

Project name:
6-449 KY 17

Project ref:
KY 17 at I-275 Improvements

From:
Vanessa Nghiem

Date:
October 15, 2025

To:
Eric Hackworth
EA Partners

CC:

Memo

Subject: KY 17 Updated Traffic Analyses

In 2019, AECOM assisted EA Partners in analyzing the traffic capacity for various alternatives to alleviate congestion of the KY 17 at I-275 interchange in Kenton County, KY (**Figure 1**). As the project has progressed, additional alternatives were developed to avoid right-of-way impacts.

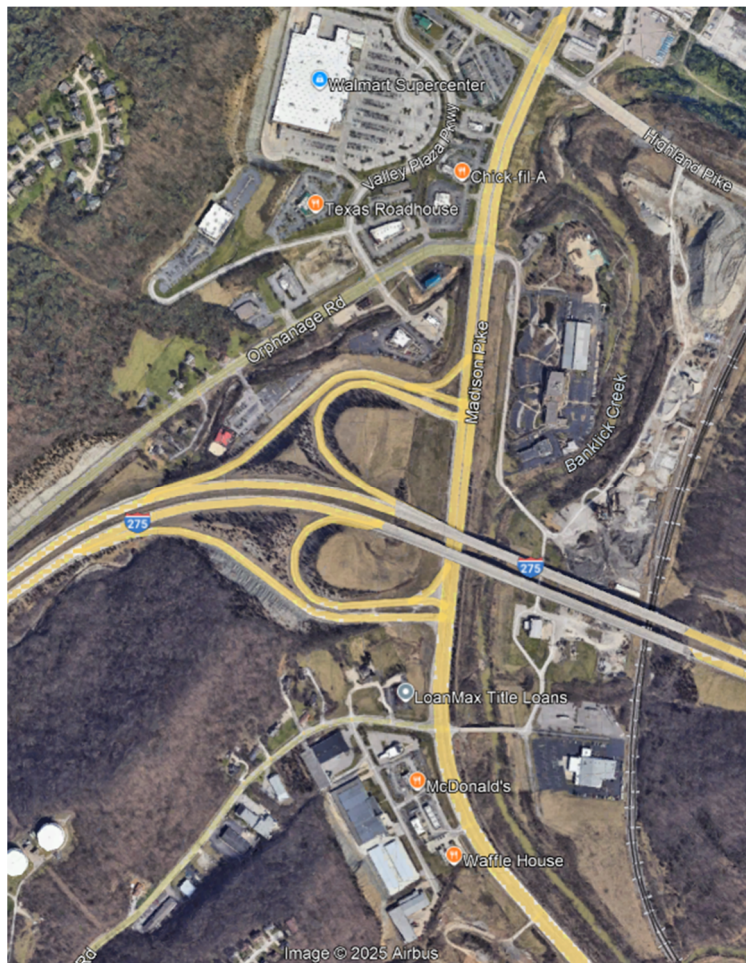


Figure 1: Project Area

Given the duration between the original analysis and the new alternative development, an update to the traffic forecast and original alternative analysis was conducted. New counts were collected in the spring of 2025. AECOM was tasked with conducting new 12-hour turning movement counts at the following intersections (**Appendix A** provides detailed information on traffic count data):

- KY 17 at Dudley Road
- KY 17 I-275 EB Ramps
- KY 17 at I-275 WB Ramps
- KY 17 at Orphanage Road
- KY 17 at Highland Pike

AECOM developed 2037 forecasted volumes by applying an annual growth rate of 1.25%. This was the growth rate used in the original forecast in 2019. The new counts did not reflect growth in the area over the seven years between counts. AM and PM peak-hour volumes for the No-Build scenario and Alternative 3A (the original preferred alternative) were updated using the new forecasted data. Necessary adjustments were made to improve intersection operations and reduce congestion where feasible. Additionally, AECOM analyzed the newly proposed Alternative 4 and its sub-alternatives, 4A and 4B. Growth rate and forecast background are provided in **Appendices B and C**.

The following models were built using the future traffic:

1. **2037 No Build – AM and PM:** Both models were updated with the new forecasted volumes, and necessary signal timing adjustments were applied.
2. **2037 Alternative 3A – AM and PM:** Both models were updated with new forecasted volumes, and necessary signal timing adjustments were applied. This alternative involves the realignment of Dudley Road along the Sperti Rd alignment as well as the introduction of a displaced left turn at the I-275 interchange.
3. **2037 Alternative 4 – AM and PM** – This alternative includes the following design elements:
 - Dudley Road is converted from a four-leg signalized intersection to a right-in/right-out (RIRO) configuration for both eastbound (EB) and westbound (WB) approaches. Traffic wishing to make through or left-turn movements from Dudley Road will utilize a U-turn located approximately 1,700 feet south of Dudley, which operates under a protected U-turn signal phase. This signal will be one sided and will not impact the adjacent through movement.
 - The northbound left-turn lane to Dudley Road is removed. KY 17 Northbound is widened from two lanes to three lanes between the U-turn location and the Highland Pike intersection.
 - The southbound right-turn lane into Dudley Road is lengthened to provide additional storage capacity. Additionally, one through lane is added to the southbound approach from the right turn lane on the I-275 EB off ramp to Waffle House entrance.
4. **2037 Alternative 4A – AM and PM** – This alternative includes the following design elements:
 - Dudley Road is converted from a four-leg signalized intersection to a right-in/right-out (RIRO) configuration for both eastbound (EB) and westbound (WB) approaches. Northbound and southbound movements are controlled by a traffic signal. Traffic intending to make through or left-turn movements from Dudley Road will utilize a U-turn located approximately 1,700 feet south of Dudley, which operates under a protected U-turn signal phase. This signal will be one sided and will not impact the adjacent through movement.
 - Traffic can make a left turn into Dudley using the left turn lane on the northbound approach.
 - KY17 northbound is now 3 lanes from the U-turn to the Highland Pike intersection to accommodate more storage.
 - An additional through lane is added to the southbound approach from the right turn lane on the I-275 EB off ramp to Waffle House entrance.

5. **2037 Alternative 4B – AM and PM** – This alternative includes the following design elements:
- Dudley Road is converted from a four-leg signalized intersection to a right-in/right-out (RIRO) configuration for both eastbound (EB) and westbound (WB) approaches. Traffic intending to make through or left-turn movements from Dudley Road will utilize a U-turn located approximately 1,700 feet south of Dudley, which operates under a protected U-turn signal phase. And traffic that wants to make a left turn into Dudley Road will need to use the U-turn located around 1,068 feet north of Dudley. These signals will be one sided and will not impact the adjacent through movements.
 - The northbound left-turn lane to Dudley Road is removed. KY 17 northbound is widened from two lanes to three lanes between the southern U-turn location and the Highland Pike intersection.
 - An additional through lane is added to the southbound approach from the right turn lane on the I-275 EB off ramp to Waffle House entrance.

Summary of Results

Each model was individually optimized using coordinated signal timing and varied phasing to achieve the best possible operational outcomes. AM peak traffic is heavy in the northbound direction on KY 17, particularly toward the I-275 ramps. Additionally, left-turning traffic from the west leg of Dudley Road is significant during the AM peak, as commuters travel toward the interstate. During the PM peak, the primary challenge is managing the high volume of exiting traffic from the I-275 ramps, as well as traffic on Dudley Road.

To evaluate and compare the alternatives, Level of Service (LOS) and delay results were generated for each intersection. LOS information is shown in **Appendix D**. However, a more informative metric was the observation of model performance in simulation. SimTraffic files created from Synchro were seeded for 15 minutes and simulated a one-hour snapshot of peak-period operations. Failures were defined as vehicle queues extending beyond the modeled network limits or resulting in system-wide gridlock. Queues persisting beyond a single signal cycle were not automatically classified as failures.

It is important to note that LOS and delay results alone do not always fully reflect actual system performance. **Table 2** shows a side-by-side comparison of delay and LOS for each scenario. The attached Synchro reports in **Appendix E** provides detailed intersection results for reference. Queuing data from SimTraffic is provided in **Appendix F**.

A summary of the capacity analysis results is included below.

No Build Models

In the simulation models, both the AM and PM peaks fail under no build conditions. During the AM Peak, Dudley Road (west leg), I-275 Westbound and Eastbound Ramps, and KY 17 Northbound back up beyond the extents of the model. KY 17 NB Left at I-275 Eastbound Ramp backs up beyond the previous intersection.

In the PM, eastbound Orphanage Road, Dudley Road, and both ramps back up beyond the extents of the model. There are also a few spillback locations along KY 17 southbound.

Overall, this confirms that doing nothing will result in increased congestion and could result in backups onto I-275 in the future.

Alternative 3A

During the AM peak, congestion is observed at the displaced left turn, EB ramp, Northbound approach of EB ramp and Dudley Road intersections. The congestion at EB ramp cause backups beyond the model extents in the simulation.

In the PM peak, queues start to show at the I-275 Westbound ramp. Also, KY17 NB LT storage onto Orphanage Road fills up causing backup and delays.

Alternative 4

In the simulation models, both the AM and PM peak periods demonstrate improved performance compared to the No-Build conditions. **Alternative 4** performs well overall in simulation.

During the AM peak, All intersections operate at a LOS of C or better, with average vehicle delays of 29.7 seconds or less.

During the PM peak, no significant backups are observed, and the network operates effectively overall. All intersections operate at a LOS of D or better, with average vehicle delays of less than 39.2 seconds.

Alternative 4A

In the simulation models, both the AM and PM peak periods exhibit improved performance compared to the No-Build conditions. **Alternative 4A** performs well overall in simulation.

During the AM peak, no significant backups were observed. During the PM peak a minor backup occur on the KY 17 southbound approach at Orphanage Road; however, these backups remain within the modeled network limits and do not result in significant operational issues. In the AM peak, all intersections operate at a LOS of D or better, with average vehicle delays of 36.6 seconds or less. In the PM peak, all intersections operate at a LOS of D or better, with average vehicle delays of less than 42.1 seconds.

Overall, the network operates effectively under this alternative.

Alternative 4B

In the simulation models, both the AM and PM peak periods perform better than the No-Build conditions.

During the AM peak, minor traffic backups occur on the KY 17 southbound approach between the westbound I-275 and eastbound ramps. However, these queues do not extend beyond the modeled network limits, and overall system operations remain stable.

During the PM peak, no significant backups are observed, and the network operates effectively.

Travel Times

Travel times from Dudley to the I-275 Eastbound ramp improve in all build scenarios compared to the No-Build scenario. LOS, Delay and queuing is also improved in all build scenarios. When considering all performance metrics, Alternative 3A has significant queueing. Alternatives 4, 4A and 4B perform very similarly, with Alternative 4 performing the most effectively at reducing queueing based on the simulations. The attached SimTraffic travel time reports in **Appendix G** provides detailed results for reference.

Table 1: Travel Time Comparison

Travel Time	Travel Path (Dudley -> node numbers* -> EB Ramp)	AM (sec)	PM (sec)
2037 No Build	Dudley -> 30 -> 5 -> EB Ramp	1141.2	521.4
2037 Alternative 4	Dudley -> 30 -> 2 -> 3 -> 7 -> 3 -> 2 -> 30 -> 5 -> EB Ramp	128.4	119.3
2037 Alternative 4A	Dudley -> 30 -> 2 -> 3 -> 7 -> 3 -> 2 -> 30 -> 5 -> EB Ramp	117.2	111.5
2037 Alternative 4B	Dudley -> 30 -> 2 -> 3 -> 7 -> 3 -> 2 -> 30 -> 5 -> EB Ramp	129.6	115.6
2037 Alternative 3A	Dudley -> 7 -> 8 -> 30 -> 16 -> 11 -> EB Ramp	127.5	92.1
*See SimTraffic Travel Time Reports			

Conclusion

Without improvements, the KY 17 corridor will experience significant congestion and operational failures by the year 2037. Alternative 3A, the previously preferred option, does not sufficiently accommodate the updated traffic forecasts and results in significant backups. Of the new options evaluated, Alternatives 4, 4A and 4B all provide a well performing network, with Alternative 4 showing no significant queueing.

Table 2: LOS and Delay Summary

2037 AM Peak	Approach/Intersection	Dudley Road & KY 17	KY 17 & EB Ramps	KY 17 & WB Ramps	KY 17 & Orphanage Road	Highland Pike & KY 17	U turn (South of Dudley)	U turn (North of EB Ramp)	KY 17 & EB Ramp Displaced Left
2037 No Build	Intersection Delay	52.8	52.6	39.9	34.0	34.4	N/A	N/A	N/A
	Int. LOS	D	D	D	C	C	N/A	N/A	N/A
2037 Alternative 3A	Intersection Delay	20.3	20.4	28.1	32.2	34.7	N/A	N/A	9.7
	Int. LOS	C	C	C	C	C	N/A	N/A	A
2037 Alternative 4	Intersection Delay	N/A	29.7	26.9	25.6	27.1	19.0	N/A	N/A
	Int. LOS	N/A	C	C	C	C	B	N/A	N/A
2037 Alternative 4A	Intersection Delay	5.7	36.6	24.0	32.2	32.5	18.2	N/A	N/A
	Int. LOS	A	D	C	C	C	B	N/A	N/A
2037 Alternative 4B	Intersection Delay	N/A	33.6	22.8	28.9	28.2	20.1	4.6	N/A
	Int. LOS	N/A	C	C	C	C	C	A	N/A

2037 PM Peak	Approach/Intersection	Dudley Road & KY 17	KY 17 & EB Ramps	KY 17 & WB Ramps	KY 17 & Orphanage Road	Highland Pike & KY 17	U turn (South of Dudley)	U turn (North of EB Ramp)	KY 17 & EB Ramp Displaced Left
2037 No Build	Intersection Delay	33.0	58.7	38.0	77.5	46.8	N/A	N/A	N/A
	Int. LOS	C	E	D	E	D	N/A	N/A	N/A
2037 Alternative 3A	Intersection Delay	12.1	6.1	24.0	44.2	41.7	N/A	N/A	15.2
	Int. LOS	B	A	C	D	D	N/A	N/A	B
2037 Alternative 4	Intersection Delay	N/A	24.8	22.6	36.0	39.2	7.3	N/A	N/A
	Int. LOS	N/A	C	C	D	D	A	N/A	N/A
2037 Alternative 4A	Intersection Delay	8.7	29.0	25.4	42.1	42.0	5.5	N/A	N/A
	Int. LOS	A	C	C	D	D	A	N/A	N/A
2037 Alternative 4B	Intersection Delay	N/A	41.2	26.5	36.1	35.6	7.0	4.2	N/A
	Int. LOS	N/A	D	C	D	D	A	A	N/A

List of Appendices

- A. Traffic Count Data**
- B. Traffic Growth**
- C. Forecast Information**
- D. Traffic Volumes w/LOS**
- E. Synchro Intersection Reports**
- F. SimTraffic Queuing Reports**
- G. Travel Time Backup**

Appendix A:

Traffic Count Data



AECOM : (OH)
525 Vine Street, Suite 1800

Cincinnati, Ohio, United States 45202
5134193451 sam.klopping@aecom.com

Count Name: KY 17 & I 275 EB Ramps
Site Code:
Start Date: 03/18/2025
Page No: 1

Turning Movement Data

Start Time	Southbound St. Southbound				Northbound St. Northbound				Eastbound St. Eastbound				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
6:00 AM	17	97	0	114	148	59	0	207	36	38	0	74	395
6:15 AM	18	144	0	162	215	70	0	285	45	37	0	82	529
6:30 AM	23	180	0	203	257	69	0	326	38	66	0	104	633
6:45 AM	34	172	0	206	293	74	0	367	61	78	0	139	712
Hourly Total	92	593	0	685	913	272	0	1185	180	219	0	399	2269
7:00 AM	51	150	0	201	285	143	0	428	45	96	0	141	770
7:15 AM	47	174	0	221	379	131	0	510	62	136	0	198	929
7:30 AM	67	234	0	301	373	136	0	509	75	151	0	226	1036
7:45 AM	69	224	0	293	357	119	0	476	69	167	0	236	1005
Hourly Total	234	782	0	1016	1394	529	0	1923	251	550	0	801	3740
8:00 AM	53	211	0	264	378	115	0	493	72	139	0	211	968
8:15 AM	65	186	0	251	331	106	0	437	49	161	0	210	898
8:30 AM	60	174	0	234	287	90	0	377	59	176	0	235	846
8:45 AM	72	187	0	259	269	97	0	366	51	103	0	154	779
Hourly Total	250	758	0	1008	1265	408	0	1673	231	579	0	810	3491
9:00 AM	66	153	0	219	207	106	0	313	51	79	0	130	662
9:15 AM	57	164	0	221	213	62	0	275	50	61	0	111	607
9:30 AM	59	124	0	183	205	68	0	273	44	74	0	118	574
9:45 AM	56	138	0	194	195	65	0	260	50	71	0	121	575
Hourly Total	238	579	0	817	820	301	0	1121	195	285	0	480	2418
10:00 AM	59	156	0	215	177	53	0	230	48	51	0	99	544
10:15 AM	63	141	0	204	198	76	0	274	52	64	0	116	594
10:30 AM	73	156	0	229	197	73	0	270	51	63	0	114	613
10:45 AM	76	172	0	248	197	68	0	265	56	64	0	120	633
Hourly Total	271	625	0	896	769	270	0	1039	207	242	0	449	2384
11:00 AM	54	161	0	215	181	72	0	253	53	59	0	112	580
11:15 AM	64	189	0	253	187	69	0	256	41	72	0	113	622
11:30 AM	82	186	0	268	211	58	0	269	48	66	0	114	651
11:45 AM	79	211	0	290	204	63	0	267	48	95	0	143	700
Hourly Total	279	747	0	1026	783	262	0	1045	190	292	0	482	2553
12:00 PM	75	218	0	293	183	50	0	233	73	76	0	149	675
12:15 PM	80	220	0	300	189	56	0	245	73	87	0	160	705
12:30 PM	69	216	0	285	196	58	0	254	72	98	0	170	709
12:45 PM	80	223	0	303	198	62	0	260	67	89	0	156	719
Hourly Total	304	877	0	1181	766	226	0	992	285	350	0	635	2808
1:00 PM	83	229	0	312	186	48	0	234	67	96	0	163	709

