final report

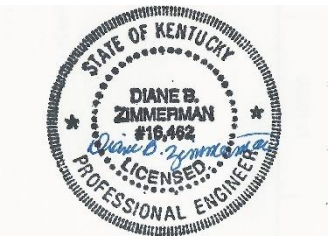
May 29, 2018

Traffic Impact Study

Covington by the Park
4501 Taylorsville Lake Road
Louisville, KY

Prepared for

Louisville Metro Planning Commission
Kentucky Transportation Cabinet



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INTRODUCTION

The development plan for the Covington by the Park subdivision on Taylorsville Lake Road in Louisville, KY shows 633 single family lots and four residual tracts. **Figure 1** displays a map of the site. Access to the subdivision will be from Taylorsville Lake Road at the intersection with Routt Road and a new entrance, north of Routt Road. Three stub roads are provided to adjoining properties. The purpose of this study is to examine the traffic impacts of the development upon the adjacent highway system. For this study, the impact area was defined to be the intersections of Taylorsville Lake Road with Routt Road; the intersections of Taylorsville Road with Taylorsville Lake Road, South Pope Lick Road, I 265 interchange and Stone Lake Drive.

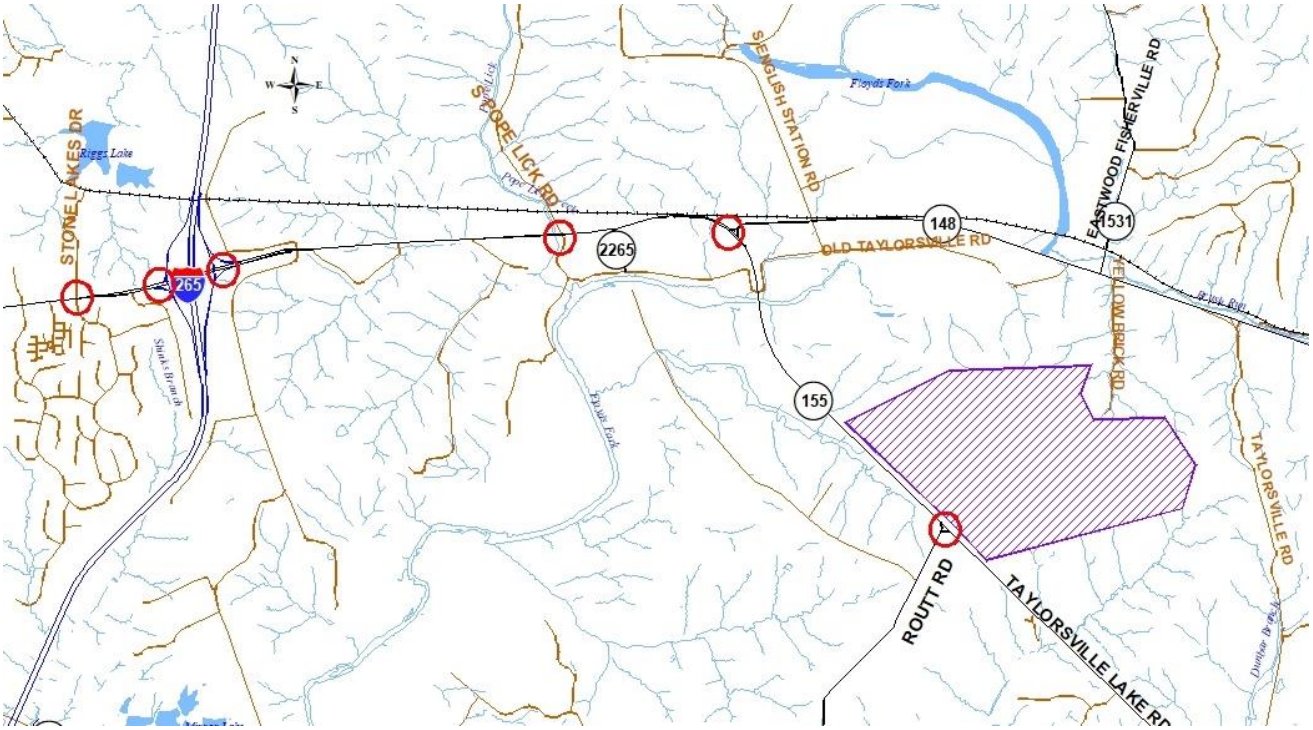


Figure 1. Site Map

EXISTING CONDITIONS

Taylorsville Lake Road, KY 155, is a state-maintained road with an estimated 2017 ADT of 17,500 vehicles per day between KY 1531 (Routt Road) and KY 148 (Taylorsville Road), as estimated from the 2016 count at Kentucky Transportation Cabinet at station 361. The road is a three-lane highway with eleven-foot lanes with ten-foot shoulders through the study area (provided by the Kentucky Transportation Cabinet). The speed limit is 55 mph. There are no sidewalks. The intersection with KY 1531, Routt Road, is controlled with a stop sign on Routt Road. There is a southbound right turn lane at the intersection.

The intersection with Taylorsville Road (KY 148) is controlled with a traffic signal. There is a northbound right turn lane, a southbound left turn lane, and separate turning lanes on the KY 148 approach.

The intersection with South Pope Lick Road is controlled with a stop sign on South Pope Lick Road. There are no turn lanes on any approaches.

The intersection with the I 265 ramps are both controlled with traffic signals. There are left turn lanes on all approaches. The right turn lanes on all approaches are free-flow except the southbound exit ramp.

The intersection with Stone Lakes Drive is controlled with a traffic signal. There are left turn lanes on all approaches. The westbound approach has a right turn lane.

Peak hour traffic counts for the intersections were obtained on various dates. The a.m. and p.m. peak hour varied between the intersections. **Figure 2** illustrates the existing a.m. and p.m. peak hour traffic volumes.

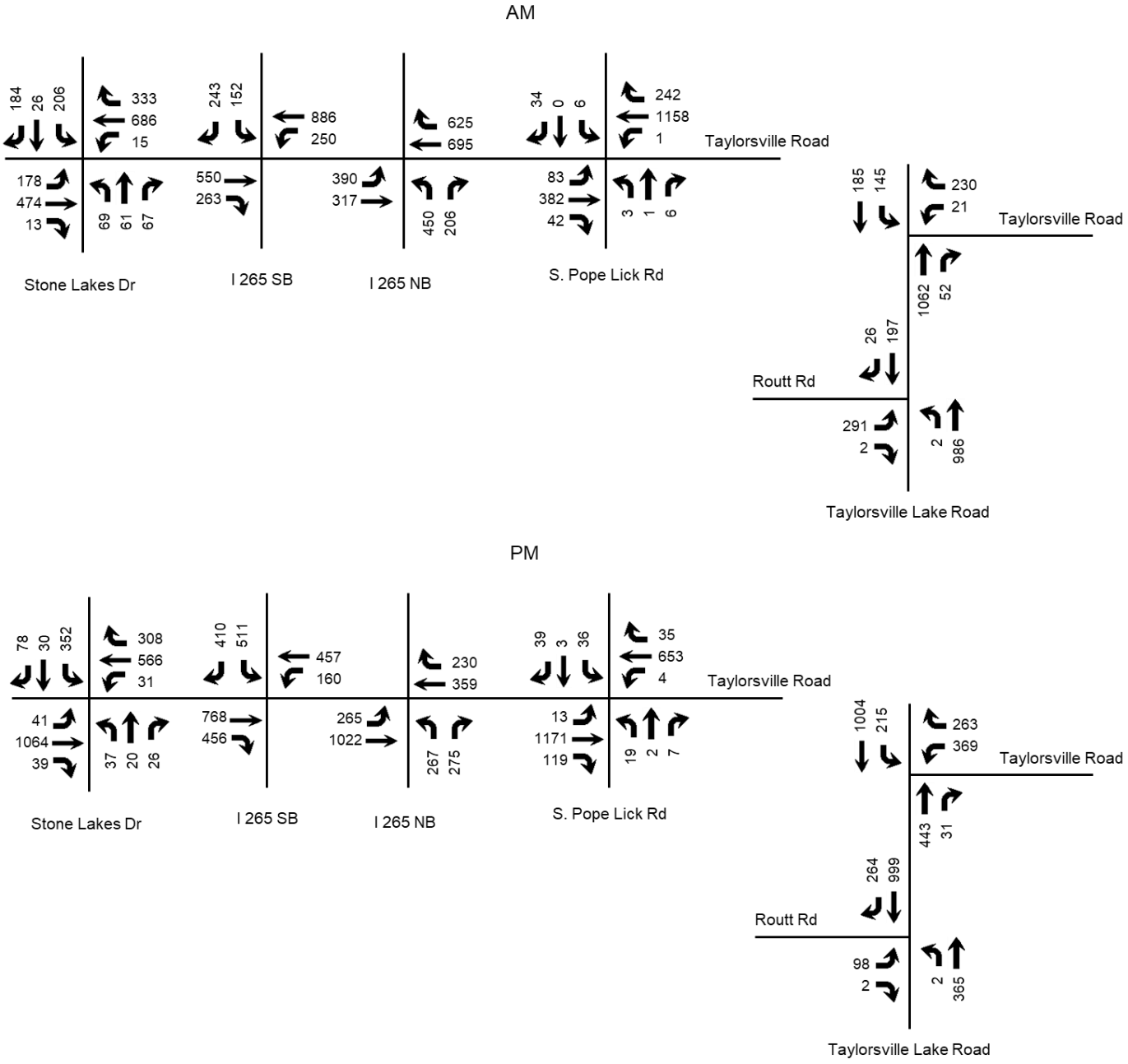


Figure 2. Existing Peak Hour Volumes

FUTURE CONDITIONS

The project completion date is 2030. An annual growth rate of 1.0 percent was applied to all. This is based upon a review of historical data and the potential for additional development in the vicinity. For the volumes west of I-265, the trips generated by the developments documented in the Taylorsville Road/Urton Lane Area-wide Traffic Impact Study prepared by BTM Engineering, Inc., dated August 2009, have been included. Volumes on north South Pope Lick

Road include trip generation from the two approved subdivisions, Trestle Creek and Trestle Point. **Figure 3** displays the 2030 No Build peak hour volumes. The intersection of Taylorsville Road with South Pope Lick Road is scheduled to be improved with left turn lanes on all approaches. A traffic signal is assumed to be installed by 2030.

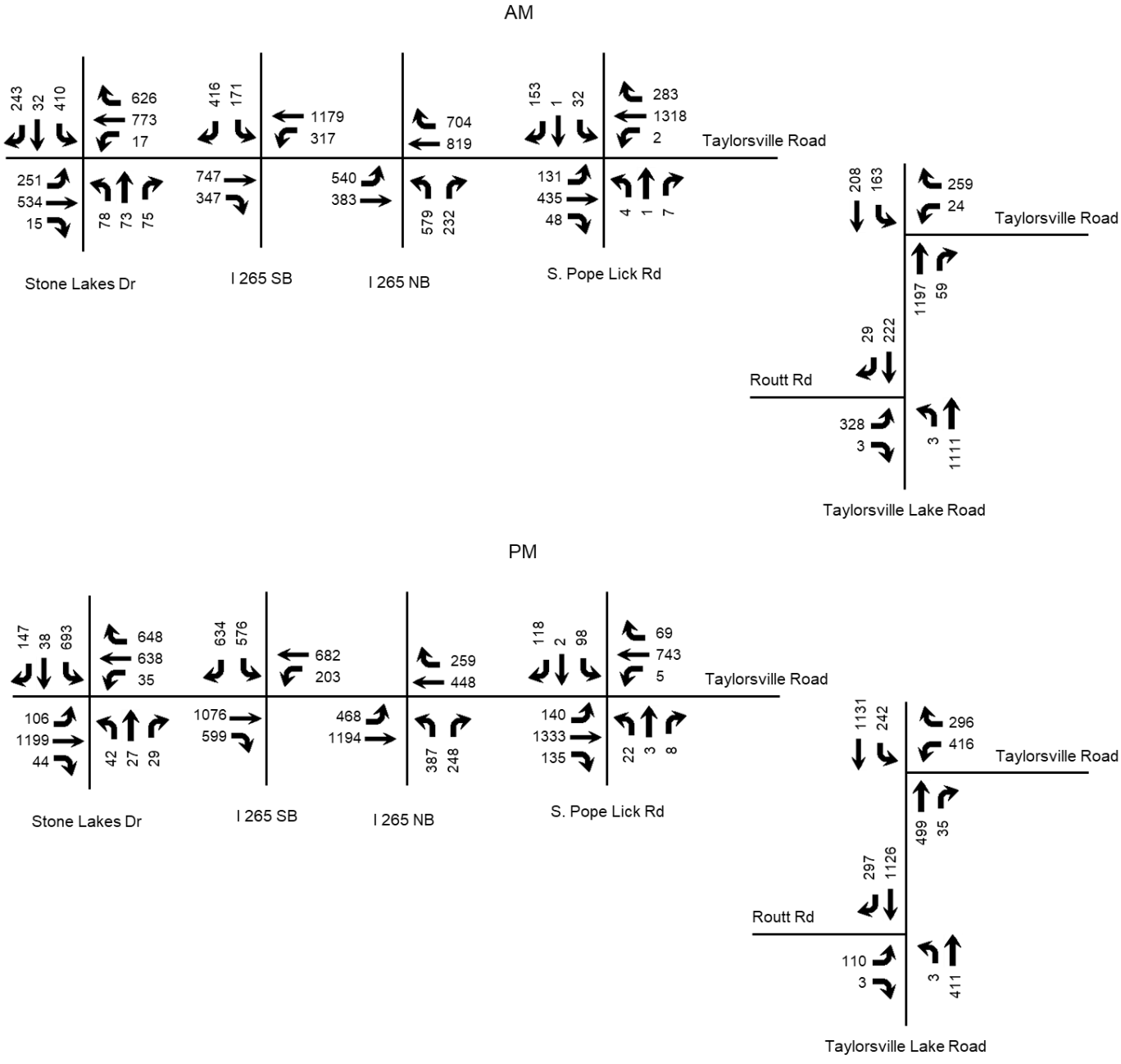


Figure 3. No Build Peak Hour Volumes

TRIP GENERATION

The Institute of Transportation Engineers Trip Generation Manual, 10th Edition contains trip generation rates for a wide range of developments. The land uses of "Single Family Detached (210)" was reviewed and determined to be the best match. The trip generation results are listed in **Table 1**. The trips were assigned to the highway network with the percentages shown in **Figure 4**. **Figure 5** shows the trips generated by this development and distributed throughout the road network during the peak hours. **Figure 6** displays the individual turning movements for the peak hours when the development is completed.

Table 1. Peak Hour Trips Generated by Site

	A.M. Peak Hour			P.M. Peak Hour		
Land Use	Trips	In	Out	Trips	In	Out
Single-Family Detached (633 lots)	454	114	340	597	376	221

