Overall	*12.0*	*B*	*28.8*	*C*	*24.4*	*C*	*67.7*	*E*	*23.2*	*C*	*44.4*	*D*	*33.2*	*C*	*261.8*	*F*	*26.2*	*C*	*47.2*	*D*
Overall Intersection		**124.9**	**F**	**121.9**	**F**	**153.0**	**F**	**342.0**	**F**	**22.3**	**C**	**95.1**	**F**	**267.1**	**F**	**670.8**	**F**	**20.3**	**C**	**62.4**	**E**
MD 18 at S. Piney Rd (Southbound Stop Controlled)																					
Eastbound *(MD 18)*	LT	3.3	A	5.2	A	4.5	A	9.3	A	-	-	-	-	5.5	A	24.4	C	-	-	-	-
Southbound *(Piney Creek)*	*Overall*	10.2	B	17.5	C	14.2	B	732.6	F	-	-	-	-	17.7	C	Err	F	-	-	-	-
Overall Intersection		**2.3**	**A**	**5.7**	**A**	**3.6**	**A**	**159.9**	**F**	-	-	-	-	**4.6**	**A**	**2080.9**	**F**	-	-	-	-
MD 18 at S. Piney Rd (Signalized)																					
Eastbound *(MD 18)*	L	-	-	-	-	-	-	-	-	4.1	A	71.5	E	-	-	-	-	7.3	A	101.0	F
	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	A	1.6	A
	Overall	-	-	-	-	-	-	-	-	*4.1*	*A*	*71.5*	*E*	-	-	-	-	*5.5*	A	*47.7*	*D*
Westbound (MD 18)	TR	-	-	-	-	-	-	-	-	15.2	B	88.2	F	-	-	-	-	6.4	A	55.2	E
	Overall	-	-	-	-	-	-	-	-	*15.2*	*B*	*88.2*	*F*	-	-	-	-	6.4	A	55.2	E
Southbound *(Piney Creek)*	L(LR)	-	-	-	-	-	-	-	-	42.3	D	132.4	F	-	-	-	-	42.7	D	72.5	E
	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41.8	D	59.4	E
	Overall	-	-	-	-	-	-	-	-	*42.3*	*D*	*132.4*	*F*	-	-	-	-	*42.0*	D	*62.3*	*E*
Overall Intersection		-	-	-	-	-	-	-	-	**14.9**	**B**	**90.6**	**F**	-	-	-	-	**10.7**	**B**	**53.1**	**D**
MD 18 at Shamrock Rd (Southbound Stop Controlled)																					
Eastbound *(MD 18)*	LT	1.1	A	0.9	A	2.6	A	3.3	A	2.6	A	3.3	A	2.5	A	3.7	A	-	-	-	-
Southbound *(Piney Creek)*	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Overall	10.1	B	12.0	B	12.3	B	24.6	C	12.3	B	24.6	C	13.6	B	49.3	E	-	-	-	-
Overall Intersection		**1.0**	**A**	**1.1**	**A**	**2.9**	**A**	**4.3**	**A**	**2.9**	**A**	**4.3**	**A**	**2.8**	**A**	**6.5**	**A**	-	-	-	-

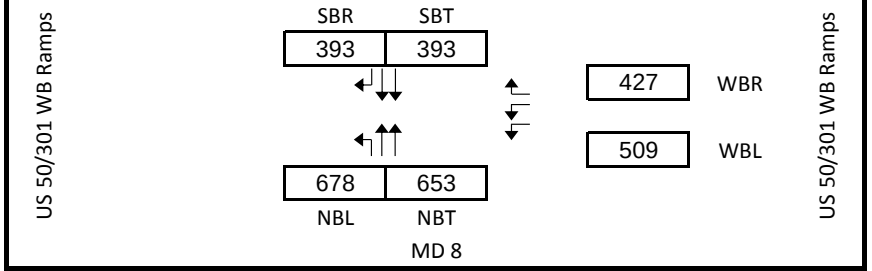
Summary of Intersection Capacity Analysis Results Level of Service (Delay, Seconds per Vehicle)																					
Intersection		**Existing AM**		**Existing PM**		**2020 Without Improvements AM**		**2020 Without Improvements PM**		**2020 With Improvements AM**		**2020 With Improvements PM**		**2030 Without Improvements AM**		**2030 Without Improvements PM**		**2030 With Improvements AM**		**2030 With Improvements PM**	
Approach	**Movement**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
MD 18 at Shamrock Rd (Signalized)																					
Eastbound *(MD 18)*	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6	A	49.0	D
	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	A	4.0	A
	Overall	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5.6*	A	*25.7*	*C*
Westbound (MD 18)	TR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.2	B	28.6	C
	Overall	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.2	B	28.6	C
Southbound *(Shamrock)*	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40.7	D	61.3	E
	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39.4	D	57.1	E
	Overall	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*39.9*	D	*58.2*	*E*
Overall Intersection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**16.7**	**B**	**31.4**	**C**
MD 18 at Dundee Ave (Southbound Stop Controlled)																					
Eastbound *(MD 18)*	LT	1.2	A	0.8	A	3.2	A	3.1	A	3.2	A	3.1	A	3.7	A	4.6	A	8.5	A	10.4	B
Southbound *(Piney Creek)*	*Overall*	10.3	B	11.6	B	11.3	B	15.2	C	11.3	B	15.2	C	12.4	B	18.8	C	12.5	B	21.9	C
Overall Intersection		**0.7**	**A**	**0.7**	**A**	**1.3**	**A**	**1.5**	**A**	**1.3**	**A**	**1.5**	**A**	**1.4**	**A**	**2.0**	**A**	**1.3**	**A**	**1.5**	**A**