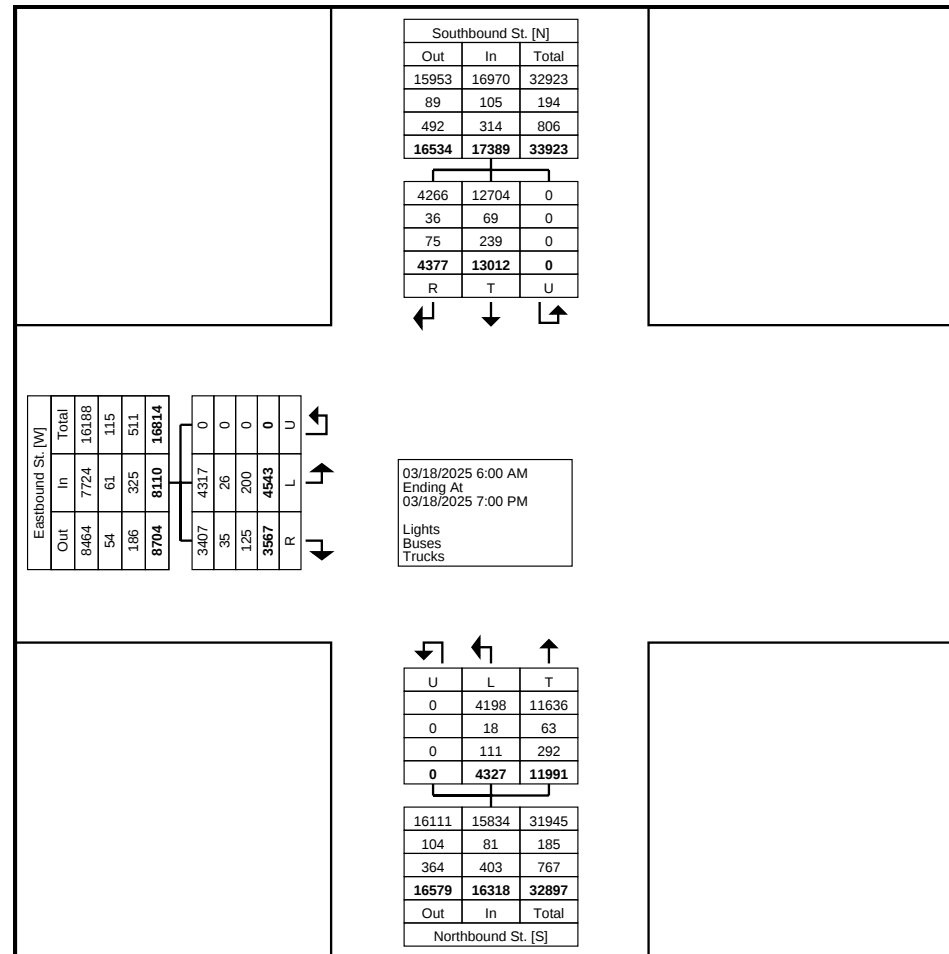
1:15 PM	78	232	0	310	193	66	0	259	55	76	0	131	700
1:30 PM	82	256	0	338	214	55	0	269	80	67	0	147	754
1:45 PM	75	251	0	326	203	55	0	258	82	76	0	158	742
Hourly Total	318	968	0	1286	796	224	0	1020	284	315	0	599	2905
2:00 PM	104	258	0	362	195	55	0	250	82	63	0	145	757
2:15 PM	88	266	0	354	194	86	0	280	91	81	0	172	806
2:30 PM	78	265	0	343	208	80	0	288	94	83	0	177	808
2:45 PM	79	310	0	389	193	80	0	273	111	95	0	206	868
Hourly Total	349	1099	0	1448	790	301	0	1091	378	322	0	700	3239
3:00 PM	85	315	0	400	220	77	0	297	123	87	0	210	907
3:15 PM	92	401	0	493	227	69	0	296	130	96	0	226	1015
3:30 PM	136	366	0	502	288	97	0	385	112	113	0	225	1112
3:45 PM	121	391	0	512	215	92	0	307	110	116	0	226	1045
Hourly Total	434	1473	0	1907	950	335	0	1285	475	412	0	887	4079
4:00 PM	154	406	0	560	208	96	0	304	93	71	0	164	1028
4:15 PM	149	394	0	543	243	106	0	349	57	50	0	107	999
4:30 PM	184	401	0	585	274	120	0	394	45	40	0	85	1064
4:45 PM	196	393	0	589	229	119	0	348	61	49	0	110	1047
Hourly Total	683	1594	0	2277	954	441	0	1395	256	210	0	466	4138
5:00 PM	160	418	0	578	250	117	0	367	94	101	0	195	1140
5:15 PM	127	434	0	561	279	99	0	378	82	109	0	191	1130
5:30 PM	126	424	0	550	242	104	0	346	86	86	0	172	1068
5:45 PM	135	423	0	558	247	95	0	342	81	88	0	169	1069
Hourly Total	548	1699	0	2247	1018	415	0	1433	343	384	0	727	4407
6:00 PM	117	424	0	541	231	102	0	333	64	112	0	176	1050
6:15 PM	89	306	0	395	197	90	0	287	79	121	0	200	882
6:30 PM	84	255	0	339	183	73	0	256	77	80	0	157	752
6:45 PM	87	233	0	320	162	78	0	240	72	70	0	142	702
Hourly Total	377	1218	0	1595	773	343	0	1116	292	383	0	675	3386
Grand Total	4377	13012	0	17389	11991	4327	0	16318	3567	4543	0	8110	41817
Approach %	25.2	74.8	0.0	-	73.5	26.5	0.0	-	44.0	56.0	0.0	-	-
Total %	10.5	31.1	0.0	41.6	28.7	10.3	0.0	39.0	8.5	10.9	0.0	19.4	-
Lights	4266	12704	0	16970	11636	4198	0	15834	3407	4317	0	7724	40528
% Lights	97.5	97.6	-	97.6	97.0	97.0	-	97.0	95.5	95.0	-	95.2	96.9
Buses	36	69	0	105	63	18	0	81	35	26	0	61	247
% Buses	0.8	0.5	-	0.6	0.5	0.4	-	0.5	1.0	0.6	-	0.8	0.6
Trucks	75	239	0	314	292	111	0	403	125	200	0	325	1042
% Trucks	1.7	1.8	-	1.8	2.4	2.6	-	2.5	3.5	4.4	-	4.0	2.5



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Turning Movement Data Plot



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Count Name: KY 17 & I 275 EB Ramps
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Turning Movement Peak Hour Data (7:15 AM)

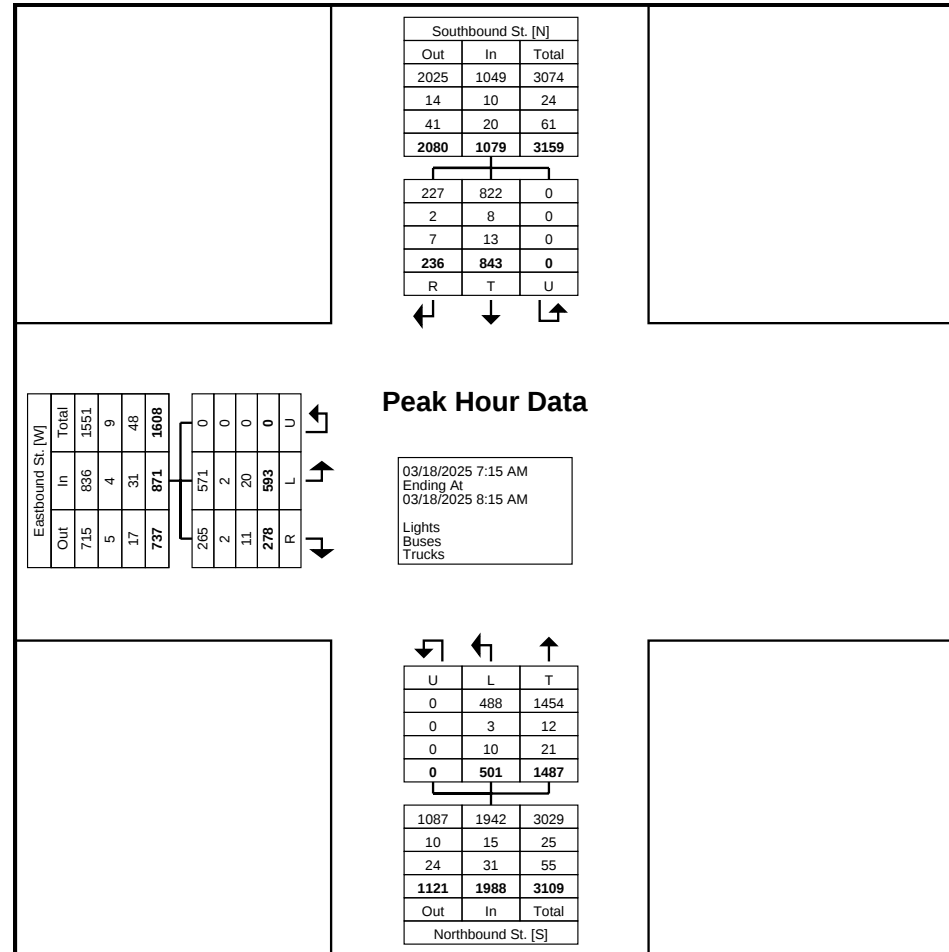
Start Time	Southbound St. Southbound				Northbound St. Northbound				Eastbound St. Eastbound				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
7:15 AM	47	174	0	221	379	131	0	510	62	136	0	198	929
7:30 AM	67	234	0	301	373	136	0	509	75	151	0	226	1036
7:45 AM	69	224	0	293	357	119	0	476	69	167	0	236	1005
8:00 AM	53	211	0	264	378	115	0	493	72	139	0	211	968
Total	236	843	0	1079	1487	501	0	1988	278	593	0	871	3938
Approach %	21.9	78.1	0.0	-	74.8	25.2	0.0	-	31.9	68.1	0.0	-	-
Total %	6.0	21.4	0.0	27.4	37.8	12.7	0.0	50.5	7.1	15.1	0.0	22.1	-
PHF	0.855	0.901	0.000	0.896	0.981	0.921	0.000	0.975	0.927	0.888	0.000	0.923	0.950
Lights	227	822	0	1049	1454	488	0	1942	265	571	0	836	3827
% Lights	96.2	97.5	-	97.2	97.8	97.4	-	97.7	95.3	96.3	-	96.0	97.2
Buses	2	8	0	10	12	3	0	15	2	2	0	4	29
% Buses	0.8	0.9	-	0.9	0.8	0.6	-	0.8	0.7	0.3	-	0.5	0.7
Trucks	7	13	0	20	21	10	0	31	11	20	0	31	82
% Trucks	3.0	1.5	-	1.9	1.4	2.0	-	1.6	4.0	3.4	-	3.6	2.1



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Turning Movement Peak Hour Data Plot (7:15 AM)



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Count Name: KY 17 & I 275 EB Ramps
Site Code:
Start Date: 03/18/2025
Page No: 6

Turning Movement Peak Hour Data (5:00 PM)

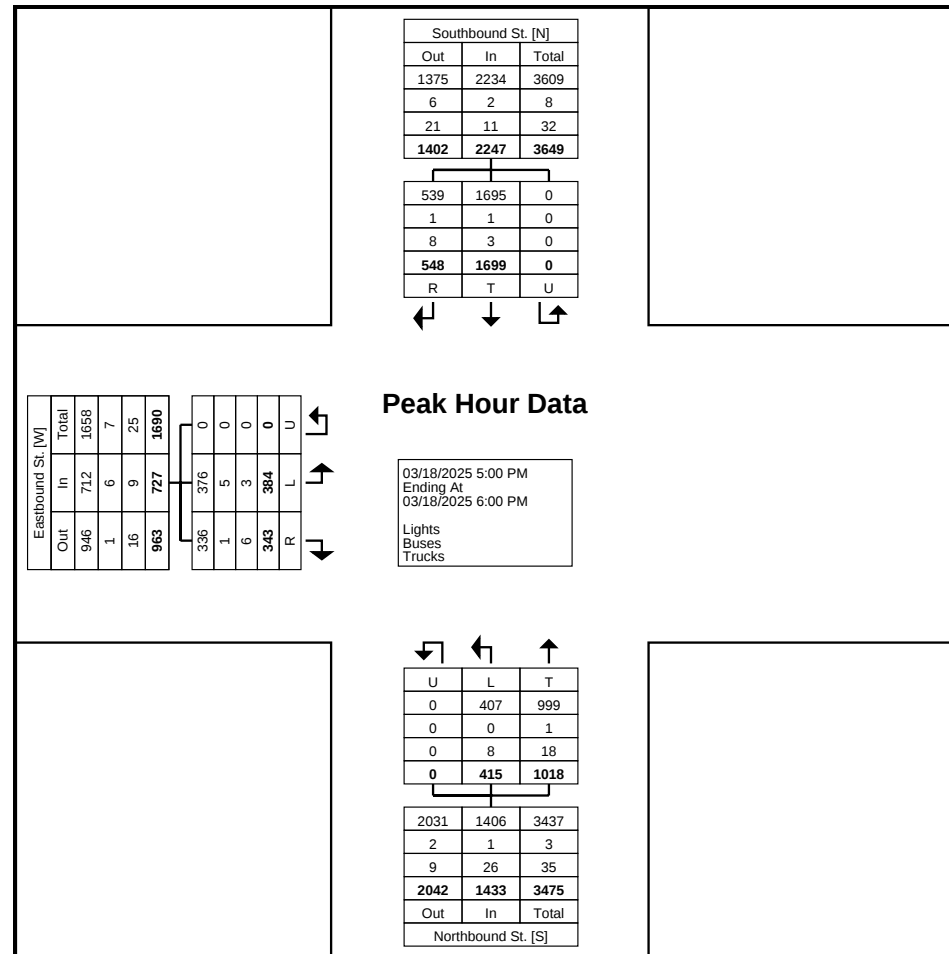
Start Time	Southbound St. Southbound				Northbound St. Northbound				Eastbound St. Eastbound				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
5:00 PM	160	418	0	578	250	117	0	367	94	101	0	195	1140
5:15 PM	127	434	0	561	279	99	0	378	82	109	0	191	1130
5:30 PM	126	424	0	550	242	104	0	346	86	86	0	172	1068
5:45 PM	135	423	0	558	247	95	0	342	81	88	0	169	1069
Total	548	1699	0	2247	1018	415	0	1433	343	384	0	727	4407
Approach %	24.4	75.6	0.0	-	71.0	29.0	0.0	-	47.2	52.8	0.0	-	-
Total %	12.4	38.6	0.0	51.0	23.1	9.4	0.0	32.5	7.8	8.7	0.0	16.5	-
PHF	0.856	0.979	0.000	0.972	0.912	0.887	0.000	0.948	0.912	0.881	0.000	0.932	0.966
Lights	539	1695	0	2234	999	407	0	1406	336	376	0	712	4352
% Lights	98.4	99.8	-	99.4	98.1	98.1	-	98.1	98.0	97.9	-	97.9	98.8
Buses	1	1	0	2	1	0	0	1	1	5	0	6	9
% Buses	0.2	0.1	-	0.1	0.1	0.0	-	0.1	0.3	1.3	-	0.8	0.2
Trucks	8	3	0	11	18	8	0	26	6	3	0	9	46
% Trucks	1.5	0.2	-	0.5	1.8	1.9	-	1.8	1.7	0.8	-	1.2	1.0



AECOM : (OH)
525 Vine Street, Suite 1800

Cincinnati, Ohio, United States 45202
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Count Name: KY 17 & I 275 EB Ramps
Site Code:
Start Date: 03/18/2025
Page No: 7



Turning Movement Peak Hour Data Plot (5:00 PM)



AECOM : (OH)
525 Vine Street, Suite 1800

Cincinnati, Ohio, United States 45202
5134193451 sam.klopping@aecom.com

Count Name: KY 17 & I 275 WB Ramps
Site Code:
Start Date: 03/20/2025
Page No: 1

Turning Movement Data

Start Time	Southbound St. Southbound				Northbound St. Northbound				Eastbound St. Eastbound				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
6:00 AM	33	59	0	92	136	50	0	186	39	21	0	60	338
6:15 AM	38	50	0	88	214	43	0	257	63	26	0	89	434
6:30 AM	44	66	0	110	236	61	0	297	123	45	0	168	575
6:45 AM	48	80	0	128	252	80	0	332	93	55	0	148	608
Hourly Total	163	255	0	418	838	234	0	1072	318	147	0	465	1955
7:00 AM	47	84	0	131	350	62	0	412	93	55	0	148	691
7:15 AM	52	117	0	169	501	102	0	603	93	67	0	160	932
7:30 AM	73	141	0	214	451	140	0	591	132	84	0	216	1021
7:45 AM	66	137	0	203	490	94	0	584	125	100	0	225	1012
Hourly Total	238	479	0	717	1792	398	0	2190	443	306	0	749	3656
8:00 AM	58	152	0	210	331	87	0	418	103	83	0	186	814
8:15 AM	59	131	0	190	311	82	0	393	100	75	0	175	758
8:30 AM	42	151	0	193	285	71	0	356	66	81	0	147	696
8:45 AM	66	153	0	219	244	71	0	315	74	83	0	157	691
Hourly Total	225	587	0	812	1171	311	0	1482	343	322	0	665	2959
9:00 AM	43	154	0	197	253	51	0	304	40	57	0	97	598
9:15 AM	60	168	0	228	204	72	0	276	51	70	0	121	625
9:30 AM	56	153	0	209	211	58	0	269	48	64	0	112	590
9:45 AM	62	143	0	205	179	64	0	243	67	70	0	137	585
Hourly Total	221	618	0	839	847	245	0	1092	206	261	0	467	2398
10:00 AM	51	120	0	171	195	44	0	239	71	48	0	119	529
10:15 AM	46	135	0	181	160	56	1	217	65	55	0	120	518
10:30 AM	61	145	0	206	174	57	0	231	89	68	0	157	594
10:45 AM	57	154	0	211	184	53	0	237	76	80	0	156	604
Hourly Total	215	554	0	769	713	210	1	924	301	251	0	552	2245
11:00 AM	63	194	0	257	188	46	0	234	76	54	0	130	621
11:15 AM	69	161	0	230	233	43	0	276	60	65	0	125	631
11:30 AM	70	190	0	260	226	52	0	278	70	63	0	133	671
11:45 AM	72	178	0	250	220	57	0	277	54	80	0	134	661
Hourly Total	274	723	0	997	867	198	0	1065	260	262	0	522	2584
12:00 PM	79	225	0	304	216	33	0	249	80	75	0	155	708
12:15 PM	77	201	0	278	222	51	0	273	68	70	0	138	689
12:30 PM	69	170	0	239	223	50	0	273	56	83	0	139	651
12:45 PM	72	197	0	269	211	53	0	264	58	76	0	134	667
Hourly Total	297	793	0	1090	872	187	0	1059	262	304	0	566	2715
1:00 PM	71	204	0	275	199	59	0	258	82	84	0	166	699