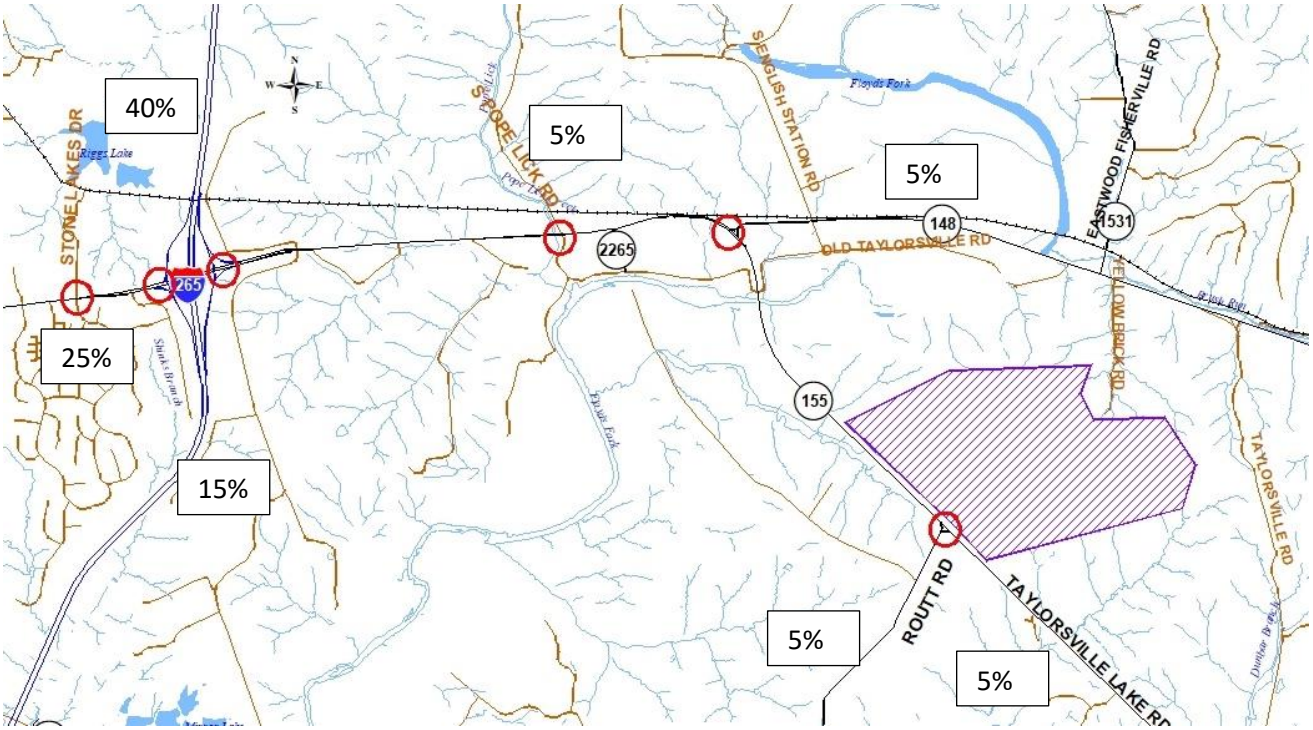


Figure 4. Trip Distribution Percentages

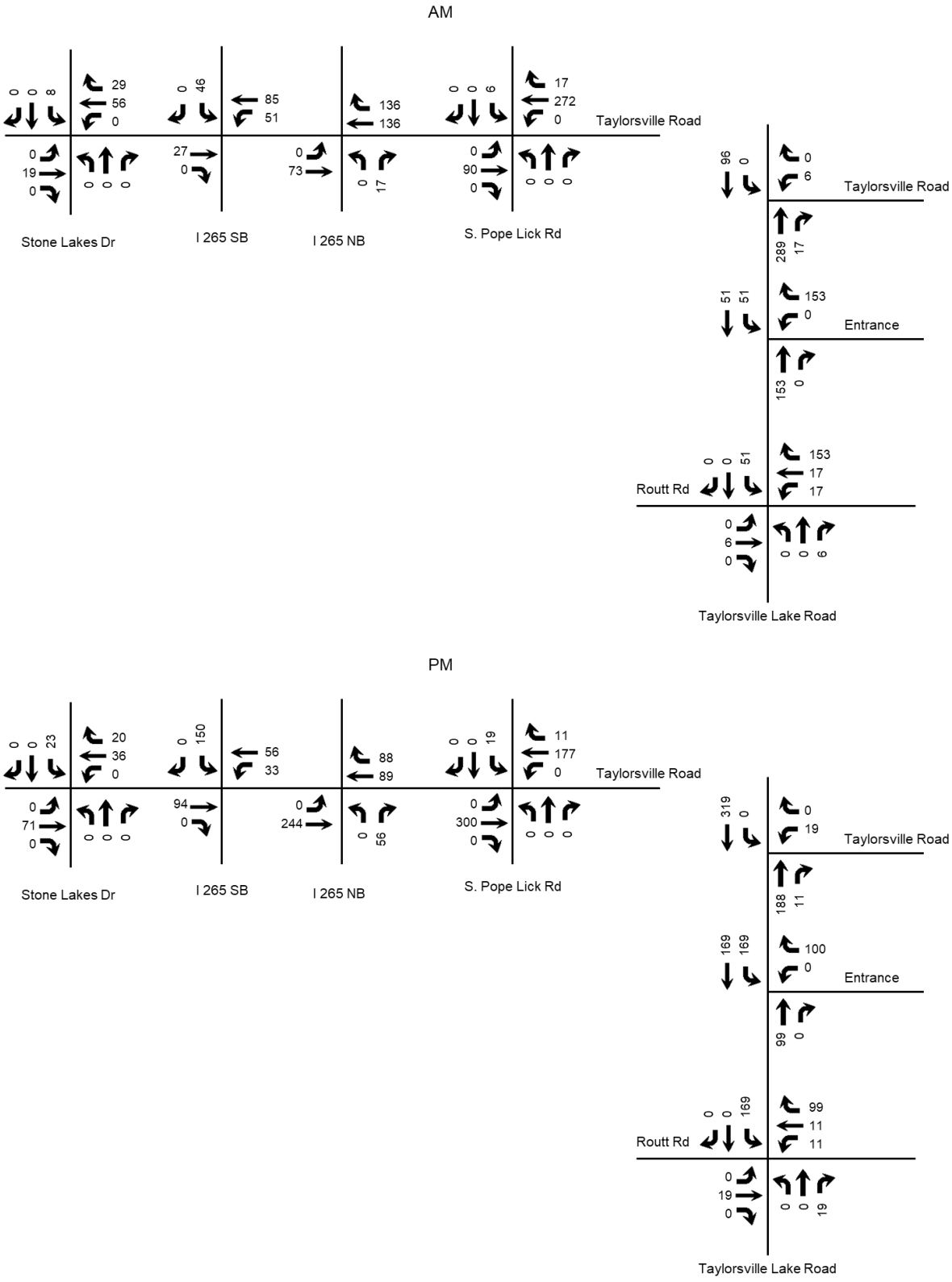


Figure 5. Peak Hour Trips Generated by Site

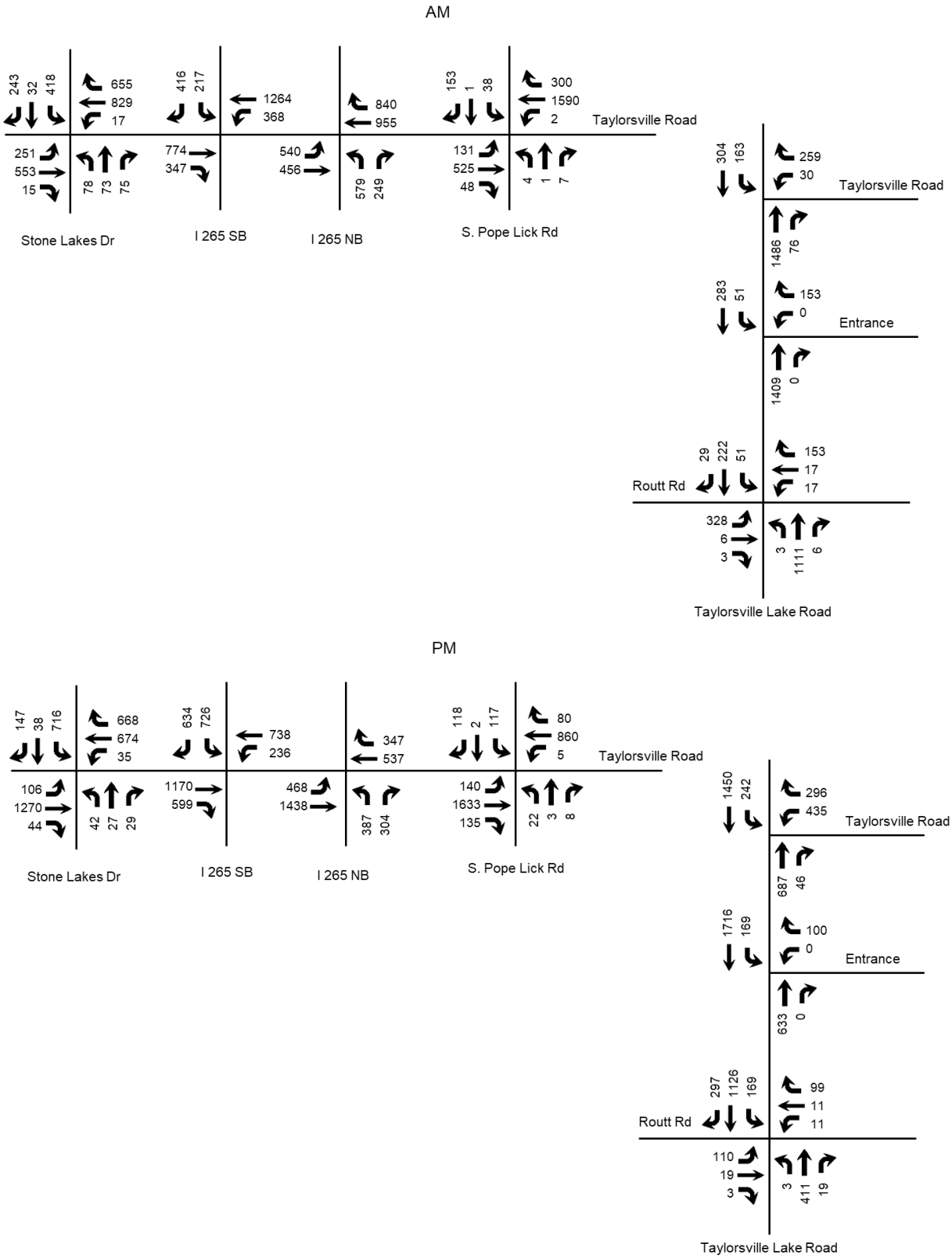


Figure 6. Build Peak Hour Volumes

ANALYSIS

The qualitative measure of operation for a roadway facility or intersection is evaluated by assigning a "Level of Service". Level of Service is a ranking scale from A through F, "A" is the best operating condition and "F" is the worst. Level of Service results depend upon the facility that is analyzed. In this case, the Level of Service is based upon the total delay experienced at an intersection.

To evaluate the impact of the proposed development, the vehicle delays at the intersections were determined using procedures detailed in the Highway Capacity Manual, 6th edition. Future delays and Level of Service were determined for the intersections using the HCS Streets (version 7.5) software. The delays and Level of Service are summarized in **Table 2**.

Table 2. Peak Hour Level of Service

	A.M.			P.M.		
Approach	2018 Existing	2030 No Build	2030 Build	2018 Existing	2030 No Build	2030 Build
Taylorsville Road at Stone Lakes Dr	**C 28.7**	**E 68.7**	**E 73.3**	**C 26.5**	**C 33.6**	**D 35.8**
Taylorsville Road Eastbound	C 20.2	E 57.3	E 56.6	C 21.3	C 24.4	C 25.8
Taylorsville Road Westbound	C 23.9	E 73.9	F 85.5	B 19.7	B 16.6	B 17.1
Stone Lakes Drive Northbound	D 38.7	F 124.3	F 124.3	C 33.7	E 62.5	E 62.5
Stone Lakes Drive Southbound	D 48.8	E 56.9	E 57.1	D 51.3	E 67.9	E 74.8
Taylorsville Road at I 265 SB ramps	**B 19.3**	**C 29.1**	**C 29.6**	**C 23.3**	**D 38.1**	**D 44.2**
Taylorsville Road Eastbound	A 7.8	B 19.2	C 20.2	B 12.6	C 23.1	C 33.3
Taylorsville Road Westbound	B 16.9	C 22.9	C 23.6	C 20.4	C 33.7	D 41.6
I 265 Ramp Southbound	D 52.5	E 63.9	E 61.9	D 42.0	E 63.3	E 61.3
Taylorsville Road at I 265 NB ramps	**C 21.3**	**D 48.6**	**E 56.4**	**B 13.4**	**C 24.4**	**C 23.7**
Taylorsville Road Eastbound	B 19.9	E 64.2	E 69.4	B 11.3	C 23.5	C 27.8
Taylorsville Road Westbound	B 12.5	C 29.3	D 44.4	A 6.1	B 16.0	B 15.4
I 265 Ramp Northbound	D 40.6	E 68.6	E 67.2	C 28.6	C 29.0	C 22.7

Approach	A.M.			P.M.		
	2018 Existing	2030 No Build	2030 Build	2018 Existing	2030 No Build	2030 Build
Taylorsville Road at S Pope Lick Road		**D 51.6**	**F 101.9**		**D 51.4**	**F 105.9**
Taylorsville Road Eastbound	B 14.9	C 25.0	C 23.1	A 9.1	E 67.4	F 155.4
Taylorsville Road Westbound	A 8.3	D 52.9	F 129.0	B 12.1	B 10.0	B 11.7
S Pope Lick Road Northbound	F 63.4	E 66.4	E 66.4	F 179.9	E 71.4	E 71.4
S Pope Lick Road Southbound	F 54.8	F 127.5	F 125.6	F 250.1	F 85.0	F 88.0
Taylorsville Road at Taylorsville Lake Road	**C 32.4**	**E 56.9**	**F 121.6**	**C 24.7**	**D 39.8**	**F 87.1**
Taylorsville Road (KY 148) Westbound	B 18.4	D 49.7	D 49.8	C 20.5	E 58.8	E 68.8
Taylorsville Lake Road Northbound	C 31.9	E 64.6	F 162.2	B 18.8	C 21.6	C 25.7
Taylorsville Road Southbound	D 53.1	D 36.6	C 30.4	D 37.3	D 37.0	F 121.5
Taylorsville Road at Entrance						
Entrance Westbound			F 271.9			C 17.2
Taylorsville Lake Road Southbound			B 13.8			A 9.9
Taylorsville Road at Routt Road			**F 83.5**			**D 39.0**
Routt Road Eastbound	F 505.9	F 898.3	E 56.3	F 119.0	F 282.0	D 41.5
Entrance Westbound			E 72.9			E 57.1
Taylorsville Road Northbound (left)	A 7.7	A 7.8	F 112.6	B 12.6	B 14.0	B 13.9
Taylorsville Road Southbound (left)			B 17.9			D 44.2

Key: Level of Service, Delay in seconds per vehicle

Both entrances were evaluated for turn lanes using the Kentucky Transportation Cabinet Highway Design Guidance Manual dated March, 2017. Using the volumes in Figure 6, a left turn lane will be required at both entrances. Due to the poor operating conditions at Routt Road a traffic signal has been assumed to be installed at the intersection of Routt Road. This intersection will need to be monitored to determine when the signal warrant is satisfied.

CONCLUSIONS

Based upon the volume of traffic generated by the development and the amount of traffic forecasted for the year 2030, there will be an impact to the existing highway network. Left turn lanes will be required at the entrances. The No-Build condition indicates inadequate capacity in the corridor. The Kentucky Transportation Cabinet is currently evaluating several alternates to providing additional capacity in the corridor. One option to achieve acceptable Levels of Service is KY 155 widening to include two lanes in each direction from I 265 (Gene Snyder) through the intersection with Routt Road, with a traffic signal installed at the intersection with Routt Road.

APPENDIX

Traffic Counts

Louisville Metro Government
Department of Public Works
Traffic Engineering & Operations

File Name : Taylorsville Rd & Stone Lakes Dr
Site Code :
Start Date : 1/19/2016
Page No : 3

	Stone Lakes Dr From North					Taylorsville Rd From East					Stone Lakes Dr From South					Taylorsville Rd From West					
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	10	1	41	0	52	60	159	5	0	224	**25**	4	**25**	0	54	1	117	20	0	138	468
07:15 AM	46	6	47	0	99	90	151	2	0	243	14	11	14	0	39	2	90	59	0	151	532
07:30 AM	**68**	9	54	0	131	**122**	175	**7**	0	**304**	16	**38**	12	0	**66**	**9**	**144**	**77**	0	**230**	**731**
07:45 AM	60	**10**	**64**	0	**134**	61	**201**	1	0	263	12	8	18	0	38	1	123	22	0	146	581
Total Volume	184	26	206	0	416	333	686	15	0	1034	67	61	69	0	197	13	474	178	0	665	2312
% App. Total	44.2	6.2	49.5	0		32.2	66.3	1.5	0		34	31	35	0		2	71.3	26.8	0		
PHF	.676	.650	.805	.000	.776	.682	.853	.536	.000	.850	.670	.401	.690	.000	.746	.361	.823	.578	.000	.723	.791
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	5	2	45	0	52	49	**107**	**6**	0	**162**	7	2	**6**	0	**15**	5	86	4	0	95	324
01:15 PM	5	1	48	0	54	43	93	5	0	141	5	**3**	2	0	10	3	85	6	0	94	299
01:30 PM	6	**3**	**52**	0	**61**	**58**	85	4	0	147	**8**	2	4	0	14	**6**	88	7	0	101	323
01:45 PM	**10**	0	45	0	55	49	98	6	0	153	7	2	6	0	15	3	**130**	**12**	0	**145**	**368**
Total Volume	26	6	190	0	222	199	383	21	0	603	27	9	18	0	54	17	389	29	0	435	1314
% App. Total	11.7	2.7	85.6	0		33	63.5	3.5	0		50	16.7	33.3	0		3.9	89.4	6.7	0		
PHF	.650	.500	.913	.000	.910	.858	.895	.875	.000	.931	.844	.750	.750	.000	.900	.708	.748	.604	.000	.750	.893
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	17	8	91	0	116	77	**150**	**11**	0	**238**	6	1	11	0	18	8	242	10	0	260	632
04:45 PM	**23**	**9**	85	0	117	**83**	137	6	0	226	**9**	4	**12**	0	**25**	5	248	**13**	0	266	634
05:00 PM	22	8	**94**	0	**124**	67	149	6	0	222	3	5	7	0	15	**15**	282	10	0	307	**668**
05:15 PM	16	5	82	0	103	81	130	8	0	219	8	**10**	7	0	25	11	**292**	8	0	**311**	658
Total Volume	78	30	352	0	460	308	566	31	0	905	26	20	37	0	83	39	1064	41	0	1144	2592
% App. Total	17	6.5	76.5	0		34	62.5	3.4	0		31.3	24.1	44.6	0		3.4	93	3.6	0		
PHF	.848	.833	.936	.000	.927	.928	.943	.705	.000	.951	.722	.500	.771	.000	.830	.650	.911	.788	.000	.920	.970