Balanced Volumes

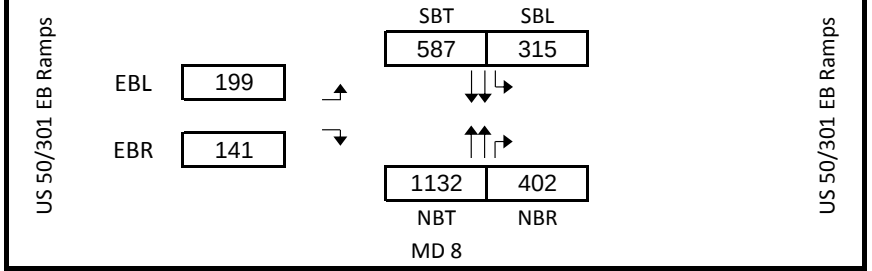
4 MD 8 and MD 18/ Skipjack Parkway



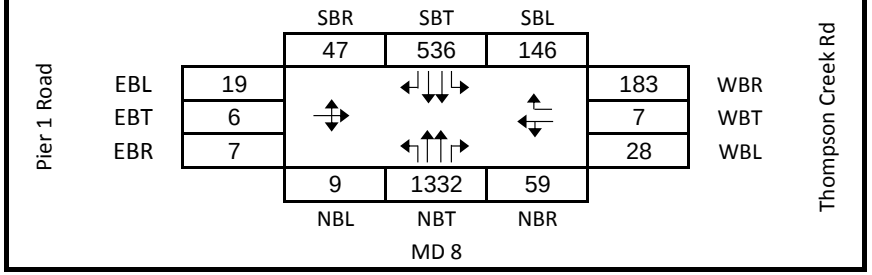
3 MD 8 and US 50/301 WB Ramps



2 MD 8 and US 50/301 EB Ramps

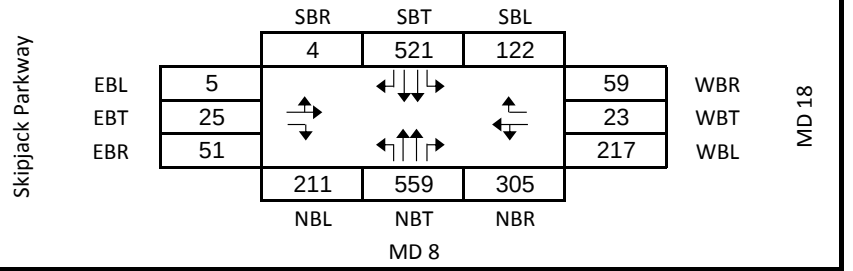


1 MD 8 and Thompson Creek Road/ Pier 1 Road

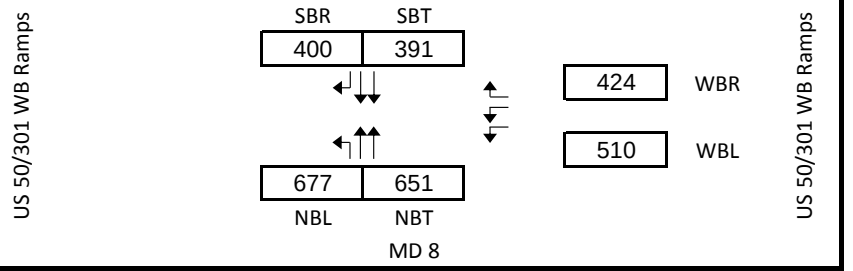