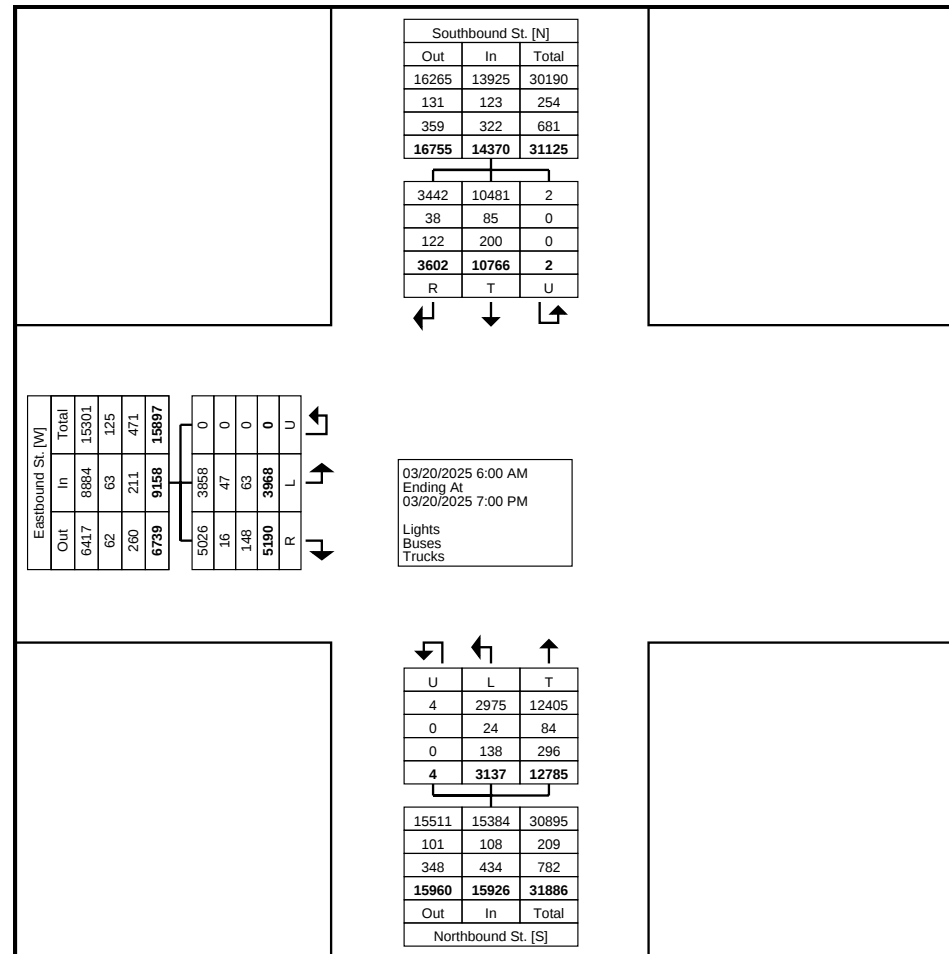
1:15 PM	86	227	0	313	219	61	0	280	65	68	0	133	726
1:30 PM	76	211	0	287	192	51	0	243	95	67	0	162	692
1:45 PM	84	220	0	304	224	65	0	289	104	82	0	186	779
Hourly Total	317	862	0	1179	834	236	0	1070	346	301	0	647	2896
2:00 PM	59	231	0	290	225	46	0	271	79	70	0	149	710
2:15 PM	85	220	0	305	177	67	0	244	117	78	0	195	744
2:30 PM	95	251	0	346	211	52	0	263	88	80	0	168	777
2:45 PM	80	252	0	332	228	45	0	273	100	78	0	178	783
Hourly Total	319	954	0	1273	841	210	0	1051	384	306	0	690	3014
3:00 PM	81	304	0	385	238	60	0	298	148	71	0	219	902
3:15 PM	75	325	0	400	254	68	1	323	128	80	0	208	931
3:30 PM	93	384	0	477	284	77	0	361	167	88	0	255	1093
3:45 PM	88	304	0	392	285	67	2	354	159	104	0	263	1009
Hourly Total	337	1317	0	1654	1061	272	3	1336	602	343	0	945	3935
4:00 PM	77	318	0	395	235	63	0	298	134	91	0	225	918
4:15 PM	80	322	0	402	242	56	0	298	148	79	0	227	927
4:30 PM	105	349	0	454	281	52	0	333	124	118	0	242	1029
4:45 PM	69	300	0	369	226	62	0	288	172	100	0	272	929
Hourly Total	331	1289	0	1620	984	233	0	1217	578	388	0	966	3803
5:00 PM	116	337	0	453	274	51	0	325	183	102	0	285	1063
5:15 PM	105	324	0	429	296	59	0	355	182	119	0	301	1085
5:30 PM	96	344	0	440	262	43	0	305	164	126	0	290	1035
5:45 PM	78	271	0	349	252	54	0	306	137	91	0	228	883
Hourly Total	395	1276	0	1671	1084	207	0	1291	666	438	0	1104	4066
6:00 PM	78	297	1	376	217	57	0	274	111	100	0	211	861
6:15 PM	60	286	1	347	217	66	0	283	132	87	0	219	849
6:30 PM	75	244	0	319	258	50	0	308	126	86	0	212	839
6:45 PM	57	232	0	289	189	23	0	212	112	66	0	178	679
Hourly Total	270	1059	2	1331	881	196	0	1077	481	339	0	820	3228
Grand Total	3602	10766	2	14370	12785	3137	4	15926	5190	3968	0	9158	39454
Approach %	25.1	74.9	0.0	-	80.3	19.7	0.0	-	56.7	43.3	0.0	-	-
Total %	9.1	27.3	0.0	36.4	32.4	8.0	0.0	40.4	13.2	10.1	0.0	23.2	-
Lights	3442	10481	2	13925	12405	2975	4	15384	5026	3858	0	8884	38193
% Lights	95.6	97.4	100.0	96.9	97.0	94.8	100.0	96.6	96.8	97.2	-	97.0	96.8
Buses	38	85	0	123	84	24	0	108	16	47	0	63	294
% Buses	1.1	0.8	0.0	0.9	0.7	0.8	0.0	0.7	0.3	1.2	-	0.7	0.7
Trucks	122	200	0	322	296	138	0	434	148	63	0	211	967
% Trucks	3.4	1.9	0.0	2.2	2.3	4.4	0.0	2.7	2.9	1.6	-	2.3	2.5



AECOM : (OH)
525 Vine Street, Suite 1800

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Count Name: KY 17 & I 275 WB Ramps
Site Code:
Start Date: 03/20/2025
Page No: 3



Turning Movement Data Plot



AECOM : (OH)
525 Vine Street, Suite 1800

Cincinnati, Ohio, United States 45202
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Count Name: KY 17 & I 275 WB Ramps
Site Code:
Start Date: 03/20/2025
Page No: 4

Turning Movement Peak Hour Data (7:15 AM)

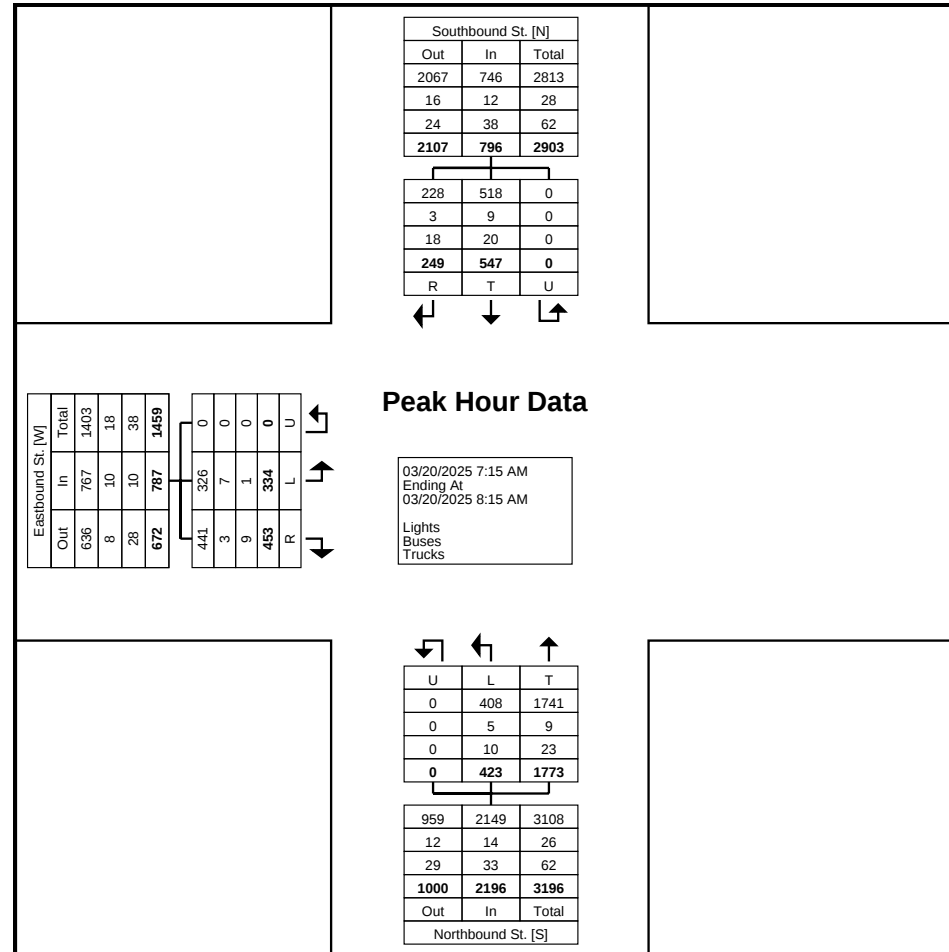
Start Time	Southbound St. Southbound				Northbound St. Northbound				Eastbound St. Eastbound				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
7:15 AM	52	117	0	169	501	102	0	603	93	67	0	160	932
7:30 AM	73	141	0	214	451	140	0	591	132	84	0	216	1021
7:45 AM	66	137	0	203	490	94	0	584	125	100	0	225	1012
8:00 AM	58	152	0	210	331	87	0	418	103	83	0	186	814
Total	249	547	0	796	1773	423	0	2196	453	334	0	787	3779
Approach %	31.3	68.7	0.0	-	80.7	19.3	0.0	-	57.6	42.4	0.0	-	-
Total %	6.6	14.5	0.0	21.1	46.9	11.2	0.0	58.1	12.0	8.8	0.0	20.8	-
PHF	0.853	0.900	0.000	0.930	0.885	0.755	0.000	0.910	0.858	0.835	0.000	0.874	0.925
Lights	228	518	0	746	1741	408	0	2149	441	326	0	767	3662
% Lights	91.6	94.7	-	93.7	98.2	96.5	-	97.9	97.4	97.6	-	97.5	96.9
Buses	3	9	0	12	9	5	0	14	3	7	0	10	36
% Buses	1.2	1.6	-	1.5	0.5	1.2	-	0.6	0.7	2.1	-	1.3	1.0
Trucks	18	20	0	38	23	10	0	33	9	1	0	10	81
% Trucks	7.2	3.7	-	4.8	1.3	2.4	-	1.5	2.0	0.3	-	1.3	2.1



AECOM : (OH)
525 Vine Street, Suite 1800

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Count Name: KY 17 & I 275 WB Ramps
Site Code:
Start Date: 03/20/2025
Page No: 5



Turning Movement Peak Hour Data Plot (7:15 AM)



AECOM : (OH)
525 Vine Street, Suite 1800

Cincinnati, Ohio, United States 45202
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Count Name: KY 17 & I 275 WB Ramps
Site Code:
Start Date: 03/20/2025
Page No: 6

Turning Movement Peak Hour Data (4:45 PM)

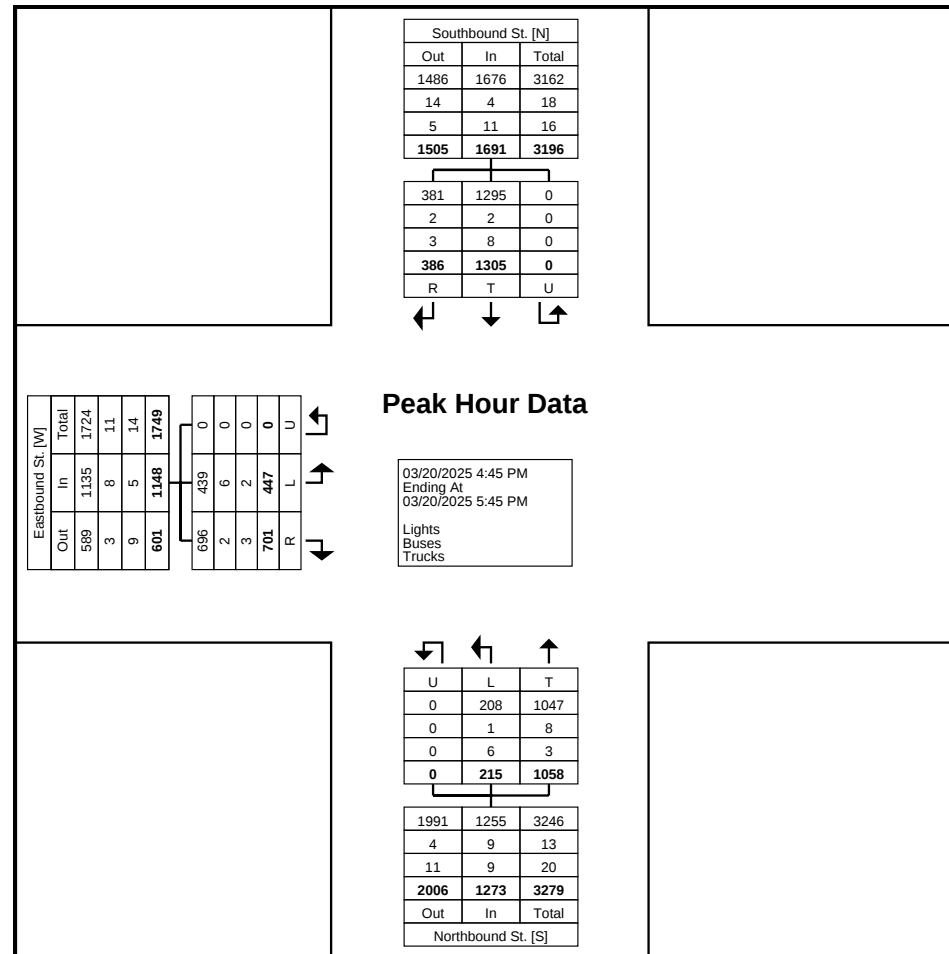
Start Time	Southbound St. Southbound				Northbound St. Northbound				Eastbound St. Eastbound				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
4:45 PM	69	300	0	369	226	62	0	288	172	100	0	272	929
5:00 PM	116	337	0	453	274	51	0	325	183	102	0	285	1063
5:15 PM	105	324	0	429	296	59	0	355	182	119	0	301	1085
5:30 PM	96	344	0	440	262	43	0	305	164	126	0	290	1035
Total	386	1305	0	1691	1058	215	0	1273	701	447	0	1148	4112
Approach %	22.8	77.2	0.0	-	83.1	16.9	0.0	-	61.1	38.9	0.0	-	-
Total %	9.4	31.7	0.0	41.1	25.7	5.2	0.0	31.0	17.0	10.9	0.0	27.9	-
PHF	0.832	0.948	0.000	0.933	0.894	0.867	0.000	0.896	0.958	0.887	0.000	0.953	0.947
Lights	381	1295	0	1676	1047	208	0	1255	696	439	0	1135	4066
% Lights	98.7	99.2	-	99.1	99.0	96.7	-	98.6	99.3	98.2	-	98.9	98.9
Buses	2	2	0	4	8	1	0	9	2	6	0	8	21
% Buses	0.5	0.2	-	0.2	0.8	0.5	-	0.7	0.3	1.3	-	0.7	0.5
Trucks	3	8	0	11	3	6	0	9	3	2	0	5	25
% Trucks	0.8	0.6	-	0.7	0.3	2.8	-	0.7	0.4	0.4	-	0.4	0.6



AECOM : (OH)
525 Vine Street, Suite 1800

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Count Name: KY 17 & I 275 WB Ramps
Site Code:
Start Date: 03/20/2025
Page No: 7



Turning Movement Peak Hour Data Plot (4:45 PM)



AECOM : (OH)
525 Vine Street, Suite 1800

Cincinnati, Ohio, United States 45202
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Count Name: KY 17 & Orphanage
Site Code:
Start Date: 03/20/2025
Page No: 1