8/22/2017
Taylorsville Road at I 265 Intercahnge All Movements

	KY 155 Westbound		I265 Off Ramp Northbound		KY 155 Eastbound			I265 SB Off Ran Southbound		KY 155 Westbound		KY 155 Eastbound		
Start Tim	Thru	Right	Left	Right	Left	Thru	U-Turn	Left	Right	Left	Thru	Thru	Right	Intercha
6:45:00	167	176	107	38	108	62	1	32	44	67	203	139	56	759
7:00:00	154	180	114	41	108	63	0	25	56	64	212	143	53	766
7:15:00	192	158	111	55	86	76	1	40	59	76	225	120	78	813
7:30:00	172	150	118	55	106	85	0	33	75	48	246	166	69	838
7:45:00	177	137	107	55	90	93	0	54	53	62	203	121	63	767
8:00:00	152	114	88	46	80	62	0	29	65	62	195	115	58	667
8:15:00	176	132	105	42	78	81	0	47	54	63	213	115	62	733
8:30:00	113	135	85	32	82	77	0	48	56	45	162	110	61	640
8:45:00	117	121	67	28	83	82	0	35	50	43	140	122	48	588
16:00:00	80	52	53	45	58	267	0	147	117	34	96	174	106	774
16:15:00	79	57	57	50	69	265	0	132	119	34	118	202	116	812
16:30:00	104	69	69	45	70	234	0	130	98	46	127	175	107	797
16:45:00	96	52	69	80	68	256	1	102	76	46	116	217	127	819
17:00:00	113	58	50	78	64	230	0	75	67	51	111	213	110	764
17:15:00	113	56	79	72	57	208	0	82	66	54	141	179	129	776
17:30:00	95	42	90	74	47	203	0	72	87	30	156	182	111	753
17:45:00	66	44	56	62	42	229	0	93	88	27	102	168	109	686
7:00:00	154	180	114	41	108	63	0	25	56	64	212	143	53	766
7:15:00	192	158	111	55	86	76	1	40	59	76	225	120	78	813
7:30:00	172	150	118	55	106	85	0	33	75	48	246	166	69	838
7:45:00	177	137	107	55	90	93	0	54	53	62	203	121	63	767
AM Peak	**695**	**625**	**450**	**206**	**390**	**317**	**1**	**152**	**243**	**250**	**886**	**550**	**263**	**3184**
16:00:00	80	52	53	45	58	267	0	147	117	34	96	174	106	774
16:15:00	79	57	57	50	69	265	0	132	119	34	118	202	116	812
16:30:00	104	69	69	45	70	234	0	130	98	46	127	175	107	797
16:45:00	96	52	69	80	68	256	1	102	76	46	116	217	127	819
PM Peak	**359**	**230**	**248**	**220**	**265**	**1022**	**1**	**511**	**410**	**160**	**457**	**768**	**456**	**3202**

Study Name **KY 155 at Pope Lick Road**
Start Date **09/06/2017**
Start Time **12:00 AM**
Site Code **Pope Lick Road**
Project **5-808.00 KY 155 @ Pope Lick Road**

Type **Road**
Classification **Totals**

	Pope Lick Road Southbound			KY 155 Westbound			Pope Lick Road Northbound			KY 155 Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00 AM	2	0	10	0	314	36	3	0	1	8	61	9	444
7:15 AM	2	0	6	0	301	48	0	0	0	24	100	11	492
7:30 AM	0	0	6	0	301	69	0	1	4	20	106	8	515
7:45 AM	2	0	16	0	274	74	1	0	1	24	93	14	499
8:00 AM	1	0	6	1	282	51	2	0	1	15	83	9	451
8:15 AM	1	1	5	0	222	46	2	1	0	1	79	12	370
8:30 AM	2	0	0	1	233	41	5	2	0	7	87	8	386
8:45 AM	4	1	2	1	203	31	6	1	1	3	116	22	391
4:00 PM	7	1	12	2	139	9	5	1	1	5	277	21	480
4:15 PM	7	2	8	0	125	3	4	0	3	7	302	18	479
4:30 PM	4	2	13	1	182	7	2	0	2	4	308	11	536
4:45 PM	17	0	12	0	143	3	7	0	2	5	294	20	503
5:00 PM	10	1	12	0	164	10	3	0	1	0	286	18	505
5:15 PM	9	0	11	1	181	9	7	0	1	4	304	23	550
5:30 PM	9	1	9	0	171	9	5	2	3	6	288	31	534
5:45 PM	8	1	7	3	137	7	4	0	2	3	293	47	512

7:15 AM	2	0	6	0	301	48	0	0	0	24	100	11	492
7:30 AM	0	0	6	0	301	69	0	1	4	20	106	8	515
7:45 AM	2	0	16	0	274	74	1	0	1	24	93	14	499
8:00 AM	1	0	6	1	282	51	2	0	1	15	83	9	451
AM Peak	**5**	**0**	**34**	**1**	**1158**	**242**	**3**	**1**	**6**	**83**	**382**	**42**	**1957**
5:00 PM	10	1	12	0	164	10	3	0	1	0	286	18	505
5:15 PM	9	0	11	1	181	9	7	0	1	4	304	23	550
5:30 PM	9	1	9	0	171	9	5	2	3	6	288	31	534
5:45 PM	8	1	7	3	137	7	4	0	2	3	293	47	512
PM Peak	**36**	**3**	**39**	**4**	**653**	**35**	**19**	**2**	**7**	**13**	**1171**	**119**	**2101**

11.16.16 pm
11.22.16 am

Interval Start Time	Taylorsville Lake Road				Taylorsville Road				Taylorsville Road				
	From South				From East				From West				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total
7:00		286	12		5		57		30	41			431
7:15		287	9		3		65		36	42			442
7:30		267	15		3		58		19	32			394
7:45		256	16		6		57		45	46			426
8:00		252	12		9		50		45	65			433
8:15		242	17		4		47		34	44			388
8:30		210	14		5		43		25	43			340
8:45		186	11		5		45		29	46			322
AM TOTALS		**1986**	**106**		**40**		**422**		**263**	**359**			3176
16:00		97	8		22		41		57	218			443
16:15		98	8		31		44		54	233			468
16:30		118	8		29		58		43	251			507
16:45		112	7		96		67		49	225			556
17:00		116	8		91		79		57	270			621
17:15		103	8		79		55		61	256			562
17:30		112	8		103		62		48	253			586
17:45		133	11		65		38		36	211			494
PM TOTALS		**889**	**66**		**516**		**444**		**405**	**1917**			4237
7:15		287	9		3		65		36	42			442
7:30		267	15		3		58		19	32			394
7:45		256	16		6		57		45	46			426
8:00		252	12		9		50		45	65			433
AM PEAK		**1062**	**52**		**21**		**230**		**145**	**185**			1695
16:45		112	7		96		67		49	225			556
17:00		116	8		91		79		57	270			621
17:15		103	8		79		55		61	256			562
17:30		112	8		103		62		48	253			586
PM PEAK		**443**	**31**		**369**		**263**		**215**	**1004**			2325

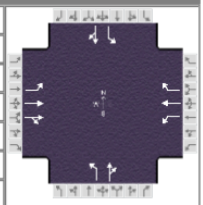
2/14/2018

Interval Start Time	*Taylorsville Lake Rd* From North			*Taylorsville Lake Rd* From South			*Routt Rd* From West			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00		27	2	1	220		52		0	302
7:15		40	4	0	243		84		0	371
7:30		55	6	1	290		77		0	429
7:45		49	7	1	239		70		2	368
8:00		53	9	0	214		60		0	336
8:15		59	10	0	237		55		1	362
8:30		52	12	0	188		44		0	296
8:45		57	8	1	166		37		0	269
AM TOTALS		**392**	**58**	**4**	**1797**		**479**		**3**	2733
16:00		172	45	1	53		19		0	290
16:15		215	76	0	73		22		2	388
16:30		272	67	0	111		34		1	485
16:45		232	68	2	92		9		1	404
17:00		245	63	0	77		21		0	406
17:15		250	66	0	85		34		0	435
17:30		255	78	1	92		21		1	448
17:45		234	75	1	54		24		0	388
PM TOTALS		**1875**	**538**	**5**	**637**		**184**		**5**	3244
7:15		40	4	0	243		84		0	371
7:30		55	6	1	290		77		0	429
7:45		49	7	1	239		70		2	368
8:00		53	9	0	214		60		0	336
AM PEAK		**197**	**26**	**2**	**986**		**291**		**2**	1504
16:30		272	67	0	111		34		1	485
16:45		232	68	2	92		9		1	404
17:00		245	63	0	77		21		0	406
17:15		250	66	0	85		34		0	435
PM PEAK		**999**	**264**	**2**	**365**		**98**		**2**	1730

HCS Reports

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.79
Urban Street	Taylorsville Road	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	Stone Lakes Drive	File Name	AM 18.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	178	474	13	15	686	333	69	61	67	206	26	184

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	Off

Green	2.6	0.8	57.8	34.3	0.0	0.0	
Yellow	3.5	3.5	4.3	3.6	0.0	0.0	
Red	3.0	3.0	1.5	2.1	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		6.0		6.0
Phase Duration, s	16.4	70.9	9.1	63.6		40.0		40.0
Change Period, (*Y+R c*), s	6.5	5.8	6.5	5.8		5.7		5.7
Max Allow Headway (*MAH*), s	5.0	0.0	5.0	0.0		5.3		5.3
Queue Clearance Time (*g s*), s	9.2		2.6			27.2		36.1
Green Extension Time (*g e*), s	0.7	0.0	0.0	0.0		0.7		0.0
Phase Call Probability	1.00		0.44			1.00		1.00
Max Out Probability	0.12		0.00			0.45		1.00

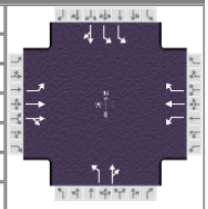
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	225	310	307	17	793	385	87	162		261	266	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1856	1838	1795	1841	1598	1131	1696		1234	1628	
Queue Service Time (*g s*), s	7.2	11.0	11.0	0.6	43.8	8.6	8.5	9.0		25.1	16.7	
Cycle Queue Clearance Time (*g c*), s	7.2	11.0	11.0	0.6	43.8	8.6	25.2	9.0		34.1	16.7	
Green Ratio (*g/C*)	0.58	0.54	0.54	0.50	0.48	0.48	0.29	0.29		0.29	0.29	
Capacity (*c*), veh/h	289	1006	996	452	886	769	235	485		330	465	
Volume-to-Capacity Ratio (*X*)	0.780	0.308	0.308	0.038	0.896	0.501	0.371	0.334		0.789	0.571	
Back of Queue (*Q*), ft/ln (90 th percentile)	149.8	186.8	181.6	10.6	560.2	107.1	109	157.1		310.8	252.5	
Back of Queue (*Q*), veh/ln (90 th percentile)	5.9	7.3	7.3	0.4	21.7	4.3	4.4	6.1		12.3	10.0	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.86	0.37	0.37	0.06	0.56	0.21	0.56	0.79		0.89	0.72	
Uniform Delay (*d 1*), s/veh	24.5	15.1	15.1	15.2	19.3	6.2	46.4	33.3		46.4	36.6	
Incremental Delay (*d 2*), s/veh	7.5	0.8	0.8	0.0	12.3	2.1	1.4	0.6		12.7	2.1	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	31.9	15.9	15.9	15.3	31.6	8.3	47.8	33.8		59.1	38.6	
Level of Service (LOS)	C	B	B	B	C	A	D	C		E	D	
Approach Delay, s/veh / LOS	20.2	C		23.9	C		38.7	D		48.8	D	
Intersection Delay, s/veh / LOS	28.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.91	B	2.29	B	2.13	B
Bicycle LOS Score / LOS	1.18	A	2.65	C	0.90	A	1.36	A

 HCS7™ Streets Version 7.4 Generated: 3/10/2018 6:06:39 PM

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.79
Urban Street	Taylorsville Road	Analysis Year	2030 No Build	Analysis Period	1> 7:00
Intersection	Stone Lakes Drive	File Name	AM 30 NB.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	251	534	15	17	773	626	78	73	75	410	32	243

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	Off

Green	2.9	4.1		49.2	24.3	9.3	0.0					
Yellow	3.5	3.5		4.3	3.6	3.6	0.0					
Red	3.0	3.0		1.5	2.1	2.1	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		10.0		10.0
Phase Duration, s	20.0	65.6	9.4	55.0		15.0		30.0
Change Period, (*Y+R c*), s	6.5	5.8	6.5	5.8		5.7		5.7
Max Allow Headway (*MAH*), s	5.0	0.0	5.0	0.0		5.0		5.1
Queue Clearance Time (*g s*), s	16.5		2.8			12.3		24.5
Green Extension Time (*g e*), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	1.00		0.48			1.00		1.00
Max Out Probability	1.00		0.00			1.00		1.00

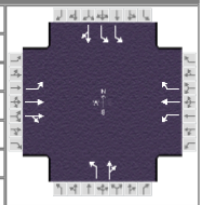
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	318	349	346	20	890	548	99	149		519	310	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1856	1837	1795	1841	1598	1810	1736		1743	1630	
Queue Service Time (*g s*), s	14.5	13.9	14.0	0.8	50.2	26.5	6.3	10.3		16.6	22.5	
Cycle Queue Clearance Time (*g c*), s	14.5	13.9	14.0	0.8	50.2	26.5	6.3	10.3		16.6	22.5	
Green Ratio (*g/C*)	0.56	0.50	0.50	0.43	0.42	0.42	0.09	0.09		0.20	0.20	
Capacity (*c*), veh/h	277	925	916	379	770	655	155	135		735	344	
Volume-to-Capacity Ratio (*X*)	1.147	0.377	0.378	0.052	1.155	0.836	0.636	1.110		0.706	0.902	
Back of Queue (*Q*), ft/ln (90 th percentile)	418.8	232.4	225.3	14.1	1188.9	204.8	137.8	325.7		270.5	391.8	
Back of Queue (*Q*), veh/ln (90 th percentile)	16.6	9.1	9.0	0.6	46.1	8.1	5.5	12.7		10.7	15.5	
Queue Storage Ratio (*RQ*) (90 th percentile)	2.39	0.46	0.46	0.07	1.19	0.41	0.71	1.63		0.77	1.12	
Uniform Delay (*d 1*), s/veh	39.6	18.6	18.6	19.7	27.6	11.1	53.0	55.0		43.9	46.7	
Incremental Delay (*d 2*), s/veh	99.9	1.2	1.2	0.1	80.6	8.9	9.5	110.1		3.4	26.2	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	139.5	19.8	19.8	19.7	108.2	20.1	62.5	165.2		47.3	72.9	
Level of Service (LOS)	F	B	B	B	F	C	E	F		D	E	
Approach Delay, s/veh / LOS	57.3	E		73.9	E		124.3	F		56.9	E	
Intersection Delay, s/veh / LOS	68.7						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	2.15	B	2.54	C	2.15	B
Bicycle LOS Score / LOS	1.32	A	3.13	C	0.90	A	1.86	B

 HCS7™ Streets Version 7.4 Generated: 3/25/2018 8:20:59 PM

HCS7 Signalized Intersection Results Summary

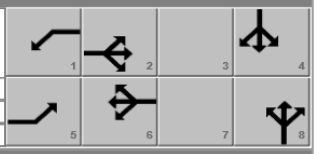
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Mar 25, 2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.79
Urban Street	Taylorsville Road	Analysis Year	2030 Build	Analysis Period	1> 7:00
Intersection	Stone Lakes Drive	File Name	AM 30 B.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	251	553	15	17	829	655	78	73	75	418	32	243

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	Off

Green	2.8	4.2	49.2	24.3	9.3	0.0						
Yellow	3.5	3.5	4.3	3.6	3.6	0.0						
Red	3.0	3.0	1.5	2.1	2.1	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		10.0		10.0
Phase Duration, s	20.0	65.7	9.3	55.0		15.0		30.0
Change Period, (*Y+R c*), s	6.5	5.8	6.5	5.8		5.7		5.7
Max Allow Headway (*MAH*), s	5.0	0.0	5.0	0.0		5.0		5.1
Queue Clearance Time (*g s*), s	16.5		2.7			12.3		24.5
Green Extension Time (*g e*), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	1.00		0.47			1.00		1.00
Max Out Probability	1.00		0.00			1.00		1.00

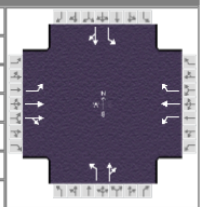
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	318	361	358	19	924	563	99	149		529	310	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1856	1838	1795	1841	1598	1810	1736		1743	1630	
Queue Service Time (*g s*), s	14.5	14.5	14.5	0.7	50.2	28.5	6.3	10.3		16.9	22.5	
Cycle Queue Clearance Time (*g c*), s	14.5	14.5	14.5	0.7	50.2	28.5	6.3	10.3		16.9	22.5	
Green Ratio (*g/C*)	0.56	0.50	0.50	0.43	0.42	0.42	0.09	0.09		0.20	0.20	
Capacity (*c*), veh/h	277	926	917	369	770	655	155	135		735	344	
Volume-to-Capacity Ratio (*X*)	1.147	0.390	0.390	0.051	1.201	0.860	0.636	1.110		0.720	0.902	
Back of Queue (*Q*), ft/ln (90 th percentile)	418.8	240.8	233.6	13.6	1329.6	212	137.8	325.7		276.5	391.8	
Back of Queue (*Q*), veh/ln (90 th percentile)	16.6	9.4	9.3	0.5	51.5	8.4	5.5	12.7		11.0	15.5	
Queue Storage Ratio (*RQ*) (90 th percentile)	2.39	0.48	0.48	0.07	1.33	0.42	0.71	1.63		0.79	1.12	
Uniform Delay (*d 1*), s/veh	39.6	18.7	18.7	19.7	26.8	11.1	53.0	55.0		44.1	46.7	
Incremental Delay (*d 2*), s/veh	99.9	1.2	1.2	0.1	99.2	10.2	9.5	110.1		3.7	26.2	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	139.5	19.9	19.9	19.8	126.0	21.3	62.5	165.2		47.8	72.9	
Level of Service (LOS)	F	B	B	B	F	C	E	F		D	E	
Approach Delay, s/veh / LOS	56.6	E		85.5	F		124.3	F		57.1	E	
Intersection Delay, s/veh / LOS	73.3						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	2.15	B	2.54	C	2.15	B
Bicycle LOS Score / LOS	1.34	A	3.31	C	0.90	A	1.87	B