VISSIM Volume Outputs

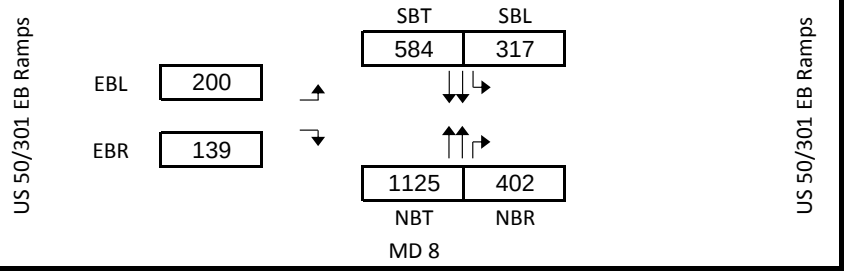
4 MD 8 and MD 18/ Skipjack Parkway



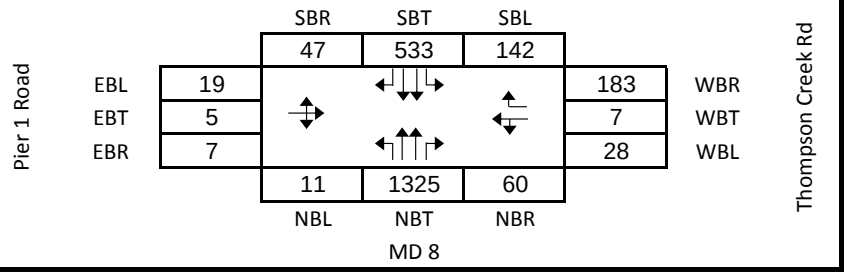
3 MD 8 and US 50/301 WB Ramps



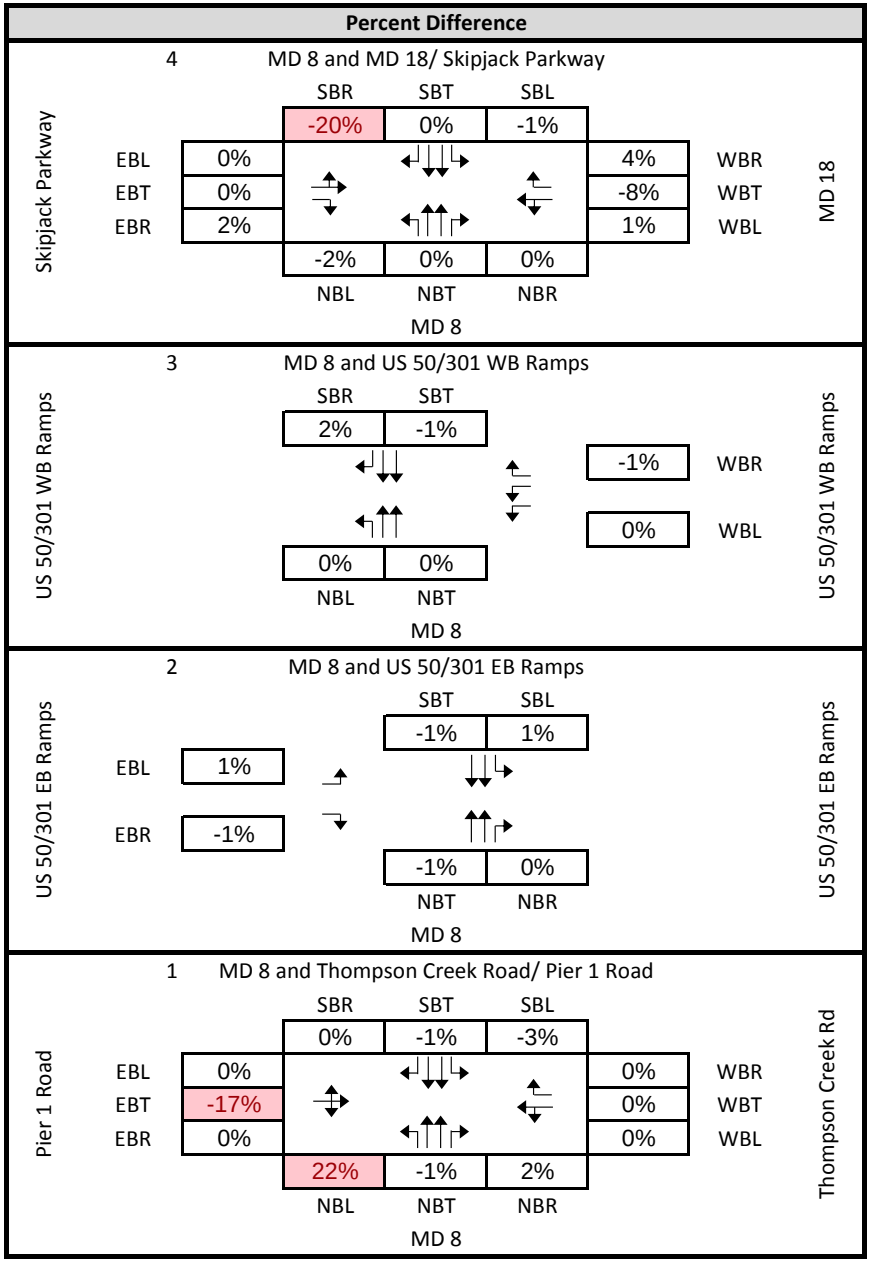
2 MD 8 and US 50/301 EB Ramps



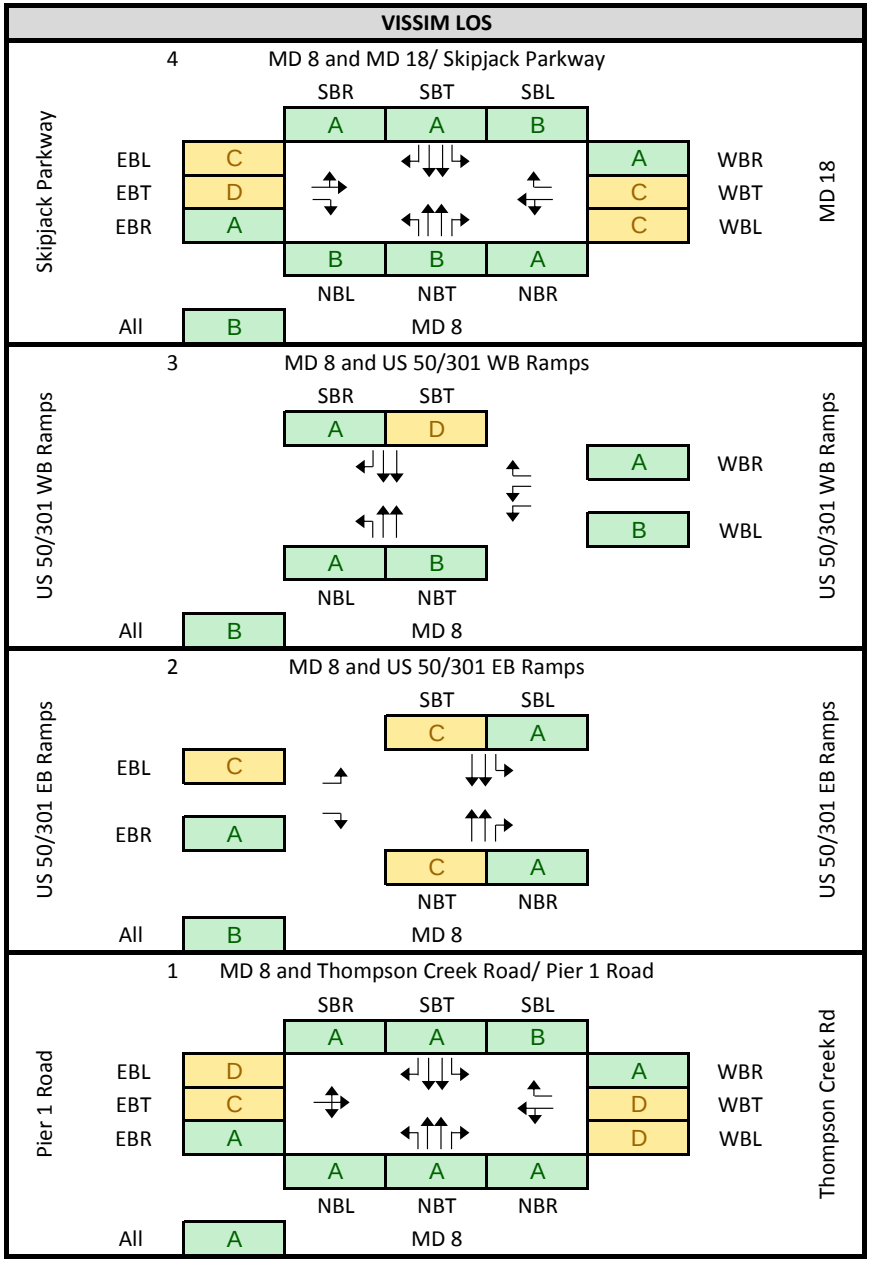
1 MD 8 and Thompson Creek Road/ Pier 1 Road