Turning Movement Data

Start Time	Southbound St. Southbound						Westbound St. Westbound						Northbound St. Northbound						Eastbound St. Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	15	81	0	0	0	96	0	0	0	0	0	0	10	126	31	0	0	167	20	1	10	0	0	31	294
6:15 AM	16	83	5	0	0	104	0	0	0	0	0	0	18	182	43	0	0	243	20	1	10	0	0	31	378
6:30 AM	21	106	4	0	0	131	3	0	1	0	0	4	18	215	58	0	0	291	23	0	16	0	0	39	465
6:45 AM	24	113	7	0	0	144	1	0	2	0	0	3	18	277	58	0	0	353	41	1	18	0	0	60	560
Hourly Total	76	383	16	0	0	475	4	0	3	0	0	7	64	800	190	0	0	1054	104	3	54	0	0	161	1697
7:00 AM	28	103	4	0	0	135	3	0	3	0	0	6	9	300	76	0	0	385	32	0	19	0	0	51	577
7:15 AM	36	126	8	0	0	170	5	1	2	0	0	8	31	371	102	0	0	504	45	2	32	0	0	79	761
7:30 AM	48	161	2	0	0	211	4	3	5	0	0	12	26	363	123	0	0	512	64	2	41	0	0	107	842
7:45 AM	60	160	3	0	0	223	5	3	3	0	0	11	14	385	133	0	0	532	43	2	46	0	0	91	857
Hourly Total	172	550	17	0	0	739	17	7	13	0	0	37	80	1419	434	0	0	1933	184	6	138	0	0	328	3037
8:00 AM	40	149	4	0	0	193	5	0	4	0	0	9	10	316	94	0	0	420	50	2	43	0	0	95	717
8:15 AM	31	137	1	0	0	169	2	0	3	0	0	5	6	309	95	0	0	410	40	4	38	0	0	82	666
8:30 AM	32	137	3	0	0	172	5	2	8	1	0	16	9	259	104	0	0	372	48	4	30	0	0	82	642
8:45 AM	31	170	1	0	0	202	4	1	4	0	0	9	11	238	82	0	0	331	51	1	38	0	0	90	632
Hourly Total	134	593	9	0	0	736	16	3	19	1	0	39	36	1122	375	0	0	1533	189	11	149	0	0	349	2657
9:00 AM	37	143	6	0	0	186	4	1	4	0	0	9	2	207	88	0	0	297	52	3	32	0	0	87	579
9:15 AM	44	148	1	0	0	193	4	1	5	0	0	10	7	180	94	1	0	282	75	1	33	0	0	109	594
9:30 AM	40	136	2	0	0	178	0	0	5	0	0	5	6	170	96	0	0	272	66	3	36	0	0	105	560
9:45 AM	33	126	7	0	0	166	2	2	9	0	0	13	6	150	92	0	0	248	75	0	26	0	0	101	528
Hourly Total	154	553	16	0	0	723	10	4	23	0	0	37	21	707	370	1	0	1099	268	7	127	0	0	402	2261
10:00 AM	28	126	2	0	0	156	4	4	5	0	0	13	7	165	84	0	0	256	55	1	30	0	0	86	511
10:15 AM	43	120	3	0	0	166	5	1	5	0	0	11	8	136	73	0	0	217	56	0	32	0	0	88	482
10:30 AM	57	111	6	0	0	174	1	2	7	0	0	10	10	153	103	0	0	266	79	1	34	0	0	114	564
10:45 AM	50	122	2	0	0	174	3	5	4	0	0	12	6	154	110	0	0	270	84	3	39	0	0	126	582
Hourly Total	178	479	13	0	0	670	13	12	21	0	0	46	31	608	370	0	0	1009	274	5	135	0	0	414	2139
11:00 AM	52	162	10	0	0	224	6	3	8	1	0	18	6	141	99	0	0	246	90	0	42	0	1	132	620
11:15 AM	51	138	5	0	0	194	3	4	8	0	0	15	5	177	118	0	0	300	81	0	38	0	0	119	628
11:30 AM	66	154	3	0	0	223	11	0	10	0	0	21	7	157	132	0	0	296	100	2	42	0	0	144	684
11:45 AM	66	163	5	0	0	234	3	6	7	0	0	16	6	175	127	0	0	308	91	0	35	0	0	126	684
Hourly Total	235	617	23	0	0	875	23	13	33	1	0	70	24	650	476	0	0	1150	362	2	157	0	1	521	2616
12:00 PM	44	186	11	0	0	241	11	3	8	0	0	22	6	164	112	0	0	282	108	1	59	0	0	168	713
12:15 PM	60	178	9	0	0	247	7	1	8	0	0	16	6	172	121	0	0	299	103	7	52	0	0	162	724
12:30 PM	58	178	10	0	0	246	6	4	6	0	0	16	4	202	114	0	0	320	69	3	38	0	0	110	692
12:45 PM	52	180	7	0	0	239	7	1	6	0	0	14	9	174	111	0	0	294	89	0	41	0	0	130	677
Hourly Total	214	722	37	0	0	973	31	9	28	0	0	68	25	712	458	0	0	1195	369	11	190	0	0	570	2806

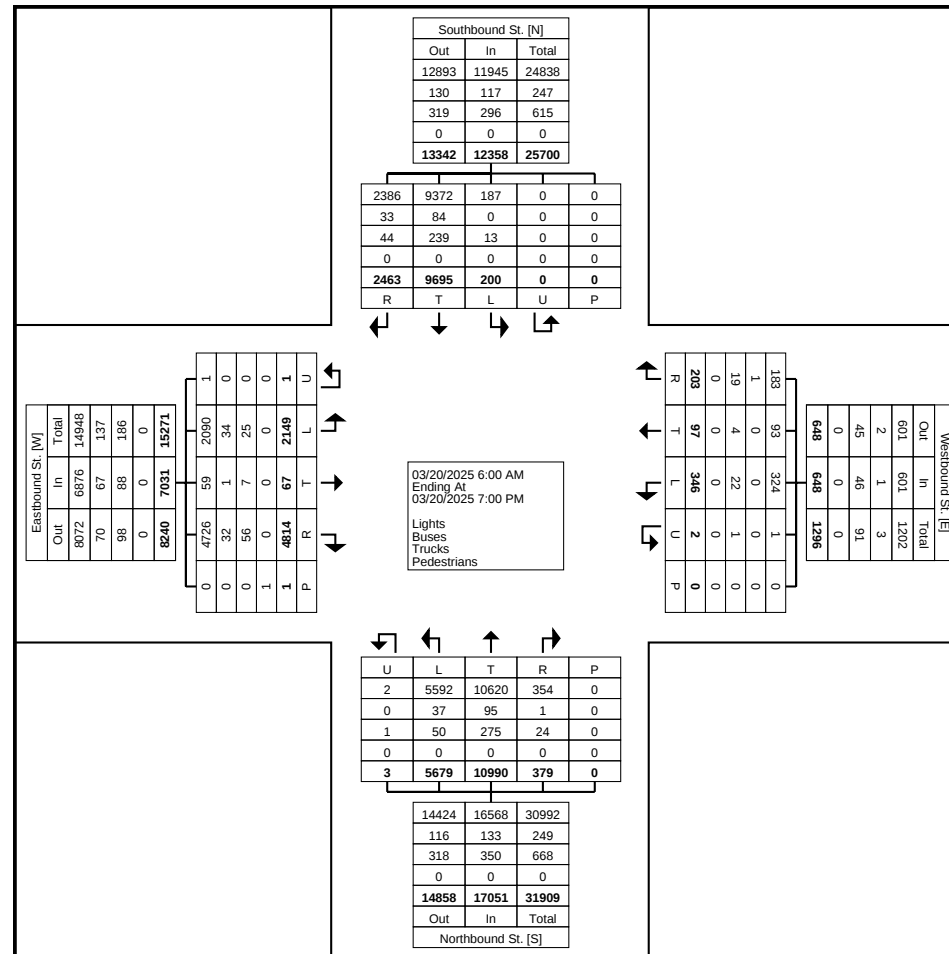
1:00 PM	50	186	5	0	0	241	1	3	10	0	0	14	8	170	125	0	0	303	99	4	51	0	0	154	712
1:15 PM	47	194	2	0	0	243	2	1	5	0	0	8	9	174	114	0	0	297	107	2	42	0	0	151	699
1:30 PM	56	209	3	0	0	268	3	3	1	0	0	7	8	163	92	0	0	263	92	1	48	0	0	141	679
1:45 PM	47	203	9	0	0	259	3	2	7	0	0	12	7	178	127	0	0	312	108	1	43	0	0	152	735
Hourly Total	200	792	19	0	0	1011	9	9	23	0	0	41	32	685	458	0	0	1175	406	8	184	0	0	598	2825
2:00 PM	55	180	7	0	0	242	3	4	7	0	0	14	2	166	119	0	0	287	107	1	50	0	0	158	701
2:15 PM	42	202	3	0	0	247	5	1	7	0	0	13	6	145	110	0	0	261	107	3	46	0	0	156	677
2:30 PM	44	236	11	0	0	291	5	0	9	0	0	14	12	176	114	0	0	302	130	3	44	0	0	177	784
2:45 PM	49	237	3	0	0	289	2	0	7	0	0	9	10	185	93	1	0	289	109	0	49	0	0	158	745
Hourly Total	190	855	24	0	0	1069	15	5	30	0	0	50	30	672	436	1	0	1139	453	7	189	0	0	649	2907
3:00 PM	57	251	7	0	0	315	7	2	17	0	0	26	5	180	93	0	0	278	113	0	39	0	0	152	771
3:15 PM	58	268	1	0	0	327	8	4	24	0	0	36	3	232	103	0	0	338	116	0	51	0	0	167	868
3:30 PM	60	294	2	0	0	356	6	2	20	0	0	28	5	227	118	0	0	350	139	0	54	0	0	193	927
3:45 PM	60	265	2	0	0	327	7	0	8	0	0	15	3	239	140	1	0	383	138	1	53	0	0	192	917
Hourly Total	235	1078	12	0	0	1325	28	8	69	0	0	105	16	878	454	1	0	1349	506	1	197	0	0	704	3483
4:00 PM	61	262	2	0	0	325	14	5	23	0	0	42	1	252	124	0	0	377	130	1	56	0	0	187	931
4:15 PM	43	271	0	0	0	314	6	2	10	0	0	18	6	219	131	0	0	356	137	1	56	0	0	194	882
4:30 PM	67	319	1	0	0	387	7	4	15	0	0	26	0	279	147	0	0	426	158	1	68	0	0	227	1066
4:45 PM	72	284	2	0	0	358	1	1	10	0	0	12	1	225	156	0	0	382	162	0	73	0	0	235	987
Hourly Total	243	1136	5	0	0	1384	28	12	58	0	0	98	8	975	558	0	0	1541	587	3	253	0	0	843	3866
5:00 PM	61	329	0	0	0	390	1	4	6	0	0	11	3	248	133	0	0	384	163	0	76	0	0	239	1024
5:15 PM	56	273	1	0	0	330	2	3	8	0	0	13	2	273	160	0	0	435	163	1	46	0	0	210	988
5:30 PM	52	288	1	0	0	341	0	2	0	0	0	2	3	227	169	0	0	399	147	0	61	0	0	208	950
5:45 PM	62	240	2	0	0	304	2	2	3	0	0	7	2	219	139	0	0	360	132	1	29	1	0	163	834
Hourly Total	231	1130	4	0	0	1365	5	11	17	0	0	33	10	967	601	0	0	1578	605	2	212	1	0	820	3796
6:00 PM	64	228	0	0	0	292	0	1	2	0	0	3	1	201	130	0	0	332	142	0	42	0	0	184	811
6:15 PM	52	215	0	0	0	267	0	0	2	0	0	2	0	198	134	0	0	332	131	0	37	0	0	168	769
6:30 PM	50	195	2	0	0	247	2	0	2	0	0	4	1	226	131	0	0	358	118	1	44	0	0	163	772
6:45 PM	35	169	3	0	0	207	2	3	3	0	0	8	0	170	104	0	0	274	116	0	41	0	0	157	646
Hourly Total	201	807	5	0	0	1013	4	4	9	0	0	17	2	795	499	0	0	1296	507	1	164	0	0	672	2998
Grand Total	2463	9695	200	0	0	12358	203	97	346	2	0	648	379	10990	5679	3	0	17051	4814	67	2149	1	1	7031	37088
Approach %	19.9	78.5	1.6	0.0	-	-	31.3	15.0	53.4	0.3	-	-	2.2	64.5	33.3	0.0	-	-	68.5	1.0	30.6	0.0	-	-	-
Total %	6.6	26.1	0.5	0.0	-	33.3	0.5	0.3	0.9	0.0	-	1.7	1.0	29.6	15.3	0.0	-	46.0	13.0	0.2	5.8	0.0	-	19.0	-
Lights	2386	9372	187	0	-	11945	183	93	324	1	-	601	354	10620	5592	2	-	16568	4726	59	2090	1	-	6876	35990
% Lights	96.9	96.7	93.5	-	-	96.7	90.1	95.9	93.6	50.0	-	92.7	93.4	96.6	98.5	66.7	-	97.2	98.2	88.1	97.3	100.0	-	97.8	97.0
Buses	33	84	0	0	-	117	1	0	0	0	-	1	1	95	37	0	-	133	32	1	34	0	-	67	318
% Buses	1.3	0.9	0.0	-	-	0.9	0.5	0.0	0.0	0.0	-	0.2	0.3	0.9	0.7	0.0	-	0.8	0.7	1.5	1.6	0.0	-	1.0	0.9
Trucks	44	239	13	0	-	296	19	4	22	1	-	46	24	275	50	1	-	350	56	7	25	0	-	88	780
% Trucks	1.8	2.5	6.5	-	-	2.4	9.4	4.1	6.4	50.0	-	7.1	6.3	2.5	0.9	33.3	-	2.1	1.2	10.4	1.2	0.0	-	1.3	2.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-



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Count Name: KY 17 & Orphanage
Site Code:
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Page No: 3



Turning Movement Data Plot



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Turning Movement Peak Hour Data (7:15 AM)

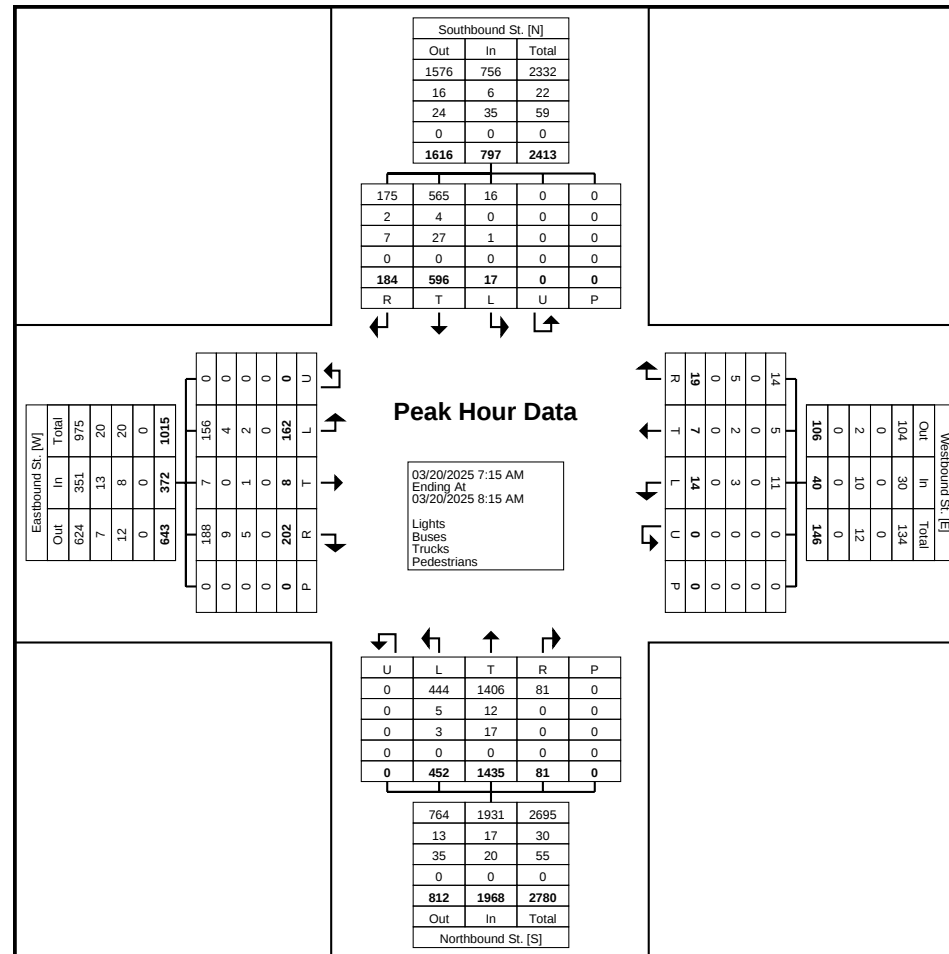
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Turning Movement Peak Hour Data (4:30 PM)

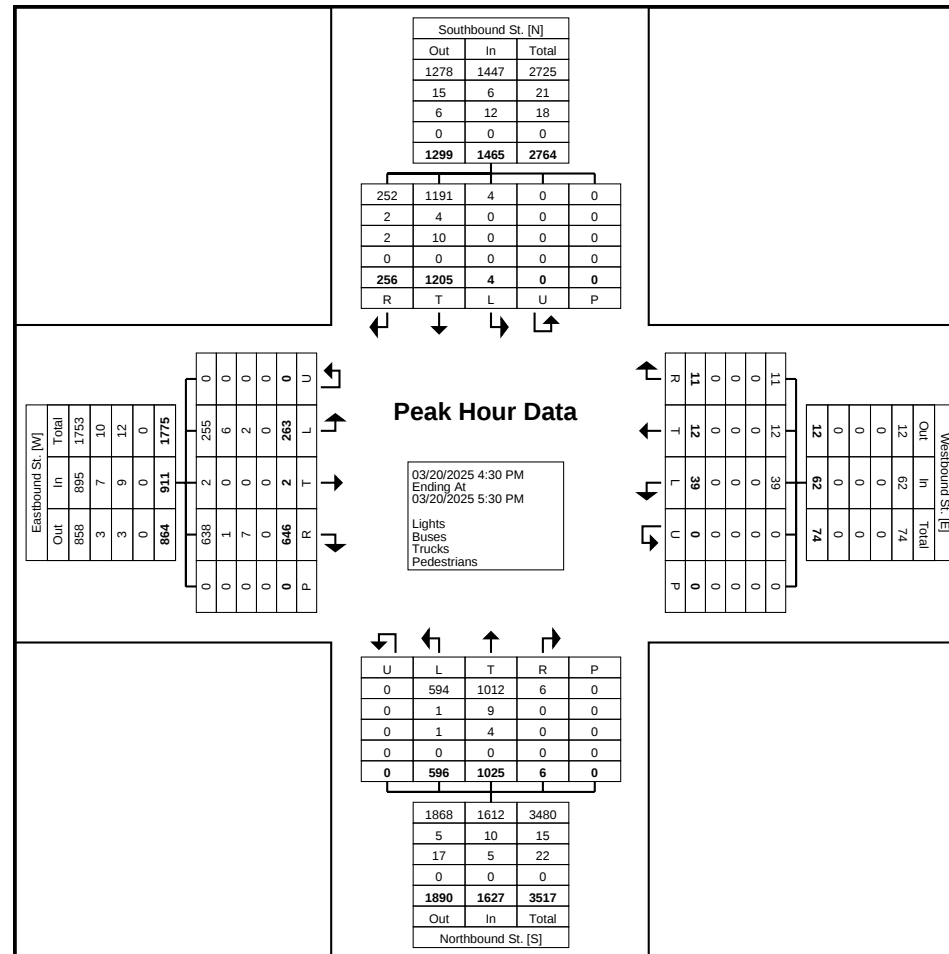
[illegible]