 HCS7™ Streets Version 7.4 Generated: 3/25/2018 8:20:59 PM

HCS7 Signalized Intersection Results Summary

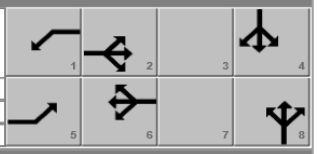
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.97
Urban Street	Taylorsville Road	Analysis Year	2018	Analysis Period	1> 4:00
Intersection	Stone Lakes Drive	File Name	PM 18.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	41	1064	39	31	566	308	37	20	26	352	30	78

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	Off

Green	3.9	0.7	63.2	34.3	0.0	0.0	
Yellow	3.5	0.0	4.3	3.6	0.0	0.0	
Red	3.0	0.0	1.5	2.1	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		6.0		6.0
Phase Duration, s	11.0	69.6	10.4	69.0		40.0		40.0
Change Period, (*Y+R c*), s	6.5	5.8	6.5	5.8		5.7		5.7
Max Allow Headway (*MAH*), s	5.0	0.0	5.0	0.0		5.1		5.1
Queue Clearance Time (*g s*), s	3.3		2.9			10.9		35.9
Green Extension Time (*g e*), s	0.0	0.0	0.0	0.0		0.4		0.0
Phase Call Probability	0.76		0.64			1.00		1.00
Max Out Probability	0.80		0.53			0.00		1.00

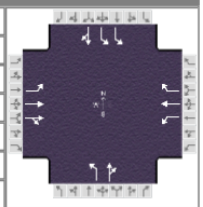
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	42	572	565	31	563	306	38	47		363	111	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1856	1832	1795	1841	1598	1302	1684		1369	1668	
Queue Service Time (*g s*), s	1.3	25.0	25.0	0.9	27.3	8.2	2.8	2.5		31.5	6.1	
Cycle Queue Clearance Time (*g c*), s	1.3	25.0	25.0	0.9	27.3	8.2	8.9	2.5		33.9	6.1	
Green Ratio (*g/C*)	0.56	0.53	0.53	0.56	0.53	0.53	0.29	0.29		0.29	0.29	
Capacity (*c*), veh/h	383	987	975	271	969	841	366	481		434	477	
Volume-to-Capacity Ratio (*X*)	0.110	0.579	0.580	0.114	0.581	0.364	0.104	0.099		0.835	0.233	
Back of Queue (*Q*), ft/ln (90 th percentile)	22.3	378.9	366.8	16.3	425.4	113.1	39.6	46.4		409.5	111.8	
Back of Queue (*Q*), veh/ln (90 th percentile)	0.9	14.8	14.7	0.6	16.5	4.5	1.6	1.8		16.3	4.4	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.13	0.76	0.75	0.09	0.43	0.23	0.20	0.23		1.17	0.32	
Uniform Delay (*d 1*), s/veh	14.9	19.0	19.0	14.7	23.1	8.5	36.2	31.5		43.1	32.8	
Incremental Delay (*d 2*), s/veh	0.2	2.5	2.5	0.2	2.3	1.1	0.2	0.1		13.7	0.4	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	15.1	21.5	21.5	14.9	25.4	9.6	36.4	31.6		56.8	33.1	
Level of Service (LOS)	B	C	C	B	C	A	D	C		E	C	
Approach Delay, s/veh / LOS	21.3	C		19.7	B		33.7	C		51.3	D	
Intersection Delay, s/veh / LOS	26.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	2.29	B	2.13	B
Bicycle LOS Score / LOS	1.46	A	2.03	B	0.63	A	1.27	A

 HCS7™ Streets Version 7.4 Generated: 3/8/2018 3:06:48 PM

HCS7 Signalized Intersection Results Summary

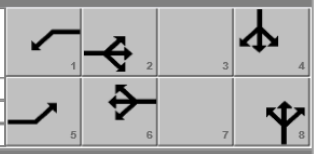
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Mar 25, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.97
Urban Street	Taylorsville Road	Analysis Year	2030 No Build	Analysis Period	1> 4:00
Intersection	Stone Lakes Drive	File Name	PM 30 NB.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	1199	44	35	638	648	42	27	29	693	38	147

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	Off

Green	4.1	1.8	60.5	24.3	5.7	0.0						
Yellow	3.5	0.0	4.3	3.6	3.6	0.0						
Red	3.0	0.0	1.5	2.1	2.1	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		10.0		10.0
Phase Duration, s	12.4	68.0	10.6	66.3		11.4		30.0
Change Period, (*Y+R c*), s	6.5	5.8	6.5	5.8		5.7		5.7
Max Allow Headway (*MAH*), s	5.0	0.0	5.0	0.0		5.0		5.0
Queue Clearance Time (*g s*), s	5.6		3.1			4.8		26.4
Green Extension Time (*g e*), s	0.2	0.0	0.0	0.0		0.1		0.0
Phase Call Probability	0.98		0.68			0.94		1.00
Max Out Probability	0.33		0.01			1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	112	644	637	34	629	491	43	42		714	160	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1856	1832	1795	1841	1598	1810	1748		1743	1660	
Queue Service Time (*g s*), s	3.6	30.7	30.8	1.1	28.9	15.1	2.8	2.8		24.4	10.2	
Cycle Queue Clearance Time (*g c*), s	3.6	30.7	30.8	1.1	28.9	15.1	2.8	2.8		24.4	10.2	
Green Ratio (*g/C*)	0.55	0.52	0.52	0.54	0.50	0.50	0.05	0.05		0.20	0.20	
Capacity (*c*), veh/h	359	963	950	228	928	805	85	82		735	336	
Volume-to-Capacity Ratio (*X*)	0.313	0.669	0.670	0.151	0.677	0.609	0.508	0.513		0.972	0.475	
Back of Queue (*Q*), ft/ln (90 th percentile)	64.8	460.1	445.8	19.5	379.8	138.6	63.2	63.6		441.6	172.4	
Back of Queue (*Q*), veh/ln (90 th percentile)	2.6	18.0	17.8	0.8	14.7	5.5	2.5	2.5		17.5	6.8	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.37	0.92	0.91	0.10	0.38	0.28	0.32	0.32		1.26	0.49	
Uniform Delay (*d 1*), s/veh	16.9	21.3	21.3	17.3	19.3	7.9	55.8	55.8		47.0	42.2	
Incremental Delay (*d 2*), s/veh	0.7	3.7	3.8	0.3	2.4	2.1	6.5	6.9		26.4	1.5	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	17.6	25.0	25.1	17.6	21.7	10.0	62.3	62.7		73.4	43.7	
Level of Service (LOS)	B	C	C	B	C	B	E	E		E	D	
Approach Delay, s/veh / LOS	24.4	C		16.6	B		62.5	E		67.9	E	
Intersection Delay, s/veh / LOS	33.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	2.14	B	2.54	C	2.15	B
Bicycle LOS Score / LOS	1.64	B	2.48	B	0.63	A	1.93	B

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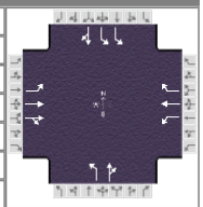
HCS7 Signalized Intersection Results Summary

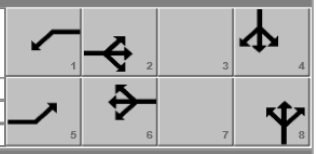
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Mar 25, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.97
Urban Street	Taylorsville Road	Analysis Year	2030 Build	Analysis Period	1> 4:00
Intersection	Stone Lakes Drive	File Name	PM 30 B.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	1270	44	35	674	668	42	27	29	716	38	147

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	Off

Green	4.1	1.8	60.5	24.3	5.7	0.0	
Yellow	3.5	0.0	4.3	3.6	3.6	0.0	
Red	3.0	0.0	1.5	2.1	2.1	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		10.0		10.0
Phase Duration, s	12.4	68.0	10.6	66.3		11.4		30.0
Change Period, (*Y+R c*), s	6.5	5.8	6.5	5.8		5.7		5.7
Max Allow Headway (*MAH*), s	5.0	0.0	5.0	0.0		5.0		5.0
Queue Clearance Time (*g s*), s	5.6		3.1			4.8		27.3
Green Extension Time (*g e*), s	0.2	0.0	0.0	0.0		0.1		0.0
Phase Call Probability	0.98		0.68			0.94		1.00
Max Out Probability	0.33		0.01			1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	112	681	674	35	666	512	43	42		738	160	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1856	1833	1795	1841	1598	1810	1748		1743	1660	
Queue Service Time (*g s*), s	3.6	33.5	33.6	1.1	31.5	16.2	2.8	2.8		25.3	10.2	
Cycle Queue Clearance Time (*g c*), s	3.6	33.5	33.6	1.1	31.5	16.2	2.8	2.8		25.3	10.2	
Green Ratio (*g/C*)	0.55	0.52	0.52	0.54	0.50	0.50	0.05	0.05		0.20	0.20	
Capacity (*c*), veh/h	335	962	951	212	928	805	85	82		735	336	
Volume-to-Capacity Ratio (*X*)	0.336	0.707	0.709	0.164	0.718	0.636	0.508	0.513		1.004	0.475	
Back of Queue (*Q*), ft/ln (90 th percentile)	65.1	498.3	483.9	19.6	407.4	142.9	63.2	63.6		477.3	172.4	
Back of Queue (*Q*), veh/ln (90 th percentile)	2.6	19.5	19.4	0.8	15.8	5.7	2.5	2.5		18.9	6.8	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.37	1.00	0.99	0.10	0.41	0.29	0.32	0.32		1.36	0.49	
Uniform Delay (*d 1*), s/veh	17.6	22.0	22.0	18.2	19.5	7.9	55.8	55.8		47.4	42.2	
Incremental Delay (*d 2*), s/veh	0.8	4.4	4.5	0.3	2.9	2.3	6.5	6.9		34.2	1.5	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	18.5	26.3	26.4	18.5	22.4	10.2	62.3	62.7		81.6	43.7	
Level of Service (LOS)	B	C	C	B	C	B	E	E		F	D	
Approach Delay, s/veh / LOS	25.8	C		17.1	B		62.5	E		74.8	E	
Intersection Delay, s/veh / LOS	35.8						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	2.14	B	2.54	C	2.15	B
Bicycle LOS Score / LOS	1.70	B	2.57	C	0.63	A	1.97	B

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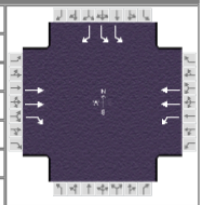
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.95
Urban Street	Taylorsville Road	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	I 265 SB Ramps	File Name	AM 18.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		550	263	250	886					152		243

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	10.0	68.6	23.2	0.0	0.0	0.0				
Yellow	3.5	4.3	3.5	0.0	0.0	0.0				
Red	2.8	1.6	2.5	0.0	0.0	0.0	5	6	7	8

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		74.5	16.3	90.8				29.2
Change Period, (*Y+R* $_c$), s		5.9	6.3	5.9				6.0
Max Allow Headway (*MAH*), s		0.0	4.0	0.0				5.2
Queue Clearance Time (g_s), s			8.9					21.3
Green Extension Time (g_e), s		0.0	0.8	0.0				2.0
Phase Call Probability			1.00					1.00
Max Out Probability			0.00					0.09

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		640	306	265	940					160		256
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1742		1781	1806					1702		1541
Queue Service Time (g_s), s		10.1		6.9	23.7					4.8		19.3
Cycle Queue Clearance Time (g_c), s		10.1		6.9	23.7					4.8		19.3
Green Ratio (*g/C*)		0.57		0.67	0.61					0.19		0.19
Capacity (*c*), veh/h		1991		593	2215					659		298
Volume-to-Capacity Ratio (*X*)		0.321		0.447	0.424					0.243		0.857
Back of Queue (*Q*), ft/ln (90 th percentile)		147.2		102.8	363.7					92		301.8
Back of Queue (*Q*), veh/ln (90 th percentile)		5.8		4.0	14.4					3.6		11.9
Queue Storage Ratio (*RQ*) (90 th percentile)		0.29		0.37	0.52					0.26		0.86
Uniform Delay (d_1), s/veh		11.2		8.6	18.7					40.9		46.8
Incremental Delay (d_2), s/veh		0.4		0.4	0.4					0.3		12.9
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		11.6	0.0	9.0	19.2					41.2		59.6
Level of Service (LOS)		B	A	A	B					D		E
Approach Delay, s/veh / LOS	7.8	A		16.9	B		0.0			52.5	D	
Intersection Delay, s/veh / LOS	19.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.38	A	1.86	B	2.32	B	2.33	B
Bicycle LOS Score / LOS	1.19	A	1.47	A				F

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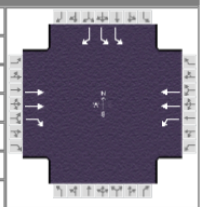
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.95
Urban Street	Taylorsville Road	Analysis Year	2030 No Build	Analysis Period	1> 7:00
Intersection	I 265 SB Ramps	File Name	AM 30 NB.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		775	347	317	1179					193		416

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	13.5	54.3	34.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	4.3	3.5	0.0	0.0	0.0			
				Red	2.8	1.6	2.5	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		60.2	19.8	80.0				40.0
Change Period, ($Y+R_c$), s		5.9	6.3	5.9				6.0
Max Allow Headway (*MAH*), s		0.0	4.0	0.0				5.2
Queue Clearance Time (g_s), s			13.0					34.8
Green Extension Time (g_e), s		0.0	0.6	0.0				0.0
Phase Call Probability			1.00					1.00
Max Out Probability			0.39					1.00

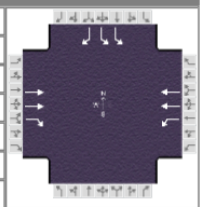
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		891	399	325	1209					203		438
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1774		1781	1846					1702		1587
Queue Service Time (g_s), s		23.2		11.0	30.5					5.5		32.8
Cycle Queue Clearance Time (g_c), s		23.2		11.0	30.5					5.5		32.8
Green Ratio (*g/C*)		0.45		0.58	0.62					0.28		0.28
Capacity (*c*), veh/h		1604		422	2280					965		450
Volume-to-Capacity Ratio (*X*)		0.555		0.770	0.530					0.211		0.974
Back of Queue (*Q*), ft/ln (90 th percentile)		341.9		136.6	397.4					102.8		558.4
Back of Queue (*Q*), veh/ln (90 th percentile)		13.6		5.4	15.8					4.0		22.0
Queue Storage Ratio (*RQ*) (90 th percentile)		0.68		0.50	0.57					0.29		1.60
Uniform Delay (d_1), s/veh		26.7		19.0	23.6					32.8		42.6
Incremental Delay (d_2), s/veh		1.1		0.9	0.1					0.2		35.7
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		27.8	0.0	20.0	23.7					32.9		78.3
Level of Service (LOS)		C	A	B	C					C		E
Approach Delay, s/veh / LOS	19.2	B		22.9	C		0.0			63.9		E
Intersection Delay, s/veh / LOS	29.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.40	A	1.88	B	2.32	B	2.33	B
Bicycle LOS Score / LOS	1.46	A	1.79	B				F

 HCS7™ Streets Version 7.4 Generated: 3/25/2018 8:20:59 PM

HCS7 Signalized Intersection Results Summary

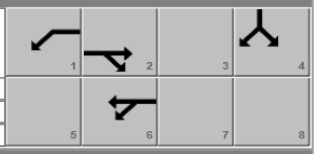
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Mar 25, 2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.95
Urban Street	Taylorsville Road	Analysis Year	2030 Build	Analysis Period	1> 7:00
Intersection	I 265 SB Ramps	File Name	AM 30 B.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		802	347	368	1264					239		416

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	15.1	52.7	34.0	0.0	0.0	0.0	
Yellow	3.5	4.3	3.5	0.0	0.0	0.0	
Red	2.8	1.6	2.5	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		58.6	21.4	80.0				40.0
Change Period, (*Y+R c*), s		5.9	6.3	5.9				6.0
Max Allow Headway (*MAH*), s		0.0	4.0	0.0				5.2
Queue Clearance Time (*g s*), s			14.5					34.8
Green Extension Time (*g e*), s		0.0	0.5	0.0				0.0
Phase Call Probability			1.00					1.00
Max Out Probability			0.94					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		924	400	366	1259					252		438
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1783		1781	1854					1702		1587
Queue Service Time (*g s*), s		24.5		12.5	31.7					6.9		32.8
Cycle Queue Clearance Time (*g c*), s		24.5		12.5	31.7					6.9		32.8
Green Ratio (*g/C*)		0.44		0.58	0.62					0.28		0.28
Capacity (*c*), veh/h		1566		426	2290					965		450
Volume-to-Capacity Ratio (*X*)		0.590		0.860	0.550					0.261		0.974
Back of Queue (*Q*), ft/ln (90 th percentile)		357.6		155.2	403.7					126.9		558.4
Back of Queue (*Q*), veh/ln (90 th percentile)		14.2		6.1	16.0					4.9		22.0
Queue Storage Ratio (*RQ*) (90 th percentile)		0.72		0.56	0.58					0.36		1.60
Uniform Delay (*d 1*), s/veh		27.6		21.3	23.8					33.3		42.6
Incremental Delay (*d 2*), s/veh		1.3		1.4	0.1					0.2		35.7
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		28.9	0.0	22.7	23.9					33.5		78.3
Level of Service (LOS)		C	A	C	C					C		E
Approach Delay, s/veh / LOS	20.2	C		23.6	C		0.0			61.9		E
Intersection Delay, s/veh / LOS	29.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.40	A	1.88	B	2.32	B	2.33	B
Bicycle LOS Score / LOS	1.49	A	1.90	B				F