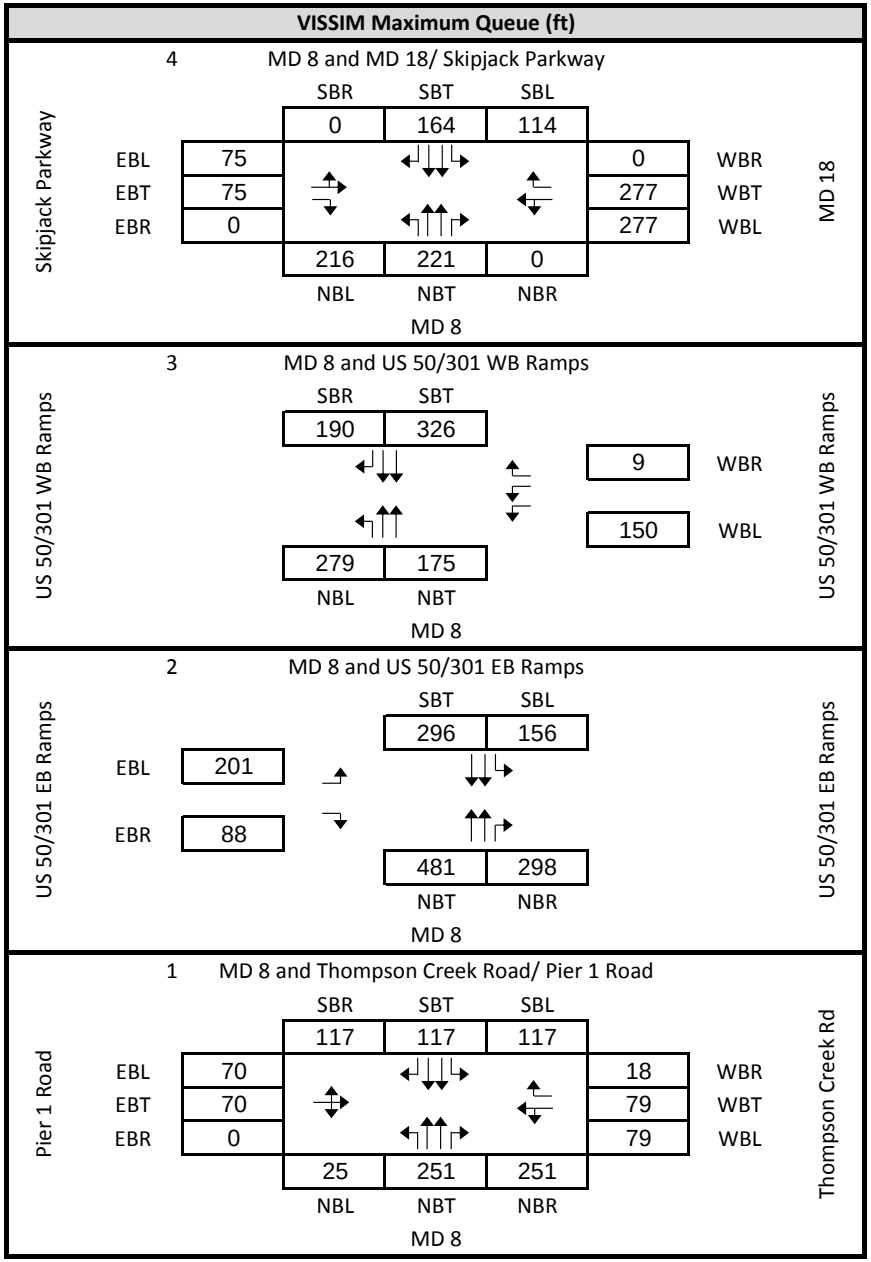
Percent Difference



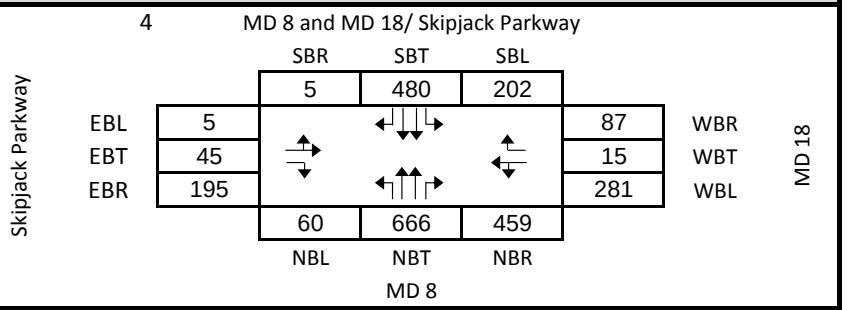
VISSIM LOS

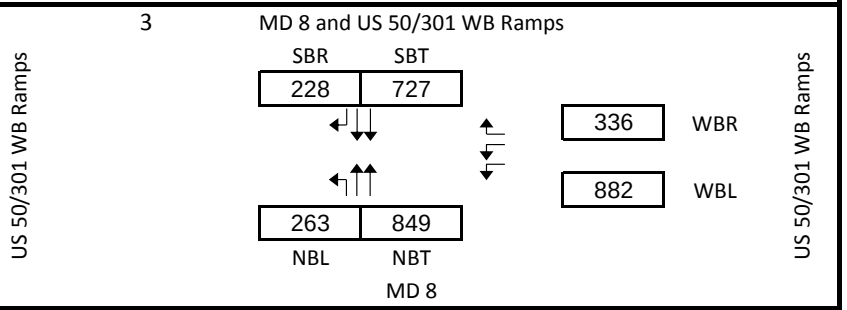


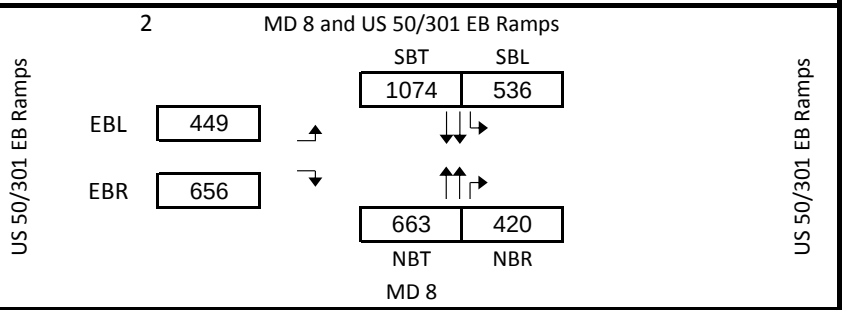
VISSIM Maximum Queue (ft)