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Turning Movement Peak Hour Data Plot (4:30 PM)



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Count Name: KY 17 & Highland
Site Code:
Start Date: 03/25/2025
Page No: 1

Turning Movement Data

Start Time	Southbound St. Southbound						Westbound St. Westbound						Northbound St. Northbound						Eastbound St. Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	38	39	1	0	0	78	1	8	10	0	0	19	13	56	73	0	0	142	46	6	15	0	0	67	306
6:15 AM	37	52	0	0	0	89	1	3	7	0	0	11	20	68	92	0	0	180	63	8	17	0	0	88	368
6:30 AM	51	76	2	0	0	129	2	7	9	0	0	18	22	72	87	0	0	181	70	7	17	0	0	94	422
6:45 AM	58	62	1	0	0	121	1	3	12	0	0	16	37	103	120	0	0	260	67	12	43	0	0	122	519
Hourly Total	184	229	4	0	0	417	5	21	38	0	0	64	92	299	372	0	0	763	246	33	92	0	0	371	1615
7:00 AM	42	76	0	0	0	118	0	5	11	0	0	16	33	106	181	0	0	320	59	14	37	0	0	110	564
7:15 AM	84	96	1	0	0	181	3	5	7	0	0	15	57	206	147	0	0	410	73	36	35	0	0	144	750
7:30 AM	58	124	2	0	0	184	0	4	9	0	0	13	61	192	145	0	0	398	87	53	47	0	0	187	782
7:45 AM	71	104	0	0	0	175	2	3	10	0	0	15	66	186	136	0	0	388	74	60	47	0	0	181	759
Hourly Total	255	400	3	0	0	658	5	17	37	0	0	59	217	690	609	0	0	1516	293	163	166	0	0	622	2855
8:00 AM	90	93	6	0	0	189	0	4	12	0	0	16	109	192	153	0	0	454	68	62	50	0	0	180	839
8:15 AM	101	109	2	0	0	212	2	8	13	0	0	23	66	147	159	0	0	372	78	49	33	0	0	160	767
8:30 AM	89	84	1	0	0	174	5	7	15	0	0	27	48	138	117	0	0	303	64	25	49	0	0	138	642
8:45 AM	62	94	1	0	0	157	5	7	6	0	0	18	58	134	99	0	0	291	88	30	41	0	0	159	625
Hourly Total	342	380	10	0	0	732	12	26	46	0	0	84	281	611	528	0	0	1420	298	166	173	0	0	637	2873
9:00 AM	54	76	0	0	0	130	1	5	6	0	0	12	37	106	82	0	0	225	54	31	46	0	0	131	498
9:15 AM	60	78	0	1	0	139	2	4	11	0	0	17	32	101	75	0	0	208	48	25	38	0	0	111	475
9:30 AM	46	74	0	0	0	120	2	10	7	0	0	19	10	99	93	0	0	202	50	12	36	0	0	98	439
9:45 AM	43	91	1	0	0	135	1	5	7	0	0	13	11	133	79	0	0	223	67	11	42	0	0	120	491
Hourly Total	203	319	1	1	0	524	6	24	31	0	0	61	90	439	329	0	0	858	219	79	162	0	0	460	1903
10:00 AM	50	86	0	0	0	136	3	4	14	0	0	21	11	87	67	0	0	165	52	6	34	0	0	92	414
10:15 AM	39	77	0	0	0	116	3	5	9	0	0	17	10	86	61	0	0	157	59	8	50	0	0	117	407
10:30 AM	47	88	0	0	1	135	1	4	16	0	0	21	12	96	72	0	0	180	51	9	44	0	0	104	440
10:45 AM	63	89	2	0	0	154	1	8	9	0	0	18	11	79	56	0	0	146	65	10	44	0	0	119	437
Hourly Total	199	340	2	0	1	541	8	21	48	0	0	77	44	348	256	0	0	648	227	33	172	0	0	432	1698
11:00 AM	47	90	1	0	1	138	0	9	16	0	0	25	17	113	71	0	0	201	67	16	37	0	0	120	484
11:15 AM	59	104	2	0	0	165	2	8	14	0	0	24	13	103	64	0	0	180	63	13	53	0	0	129	498
11:30 AM	55	107	1	0	0	163	4	11	17	0	0	32	22	119	85	0	0	226	63	19	45	0	0	127	548
11:45 AM	66	120	2	0	0	188	2	7	21	0	0	30	9	119	89	0	0	217	72	9	46	0	0	127	562
Hourly Total	227	421	6	0	1	654	8	35	68	0	0	111	61	454	309	0	0	824	265	57	181	0	0	503	2092
12:00 PM	63	100	1	0	1	164	3	23	18	0	0	44	10	119	65	0	0	194	69	13	66	0	0	148	550
12:15 PM	58	126	0	0	1	184	2	11	10	0	0	23	11	110	72	0	0	193	74	10	74	0	0	158	558
12:30 PM	79	108	1	0	0	188	2	17	14	0	0	33	9	109	71	0	0	189	78	11	50	1	0	140	550
12:45 PM	57	117	2	1	0	177	1	8	17	0	0	26	14	111	53	0	0	178	101	8	72	0	0	181	562
Hourly Total	257	451	4	1	2	713	8	59	59	0	0	126	44	449	261	0	0	754	322	42	262	1	0	627	2220

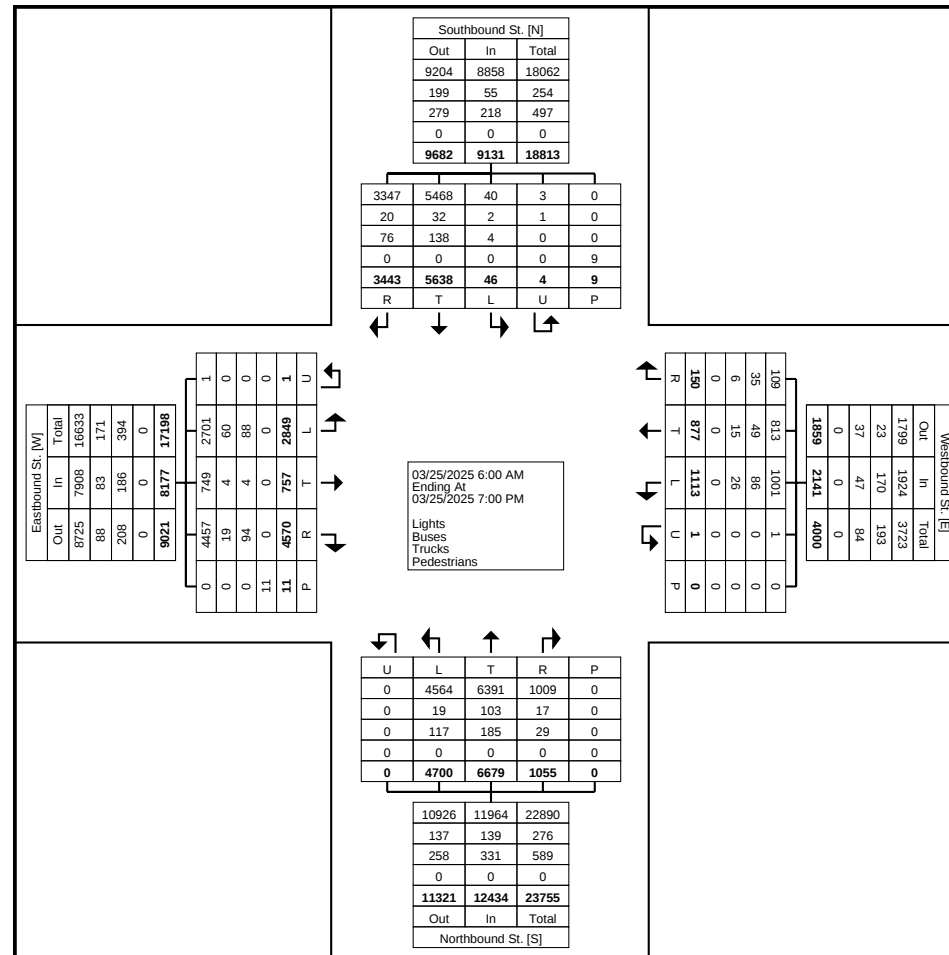
1:00 PM	65	115	3	0	0	183	1	21	23	0	0	45	12	84	66	0	0	162	90	8	60	0	0	158	548
1:15 PM	52	94	1	0	0	147	4	10	23	0	0	37	12	115	51	0	0	178	88	5	66	0	0	159	521
1:30 PM	65	103	1	0	0	169	2	11	25	0	0	38	7	124	71	0	0	202	79	12	70	0	0	161	570
1:45 PM	69	125	1	0	0	195	1	13	26	0	0	40	4	114	66	0	0	184	87	6	72	0	0	165	584
Hourly Total	251	437	6	0	0	694	8	55	97	0	0	160	35	437	254	0	0	726	344	31	268	0	0	643	2223
2:00 PM	74	112	1	0	0	187	2	20	28	0	0	50	10	105	61	0	0	176	90	10	53	0	1	153	566
2:15 PM	80	119	0	0	0	199	6	13	16	0	0	35	6	123	73	0	0	202	100	6	85	0	0	191	627
2:30 PM	60	98	1	0	0	159	4	21	41	0	0	66	6	145	80	0	0	231	110	8	64	0	0	182	638
2:45 PM	73	121	0	0	1	194	9	19	29	0	0	57	12	151	89	0	0	252	110	6	55	0	1	171	674
Hourly Total	287	450	2	0	1	739	21	73	114	0	0	208	34	524	303	0	0	861	410	30	257	0	2	697	2505
3:00 PM	66	139	1	0	0	206	0	22	34	0	0	56	15	154	76	0	0	245	127	7	74	0	0	208	715
3:15 PM	85	186	1	0	0	272	2	22	23	0	0	47	17	133	93	0	0	243	130	8	52	0	1	190	752
3:30 PM	78	160	1	0	3	239	3	30	43	0	0	76	15	181	85	0	0	281	121	11	69	0	1	201	797
3:45 PM	75	142	0	0	1	217	8	23	29	0	0	60	7	173	94	0	0	274	137	9	90	0	2	236	787
Hourly Total	304	627	3	0	4	934	13	97	129	0	0	239	54	641	348	0	0	1043	515	35	285	0	4	835	3051
4:00 PM	93	180	0	0	0	273	5	36	34	0	0	75	6	152	114	0	0	272	110	6	88	0	1	204	824
4:15 PM	89	138	0	0	0	227	1	25	38	0	0	64	13	171	105	0	0	289	119	9	71	0	0	199	779
4:30 PM	95	154	0	0	0	249	8	56	49	0	0	113	8	146	110	0	0	264	101	6	71	0	0	178	804
4:45 PM	87	170	0	0	0	257	4	52	48	0	0	104	13	158	111	0	0	282	116	4	83	0	0	203	846
Hourly Total	364	642	0	0	0	1006	18	169	169	0	0	356	40	627	440	0	0	1107	446	25	313	0	1	784	3253
5:00 PM	82	142	1	0	0	225	7	76	83	1	0	167	8	164	101	0	0	273	134	9	60	0	0	203	868
5:15 PM	88	118	1	0	0	207	9	60	62	0	0	131	10	184	116	0	0	310	142	7	75	0	0	224	872
5:30 PM	88	109	1	0	0	198	10	32	33	0	0	75	9	151	90	0	0	250	139	12	88	0	1	239	762
5:45 PM	76	117	0	0	0	193	5	24	28	0	0	57	11	176	74	0	0	261	106	12	63	0	1	181	692
Hourly Total	334	486	3	0	0	823	31	192	206	1	0	430	38	675	381	0	0	1094	521	40	286	0	2	847	3194
6:00 PM	77	125	1	2	0	205	1	47	34	0	0	82	7	115	85	0	0	207	105	5	65	0	0	175	669
6:15 PM	59	120	0	0	0	179	4	13	18	0	0	35	5	138	82	0	0	225	127	5	67	0	0	199	638
6:30 PM	44	100	1	0	0	145	2	17	9	0	0	28	10	114	83	0	0	207	106	5	57	0	1	168	548
6:45 PM	56	111	0	0	0	167	0	11	10	0	0	21	3	118	60	0	0	181	126	8	43	0	1	177	546
Hourly Total	236	456	2	2	0	696	7	88	71	0	0	166	25	485	310	0	0	820	464	23	232	0	2	719	2401
Grand Total	3443	5638	46	4	9	9131	150	877	1113	1	0	2141	1055	6679	4700	0	0	12434	4570	757	2849	1	11	8177	31883
Approach %	37.7	61.7	0.5	0.0	-	-	7.0	41.0	52.0	0.0	-	-	8.5	53.7	37.8	0.0	-	-	55.9	9.3	34.8	0.0	-	-	-
Total %	10.8	17.7	0.1	0.0	-	28.6	0.5	2.8	3.5	0.0	-	6.7	3.3	20.9	14.7	0.0	-	39.0	14.3	2.4	8.9	0.0	-	25.6	-
Lights	3347	5468	40	3	-	8858	109	813	1001	1	-	1924	1009	6391	4564	0	-	11964	4457	749	2701	1	-	7908	30654
% Lights	97.2	97.0	87.0	75.0	-	97.0	72.7	92.7	89.9	100.0	-	89.9	95.6	95.7	97.1	-	-	96.2	97.5	98.9	94.8	100.0	-	96.7	96.1
Buses	20	32	2	1	-	55	35	49	86	0	-	170	17	103	19	0	-	139	19	4	60	0	-	83	447
% Buses	0.6	0.6	4.3	25.0	-	0.6	23.3	5.6	7.7	0.0	-	7.9	1.6	1.5	0.4	-	-	1.1	0.4	0.5	2.1	0.0	-	1.0	1.4
Trucks	76	138	4	0	-	218	6	15	26	0	-	47	29	185	117	0	-	331	94	4	88	0	-	186	782
% Trucks	2.2	2.4	8.7	0.0	-	2.4	4.0	1.7	2.3	0.0	-	2.2	2.7	2.8	2.5	-	-	2.7	2.1	0.5	3.1	0.0	-	2.3	2.5
Pedestrians	-	-	-	-	9	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	11	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Turning Movement Data Plot



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Turning Movement Peak Hour Data (7:30 AM)

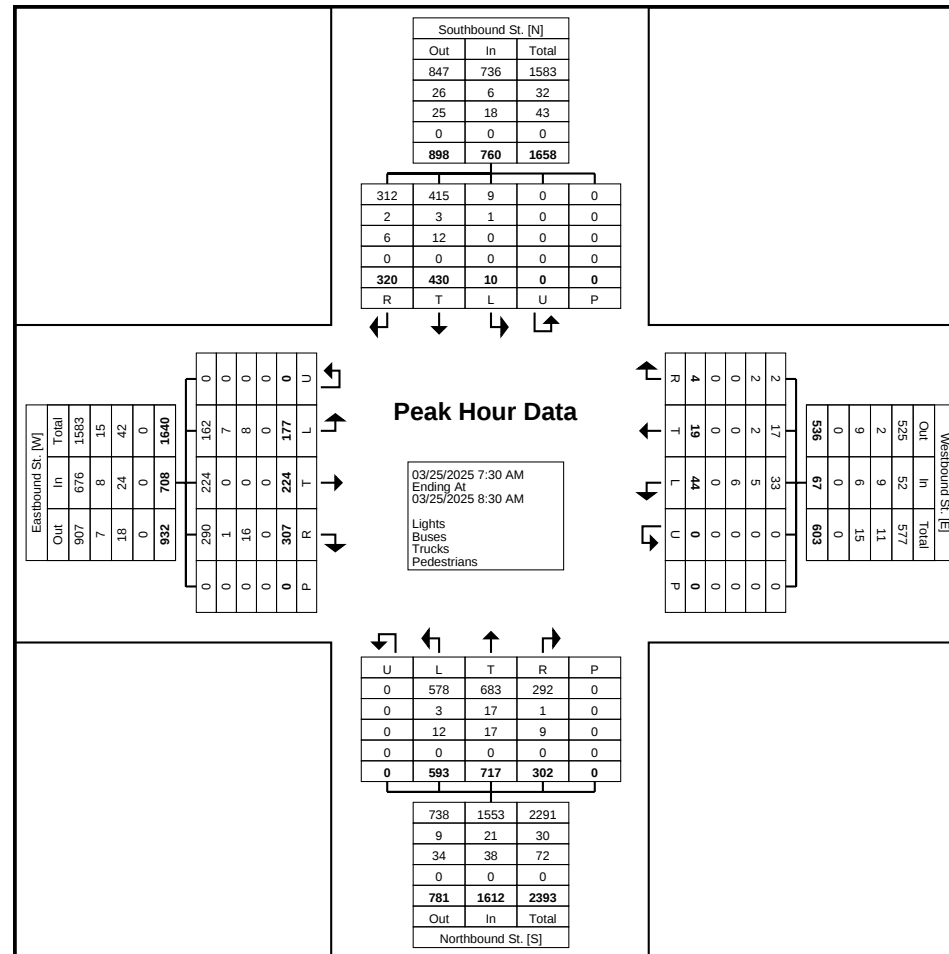
[illegible]



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Turning Movement Peak Hour Data Plot (7:30 AM)



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Turning Movement Peak Hour Data (4:30 PM)