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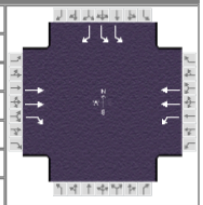
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.96
Urban Street	Taylorsville Road	Analysis Year	2018	Analysis Period	1> 4:00
Intersection	I 265 SB Ramps	File Name	PM 18.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		768	456	160	457					511		410

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	10.0	55.0		36.8	0.0	0.0	0.0					
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	4.3		3.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.8	1.6		2.5	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		60.9	16.3	77.2				42.8
Change Period, ($Y+R_c$), s		5.9	6.3	5.9				6.0
Max Allow Headway (*MAH*), s		0.0	4.0	0.0				5.1
Queue Clearance Time (g_s), s			7.3					32.1
Green Extension Time (g_e), s		0.0	0.4	0.0				4.8
Phase Call Probability			1.00					1.00
Max Out Probability			0.00					0.41

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		933	554	166	473					532		427
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1811		1795	1726					1743		1609
Queue Service Time (g_s), s		20.1		5.3	12.2					15.0		30.1
Cycle Queue Clearance Time (g_c), s		20.1		5.3	12.2					15.0		30.1
Green Ratio (*g/C*)		0.46		0.56	0.59					0.31		0.31
Capacity (*c*), veh/h		1660		385	2050					1070		494
Volume-to-Capacity Ratio (*X*)		0.562		0.430	0.231					0.497		0.865
Back of Queue (*Q*), ft/ln (90 th percentile)		262		104.2	205.6					236.9		440.5
Back of Queue (*Q*), veh/ln (90 th percentile)		10.4		4.1	8.1					9.4		17.6
Queue Storage Ratio (*RQ*) (90 th percentile)		0.52		0.38	0.29					0.68		1.26
Uniform Delay (d_1), s/veh		19.0		17.2	21.0					34.0		39.2
Incremental Delay (d_2), s/veh		1.0		0.7	0.2					0.5		12.0
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		20.0	0.0	17.8	21.3					34.5		51.3
Level of Service (LOS)		C	A	B	C					C		D
Approach Delay, s/veh / LOS	12.6	B		20.4	C		0.0			42.0	D	
Intersection Delay, s/veh / LOS	23.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.40	A	1.89	B	2.32	B	2.33	B
Bicycle LOS Score / LOS	1.54	B	1.02	A				F

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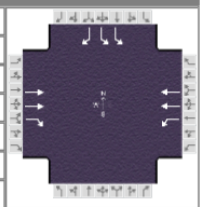
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Mar 25, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.96
Urban Street	Taylorsville Road	Analysis Year	2030 No Build	Analysis Period	1> 4:00
Intersection	I 265 SB Ramps	File Name	PM 30 NB.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1185	599	203	682					648		634

Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	10.1	47.7	44.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	4.3	3.5	0.0	0.0	0.0		
				Red	2.8	1.6	2.5	0.0	0.0	0.0		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		53.6	16.4	70.0				50.0
Change Period, (*Y+R* $_c$), s		5.9	6.3	5.9				6.0
Max Allow Headway (*MAH*), s		0.0	4.0	0.0				5.1
Queue Clearance Time (g_s), s			9.8					46.0
Green Extension Time (g_e), s		0.0	0.2	0.0				0.0
Phase Call Probability			1.00					1.00
Max Out Probability			1.00					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1315	665	214	718					675		660
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1916		1795	1760					1743		1672
Queue Service Time (g_s), s		37.3		7.8	20.8					18.2		44.0
Cycle Queue Clearance Time (g_c), s		37.3		7.8	20.8					18.2		44.0
Green Ratio (*g/C*)		0.40		0.50	0.53					0.37		0.37
Capacity (*c*), veh/h		1524		247	1880					1278		613
Volume-to-Capacity Ratio (*X*)		0.863		0.865	0.382					0.528		1.077
Back of Queue (*Q*), ft/ln (90 th percentile)		513.1		179.2	337					275.4		885.3
Back of Queue (*Q*), veh/ln (90 th percentile)		20.4		7.1	13.3					10.9		35.4
Queue Storage Ratio (*RQ*) (90 th percentile)		1.03		0.65	0.48					0.79		2.53
Uniform Delay (d_1), s/veh		31.0		29.0	29.8					29.8		38.0
Incremental Delay (d_2), s/veh		3.7		16.1	0.5					0.5		58.9
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		34.8	0.0	45.1	30.3					30.4		96.9
Level of Service (LOS)		C	A	D	C					C		F
Approach Delay, s/veh / LOS	23.1	C		33.7	C		0.0			63.3		E
Intersection Delay, s/veh / LOS	38.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.40	A	1.90	B	2.32	B	2.33	B
Bicycle LOS Score / LOS	2.02	B	1.25	A				F

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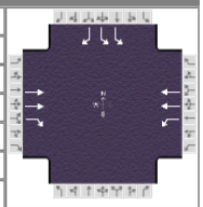
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Mar 25, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.96
Urban Street	Taylorsville Road	Analysis Year	2030 Build	Analysis Period	1> 4:00
Intersection	I 265 SB Ramps	File Name	PM 30 B.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1279	599	236	738					798		634

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2		L	T	R	L	T	R	L	T	R	L	T	R
Offset, s	0	Reference Point	End	Green	13.7	44.1		44.0	0.0	0.0	0.0					
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	4.3		3.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.8	1.6		2.5	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		50.0	20.0	70.0				50.0
Change Period, (*Y+R* $_c$), s		5.9	6.3	5.9				6.0
Max Allow Headway (*MAH*), s		0.0	4.0	0.0				5.1
Queue Clearance Time (*g* $_s$), s			14.5					46.0
Green Extension Time (*g* $_e$), s		0.0	0.0	0.0				0.0
Phase Call Probability			1.00					1.00
Max Out Probability			1.00					1.00

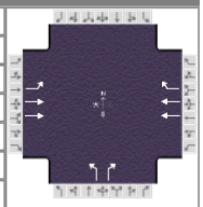
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1413	662	248	777					831		660
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1933		1795	1768					1743		1672
Queue Service Time (*g* $_s$), s		43.7		12.5	22.5					23.8		44.0
Cycle Queue Clearance Time (*g* $_c$), s		43.7		12.5	22.5					23.8		44.0
Green Ratio (*g/C*)		0.37		0.50	0.53					0.37		0.37
Capacity (*c*), veh/h		1420		266	1889					1278		613
Volume-to-Capacity Ratio (*X*)		0.995		0.933	0.411					0.650		1.077
Back of Queue (*Q*), ft/ln (90 th percentile)		634.4		362.8	361.4					348.2		885.3
Back of Queue (*Q*), veh/ln (90 th percentile)		25.2		14.4	14.2					13.8		35.4
Queue Storage Ratio (*RQ*) (90 th percentile)		1.27		1.32	0.52					0.99		2.53
Uniform Delay (*d* $_1$), s/veh		33.6		42.9	30.3					31.6		38.0
Incremental Delay (*d* $_2$), s/veh		15.3		32.5	0.5					1.3		58.9
Initial Queue Delay (*d* $_3$), s/veh		0.0		0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		48.8	0.0	75.4	30.8					32.9		96.9
Level of Service (LOS)		D	A	E	C					C		F
Approach Delay, s/veh / LOS	33.3	C		41.6	D		0.0			61.3	E	
Intersection Delay, s/veh / LOS	44.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.41	A	1.90	B	2.32	B	2.33	B
Bicycle LOS Score / LOS	2.10	B	1.32	A				F

 HCS7™ Streets Version 7.4 Generated: 3/25/2018 8:47:45 PM

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.95
Urban Street	Taylorsville Road	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	I 265 NB Ramps	File Name	AM 18.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	390	317			695	625	450		206			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	16.9	54.3	33.8	0.0	0.0	0.0	
Yellow	3.5	3.5	3.5	0.0	0.0	0.0	
Red	1.5	1.5	1.5	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	21.9	81.2		59.3		38.8		
Change Period, (*Y+R c*), s	5.0	5.0		5.0		5.0		
Max Allow Headway (*MAH*), s	4.0	0.0		0.0		4.1		
Queue Clearance Time (*g s*), s	15.4					32.5		
Green Extension Time (*g e*), s	1.5	0.0		0.0		1.2		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.90		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	441	359			732	658	474		217			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1697			1724		1795					
Queue Service Time (*g s*), s	13.4	7.8			17.7		30.5					
Cycle Queue Clearance Time (*g c*), s	13.4	7.8			17.7		30.5					
Green Ratio (*g/C*)	0.61	0.64			0.45		0.28					
Capacity (*c*), veh/h	536	2156			1561		520					
Volume-to-Capacity Ratio (*X*)	0.823	0.166			0.469		0.911					
Back of Queue (*Q*), ft/ln (90 th percentile)	267.9	130.7			262.6		519.1					
Back of Queue (*Q*), veh/ln (90 th percentile)	10.6	5.1			10.4		20.6					
Queue Storage Ratio (*RQ*) (90 th percentile)	1.34	0.19			0.53		1.04					
Uniform Delay (*d 1*), s/veh	19.8	14.8			22.8		41.1					
Incremental Delay (*d 2*), s/veh	4.1	0.2			1.0		18.0					
Initial Queue Delay (*d 3*), s/veh	0.0	0.0			0.0		0.0					
Control Delay (*d*), s/veh	23.8	14.9			23.8	0.0	59.1		0.0			
Level of Service (LOS)	C	B			C	A	E		A			
Approach Delay, s/veh / LOS	19.9	B		12.5	B		40.6	D		0.0		
Intersection Delay, s/veh / LOS	21.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	1.40	A	2.33	B	2.32	B
Bicycle LOS Score / LOS	1.10	A	1.63	B		F		

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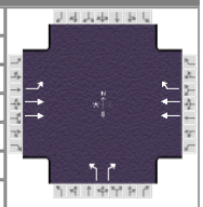
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.95
Urban Street	Taylorsville Road	Analysis Year	2030 No Build	Analysis Period	1> 7:00
Intersection	I 265 NB Ramps	File Name	AM 30 NB.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	540	428			917	793	579		261			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	32.0	36.0	37.0	0.0	0.0	0.0	5	6	7	8		
Yellow	3.5	3.5	3.5	0.0	0.0	0.0						
Red	1.5	1.5	1.5	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	37.0	78.0		41.0		42.0		
Change Period, (*Y+R c*), s	5.0	5.0		5.0		5.0		
Max Allow Headway (*MAH*), s	4.0	0.0		0.0		4.1		
Queue Clearance Time (*g s*), s	35.0					40.0		
Green Extension Time (*g e*), s	0.0	0.0		0.0		0.0		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	610	484			965	835	609		275			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1714			1750		1795					
Queue Service Time (*g s*), s	33.0	12.3			32.0		38.0					
Cycle Queue Clearance Time (*g c*), s	33.0	12.3			32.0		38.0					
Green Ratio (*g/C*)	0.60	0.50			0.30		0.31					
Capacity (*c*), veh/h	578	1730			1050		569					
Volume-to-Capacity Ratio (*X*)	1.055	0.280			0.919		1.072					
Back of Queue (*Q*), ft/ln (90 th percentile)	871.7	202.6			509.2		834.7					
Back of Queue (*Q*), veh/ln (90 th percentile)	34.6	7.9			20.2		33.1					
Queue Storage Ratio (*RQ*) (90 th percentile)	4.36	0.29			1.02		1.67					
Uniform Delay (*d 1*), s/veh	49.1	19.4			40.6		41.0					
Incremental Delay (*d 2*), s/veh	50.3	0.3			14.0		58.5					
Initial Queue Delay (*d 3*), s/veh	0.0	0.0			0.0		0.0					
Control Delay (*d*), s/veh	99.4	19.8			54.6	0.0	99.5		0.0			
Level of Service (LOS)	F	B			D	A	F		A			
Approach Delay, s/veh / LOS	64.2	E		29.3	C		68.6	E		0.0		
Intersection Delay, s/veh / LOS	48.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	1.42	A	2.33	B	2.32	B
Bicycle LOS Score / LOS	1.33	A	1.97	B		F		

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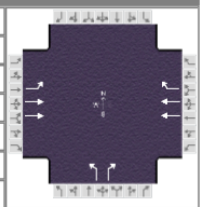
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Mar 25, 2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.95
Urban Street	Taylorsville Road	Analysis Year	2030 Build	Analysis Period	1> 7:00
Intersection	I 265 NB Ramps	File Name	AM 30 B.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	540	501			1053	929	579		278			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	32.0	36.0	37.0	0.0	0.0	0.0	
Yellow	3.5	3.5	3.5	0.0	0.0	0.0	
Red	1.5	1.5	1.5	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	37.0	78.0		41.0		42.0		
Change Period, (*Y+R c*), s	5.0	5.0		5.0		5.0		
Max Allow Headway (*MAH*), s	4.0	0.0		0.0		4.1		
Queue Clearance Time (*g s*), s	35.0					40.0		
Green Extension Time (*g e*), s	0.0	0.0		0.0		0.0		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	610	566			1108	978	609		293			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1725			1761		1795					
Queue Service Time (*g s*), s	33.0	14.3			36.0		38.0					
Cycle Queue Clearance Time (*g c*), s	33.0	14.3			36.0		38.0					
Green Ratio (*g/C*)	0.60	0.61			0.30		0.31					
Capacity (*c*), veh/h	558	2098			1056		569					
Volume-to-Capacity Ratio (*X*)	1.093	0.270			1.049		1.072					
Back of Queue (*Q*), ft/ln (90 th percentile)	918.4	237.5			698.2		834.7					
Back of Queue (*Q*), veh/ln (90 th percentile)	36.4	9.3			27.7		33.1					
Queue Storage Ratio (*RQ*) (90 th percentile)	4.59	0.34			1.40		1.67					
Uniform Delay (*d 1*), s/veh	51.6	20.3			42.0		41.0					
Incremental Delay (*d 2*), s/veh	63.0	0.3			41.5		58.5					
Initial Queue Delay (*d 3*), s/veh	0.0	0.0			0.0		0.0					
Control Delay (*d*), s/veh	114.6	20.6			83.5	0.0	99.5		0.0			
Level of Service (LOS)	F	C			F	A	F		A			
Approach Delay, s/veh / LOS	69.4	E		44.4	D		67.2	E		0.0		
Intersection Delay, s/veh / LOS	56.4						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	1.42	A	2.33	B	2.32	B
Bicycle LOS Score / LOS	1.39	A	2.21	B		F		

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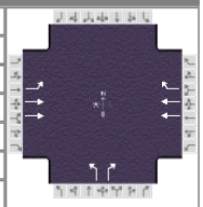
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.95
Urban Street	Taylorsville Road	Analysis Year	2018	Analysis Period	1> 4:00
Intersection	I 265 NB Ramps	File Name	PM 18.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	265	1022			359	230	248		220			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	9.8	74.0	21.2	0.0	0.0	0.0	5	6	7	8		
Yellow	3.5	3.5	3.5	0.0	0.0	0.0						
Red	1.5	1.5	1.5	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	14.8	93.8		79.0		26.2		
Change Period, (*Y+R c*), s	5.0	5.0		5.0		5.0		
Max Allow Headway (*MAH*), s	4.0	0.0		0.0		4.1		
Queue Clearance Time (*g s*), s	8.8					19.6		
Green Extension Time (*g e*), s	1.1	0.0		0.0		1.6		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.01		

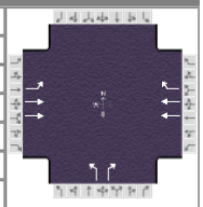
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	302	1163			378	242	261		232			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1839			1756		1767					
Queue Service Time (*g s*), s	6.8	22.4			5.5		17.1					
Cycle Queue Clearance Time (*g c*), s	6.8	22.4			5.5		17.1					
Green Ratio (*g/C*)	0.72	0.74			0.62		0.18					
Capacity (*c*), veh/h	773	2723			2166		312					
Volume-to-Capacity Ratio (*X*)	0.390	0.427			0.174		0.837					
Back of Queue (*Q*), ft/ln (90 th percentile)	103.3	332.4			91.4		292.9					
Back of Queue (*Q*), veh/ln (90 th percentile)	4.0	13.2			3.6		11.4					
Queue Storage Ratio (*RQ*) (90 th percentile)	0.52	0.47			0.18		0.59					
Uniform Delay (*d 1*), s/veh	6.4	12.1			9.9		47.8					
Incremental Delay (*d 2*), s/veh	0.3	0.4			0.2		6.2					
Initial Queue Delay (*d 3*), s/veh	0.0	0.0			0.0		0.0					
Control Delay (*d*), s/veh	6.6	12.5			10.1	0.0	54.0		0.0			
Level of Service (LOS)	A	B			B	A	D		A			
Approach Delay, s/veh / LOS	11.3		B	6.1		A	28.6		C	0.0		
Intersection Delay, s/veh / LOS	13.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	1.37	A	2.33	B	2.32	B
Bicycle LOS Score / LOS	1.61	B	1.00	A		F		