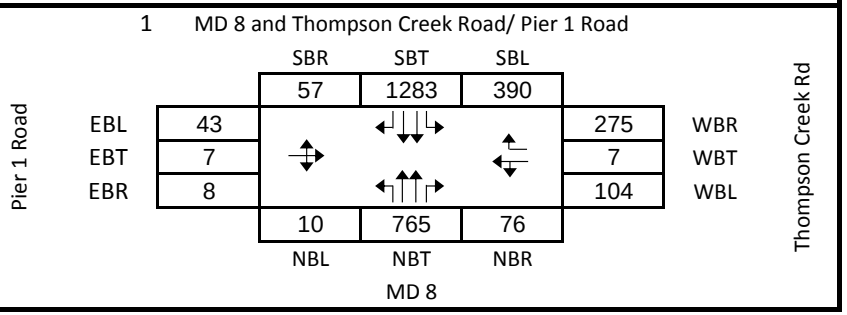


Balanced Volumes

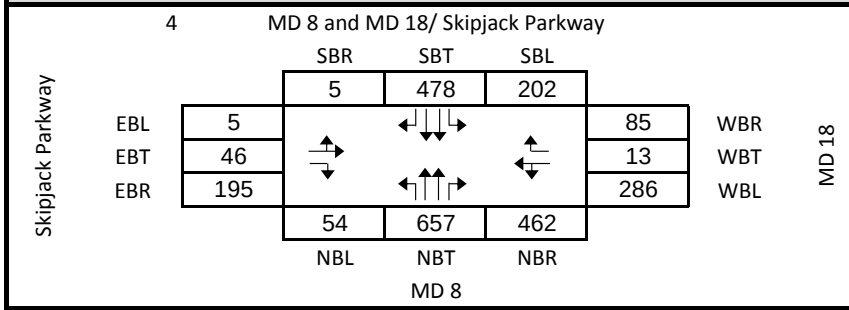


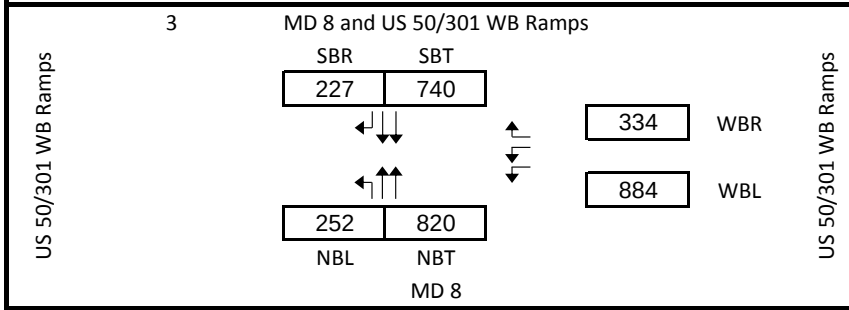


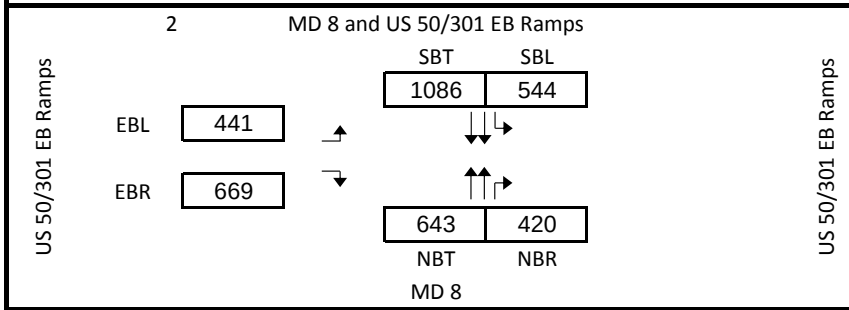


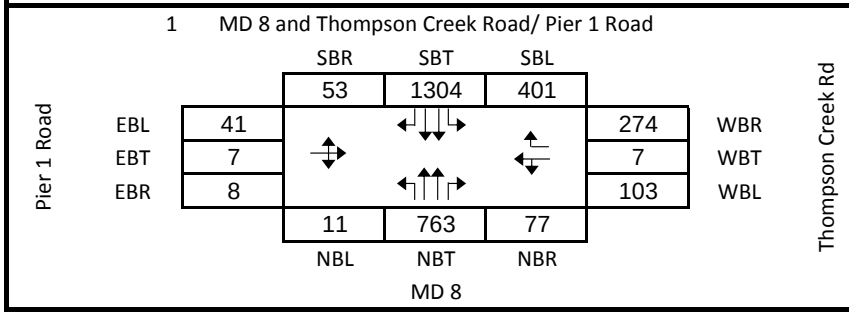


VISSIM Volume Outputs

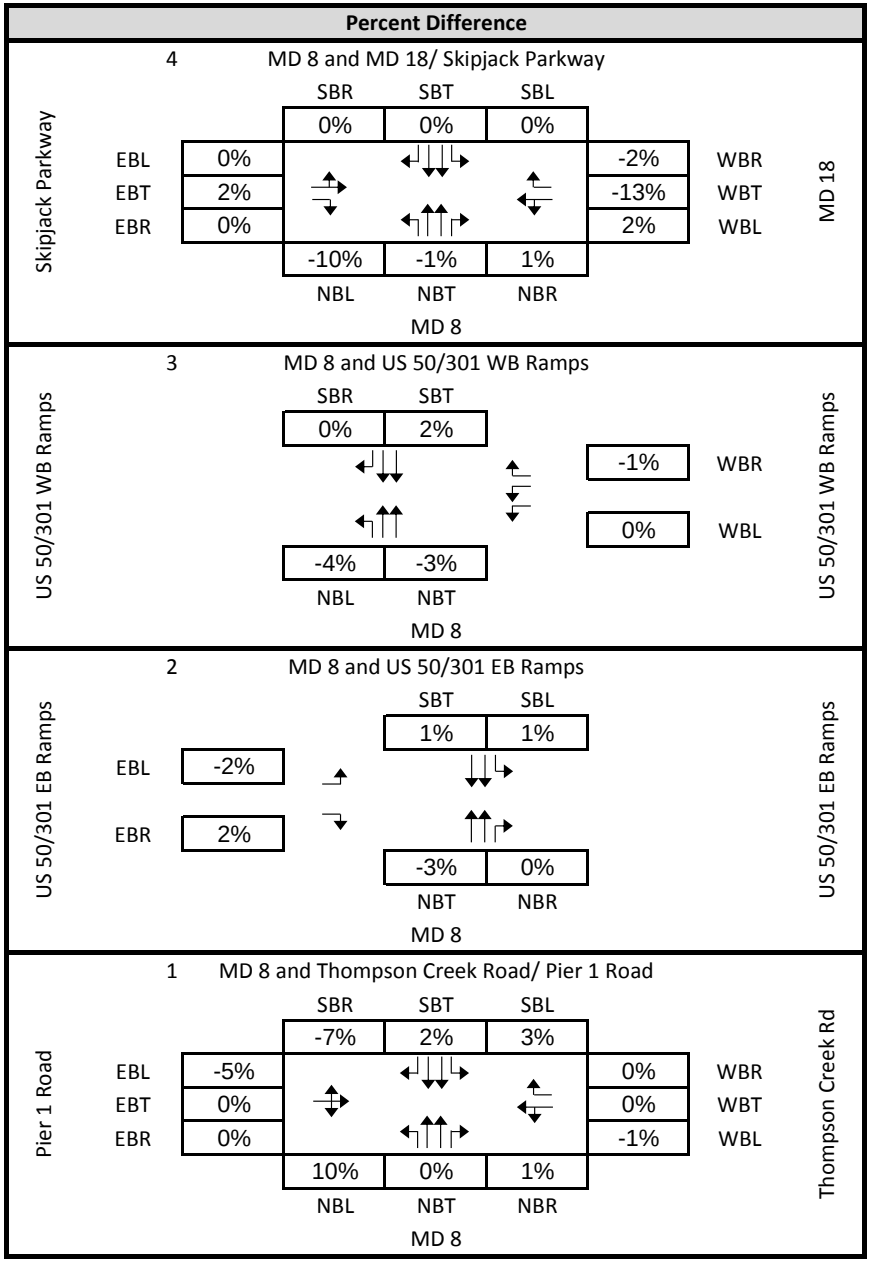




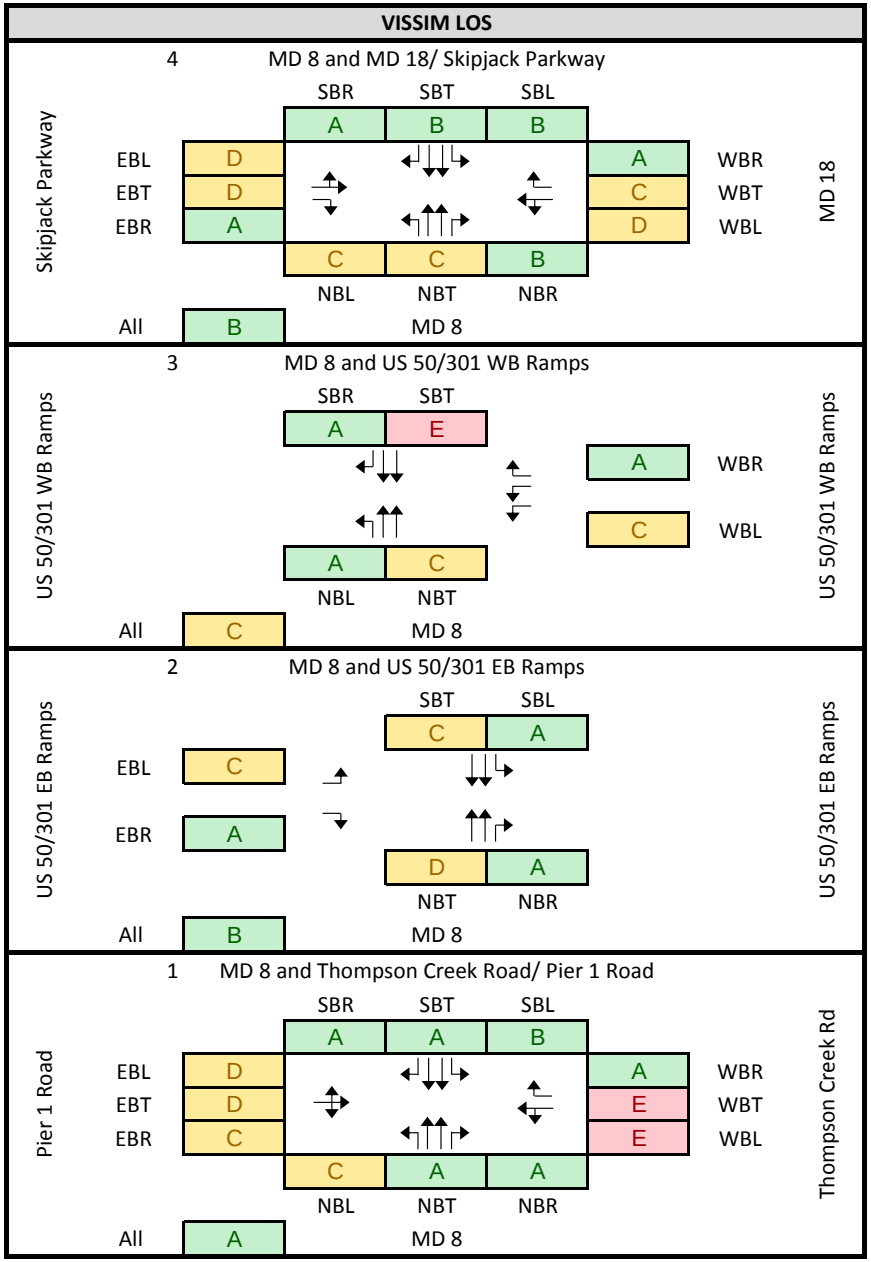




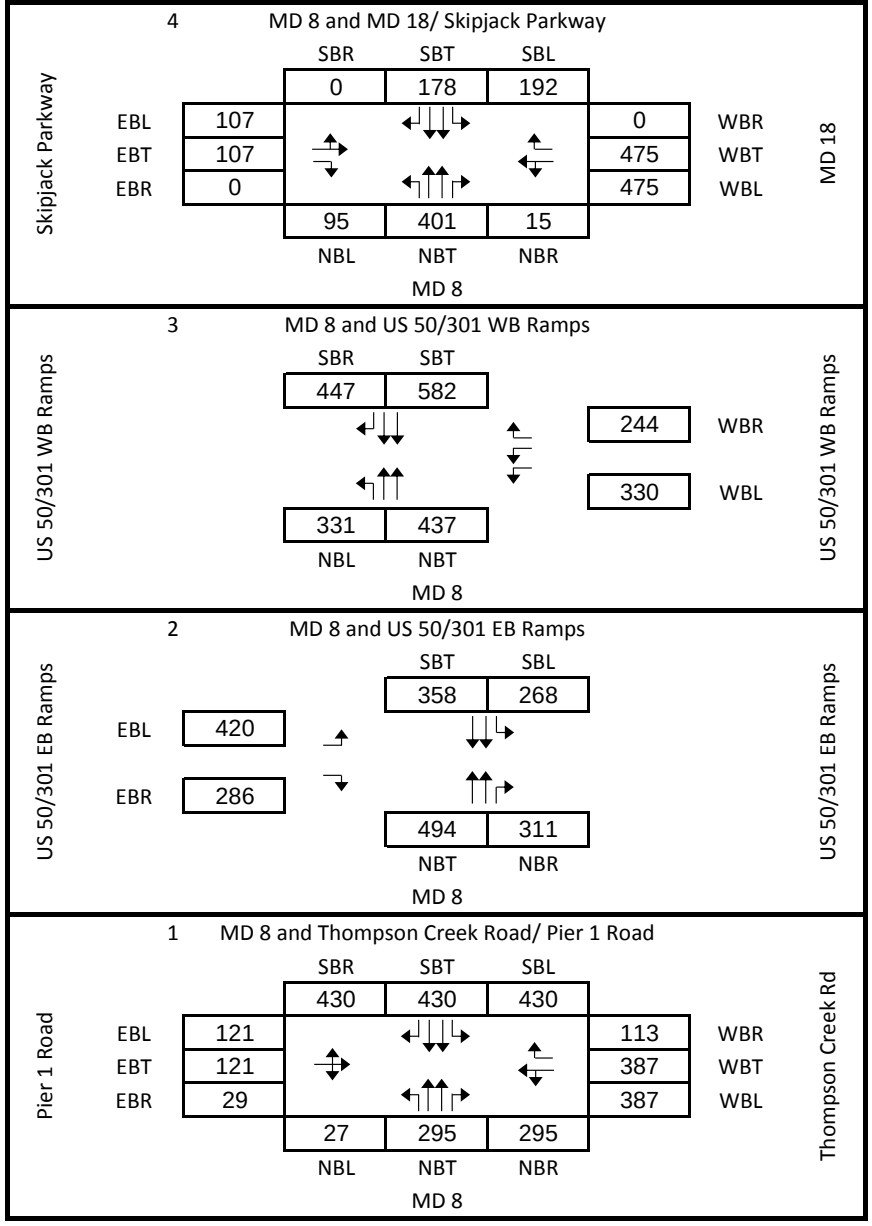
Percent Difference



VISSIM LOS



VISSIM Maximum Queue (ft)



SIDRA Analysis - Level of Service													