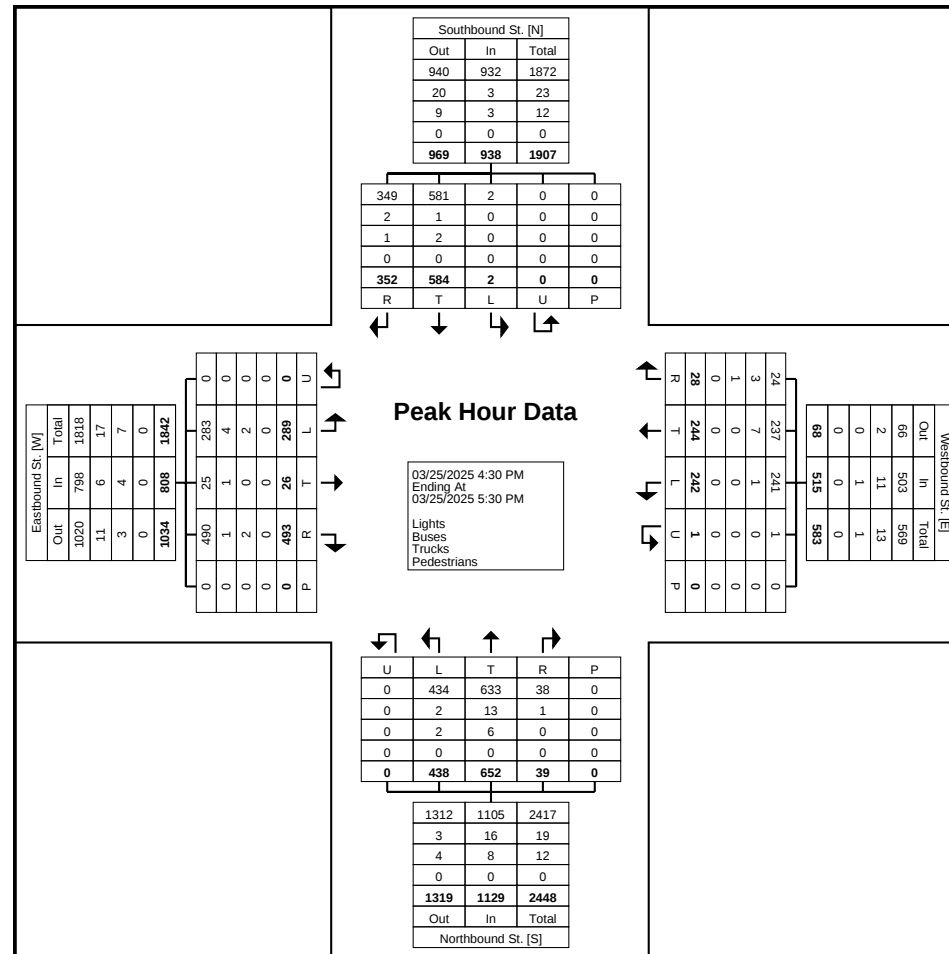
Start Time	Southbound St. Southbound						Westbound St. Westbound						Northbound St. Northbound						Eastbound St. Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:30 PM	95	154	0	0	0	249	8	56	49	0	0	113	8	146	110	0	0	264	101	6	71	0	0	178	804
4:45 PM	87	170	0	0	0	257	4	52	48	0	0	104	13	158	111	0	0	282	116	4	83	0	0	203	846
5:00 PM	82	142	1	0	0	225	7	76	83	1	0	167	8	164	101	0	0	273	134	9	60	0	0	203	868
5:15 PM	88	118	1	0	0	207	9	60	62	0	0	131	10	184	116	0	0	310	142	7	75	0	0	224	872
Total	352	584	2	0	0	938	28	244	242	1	0	515	39	652	438	0	0	1129	493	26	289	0	0	808	3390
Approach %	37.5	62.3	0.2	0.0	-	-	5.4	47.4	47.0	0.2	-	-	3.5	57.8	38.8	0.0	-	-	61.0	3.2	35.8	0.0	-	-	-
Total %	10.4	17.2	0.1	0.0	-	27.7	0.8	7.2	7.1	0.0	-	15.2	1.2	19.2	12.9	0.0	-	33.3	14.5	0.8	8.5	0.0	-	23.8	-
PHF	0.926	0.859	0.500	0.000	-	0.912	0.778	0.803	0.729	0.250	-	0.771	0.750	0.886	0.944	0.000	-	0.910	0.868	0.722	0.870	0.000	-	0.902	0.972
Lights	349	581	2	0	-	932	24	237	241	1	-	503	38	633	434	0	-	1105	490	25	283	0	-	798	3338
% Lights	99.1	99.5	100.0	-	-	99.4	85.7	97.1	99.6	100.0	-	97.7	97.4	97.1	99.1	-	-	97.9	99.4	96.2	97.9	-	-	98.8	98.5
Buses	2	1	0	0	-	3	3	7	1	0	-	11	1	13	2	0	-	16	1	1	4	0	-	6	36
% Buses	0.6	0.2	0.0	-	-	0.3	10.7	2.9	0.4	0.0	-	2.1	2.6	2.0	0.5	-	-	1.4	0.2	3.8	1.4	-	-	0.7	1.1
Trucks	1	2	0	0	-	3	1	0	0	0	-	1	0	6	2	0	-	8	2	0	2	0	-	4	16
% Trucks	0.3	0.3	0.0	-	-	0.3	3.6	0.0	0.0	0.0	-	0.2	0.0	0.9	0.5	-	-	0.7	0.4	0.0	0.7	-	-	0.5	0.5
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Turning Movement Data

Start Time	Southbound St. Southbound					Westbound St. Westbound					Northbound St. Northbound					Eastbound St. Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
6:00 AM	32	97	0	0	129	0	0	0	0	0	0	165	17	0	182	9	0	19	0	28	339
6:15 AM	46	139	1	0	186	0	0	0	0	0	0	215	30	0	245	1	0	37	0	38	469
6:30 AM	82	140	1	0	223	0	0	1	0	1	0	224	40	0	264	8	1	37	0	46	534
6:45 AM	80	152	7	0	239	0	0	0	0	0	1	270	51	0	322	11	0	36	0	47	608
Hourly Total	240	528	9	0	777	0	0	1	0	1	1	874	138	0	1013	29	1	129	0	159	1950
7:00 AM	55	144	4	0	203	0	0	0	0	0	0	412	37	0	449	16	0	72	0	88	740
7:15 AM	72	161	10	0	243	0	0	0	0	0	0	470	41	0	511	10	0	78	0	88	842
7:30 AM	94	189	11	0	294	3	0	0	0	3	2	420	52	0	474	19	5	91	0	115	886
7:45 AM	92	177	21	0	290	4	0	0	0	4	8	405	54	0	467	14	1	79	0	94	855
Hourly Total	313	671	46	0	1030	7	0	0	0	7	10	1707	184	0	1901	59	6	320	0	385	3323
8:00 AM	107	178	6	0	291	0	0	0	0	0	1	429	51	0	481	15	0	73	0	88	860
8:15 AM	92	142	3	0	237	2	0	2	0	4	1	354	55	0	410	18	3	94	0	115	766
8:30 AM	73	156	2	0	231	0	0	0	0	0	0	331	46	0	377	12	0	81	0	93	701
8:45 AM	79	163	0	0	242	0	0	0	0	0	0	304	39	0	343	15	0	57	0	72	657
Hourly Total	351	639	11	0	1001	2	0	2	0	4	2	1418	191	0	1611	60	3	305	0	368	2984
9:00 AM	53	144	0	0	197	10	0	0	0	10	0	233	23	0	256	17	0	66	0	83	546
9:15 AM	50	146	3	0	199	4	0	0	0	4	0	211	24	0	235	11	0	66	0	77	515
9:30 AM	44	119	0	0	163	0	0	3	0	3	1	213	27	0	241	26	0	64	0	90	497
9:45 AM	51	131	2	0	184	1	0	1	0	2	0	199	15	0	214	14	0	62	0	76	476
Hourly Total	198	540	5	0	743	15	0	4	0	19	1	856	89	0	946	68	0	258	0	326	2034
10:00 AM	52	148	1	0	201	1	0	1	0	2	2	165	22	0	189	14	0	69	0	83	475
10:15 AM	44	143	4	0	191	15	3	5	0	23	0	212	22	0	234	21	0	61	0	82	530
10:30 AM	53	154	0	0	207	9	1	6	0	16	0	211	27	0	238	18	0	46	0	64	525
10:45 AM	43	186	2	0	231	2	1	1	0	4	1	196	17	0	214	23	0	58	0	81	530
Hourly Total	192	631	7	0	830	27	5	13	0	45	3	784	88	0	875	76	0	234	0	310	2060
11:00 AM	41	189	3	0	233	4	0	0	0	4	2	202	15	0	219	22	2	44	0	68	524
11:15 AM	60	206	3	0	269	0	0	0	0	0	0	210	9	0	219	21	0	53	0	74	562
11:30 AM	49	221	2	0	272	4	0	1	0	5	0	207	14	0	221	19	0	52	0	71	569
11:45 AM	62	237	3	0	302	4	0	2	0	6	1	195	17	0	213	10	1	72	0	83	604
Hourly Total	212	853	11	0	1076	12	0	3	0	15	3	814	55	0	872	72	3	221	0	296	2259
12:00 PM	49	239	1	0	289	2	0	0	0	2	1	174	13	0	188	29	1	55	0	85	564
12:15 PM	76	220	6	0	302	2	0	1	0	3	2	195	21	0	218	24	0	57	0	81	604
12:30 PM	66	227	1	0	294	3	0	1	0	4	1	197	25	0	223	14	1	54	0	69	590
12:45 PM	58	230	2	0	290	0	0	1	0	1	0	200	15	0	215	19	0	60	0	79	585
Hourly Total	249	916	10	0	1175	7	0	3	0	10	4	766	74	0	844	86	2	226	0	314	2343
1:00 PM	62	225	1	0	288	2	0	0	0	2	0	174	25	0	199	15	0	58	0	73	562

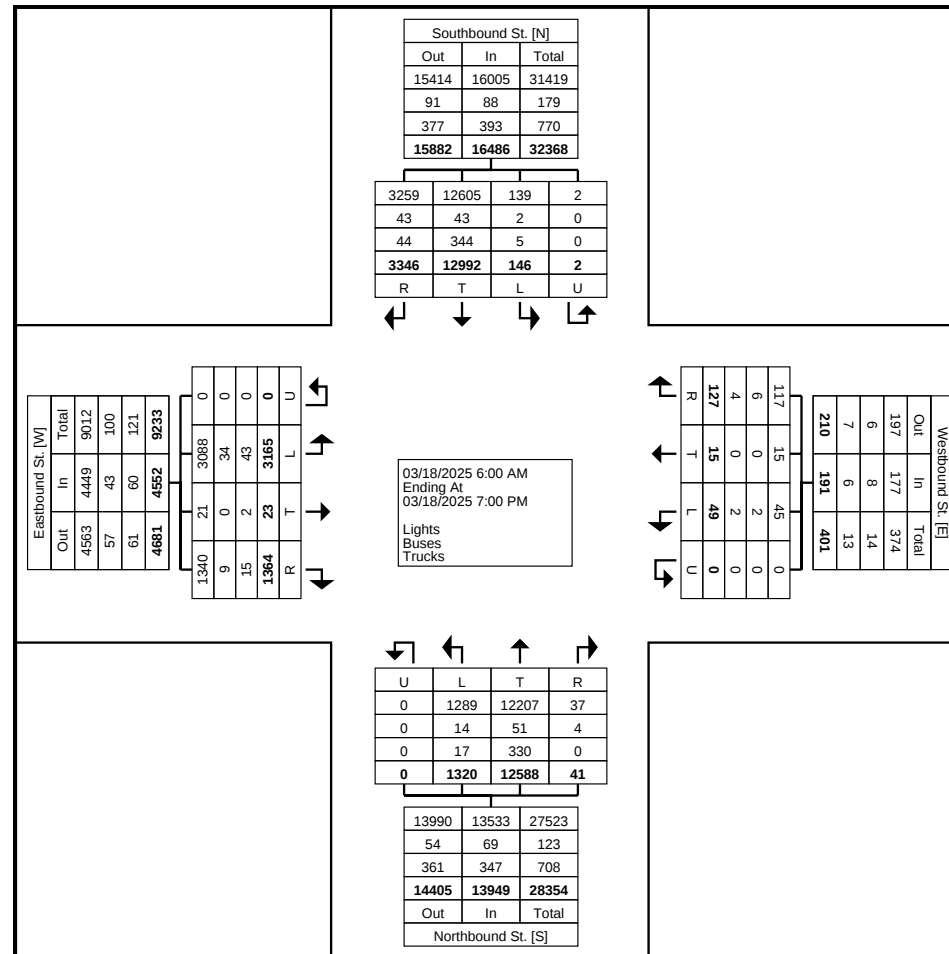
1:15 PM	60	230	2	0	292	1	1	0	0	2	1	199	15	0	215	17	0	66	0	83	592
1:30 PM	81	242	3	0	326	5	0	2	0	7	2	202	29	0	233	19	0	54	0	73	639
1:45 PM	73	255	4	0	332	2	0	3	0	5	2	187	20	0	209	13	0	60	0	73	619
Hourly Total	276	952	10	0	1238	10	1	5	0	16	5	762	89	0	856	64	0	238	0	302	2412
2:00 PM	67	283	1	0	351	0	1	1	0	2	0	206	18	0	224	33	1	60	0	94	671
2:15 PM	77	277	4	0	358	1	0	0	0	1	1	221	28	0	250	25	1	68	0	94	703
2:30 PM	68	288	5	1	362	4	0	0	0	4	0	209	20	0	229	31	0	74	0	105	700
2:45 PM	71	355	2	1	429	2	0	0	0	2	0	196	21	0	217	44	0	68	0	112	760
Hourly Total	283	1203	12	2	1500	7	1	1	0	9	1	832	87	0	920	133	2	270	0	405	2834
3:00 PM	68	352	2	0	422	3	0	1	0	4	2	220	26	0	248	45	0	76	0	121	795
3:15 PM	84	426	2	0	512	5	0	3	0	8	0	225	22	0	247	32	0	62	0	94	861
3:30 PM	71	390	0	0	461	8	2	4	0	14	0	324	21	0	345	43	1	69	0	113	933
3:45 PM	78	409	0	0	487	7	0	2	0	9	0	225	24	0	249	59	0	67	0	126	871
Hourly Total	301	1577	4	0	1882	23	2	10	0	35	2	994	93	0	1089	179	1	274	0	454	3460
4:00 PM	75	422	0	0	497	3	0	2	0	5	1	245	21	0	267	67	0	59	0	126	895
4:15 PM	63	373	1	0	437	0	0	0	0	0	2	281	23	0	306	44	0	70	0	114	857
4:30 PM	56	370	2	0	428	1	0	2	0	3	0	349	22	0	371	47	0	51	0	98	900
4:45 PM	67	375	0	0	442	5	3	1	0	9	0	297	11	0	308	38	0	48	0	86	845
Hourly Total	261	1540	3	0	1804	9	3	5	0	17	3	1172	77	0	1252	196	0	228	0	424	3497
5:00 PM	72	408	2	0	482	4	0	1	0	5	3	215	17	0	235	48	0	42	0	90	812
5:15 PM	55	435	6	0	496	1	0	0	0	1	0	189	23	0	212	43	3	56	0	102	811
5:30 PM	64	409	0	0	473	0	0	1	0	1	2	184	22	0	208	77	2	78	0	157	839
5:45 PM	54	415	6	0	475	0	0	0	0	0	1	175	15	0	191	66	0	75	0	141	807
Hourly Total	245	1667	14	0	1926	5	0	2	0	7	6	763	77	0	846	234	5	251	0	490	3269
6:00 PM	60	423	2	0	485	1	1	0	0	2	0	241	26	0	267	46	0	77	0	123	877
6:15 PM	54	322	1	0	377	1	1	0	0	2	0	203	20	0	223	26	0	65	0	91	693
6:30 PM	62	270	1	0	333	1	0	0	0	1	0	223	25	0	248	24	0	35	0	59	641
6:45 PM	49	260	0	0	309	0	1	0	0	1	0	179	7	0	186	12	0	34	0	46	542
Hourly Total	225	1275	4	0	1504	3	3	0	0	6	0	846	78	0	924	108	0	211	0	319	2753
Grand Total	3346	12992	146	2	16486	127	15	49	0	191	41	12588	1320	0	13949	1364	23	3165	0	4552	35178
Approach %	20.3	78.8	0.9	0.0	-	66.5	7.9	25.7	0.0	-	0.3	90.2	9.5	0.0	-	30.0	0.5	69.5	0.0	-	-
Total %	9.5	36.9	0.4	0.0	46.9	0.4	0.0	0.1	0.0	0.5	0.1	35.8	3.8	0.0	39.7	3.9	0.1	9.0	0.0	12.9	-
Lights	3259	12605	139	2	16005	117	15	45	0	177	37	12207	1289	0	13533	1340	21	3088	0	4449	34164
% Lights	97.4	97.0	95.2	100.0	97.1	92.1	100.0	91.8	-	92.7	90.2	97.0	97.7	-	97.0	98.2	91.3	97.6	-	97.7	97.1
Buses	43	43	2	0	88	6	0	2	0	8	4	51	14	0	69	9	0	34	0	43	208
% Buses	1.3	0.3	1.4	0.0	0.5	4.7	0.0	4.1	-	4.2	9.8	0.4	1.1	-	0.5	0.7	0.0	1.1	-	0.9	0.6
Trucks	44	344	5	0	393	4	0	2	0	6	0	330	17	0	347	15	2	43	0	60	806
% Trucks	1.3	2.6	3.4	0.0	2.4	3.1	0.0	4.1	-	3.1	0.0	2.6	1.3	-	2.5	1.1	8.7	1.4	-	1.3	2.3



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Turning Movement Data Plot



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Turning Movement Peak Hour Data (7:15 AM)