 HCS7™ Streets Version 7.4 Generated: 3/8/2018 3:06:48 PM

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Mar 25, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.95
Urban Street	Taylorsville Road	Analysis Year	2030 No Build	Analysis Period	1> 4:00
Intersection	I 265 NB Ramps	File Name	PM 30 NB.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	468	1365			498	292	387		349			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	19.4	54.7	30.9	0.0	0.0	0.0	
Yellow	3.5	3.5	3.5	0.0	0.0	0.0	
Red	1.5	1.5	1.5	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	24.4	84.1		59.7		35.9		
Change Period, (*Y+R c*), s	5.0	5.0		5.0		5.0		
Max Allow Headway (*MAH*), s	4.0	0.0		0.0		4.1		
Queue Clearance Time (*g s*), s	17.5					29.2		
Green Extension Time (*g e*), s	1.9	0.0		0.0		1.7		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.66		

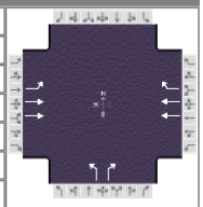
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	508	1482			524	307	407		367			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1889			1778		1767					
Queue Service Time (*g s*), s	15.5	37.4			11.3		26.4					
Cycle Queue Clearance Time (*g c*), s	15.5	37.4			11.3		26.4					
Green Ratio (*g/C*)	0.63	0.66			0.46		0.27					
Capacity (*c*), veh/h	661	2491			1621		470					
Volume-to-Capacity Ratio (*X*)	0.769	0.595			0.323		0.867					
Back of Queue (*Q*), ft/ln (90 th percentile)	257.7	552.6			186.5		444					
Back of Queue (*Q*), veh/ln (90 th percentile)	10.1	21.9			7.3		17.3					
Queue Storage Ratio (*RQ*) (90 th percentile)	1.29	0.79			0.37		0.89					
Uniform Delay (*d 1*), s/veh	15.0	23.8			20.8		42.0					
Incremental Delay (*d 2*), s/veh	1.4	0.6			0.5		13.1					
Initial Queue Delay (*d 3*), s/veh	0.0	0.0			0.0		0.0					
Control Delay (*d*), s/veh	16.5	24.5			21.4	0.0	55.1		0.0			
Level of Service (LOS)	B	C			C	A	E		A			
Approach Delay, s/veh / LOS	22.4	C		13.5	B		29.0	C		0.0		
Intersection Delay, s/veh / LOS	21.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.40	A	2.33	B	2.32	B
Bicycle LOS Score / LOS	2.08	B	1.17	A		F		

 HCS7™ Streets Version 7.4 Generated: 3/25/2018 8:47:45 PM

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Mar 25, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.95
Urban Street	Taylorsville Road	Analysis Year	2030 Build	Analysis Period	1> 4:00
Intersection	I 265 NB Ramps	File Name	PM 30 B.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	468	1609			587	381	387		405			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	20.6	50.2	34.2	0.0	0.0	0.0	
Yellow	3.5	3.5	3.5	0.0	0.0	0.0	
Red	1.5	1.5	1.5	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	25.6	80.8		55.2		39.2		
Change Period, (*Y+R c*), s	5.0	5.0		5.0		5.0		
Max Allow Headway (*MAH*), s	4.0	0.0		0.0		4.1		
Queue Clearance Time (*g s*), s	18.8					33.6		
Green Extension Time (*g e*), s	1.7	0.0		0.0		0.6		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.01					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	506	1738			618	401	407		426			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1931			1769		1767					
Queue Service Time (*g s*), s	16.8	46.4			14.8		25.4					
Cycle Queue Clearance Time (*g c*), s	16.8	46.4			14.8		25.4					
Green Ratio (*g/C*)	0.61	0.63			0.42		0.29					
Capacity (*c*), veh/h	599	2441			1481		518					
Volume-to-Capacity Ratio (*X*)	0.844	0.712			0.417		0.786					
Back of Queue (*Q*), ft/ln (90 th percentile)	265.4	668.7			235.2		410.9					
Back of Queue (*Q*), veh/ln (90 th percentile)	10.4	26.5			9.3		16.1					
Queue Storage Ratio (*RQ*) (90 th percentile)	1.33	0.96			0.47		0.82					
Uniform Delay (*d 1*), s/veh	19.3	28.9			24.6		39.0					
Incremental Delay (*d 2*), s/veh	2.4	0.7			0.9		7.6					
Initial Queue Delay (*d 3*), s/veh	0.0	0.0			0.0		0.0					
Control Delay (*d*), s/veh	21.7	29.6			25.4	0.0	46.5		0.0			
Level of Service (LOS)	C	C			C	A	D		A			
Approach Delay, s/veh / LOS	27.8	C		15.4	B		22.7	C		0.0		
Intersection Delay, s/veh / LOS	23.7						C					

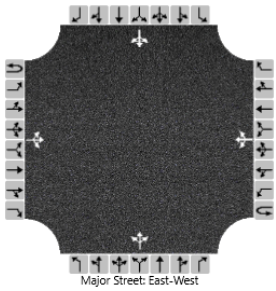
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	1.40	A	2.33	B	2.32	B
Bicycle LOS Score / LOS	2.29	B	1.33	A		F		

 HCS7™ Streets Version 7.4 Generated: 3/25/2018 8:47:45 PM

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Taylorsville at S Pope Li
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	5/29/18	East/West Street	Taylorsville Rd
Analysis Year	2018	North/South Street	S Pope Lick Road
Time Analyzed	AM Peak	Peak Hour Factor	0.94
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Covington by the Park		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		83	382	42		1	1158	242		3	1	6		6	0	34
Percent Heavy Vehicles (%)		1				1				1	1	1		1	1	1
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.11				7.11	6.51	6.21		7.11	6.51	6.21
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		88				1					11				43	
Capacity, c (veh/h)		451				1106					72				113	
v/c Ratio		0.20				0.00					0.15				0.38	
95% Queue Length, Q_{95} (veh)		0.7				0.0					0.5				1.5	
Control Delay (s/veh)		14.9		3.9		8.3		0.1			63.4				54.8	
Level of Service (LOS)		B		A		A		A			F				F	
Approach Delay (s/veh)		5.7				0.1				63.4				54.8		
Approach LOS										F				F		

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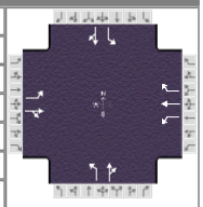
HCS7 Signalized Intersection Results Summary

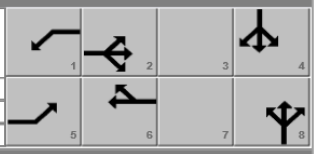
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	May 29, 2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.92
Urban Street	Taylorsvillel Road	Analysis Year	2030 No Build	Analysis Period	1> 7:00
Intersection	S Pope Lick Road	File Name	AM Pope 30 NB.xus		
Project Description	Covington By the Park Single Family				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	131	435	48	2	1318	283	4	1	7	32	1	153

Signal Information			
Cycle, s	150.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.5	3.5	109.0	14.5	0.0	0.0	
Yellow	4.0	4.0	4.0	4.0	0.0	0.0	
Red	1.5	1.5	2.0	1.5	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	2.0	3.0		6.0		6.0
Phase Duration, s	15.0	124.0	6.0	115.0		20.0		20.0
Change Period, (*Y+R c*), s	5.5	6.0	5.5	6.0		5.5		5.5
Max Allow Headway (*MAH*), s	3.9	0.0	3.9	0.0		4.1		4.1
Queue Clearance Time (*g s*), s	9.7		2.2			16.5		16.5
Green Extension Time (*g e*), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	1.00		0.09			1.00		1.00
Max Out Probability	1.00		0.00			1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	142	525		2	1433	308	4	9		35	167	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1808		1795	1841	1585	1228	1629		1418	1599	
Queue Service Time (*g s*), s	7.7	13.1		0.2	110.0	9.9	0.0	0.7		3.4	14.5	
Cycle Queue Clearance Time (*g c*), s	7.7	13.1		0.2	110.0	9.9	14.5	0.7		4.2	14.5	
Green Ratio (*g/C*)	0.80	0.79		0.00	0.73	0.73	0.10	0.10		0.10	0.10	
Capacity (*c*), veh/h	162	1422		6	1350	1152	48	157		178	165	
Volume-to-Capacity Ratio (*X*)	0.881	0.369		0.349	1.061	0.267	0.091	0.055		0.195	1.013	
Back of Queue (*Q*), ft/ln (50 th percentile)	140.2	101.2		3.4	1340.3	76.2	4.4	7.6		31.1	228.8	
Back of Queue (*Q*), veh/ln (50 th percentile)	5.6	3.9		0.1	52.0	3.0	0.2	0.3		1.2	9.1	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.70	0.10		0.02	1.68	0.38	0.04	0.03		0.16	0.38	
Uniform Delay (*d 1*), s/veh	58.2	4.8		74.6	20.0	7.0	75.0	61.5		63.4	67.3	
Incremental Delay (*d 2*), s/veh	38.7	0.7		30.4	42.6	0.6	0.8	0.1		0.5	73.4	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	96.9	5.6		104.9	62.6	7.5	75.8	61.7		63.9	140.7	
Level of Service (LOS)	F	A		F	F	A	E	E		E	F	
Approach Delay, s/veh / LOS	25.0	C		52.9	D		66.4	E		127.5	F	
Intersection Delay, s/veh / LOS	51.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.85	B	1.87	B	2.15	B	1.96	B
Bicycle LOS Score / LOS	1.59	B	3.36	C	0.51	A	0.82	A

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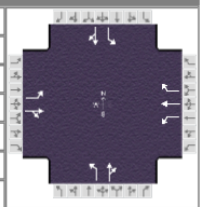
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	May 29, 2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.92
Urban Street	Taylorsvillel Road	Analysis Year	2030	Analysis Period	1> 7:00
Intersection	S Pope Lick Road	File Name	AM Pope 30 B.xus		
Project Description	Covington By the Park Single Family				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	131	525	48	2	1590	300	4	1	7	38	1	153

Signal Information			
Cycle, s	150.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.5	3.5	109.0	14.5	0.0	0.0						
Yellow	4.0	4.0	4.0	4.0	0.0	0.0						
Red	1.5	1.5	2.0	1.5	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	2.0	3.0		6.0		6.0
Phase Duration, s	15.0	124.0	6.0	115.0		20.0		20.0
Change Period, (*Y+R c*), s	5.5	6.0	5.5	6.0		5.5		5.5
Max Allow Headway (*MAH*), s	3.9	0.0	3.9	0.0		4.1		4.1
Queue Clearance Time (*g s*), s	9.7		2.2			16.5		16.5
Green Extension Time (*g e*), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	1.00		0.09			1.00		1.00
Max Out Probability	1.00		0.00			1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	142	623		2	1728	326	4	9		41	167	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1813		1795	1841	1585	1228	1629		1418	1599	
Queue Service Time (*g s*), s	7.7	16.8		0.2	110.0	10.6	0.0	0.7		4.1	14.5	
Cycle Queue Clearance Time (*g c*), s	7.7	16.8		0.2	110.0	10.6	14.5	0.7		4.8	14.5	
Green Ratio (*g/C*)	0.80	0.79		0.00	0.73	0.73	0.10	0.10		0.10	0.10	
Capacity (*c*), veh/h	162	1426		6	1350	1152	48	157		178	165	
Volume-to-Capacity Ratio (*X*)	0.881	0.437		0.349	1.280	0.283	0.091	0.055		0.232	1.013	
Back of Queue (*Q*), ft/ln (50 th percentile)	140.2	130		3.4	2205.4	81.6	4.4	7.6		37.1	228.8	
Back of Queue (*Q*), veh/ln (50 th percentile)	5.6	5.0		0.1	85.5	3.2	0.2	0.3		1.5	9.1	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.70	0.13		0.02	2.76	0.41	0.04	0.03		0.19	0.38	
Uniform Delay (*d 1*), s/veh	58.2	5.2		74.6	20.0	7.1	75.0	61.5		63.7	67.3	
Incremental Delay (*d 2*), s/veh	38.7	1.0		30.4	132.0	0.6	0.8	0.1		0.7	73.4	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	96.9	6.2		104.9	152.0	7.7	75.8	61.7		64.4	140.7	
Level of Service (LOS)	F	A		F	F	A	E	E		E	F	
Approach Delay, s/veh / LOS	23.1	C		129.0	F		66.4	E		125.6	F	
Intersection Delay, s/veh / LOS	101.9						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.85	B	1.87	B	2.15	B	1.96	B
Bicycle LOS Score / LOS	1.75	B	3.88	D	0.51	A	0.83	A

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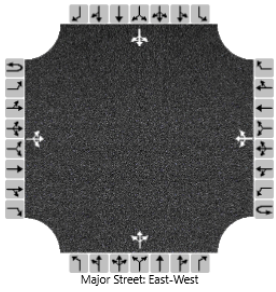
HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Taylorsville at S Pope Li
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	5/29/18	East/West Street	Taylorsville Rd
Analysis Year	2018	North/South Street	S Pope Lick Road
Time Analyzed	PM Peak	Peak Hour Factor	0.96
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Covington by the Park		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		13	1171	119		4	653	35		19	2	7		36	3	39
Percent Heavy Vehicles (%)		1				1				1	1	1		1	1	1
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.11				7.11	6.51	6.21		7.11	6.51	6.21
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				4					29				81	
Capacity, c (veh/h)		882				513					45				71	
v/c Ratio		0.02				0.01					0.65				1.14	
95% Queue Length, Q_{95} (veh)		0.0				0.0					2.5				6.2	
Control Delay (s/veh)		9.1		0.6		12.1		0.2			179.9				250.1	
Level of Service (LOS)		A		A		B		A			F				F	
Approach Delay (s/veh)		0.7				0.2				179.9				250.1		
Approach LOS										F				F		

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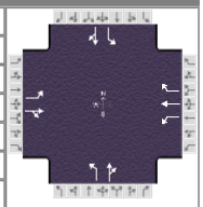
HCS7 Signalized Intersection Results Summary

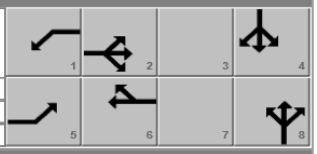
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	May 29, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.94
Urban Street	Taylorsville Road	Analysis Year	2030 No Build	Analysis Period	1> 4:00
Intersection	S Pope Lick Road	File Name	PM Pope 30 NB.xus		
Project Description	Covington By the Park Single Family				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	140	1333	135	5	743	69	22	3	8	98	2	118

Signal Information			
Cycle, s	150.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.2	4.8	112.5	14.5	0.0	0.0	
Yellow	4.0	0.0	4.0	4.0	0.0	0.0	
Red	1.5	0.0	2.0	1.5	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	2.0	3.0		6.0		6.0
Phase Duration, s	11.5	123.3	6.7	118.5		20.0		20.0
Change Period, (*Y+R c*), s	5.5	6.0	5.5	6.0		5.5		5.5
Max Allow Headway (*MAH*), s	3.9	0.0	3.9	0.0		4.1		4.1
Queue Clearance Time (*g s*), s	4.7		2.4			16.5		13.8
Green Extension Time (*g e*), s	0.2	0.0	0.0	0.0		0.0		0.1
Phase Call Probability	1.00		0.20			1.00		1.00
Max Out Probability	0.49		0.00			1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	149	1562		5	790	73	23	12		104	128	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1811		1795	1841	1585	1273	1667		1414	1602	
Queue Service Time (*g s*), s	2.7	118.3		0.4	28.2	1.8	2.8	1.0		10.9	11.7	
Cycle Queue Clearance Time (*g c*), s	2.7	118.3		0.4	28.2	1.8	14.5	1.0		11.8	11.7	
Green Ratio (*g/C*)	0.80	0.79		0.01	0.75	0.75	0.10	0.10		0.10	0.10	
Capacity (*c*), veh/h	508	1416		14	1381	1189	71	161		176	155	
Volume-to-Capacity Ratio (*X*)	0.293	1.103		0.372	0.572	0.062	0.328	0.073		0.594	0.824	
Back of Queue (*Q*), ft/ln (50 th percentile)	21.1	1421.2		6.6	246	13.4	23.5	10.2		102.7	148.9	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.8	55.1		0.3	9.5	0.5	0.9	0.4		4.1	5.9	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.11	1.42		0.03	0.31	0.07	0.23	0.03		0.51	0.25	
Uniform Delay (*d 1*), s/veh	7.0	15.9		74.0	8.2	4.9	73.6	61.6		67.0	66.5	
Incremental Delay (*d 2*), s/veh	0.3	57.3		15.3	1.7	0.1	2.6	0.2		5.3	29.0	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	7.3	73.2		89.4	9.9	5.0	76.2	61.8		72.3	95.5	
Level of Service (LOS)	A	F		F	A	A	E	E		E	F	
Approach Delay, s/veh / LOS	67.4	E		10.0	B		71.4	E		85.0	F	
Intersection Delay, s/veh / LOS	51.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.85	B	1.86	B	2.15	B	1.96	B
Bicycle LOS Score / LOS	3.31	C	1.92	B	0.55	A	0.87	A