Intersection		**Existing AM**		**Existing PM**		**2020 Without Improvements AM**		**2020 Without Improvements PM**		**2030 Without Improvements AM**		**2030 Without Improvements PM**	
Approach	**Movement**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
Castle Marina Road at MD Route 18 Roundabout (Existing Geometry)													
Eastbound *(MD Route 18)*	LTR	10.8	B	36.8	E	17.3	C	140.6	F	200.8	F	771.2	F
Westbound *(MD Route 18)*	LTR	16.4	C	40.7	E	45.7	E	268.4	F	264.8	F	793.1	F
Northbound *(Castle Marina Road)*	LTR	7.6	A	13.7	B	8.6	A	14.7	B	16.7	C	27.3	D
Southbound *(Castle Marina Road)*	LTR	9.9	A	13.0	B	14.6	B	17.2	C	67.6	F	95.7	F
Overall Intersection		**13.1**	**B**	**33.7**	**D**	**32.1**	**D**	**185.2**	**F**	**190.9**	**F**	**630.2**	**F**

SIDRA Analysis - Level of Service									
Intersection		**2020 With Improvements AM**		**2020 With Improvements PM**		**2030 With Improvements AM**		**2030 With Improvements PM**	
Approach	**Movement**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
Castle Marina Road at MD Route 18 Roundabout (Widened Geometry)									
Eastbound *(MD Route 18)*	LT	8.2	A	20.5	C	9.1	A	23.6	C
	TR	8.0	A	19.7	C	8.9	A	22.9	C
	Overall	*8.1*	*A*	*20.1*	*C*	*9.0*	*A*	*23.3*	*C*
Westbound *(MD Route 18)*	LT	10.5	B	21.9	C	7.9	A	16.4	C
	TR	8.0	A	15.0	B	7.8	A	16.4	C
	Overall	*9.5*	*A*	*18.7*	*C*	*7.8*	*A*	*16.3*	*C*
Northbound *(Castle Marina Road)*	LT	5.3	A	7.4	A	8.1	A	15.0	B
	R	6.1	A	9.5	A	8.8	A	17.5	C
	Overall	*5.8*	*A*	*8.9*	*A*	*8.5*	*A*	*16.5*	*C*
Southbound *(Castle Marina Road)*	LT	7.8	A	12.3	B	9.0	A	13.9	B
	TR	8.8	A	13.9	B	8.9	A	11.8	B
	Overall	*8.5*	*A*	*13.3*	*B*	*8.9*	*A*	*13.0*	*B*
Overall Intersection		**8.6**	**A**	**17.5**	**C**	**8.5**	**A**	**17.9**	**C**