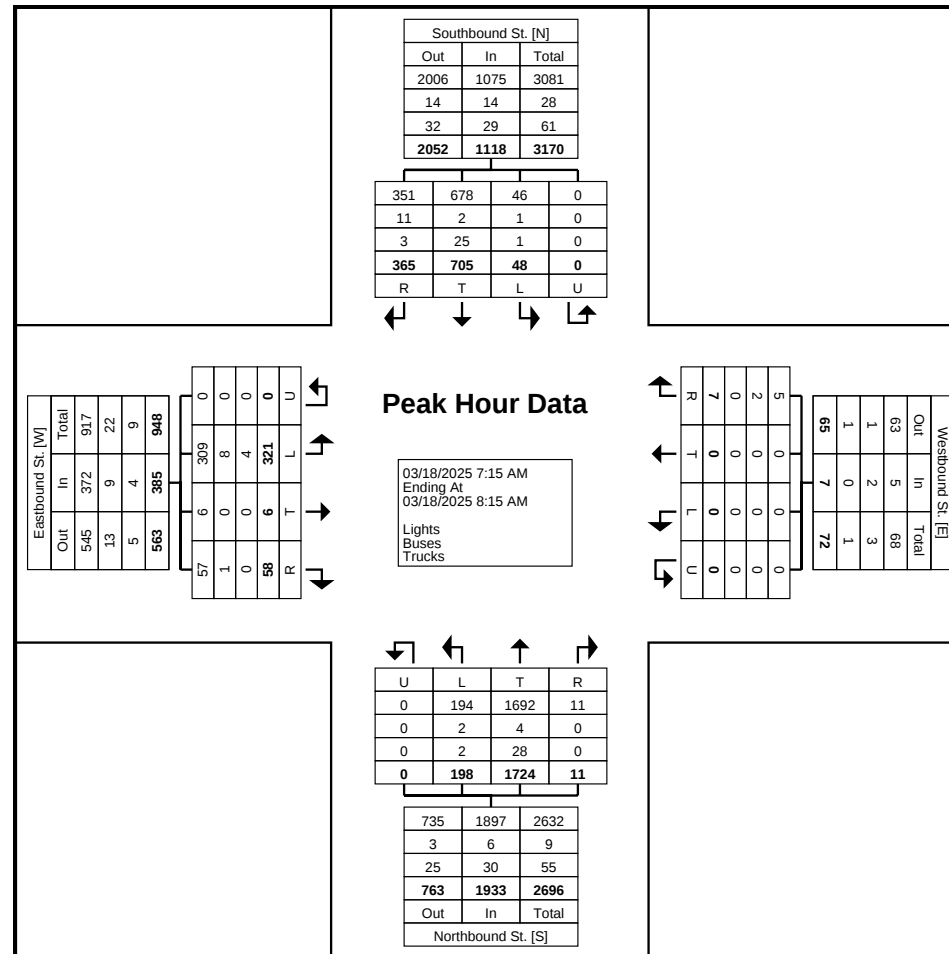
Start Time	Southbound St. Southbound					Westbound St. Westbound					Northbound St. Northbound					Eastbound St. Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
7:15 AM	72	161	10	0	243	0	0	0	0	0	0	470	41	0	511	10	0	78	0	88	842
7:30 AM	94	189	11	0	294	3	0	0	0	3	2	420	52	0	474	19	5	91	0	115	886
7:45 AM	92	177	21	0	290	4	0	0	0	4	8	405	54	0	467	14	1	79	0	94	855
8:00 AM	107	178	6	0	291	0	0	0	0	0	1	429	51	0	481	15	0	73	0	88	860
Total	365	705	48	0	1118	7	0	0	0	7	11	1724	198	0	1933	58	6	321	0	385	3443
Approach %	32.6	63.1	4.3	0.0	-	100.0	0.0	0.0	0.0	-	0.6	89.2	10.2	0.0	-	15.1	1.6	83.4	0.0	-	-
Total %	10.6	20.5	1.4	0.0	32.5	0.2	0.0	0.0	0.0	0.2	0.3	50.1	5.8	0.0	56.1	1.7	0.2	9.3	0.0	11.2	-
PHF	0.853	0.933	0.571	0.000	0.951	0.438	0.000	0.000	0.000	0.438	0.344	0.917	0.917	0.000	0.946	0.763	0.300	0.882	0.000	0.837	0.972
Lights	351	678	46	0	1075	5	0	0	0	5	11	1692	194	0	1897	57	6	309	0	372	3349
% Lights	96.2	96.2	95.8	-	96.2	71.4	-	-	-	71.4	100.0	98.1	98.0	-	98.1	98.3	100.0	96.3	-	96.6	97.3
Buses	11	2	1	0	14	2	0	0	0	2	0	4	2	0	6	1	0	8	0	9	31
% Buses	3.0	0.3	2.1	-	1.3	28.6	-	-	-	28.6	0.0	0.2	1.0	-	0.3	1.7	0.0	2.5	-	2.3	0.9
Trucks	3	25	1	0	29	0	0	0	0	0	0	28	2	0	30	0	0	4	0	4	63
% Trucks	0.8	3.5	2.1	-	2.6	0.0	-	-	-	0.0	0.0	1.6	1.0	-	1.6	0.0	0.0	1.2	-	1.0	1.8



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Turning Movement Peak Hour Data Plot (7:15 AM)



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Site Code:
Start Date: 03/18/2025
Page No: 6

Turning Movement Peak Hour Data (3:15 PM)

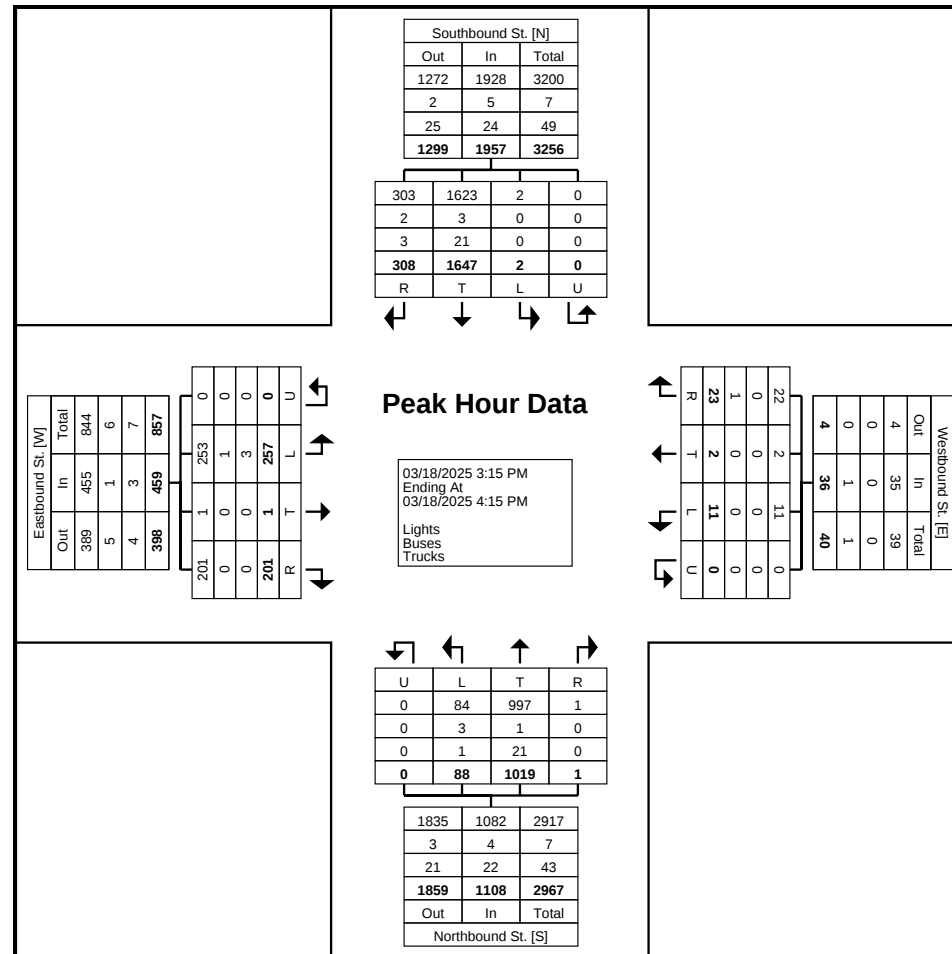
Start Time	Southbound St. Southbound					Westbound St. Westbound					Northbound St. Northbound					Eastbound St. Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
3:15 PM	84	426	2	0	512	5	0	3	0	8	0	225	22	0	247	32	0	62	0	94	861
3:30 PM	71	390	0	0	461	8	2	4	0	14	0	324	21	0	345	43	1	69	0	113	933
3:45 PM	78	409	0	0	487	7	0	2	0	9	0	225	24	0	249	59	0	67	0	126	871
4:00 PM	75	422	0	0	497	3	0	2	0	5	1	245	21	0	267	67	0	59	0	126	895
Total	308	1647	2	0	1957	23	2	11	0	36	1	1019	88	0	1108	201	1	257	0	459	3560
Approach %	15.7	84.2	0.1	0.0	-	63.9	5.6	30.6	0.0	-	0.1	92.0	7.9	0.0	-	43.8	0.2	56.0	0.0	-	-
Total %	8.7	46.3	0.1	0.0	55.0	0.6	0.1	0.3	0.0	1.0	0.0	28.6	2.5	0.0	31.1	5.6	0.0	7.2	0.0	12.9	-
PHF	0.917	0.967	0.250	0.000	0.956	0.719	0.250	0.688	0.000	0.643	0.250	0.786	0.917	0.000	0.803	0.750	0.250	0.931	0.000	0.911	0.954
Lights	303	1623	2	0	1928	22	2	11	0	35	1	997	84	0	1082	201	1	253	0	455	3500
% Lights	98.4	98.5	100.0	-	98.5	95.7	100.0	100.0	-	97.2	100.0	97.8	95.5	-	97.7	100.0	100.0	98.4	-	99.1	98.3
Buses	2	3	0	0	5	0	0	0	0	0	0	1	3	0	4	0	0	1	0	1	10
% Buses	0.6	0.2	0.0	-	0.3	0.0	0.0	0.0	-	0.0	0.0	0.1	3.4	-	0.4	0.0	0.0	0.4	-	0.2	0.3
Trucks	3	21	0	0	24	1	0	0	0	1	0	21	1	0	22	0	0	3	0	3	50
% Trucks	1.0	1.3	0.0	-	1.2	4.3	0.0	0.0	-	2.8	0.0	2.1	1.1	-	2.0	0.0	0.0	1.2	-	0.7	1.4



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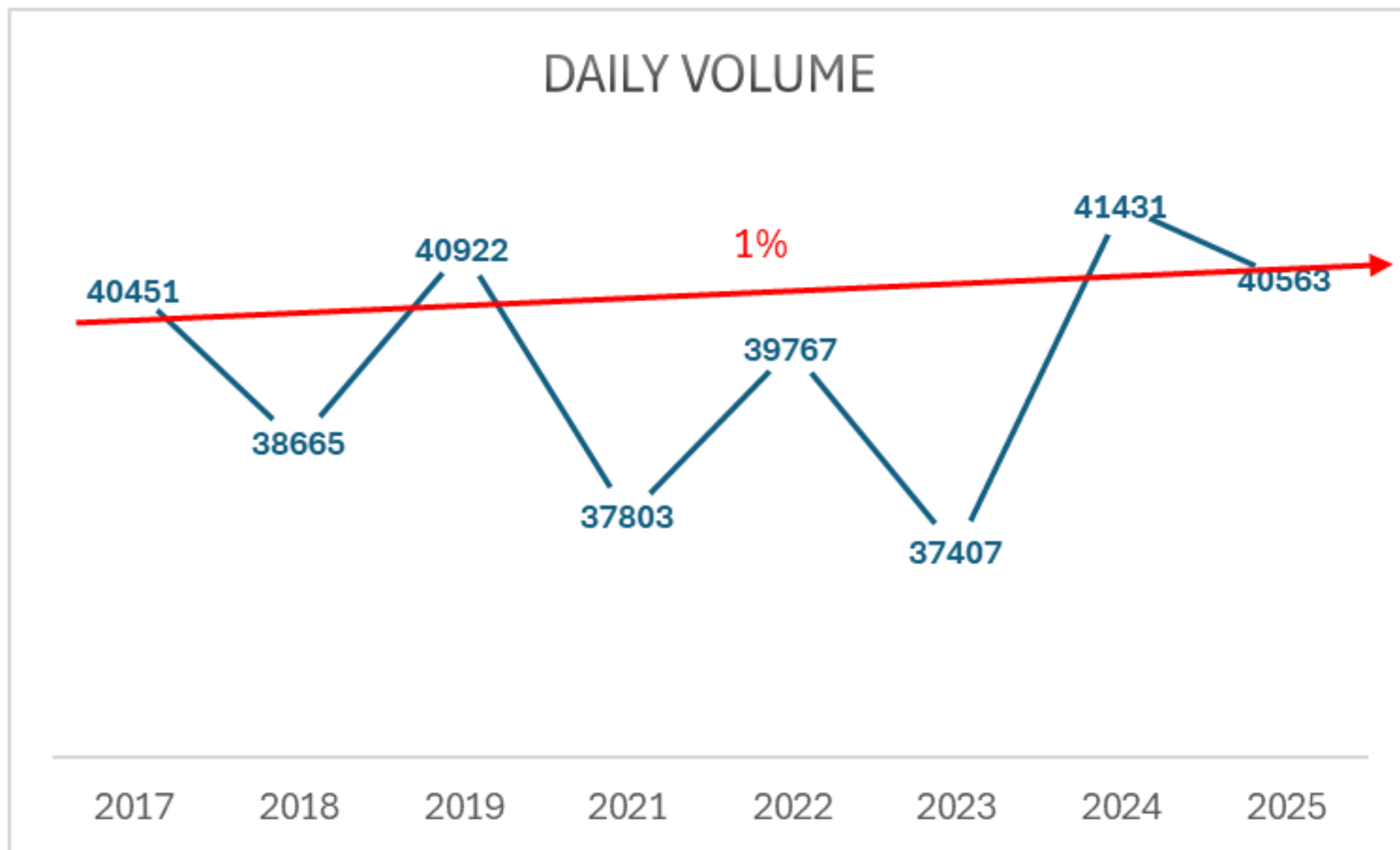
Count Name: KY 17 & Dudley
Site Code:
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Turning Movement Peak Hour Data Plot (3:15 PM)

Appendix B:

Traffic Growth



1.25% growth was used in the traffic forecasting

Appendix C:

Forecast Information

Study Name KY 17 & I 275 EB Ramps
Start Date 03/18/2025
Start Time 6:00 AM
Site Code
Project

Type Road
Classification Totals

Start Time	Southbound St. Southbound				n/a Westbound				Northbound St. Northbound				Eastbound St. Eastbound			
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn
6:00 AM	17	97		0					148	59	0		36		38	0
6:15 AM	18	144		0					215	70	0		45		37	0
6:30 AM	23	180		0					257	69	0		38		66	0
6:45 AM	34	172		0					293	74	0		61		78	0
7:00 AM	51	150		0					285	143	0		45		96	0
7:15 AM	47	174		0					379	131	0		62		136	0
7:30 AM	67	234		0					373	136	0		75		151	0
7:45 AM	69	224		0					357	119	0		69		167	0
8:00 AM	53	211		0					378	115	0		72		139	0
2037 AM Peak	271	969		0					1710	576	0		320		682	0
8:15 AM	65	186		0					331	106	0		49		161	0
8:30 AM	60	174		0					287	90	0		59		176	0
8:45 AM	72	187		0					269	97	0		51		103	0
9:00 AM	66	153		0					207	106	0		51		79	0
9:15 AM	57	164		0					213	62	0		50		61	0
9:30 AM	59	124		0					205	68	0		44		74	0
9:45 AM	56	138		0					195	65	0		50		71	0
10:00 AM	59	156		0					177	53	0		48		51	0
10:15 AM	63	141		0					198	76	0		52		64	0
10:30 AM	73	156		0					197	73	0		51		63	0
10:45 AM	76	172		0					197	68	0		56		64	0
11:00 AM	54	161		0					181	72	0		53		59	0
11:15 AM	64	189		0					187	69	0		41		72	0
11:30 AM	82	186		0					211	58	0		48		66	0
11:45 AM	79	211		0					204	63	0		48		95	0
12:00 PM	75	218		0					183	50	0		73		76	0
12:15 PM	80	220		0					189	56	0		73		87	0
12:30 PM	69	216		0					196	58	0		72		98	0
12:45 PM	80	223		0					198	62	0		67		89	0
1:00 PM	83	229		0					186	48	0		67		96	0
1:15 PM	78	232		0					193	66	0		55		76	0
1:30 PM	82	256		0					214	55	0		80		67	0
1:45 PM	75	251		0					203	55	0		82		76	0
2:00 PM	104	258		0					195	55	0		82		63	0
2:15 PM	88	266		0					194	86	0		91		81	0
2:30 PM	78	265		0					208	80	0		94		83	0
2:45 PM	79	310		0					193	80	0		111		95	0
3:00 PM	85	315		0					220	77	0		123		87	0
3:15 PM	92	401		0					227	69	0		130		96	0
3:30 PM	136	366		0					288	97	0		112		113	0
3:45 PM	121	391		0					215	92	0		110		116	0
4:00 PM	154	406		0					208	96	0		93		71	0
4:15 PM	149	394		0					243	106	0		57		50	0
4:30 PM	184	401		0					274	120	0		45		40	0
4:45 PM	196	393		0					229	119	0		61		49	0
5:00 PM	160	418		0					250	117	0		94		101	0
5:15 PM	127	434		0					279	99	0		82		109	0
2037 PM Peak	713	1894		0					1203	508	0		320		345	0
5:30 PM	126	424		0					242	104	0		86		86	0
5:45 PM	135	423		0					247	95	0		81		88	0
6:00 PM	117	424		0					231	102	0		64		112	0
6:15 PM	89	306		0					197	90	0		79		121	0
6:30 PM	84	255		0					183	73	0		77		80	0
6:45 PM	87	233		0					162	78	0		72		70	0

Study Name KY 17 & I 275 WB Ramps
Start Date 03/20/2025
Start Time 6:00 AM
Site Code
Project