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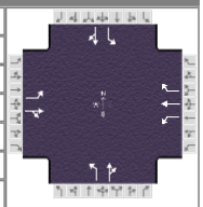
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	May 29, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.94
Urban Street	Taylorsville Road	Analysis Year	2030	Analysis Period	1> 4:00
Intersection	S Pope Lick Road	File Name	PM Pope 30 B.xus		
Project Description	Covington By the Park Single Family				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	140	1633	135	5	860	80	22	3	8	117	2	118

Signal Information			
Cycle, s	150.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.2	4.8	112.5	14.5	0.0	0.0						
Yellow	4.0	0.0	4.0	4.0	0.0	0.0						
Red	1.5	0.0	2.0	1.5	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	2.0	3.0		6.0		6.0
Phase Duration, s	11.5	123.3	6.7	118.5		20.0		20.0
Change Period, (*Y+R c*), s	5.5	6.0	5.5	6.0		5.5		5.5
Max Allow Headway (*MAH*), s	3.9	0.0	3.9	0.0		4.0		4.0
Queue Clearance Time (*g s*), s	4.7		2.4			16.5		16.1
Green Extension Time (*g e*), s	0.2	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	1.00		0.20			1.00		1.00
Max Out Probability	0.49		0.00			1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	149	1881		5	915	85	23	12		124	128	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1816		1795	1841	1585	1273	1667		1414	1602	
Queue Service Time (*g s*), s	2.7	118.3		0.4	37.0	2.1	2.8	1.0		13.2	11.7	
Cycle Queue Clearance Time (*g c*), s	2.7	118.3		0.4	37.0	2.1	14.5	1.0		14.1	11.7	
Green Ratio (*g/C*)	0.80	0.79		0.01	0.75	0.75	0.10	0.10		0.10	0.10	
Capacity (*c*), veh/h	429	1420		14	1381	1189	71	161		176	155	
Volume-to-Capacity Ratio (*X*)	0.347	1.325		0.372	0.663	0.072	0.328	0.073		0.709	0.824	
Back of Queue (*Q*), ft/ln (50 th percentile)	34.3	2379.2		6.6	325.2	15.6	23.5	10.2		131.7	148.9	
Back of Queue (*Q*), veh/ln (50 th percentile)	1.4	92.2		0.3	12.6	0.6	0.9	0.4		5.2	5.9	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.17	2.38		0.03	0.41	0.08	0.23	0.03		0.66	0.25	
Uniform Delay (*d 1*), s/veh	9.8	15.9		74.0	9.3	5.0	73.6	61.6		68.1	66.5	
Incremental Delay (*d 2*), s/veh	0.5	151.0		15.3	2.5	0.1	2.6	0.2		12.4	29.0	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	10.3	166.9		89.4	11.8	5.1	76.2	61.8		80.4	95.5	
Level of Service (LOS)	B	F		F	B	A	E	E		F	F	
Approach Delay, s/veh / LOS	155.4	F		11.7	B		71.4	E		88.0	F	
Intersection Delay, s/veh / LOS	105.9						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.85	B	1.86	B	2.15	B	1.96	B
Bicycle LOS Score / LOS	3.84	D	2.15	B	0.55	A	0.90	A

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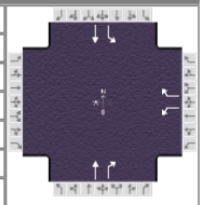
HCS7 Signalized Intersection Results Summary

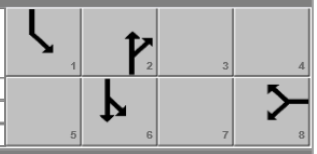
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period		PHF	0.96
Urban Street	Taylorsville Road	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	Taylorsville Lake Road	File Name	TL AM 18.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				21		230		1062	52	145	185	

Signal Information			
Cycle, s	116.4	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	71.6	20.0	0.0	0.0	0.0	
Yellow	3.5	5.0	3.5	0.0	0.0	0.0	
Red	2.5	1.3	3.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				26.5		77.9	12.0	89.9
Change Period, (*Y+R c*), s				6.5		6.3	6.0	6.3
Max Allow Headway (*MAH*), s				3.8		3.4	3.5	3.4
Queue Clearance Time (*g s*), s				19.1		65.9	5.4	5.8
Green Extension Time (*g e*), s				0.6		5.0	0.3	5.3
Phase Call Probability				1.00		1.00	0.99	1.00
Max Out Probability				0.00		0.04	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				22		240		1106	54	151	193	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1795		1598		1885	1598	1795	1885	
Queue Service Time (*g s*), s				1.2		17.1		63.9	1.6	3.4	3.8	
Cycle Queue Clearance Time (*g c*), s				1.2		17.1		63.9	1.6	3.4	3.8	
Green Ratio (*g/C*)				0.17		0.17		0.62	0.62	0.69	0.72	
Capacity (*c*), veh/h				309		275		1161	984	189	1355	
Volume-to-Capacity Ratio (*X*)				0.071		0.871		0.952	0.055	0.801	0.142	
Back of Queue (*Q*), ft/ln (50 th percentile)				13		176.4		673	12.1	71.4	28.1	
Back of Queue (*Q*), veh/ln (50 th percentile)				0.5		7.0		26.7	0.5	2.8	1.1	
Queue Storage Ratio (*RQ*) (50 th percentile)				0.03		0.44		1.68	0.03	0.16	0.06	
Uniform Delay (*d 1*), s/veh				40.7		47.3		20.9	8.9	28.9	5.2	
Incremental Delay (*d 2*), s/veh				0.1		7.0		12.1	0.0	6.2	0.0	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				40.8		54.3		33.0	9.0	35.2	5.2	
Level of Service (LOS)				D		D		C	A	D	A	
Approach Delay, s/veh / LOS	0.0			53.1		D	31.9		C	18.4		B
Intersection Delay, s/veh / LOS	32.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.97	B	1.88	B	0.66	A
Bicycle LOS Score / LOS				F	2.40	B	1.05	A

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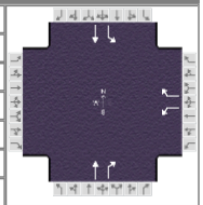
HCS7 Signalized Intersection Results Summary

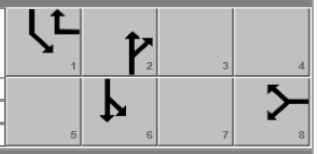
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Apr 23, 2018	Area Type	Other
Jurisdiction		Time Period		PHF	0.96
Urban Street	Taylorsville Road	Analysis Year	2030 No Build	Analysis Period	1> 7:00
Intersection	Taylorsville Lake Road	File Name	TL AM 30 NB.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				24		259		1197	59	163	208	

Signal Information			
Cycle, s	144.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.6	90.0	24.2	0.0	0.0	0.0	
Yellow	3.5	5.0	3.5	0.0	0.0	0.0	
Red	2.5	1.3	3.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				30.7		96.3	17.6	113.9
Change Period, (*Y+R c*), s				6.5		6.3	6.0	6.3
Max Allow Headway (*MAH*), s				3.8		3.4	3.5	3.4
Queue Clearance Time (*g s*), s				23.7		93.0	11.5	6.7
Green Extension Time (*g e*), s				0.5		0.0	0.1	7.1
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				0.20		1.00	0.99	0.00

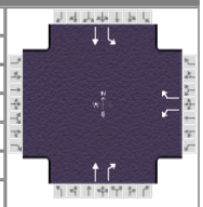
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				25		270		1247	61	170	217	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1795		1598		1885	1598	1795	1885	
Queue Service Time (*g s*), s				1.7		21.7		91.0	2.2	9.5	4.7	
Cycle Queue Clearance Time (*g c*), s				1.7		21.7		91.0	2.2	9.5	4.7	
Green Ratio (*g/C*)				0.17		0.25		0.63	0.63	0.72	0.75	
Capacity (*c*), veh/h				300		417		1187	995	194	1416	
Volume-to-Capacity Ratio (*X*)				0.083		0.647		1.050	0.062	0.877	0.153	
Back of Queue (*Q*), ft/ln (50 th percentile)				19		216		1214.3	18.1	183.6	37.2	
Back of Queue (*Q*), veh/ln (50 th percentile)				0.8		8.6		48.2	0.7	7.3	1.5	
Queue Storage Ratio (*RQ*) (50 th percentile)				0.05		0.54		3.04	0.05	0.41	0.08	
Uniform Delay (*d 1*), s/veh				50.8		47.5		26.8	10.7	52.1	5.2	
Incremental Delay (*d 2*), s/veh				0.1		2.1		40.4	0.0	24.6	0.0	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				50.9		49.6		67.2	10.7	76.7	5.2	
Level of Service (LOS)				D		D		F	B	E	A	
Approach Delay, s/veh / LOS	0.0			49.7		D	64.6		E	36.6		D
Intersection Delay, s/veh / LOS	56.9						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.97	B	1.97	B	1.89	B	0.66	A
Bicycle LOS Score / LOS				F	2.65	C	1.13	A

 HCS7™ Streets Version 7.4 Generated: 4/23/2018 10:43:43 AM

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Apr 23, 2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.96
Urban Street	Taylorsville Road	Analysis Year	2030 Build	Analysis Period	1> 7:00
Intersection	Taylorsville Lake Road	File Name	TL AM 30 B.xus		
Project Description	Covington by the Park Single Family				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				30		259		1486	76	163	304	

Signal Information					EB			WB				NB				SB			
Cycle, s	144.5	Reference Phase	2																
Offset, s	0	Reference Point	End	Green	11.6	90.0		24.2	0.0	0.0	0.0								
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	3.5	5.0		3.5	0.0	0.0	0.0								
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.5	1.3		3.0	0.0	0.0	0.0								

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				30.7		96.3	17.6	113.9
Change Period, (*Y+R c*), s				6.5		6.3	6.0	6.3
Max Allow Headway (*MAH*), s				3.8		3.4	3.5	3.4
Queue Clearance Time (*g s*), s				23.7		93.0	11.5	9.3
Green Extension Time (*g e*), s				0.5		0.0	0.1	15.0
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				0.20		1.00	0.99	0.01

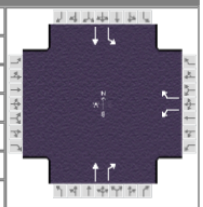
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				31		270		1548	79	170	317	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1795		1598		1885	1598	1795	1885	
Queue Service Time (*g s*), s				2.1		21.7		91.0	2.8	9.5	7.3	
Cycle Queue Clearance Time (*g c*), s				2.1		21.7		91.0	2.8	9.5	7.3	
Green Ratio (*g/C*)				0.17		0.25		0.63	0.63	0.72	0.75	
Capacity (*c*), veh/h				300		417		1187	995	194	1416	
Volume-to-Capacity Ratio (*X*)				0.104		0.647		1.304	0.080	0.877	0.224	
Back of Queue (*Q*), ft/ln (50 th percentile)				23.8		216		2067.2	23.5	183.6	57.8	
Back of Queue (*Q*), veh/ln (50 th percentile)				0.9		8.6		82.0	0.9	7.3	2.3	
Queue Storage Ratio (*RQ*) (50 th percentile)				0.06		0.54		5.17	0.06	0.41	0.13	
Uniform Delay (*d 1*), s/veh				51.0		47.5		26.8	10.8	52.1	5.5	
Incremental Delay (*d 2*), s/veh				0.1		2.1		143.1	0.0	24.6	0.1	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				51.1		49.6		169.9	10.9	76.7	5.6	
Level of Service (LOS)				D		D		F	B	E	A	
Approach Delay, s/veh / LOS	0.0			49.8		D	162.2		F	30.4		C
Intersection Delay, s/veh / LOS	121.6						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.97	B	1.97	B	1.89	B	0.66	A
Bicycle LOS Score / LOS				F	3.17	C	1.29	A

 HCS7™ Streets Version 7.4 Generated: 4/23/2018 10:46:07 AM

HCS7 Signalized Intersection Results Summary

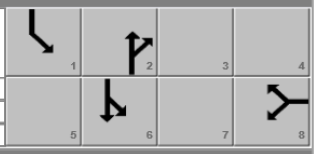
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	3/8/2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.94
Urban Street	Taylorsville Road	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	Taylorsville Lake Road	File Name	TL PM 18.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				369		263		443	31	215	1004	

Signal Information			
Cycle, s	92.6	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	8.5	41.8	23.5	0.0	0.0	0.0	
Yellow	3.5	5.0	3.5	0.0	0.0	0.0	
Red	2.5	1.3	3.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				30.0		48.1	14.5	62.6
Change Period, ($Y+R_c$), s				6.5		6.3	6.0	6.3
Max Allow Headway (*MAH*), s				3.6		3.4	3.5	3.4
Queue Clearance Time (g_s), s				21.5		19.0	7.9	49.7
Green Extension Time (g_e), s				1.7		6.1	0.5	6.0
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				0.03		0.00	0.00	0.01

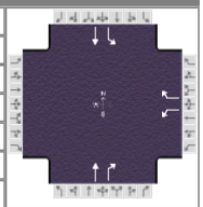
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				393		280		471	33	229	1068	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1795		1598		1885	1598	1795	1885	
Queue Service Time (g_s), s				19.5		14.8		17.0	1.1	5.9	47.7	
Cycle Queue Clearance Time (g_c), s				19.5		14.8		17.0	1.1	5.9	47.7	
Green Ratio (*g/C*)				0.25		0.25		0.45	0.45	0.57	0.61	
Capacity (*c*), veh/h				456		406		854	724	498	1148	
Volume-to-Capacity Ratio (*X*)				0.861		0.690		0.552	0.046	0.459	0.930	
Back of Queue (*Q*), ft/ln (50 th percentile)				215.9		136		163.7	8.7	49.4	427.4	
Back of Queue (*Q*), veh/ln (50 th percentile)				8.6		5.4		6.5	0.3	2.0	17.0	
Queue Storage Ratio (*RQ*) (50 th percentile)				0.54		0.34		0.41	0.02	0.11	0.95	
Uniform Delay (d_1), s/veh				33.3		31.5		18.6	14.3	12.5	16.5	
Incremental Delay (d_2), s/veh				6.9		1.7		0.4	0.0	0.5	5.6	
Initial Queue Delay (d_3), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				40.1		33.2		19.1	14.3	13.0	22.1	
Level of Service (LOS)				D		C		B	B	B	C	
Approach Delay, s/veh / LOS	0.0			37.3	D		18.8	B		20.5	C	
Intersection Delay, s/veh / LOS	24.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.96	B	1.90	B	0.68	A
Bicycle LOS Score / LOS				F	1.32	A	2.63	C

 HCS7™ Streets Version 7.4 Generated: 3/10/2018 5:42:32 PM

HCS7 Signalized Intersection Results Summary

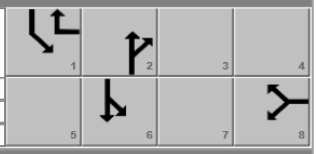
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Apr 23, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.94
Urban Street	Taylorsville Road	Analysis Year	2030 No Build	Analysis Period	1> 4:00
Intersection	Taylorsville Lake Road	File Name	TL PM 30 NB.xus		
Project Description	Covington by the Park				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				416		296		499	35	242	1131	

Signal Information			
Cycle, s	135.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.2	70.3	34.7	0.0	0.0	0.0	
Yellow	3.5	5.0	3.5	0.0	0.0	0.0	
Red	2.5	1.3	3.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				41.2		76.6	17.2	93.8
Change Period, (*Y+R c*), s				6.5		6.3	6.0	6.3
Max Allow Headway (*MAH*), s				3.6		3.4	3.5	3.4
Queue Clearance Time (*g s*), s				34.5		27.4	10.6	84.1
Green Extension Time (*g e*), s				0.2		8.0	0.6	3.4
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				1.00		0.00	0.00	0.78

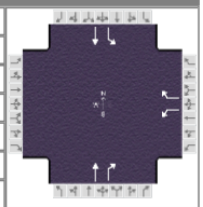
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				443		315		531	37	257	1203	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1795		1598		1885	1598	1795	1885	
Queue Service Time (*g s*), s				32.5		21.9		25.4	1.5	8.6	82.1	
Cycle Queue Clearance Time (*g c*), s				32.5		21.9		25.4	1.5	8.6	82.1	
Green Ratio (*g/C*)				0.26		0.34		0.52	0.52	0.62	0.66	
Capacity (*c*), veh/h				475		543		982	832	495	1236	
Volume-to-Capacity Ratio (*X*)				0.932		0.580		0.541	0.045	0.520	0.973	
Back of Queue (*Q*), ft/ln (50 th percentile)				432.5		210.2		262.7	13.5	80	912.1	
Back of Queue (*Q*), veh/ln (50 th percentile)				17.2		8.3		10.4	0.5	3.2	36.2	
Queue Storage Ratio (*RQ*) (50 th percentile)				1.08		0.53		0.66	0.03	0.18	2.03	
Uniform Delay (*d 1*), s/veh				48.5		36.6		21.6	15.9	15.4	22.6	
Incremental Delay (*d 2*), s/veh				25.1		1.4		0.4	0.0	0.7	18.9	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				73.6		38.0		22.0	15.9	16.1	41.5	
Level of Service (LOS)				E		D		C	B	B	D	
Approach Delay, s/veh / LOS	0.0			58.8	E		21.6	C		37.0	D	
Intersection Delay, s/veh / LOS	39.8						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.97	B	1.97	B	1.91	B	0.68	A
Bicycle LOS Score / LOS				F	1.42	A	2.90	C

 HCS7™ Streets Version 7.4 Generated: 4/23/2018 10:52:35 AM

HCS7 Signalized Intersection Results Summary

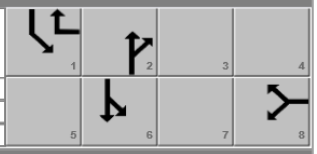
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Apr 23, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.94
Urban Street	Taylorsville Road	Analysis Year	2030 Build	Analysis Period	1> 4:00
Intersection	Taylorsville Lake Road	File Name	TL PM 30 B.xus		
Project Description	Covington by the Park Single Family				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				435		296		687	46	242	1450	

Signal Information			
Cycle, s	137.8	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.9	73.1	35.0	0.0	0.0	0.0	
Yellow	3.5	5.0	3.5	0.0	0.0	0.0	
Red	2.5	1.3	3.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				41.5		79.4	16.9	96.3
Change Period, (*Y+R c*), s				6.5		6.3	6.0	6.3
Max Allow Headway (*MAH*), s				3.6		3.4	3.5	3.4
Queue Clearance Time (*g s*), s				37.4		43.0	10.3	93.0
Green Extension Time (*g e*), s				0.0		17.1	0.6	0.0
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				1.00		0.18	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				463		315		731	49	257	1543	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1795		1598		1885	1598	1795	1885	
Queue Service Time (*g s*), s				35.4		22.6		41.0	2.0	8.3	91.0	
Cycle Queue Clearance Time (*g c*), s				35.4		22.6		41.0	2.0	8.3	91.0	
Green Ratio (*g/C*)				0.25		0.33		0.53	0.53	0.64	0.66	
Capacity (*c*), veh/h				469		533		1000	847	383	1245	
Volume-to-Capacity Ratio (*X*)				0.987		0.591		0.731	0.058	0.672	1.239	
Back of Queue (*Q*), ft/ln (50 th percentile)				505.8		218.5		431.6	17.9	84.1	1831.1	
Back of Queue (*Q*), veh/ln (50 th percentile)				20.1		8.7		17.1	0.7	3.3	72.7	
Queue Storage Ratio (*RQ*) (50 th percentile)				1.26		0.55		1.08	0.04	0.19	4.07	
Uniform Delay (*d 1*), s/veh				50.7		38.1		24.8	15.7	20.9	23.4	
Incremental Delay (*d 2*), s/veh				37.9		1.6		1.6	0.0	1.7	114.6	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				88.6		39.7		26.4	15.7	22.5	138.0	
Level of Service (LOS)				F		D		C	B	C	F	
Approach Delay, s/veh / LOS	0.0			68.8		E	25.7		C	121.5		F
Intersection Delay, s/veh / LOS	87.1						F					

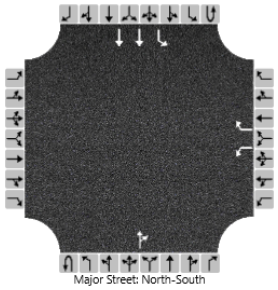
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.97	B	1.97	B	1.91	B	0.68	A
Bicycle LOS Score / LOS				F	1.77	B	3.46	C

 HCS7™ Streets Version 7.4 Generated: 4/23/2018 10:54:27 AM

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	KY 155 at Entrance
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	5/29/18	East/West Street	Entrance
Analysis Year	2030	North/South Street	KY 155
Time Analyzed	AM Peak	Peak Hour Factor	0.96
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covington by the Park		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		1	0	1	0	0	1	0	0	1	2	0
Configuration						L		R				TR		L	T	
Volume (veh/h)						0		153			1409	0		51	283	
Percent Heavy Vehicles (%)						1		1						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						No										
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.82		6.92						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.51		3.31						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0		159						53		
Capacity, c (veh/h)						150		118						461		
v/c Ratio						0.00		1.35						0.12		
95% Queue Length, Q_{95} (veh)						0.0		10.7						0.4		
Control Delay (s/veh)						29.0		271.9						13.8		
Level of Service (LOS)						D		F						B		
Approach Delay (s/veh)						271.9								2.1		
Approach LOS						F										

HCS™ TWSC Version 7.5
Entrance AM 30 B.xtw
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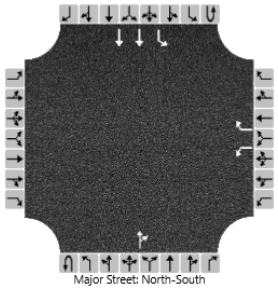
HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	KY 155 at Entrance
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	5/29/18	East/West Street	Entrance
Analysis Year	2030	North/South Street	KY 155
Time Analyzed	PM Peak	Peak Hour Factor	0.94
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covington by the Park		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		1	0	1	0	0	1	0	0	1	2	0
Configuration						L		R				TR		L	T	
Volume (veh/h)						0		100			633	0		169	1716	
Percent Heavy Vehicles (%)						1		1						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						No										
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.82		6.92						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.51		3.31						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0		106						180		
Capacity, c (veh/h)						137		400						920		
v/c Ratio						0.00		0.27						0.20		
95% Queue Length, Q_{95} (veh)						0.0		1.1						0.7		
Control Delay (s/veh)						31.2		17.2						9.9		
Level of Service (LOS)						D		C						A		
Approach Delay (s/veh)						17.2								0.9		
Approach LOS						C										

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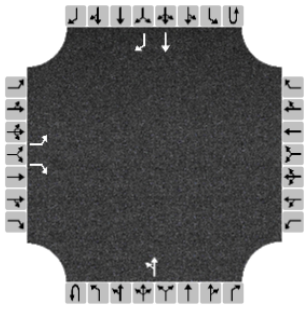
Entrance PM 30 B.xtw
Generated: 6/3/2018 10:16:27 PM

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Taylorsville at Routt
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	3/25/2018	East/West Street	Routt Road
Analysis Year	2018	North/South Street	Taylorsville Lake
Time Analyzed	AM Peak	Peak Hour Factor	0.88
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covington by the Park		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	1
Configuration		L		R						LT					T	R
Volume, V (veh/h)		291		2						2	986				197	26
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		Yes				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		331		2						2						
Capacity, c (veh/h)		167		168						1318						
v/c Ratio		1.98		0.01						0.00						
95% Queue Length, Q_{95} (veh)		25.4		0.0						0.0						
Control Delay (s/veh)		509.2		26.7						7.7						
Level of Service, LOS		F		D						A						
Approach Delay (s/veh)		505.9								0.1						
Approach LOS		F														

HCS7™ TWSC Version 7.4
Routt AM.xtw
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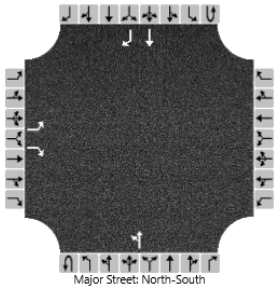
HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Taylorsville at Routt
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	5/29/18	East/West Street	Routt Road
Analysis Year	2030	North/South Street	Taylorsville Lake
Time Analyzed	AM Peak No Build	Peak Hour Factor	0.88
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covington by the Park		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	1
Configuration		L		R						LT					T	R
Volume (veh/h)		328		3						3	1111				222	29
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		Yes												No		
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.21						4.11						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.31						2.21						

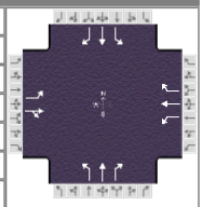
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		373		3						3						
Capacity, c (veh/h)		131		789						1282						
v/c Ratio		2.85		0.00						0.00						
95% Queue Length, Q_{95} (veh)		34.3		0.0						0.0						
Control Delay (s/veh)		906.4		9.6						7.8						
Level of Service (LOS)		F		A						A						
Approach Delay (s/veh)		898.3								0.1						
Approach LOS		F														

HCS™ TWSC Version 7.5
Routt AM 30 NB.xtw
Generated: 6/4/2018 11:20:50 AM

HCS7 Signalized Intersection Results Summary

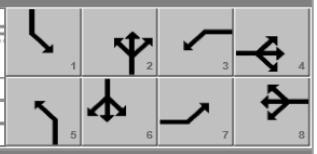
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Apr 23, 2018	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.92
Urban Street	KY 155	Analysis Year	2030	Analysis Period	1> 7:00
Intersection	Routt Road	File Name	AM Routt 30 B SF.xus		
Project Description	Covington by the Park Single family				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	328	67	3	17	17	153	3	1111	6	51	222	29

Signal Information			
Cycle, s	138.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.7	4.6	75.0	3.1	8.9	16.2	
Yellow	4.0	0.0	4.0	4.0	4.0	4.0	
Red	2.0	0.0	2.0	2.0	2.0	2.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	24.0	37.1	9.1	22.2	6.7	81.0	11.3	85.6
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.9	4.1	3.9	4.1	3.9	3.8	3.9	3.8
Queue Clearance Time (g_s), s	20.0	6.5	3.2	16.0	2.1	78.0	3.8	10.6
Green Extension Time (g_e), s	0.0	0.7	0.0	0.2	0.0	0.0	0.1	9.2
Phase Call Probability	1.00	1.00	0.51	1.00	0.12	1.00	0.88	1.00
Max Out Probability	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	357	76		18	18	166	3	1208	7	55	241	32
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885		1810	1900	1610	1810	1900	1610	1810	1900	1610
Queue Service Time (g_s), s	18.0	4.5		1.2	1.2	14.0	0.1	76.0	0.3	1.8	8.6	1.2
Cycle Queue Clearance Time (g_c), s	18.0	4.5		1.2	1.2	14.0	0.1	76.0	0.3	1.8	8.6	1.2
Green Ratio (*g/C*)	0.26	0.22		0.14	0.12	0.12	0.55	0.55	0.55	0.58	0.57	0.57
Capacity (*c*), veh/h	441	424		249	222	200	638	1043	872	121	1092	925
Volume-to-Capacity Ratio (*X*)	0.809	0.179		0.074	0.083	0.832	0.005	1.158	0.007	0.458	0.221	0.034
Back of Queue (*Q*), ft/ln (50 th percentile)	91.5	51.8		13.8	14.2	162.6	1.1	1366.5	2.2	25.8	86.2	10
Back of Queue (*Q*), veh/ln (50 th percentile)	3.7	2.1		0.6	0.6	6.5	0.0	54.7	0.1	1.0	3.4	0.4
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	48.3	43.4		51.9	54.5	59.2	14.4	31.2	14.6	33.0	14.4	12.8
Incremental Delay (d_2), s/veh	10.8	0.2		0.1	0.2	18.0	0.0	82.1	0.0	2.7	0.1	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	59.0	43.6		52.0	54.7	77.2	14.4	113.4	14.6	35.7	14.5	12.8
Level of Service (LOS)	E	D		D	D	E	B	F	B	D	B	B
Approach Delay, s/veh / LOS	56.3	E		72.9	E		112.6	F		17.9	B	
Intersection Delay, s/veh / LOS	83.5						F					

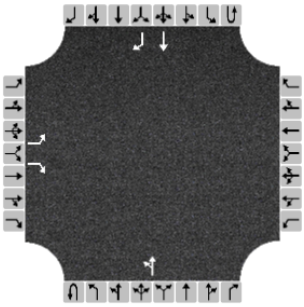
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.15	B	2.10	B	1.90	B
Bicycle LOS Score / LOS	1.20	A	0.82	A	2.50	B	1.03	A

 HCS™ Streets Version 7.5 Generated: 6/3/2018 10:07:15 PM

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Taylorsville at Routt
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	3/25/2018	East/West Street	Routt Road
Analysis Year	2018	North/South Street	Taylorsville Lake
Time Analyzed	PM Peak	Peak Hour Factor	0.88
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covington by the Park		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	1
Configuration		L		R						LT					T	R
Volume, V (veh/h)		98		2						2	365				999	264
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		Yes				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		111		2						2						
Capacity, c (veh/h)		124		127						476						
v/c Ratio		0.89		0.02						0.00						
95% Queue Length, Q_{95} (veh)		5.7		0.1						0.0						
Control Delay (s/veh)		120.8		33.9						12.6						
Level of Service, LOS		F		D						B						
Approach Delay (s/veh)		119.0								0.1						
Approach LOS		F														

HCS7™ TWSC Version 7.4
Routt PM.xtw
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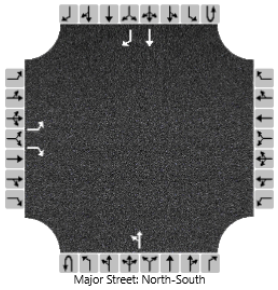
HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Taylorsville at Routt
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	5/29/2018	East/West Street	Routt Road
Analysis Year	2030	North/South Street	Taylorsville Lake
Time Analyzed	PM Peak No Build	Peak Hour Factor	0.88
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covington by the Park		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	1
Configuration		L		R						LT					T	R
Volume (veh/h)		110		3						3	411				1126	297
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		Yes												No		
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.21						4.11						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.31						2.21						

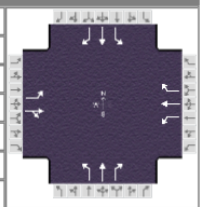
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		125		3						3						
Capacity, c (veh/h)		94		204						406						
v/c Ratio		1.34		0.02						0.01						
95% Queue Length, Q_{95} (veh)		9.1		0.1						0.0						
Control Delay (s/veh)		289.0		23.0						14.0						
Level of Service (LOS)		F		C						B						
Approach Delay (s/veh)		282.0								0.3						
Approach LOS		F														

HCS™ TWSC Version 7.5
Routt PM 30 NB.xtw
Generated: 6/4/2018 11:22:22 AM

HCS7 Signalized Intersection Results Summary

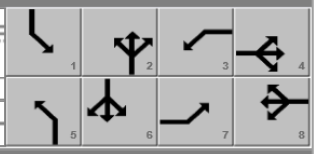
General Information				Intersection Information	
Agency	Diane B. Zimmerman Traffic Engineering			Duration, h	0.25
Analyst	DBZ	Analysis Date	Apr 23, 2018	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.92
Urban Street	KY 155	Analysis Year	2030	Analysis Period	1> 4:30
Intersection	Routt Road	File Name	PM Routt 30 B SF.xus		
Project Description	Covington by the Park Single Family				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	110	19	3	11	11	99	3	411	19	169	1126	297

Signal Information			
Cycle, s	112.9	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.6	0.4	63.6	1.9	0.7	9.7	
Yellow	4.0	4.0	4.0	4.0	4.0	4.0	
Red	2.0	2.0	2.0	2.0	2.0	2.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	14.6	22.4	7.9	15.7	6.6	69.6	13.0	76.0
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.9	4.1	3.9	4.1	3.9	3.9	3.9	3.9
Queue Clearance Time (g_s), s	8.6	3.3	2.7	9.4	2.1	16.8	6.6	72.0
Green Extension Time (g_e), s	0.2	0.4	0.0	0.4	0.0	13.7	0.4	0.0
Phase Call Probability	0.98	1.00	0.31	0.99	0.10	1.00	1.00	1.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.07	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	120	24		12	12	108	3	447	21	184	1224	323
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1854		1810	1900	1610	1810	1900	1610	1810	1900	1610
Queue Service Time (g_s), s	6.6	1.3		0.7	0.7	7.4	0.1	14.8	0.6	4.6	70.0	10.8
Cycle Queue Clearance Time (g_c), s	6.6	1.3		0.7	0.7	7.4	0.1	14.8	0.6	4.6	70.0	10.8
Green Ratio (*g/C*)	0.18	0.15		0.10	0.09	0.09	0.57	0.57	0.57	0.64	0.62	0.62
Capacity (*c*), veh/h	316	270		215	164	139	73	1088	908	589	1178	999
Volume-to-Capacity Ratio (*X*)	0.379	0.089		0.056	0.073	0.776	0.045	0.411	0.023	0.312	1.039	0.323
Back of Queue (*Q*), ft/ln (50 th percentile)	71.1	14		7.4	7.6	79.5	1.2	139	5.1	37.8	914.1	80.9
Back of Queue (*Q*), veh/ln (50 th percentile)	2.8	0.6		0.3	0.3	3.2	0.0	5.6	0.2	1.5	36.6	3.2
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	40.7	41.8		45.7	47.4	50.5	28.4	13.7	10.9	9.6	21.4	10.2
Incremental Delay (d_2), s/veh	0.7	0.1		0.1	0.2	8.9	0.2	0.2	0.0	0.3	36.8	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	41.4	41.9		45.8	47.6	59.4	28.7	14.0	10.9	9.9	58.2	10.4
Level of Service (LOS)	D	D		D	D	E	C	B	B	A	F	B
Approach Delay, s/veh / LOS	41.5	D		57.1	E		13.9	B		44.2	D	
Intersection Delay, s/veh / LOS	39.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.14	B	2.08	B	1.88	B
Bicycle LOS Score / LOS	0.72	A	0.70	A	1.26	A	3.34	C

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