Type Road
Classification Totals

Start Time	Southbound St. Southbound				n/a Westbound				Northbound St. Northbound				Eastbound St. Eastbound			
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn
6:00 AM	33	59		0					136	50	0		39		21	0
6:15 AM	38	50		0					214	43	0		63		26	0
6:30 AM	44	66		0					236	61	0		123		45	0
6:45 AM	48	80		0					252	80	0		93		55	0
7:00 AM	47	84		0					350	62	0		93		55	0
7:15 AM	52	117		0					501	102	0		93		67	0
7:30 AM	73	141		0					451	140	0		132		84	0
7:45 AM	66	137		0					490	94	0		125		100	0
8:00 AM	58	152		0					331	87	0		103		83	0
2037 AM Peak	286	629		0					2039	486	0		521		384	0
8:15 AM	59	131		0					311	82	0		100		75	0
8:30 AM	42	151		0					285	71	0		66		81	0
8:45 AM	66	153		0					244	71	0		74		83	0
9:00 AM	43	154		0					253	51	0		40		57	0
9:15 AM	60	168		0					204	72	0		51		70	0
9:30 AM	56	153		0					211	58	0		48		64	0
9:45 AM	62	143		0					179	64	0		67		70	0
10:00 AM	51	120		0					195	44	0		71		48	0
10:15 AM	46	135		0					160	56	1		65		55	0
10:30 AM	61	145		0					174	57	0		89		68	0
10:45 AM	57	154		0					184	53	0		76		80	0
11:00 AM	63	194		0					188	46	0		76		54	0
11:15 AM	69	161		0					233	43	0		60		65	0
11:30 AM	70	190		0					226	52	0		70		63	0
11:45 AM	72	178		0					220	57	0		54		80	0
12:00 PM	79	225		0					216	33	0		80		75	0
12:15 PM	77	201		0					222	51	0		68		70	0
12:30 PM	69	170		0					223	50	0		56		83	0
12:45 PM	72	197		0					211	53	0		58		76	0
1:00 PM	71	204		0					199	59	0		82		84	0
1:15 PM	86	227		0					219	61	0		65		68	0
1:30 PM	76	211		0					192	51	0		95		67	0
1:45 PM	84	220		0					224	65	0		104		82	0
2:00 PM	59	231		0					225	46	0		79		70	0
2:15 PM	85	220		0					177	67	0		117		78	0
2:30 PM	95	251		0					211	52	0		88		80	0
2:45 PM	80	252		0					228	45	0		100		78	0
3:00 PM	81	304		0					238	60	0		148		71	0
3:15 PM	75	325		0					254	68	1		128		80	0
3:30 PM	93	384		0					284	77	0		167		88	0
3:45 PM	88	304		0					285	67	2		159		104	0
4:00 PM	77	318		0					235	63	0		134		91	0
4:15 PM	80	322		0					242	56	0		148		79	0
4:30 PM	105	349		0					281	52	0		124		118	0
4:45 PM	69	300		0					226	62	0		172		100	0
5:00 PM	116	337		0					274	51	0		183		102	0
5:15 PM	105	324		0					296	59	0		182		119	0
2037 PM Peak	413	1489		0					1202	263	0		720		478	0
5:30 PM	96	344		0					262	43	0		164		126	0
5:45 PM	78	271		0					252	54	0		137		91	0
6:00 PM	78	297		1					217	57	0		111		100	0
6:15 PM	60	286		1					217	66	0		132		87	0
6:30 PM	75	244		0					258	50	0		126		86	0
6:45 PM	57	232		0					189	23	0		112		66	0

Study Name **KY 17 & Orphanage**
Start Date **03/20/2025**
Start Time **6:00 AM**
Site Code
Project

Type Road
Classification Totals

	Southbound St. Southbound				Westbound St. Westbound				Northbound St. Northbound				Eastbound St. Eastbound			
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn
6:00 AM	15	81	0	0	0	0	0	0	10	126	31	0	20	1	10	0
6:15 AM	16	83	5	0	0	0	0	0	18	182	43	0	20	1	10	0
6:30 AM	21	106	4	0	3	0	1	0	18	215	58	0	23	0	16	0
6:45 AM	24	113	7	0	1	0	2	0	18	277	58	0	41	1	18	0
7:00 AM	28	103	4	0	3	0	3	0	9	300	76	0	32	0	19	0
7:15 AM	36	126	8	0	5	1	2	0	31	371	102	0	45	2	32	0
7:30 AM	48	161	2	0	4	3	5	0	26	363	123	0	64	2	41	0
7:45 AM	60	160	3	0	5	3	3	0	14	385	133	0	43	2	46	0
8:00 AM	40	149	4	0	5	0	4	0	10	316	94	0	50	2	43	0
2037 AM Peak	212	685	20	0	22	8	16	0	93	1650	520	0	232	9	186	0
8:15 AM	31	137	1	0	2	0	3	0	6	309	95	0	40	4	38	0
8:30 AM	32	137	3	0	5	2	8	1	9	259	104	0	48	4	30	0
8:45 AM	31	170	1	0	4	1	4	0	11	238	82	0	51	1	38	0
9:00 AM	37	143	6	0	4	1	4	0	2	207	88	0	52	3	32	0
9:15 AM	44	148	1	0	4	1	5	0	7	180	94	1	75	1	33	0
9:30 AM	40	136	2	0	0	0	5	0	6	170	96	0	66	3	36	0
9:45 AM	33	126	7	0	2	2	9	0	6	150	92	0	75	0	26	0
10:00 AM	28	126	2	0	4	4	5	0	7	165	84	0	55	1	30	0
10:15 AM	43	120	3	0	5	1	5	0	8	136	73	0	56	0	32	0
10:30 AM	57	111	6	0	1	2	7	0	10	153	103	0	79	1	34	0
10:45 AM	50	122	2	0	3	5	4	0	6	154	110	0	84	3	39	0
11:00 AM	52	162	10	0	6	3	8	1	6	141	99	0	90	0	42	0
11:15 AM	51	138	5	0	3	4	8	0	5	177	118	0	81	0	38	0
11:30 AM	66	154	3	0	11	0	10	0	7	157	132	0	100	2	42	0
11:45 AM	66	163	5	0	3	6	7	0	6	175	127	0	91	0	35	0
12:00 PM	44	186	11	0	11	3	8	0	6	164	112	0	108	1	59	0
12:15 PM	60	178	9	0	7	1	8	0	6	172	121	0	103	7	52	0
12:30 PM	58	178	10	0	6	4	6	0	4	202	114	0	69	3	38	0
12:45 PM	52	180	7	0	7	1	6	0	9	174	111	0	89	0	41	0
1:00 PM	50	186	5	0	1	3	10	0	8	170	125	0	99	4	51	0
1:15 PM	47	194	2	0	2	1	5	0	9	174	114	0	107	2	42	0
1:30 PM	56	209	3	0	3	3	1	0	8	163	92	0	92	1	48	0
1:45 PM	47	203	9	0	3	2	7	0	7	178	127	0	108	1	43	0
2:00 PM	55	180	7	0	3	4	7	0	2	166	119	0	107	1	50	0
2:15 PM	42	202	3	0	5	1	7	0	6	145	110	0	107	3	46	0
2:30 PM	44	236	11	0	5	0	9	0	12	176	114	0	130	3	44	0
2:45 PM	49	237	3	0	2	0	7	0	10	185	93	1	109	0	49	0
3:00 PM	57	251	7	0	7	2	17	0	5	180	93	0	113	0	39	0
3:15 PM	58	268	1	0	8	4	24	0	3	232	103	0	116	0	51	0
3:30 PM	60	294	2	0	6	2	20	0	5	227	118	0	139	0	54	0
3:45 PM	60	265	2	0	7	0	8	0	3	239	140	1	138	1	53	0
4:00 PM	61	262	2	0	14	5	23	0	1	252	124	0	130	1	56	0
4:15 PM	43	271	0	0	6	2	10	0	6	219	131	0	137	1	56	0
4:30 PM	67	319	1	0	7	4	15	0	0	279	147	0	158	1	68	0
4:45 PM	72	284	2	0	1	1	10	0	1	225	156	0	162	0	73	0
5:00 PM	61	329	0	0	1	4	6	0	3	248	133	0	163	0	76	0
5:15 PM	56	273	1	0	2	3	8	0	2	273	160	0	163	1	46	0
2037 PM Peak	294	1386	5	0	13	14	45	0	7	1179	685	0	743	2	302	0
5:30 PM	52	288	1	0	0	2	0	0	3	227	169	0	147	0	61	0
5:45 PM	62	240	2	0	2	2	3	0	2	219	139	0	132	1	29	1
6:00 PM	64	228	0	0	0	1	2	0	1	201	130	0	142	0	42	0
6:15 PM	52	215	0	0	0	0	2	0	0	198	134	0	131	0	37	0
6:30 PM	50	195	2	0	2	0	2	0	1	226	131	0	118	1	44	0
6:45 PM	35	169	3	0	2	3	3	0	0	170	104	0	116	0	41	0

Study Name KY 17 & Highland
Start Date 03/25/2025
Start Time 6:00 AM
Site Code
Project

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Type Road
Classification Totals

Start Time	Southbound St. Southbound				Westbound St. Westbound				Northbound St. Northbound				Eastbound St. Eastbound			
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn
6:00 AM	38	39	1	0	1	8	10	0	13	56	73	0	46	6	15	0
6:15 AM	37	52	0	0	1	3	7	0	20	68	92	0	63	8	17	0
6:30 AM	51	76	2	0	2	7	9	0	22	72	87	0	70	7	17	0
6:45 AM	58	62	1	0	1	3	12	0	37	103	120	0	67	12	43	0
7:00 AM	42	76	0	0	0	5	11	0	33	106	181	0	59	14	37	0
7:15 AM	84	96	1	0	3	5	7	0	57	206	147	0	73	36	35	0
7:30 AM	58	124	2	0	0	4	9	0	61	192	145	0	87	53	47	0
7:45 AM	71	104	0	0	2	3	10	0	66	186	136	0	74	60	47	0
8:00 AM	90	93	6	0	0	4	12	0	109	192	153	0	68	62	50	0
2037 AM Peak	315	447	10	0	3	21	45	0	299	800	720	0	330	190	194	0
8:15 AM	101	109	2	0	2	8	13	0	66	147	159	0	78	49	33	0
8:30 AM	89	84	1	0	5	7	15	0	48	138	117	0	64	25	49	0
8:45 AM	62	94	1	0	5	7	6	0	58	134	99	0	88	30	41	0
9:00 AM	54	76	0	0	1	5	6	0	37	106	82	0	54	31	46	0
9:15 AM	60	78	0	1	2	4	11	0	32	101	75	0	48	25	38	0
9:30 AM	46	74	0	0	2	10	7	0	10	99	93	0	50	12	36	0
9:45 AM	43	91	1	0	1	5	7	0	11	133	79	0	67	11	42	0
10:00 AM	50	86	0	0	3	4	14	0	11	87	67	0	52	6	34	0
10:15 AM	39	77	0	0	3	5	9	0	10	86	61	0	59	8	50	0
10:30 AM	47	88	0	0	1	4	16	0	12	96	72	0	51	9	44	0
10:45 AM	63	89	2	0	1	8	9	0	11	79	56	0	65	10	44	0
11:00 AM	47	90	1	0	0	9	16	0	17	113	71	0	67	16	37	0
11:15 AM	59	104	2	0	2	8	14	0	13	103	64	0	63	13	53	0
11:30 AM	55	107	1	0	4	11	17	0	22	119	85	0	63	19	45	0
11:45 AM	66	120	2	0	2	7	21	0	9	119	89	0	72	9	46	0
12:00 PM	63	100	1	0	3	23	18	0	10	119	65	0	69	13	66	0
12:15 PM	58	126	0	0	2	11	10	0	11	110	72	0	74	10	74	0
12:30 PM	79	108	1	0	2	17	14	0	9	109	71	0	78	11	50	1
12:45 PM	57	117	2	1	1	8	17	0	14	111	53	0	101	8	72	0
1:00 PM	65	115	3	0	1	21	23	0	12	84	66	0	90	8	60	0
1:15 PM	52	94	1	0	4	10	23	0	12	115	51	0	88	5	66	0
1:30 PM	65	103	1	0	2	11	25	0	7	124	71	0	79	12	70	0
1:45 PM	69	125	1	0	1	13	26	0	4	114	66	0	87	6	72	0
2:00 PM	74	112	1	0	2	20	28	0	10	105	61	0	90	10	53	0
2:15 PM	80	119	0	0	6	13	16	0	6	123	73	0	100	6	85	0
2:30 PM	60	98	1	0	4	21	41	0	6	145	80	0	110	8	64	0
2:45 PM	73	121	0	0	9	19	29	0	12	151	89	0	110	6	55	0
3:00 PM	66	139	1	0	0	22	34	0	15	154	76	0	127	7	74	0
3:15 PM	85	186	1	0	2	22	23	0	17	133	93	0	130	8	52	0
3:30 PM	78	160	1	0	3	30	43	0	15	181	85	0	121	11	69	0
3:45 PM	75	142	0	0	8	23	29	0	7	173	94	0	137	9	90	0
4:00 PM	93	180	0	0	5	36	34	0	6	152	114	0	110	6	88	0
4:15 PM	89	138	0	0	1	25	38	0	13	171	105	0	119	9	71	0
4:30 PM	95	154	0	0	8	56	49	0	8	146	110	0	101	6	71	0
4:45 PM	87	170	0	0	4	52	48	0	13	158	111	0	116	4	83	0
5:00 PM	82	142	1	0	7	76	83	1	8	164	101	0	134	9	60	0
5:15 PM	88	118	1	0	9	60	62	0	10	184	116	0	142	7	75	0
2037 PM Peak	405	672	2	0	32	281	278	1	45	750	504	0	567	30	332	0
5:30 PM	88	109	1	0	10	32	33	0	9	151	90	0	139	12	88	0
5:45 PM	76	117	0	0	5	24	28	0	11	176	74	0	106	12	63	0
6:00 PM	77	125	1	2	1	47	34	0	7	115	85	0	105	5	65	0
6:15 PM	59	120	0	0	4	13	18	0	5	138	82	0	127	5	67	0
6:30 PM	44	100	1	0	2	17	9	0	10	114	83	0	106	5	57	0
6:45 PM	56	111	0	0	0	11	10	0	3	118	60	0	126	8	43	0

Study Name KY 17 & Dudley
Start Date 03/18/2025
Start Time 6:00 AM
Site Code
Project

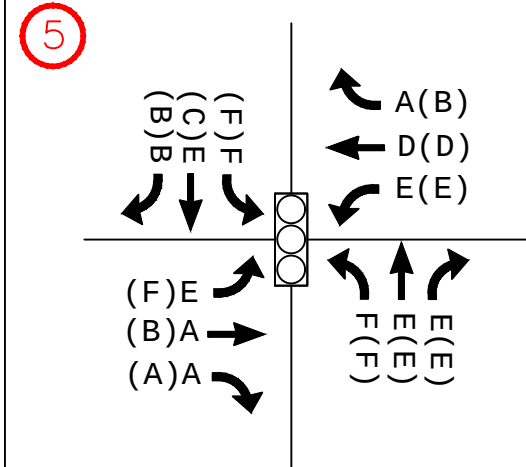
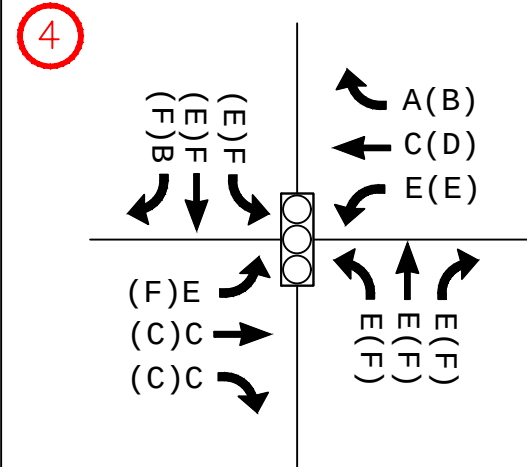
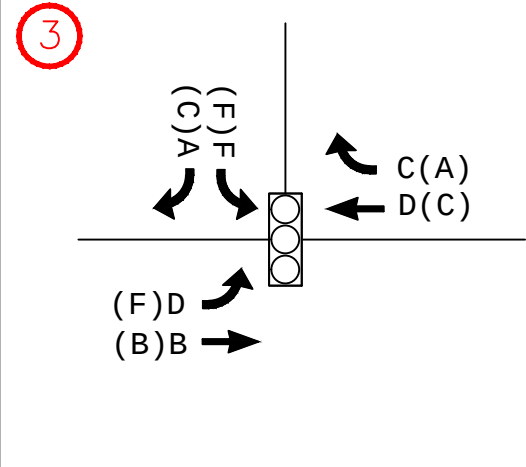
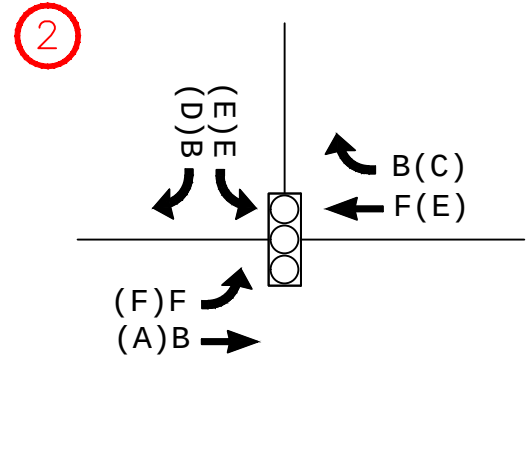
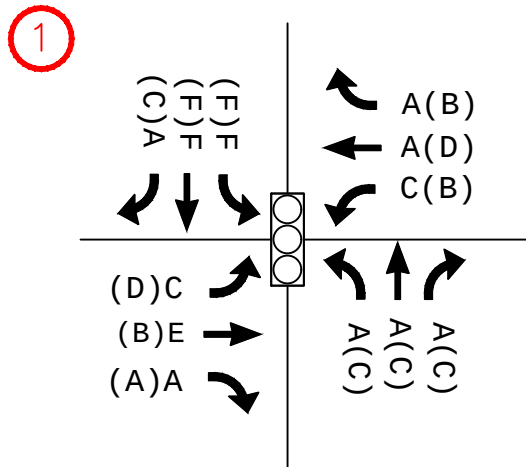
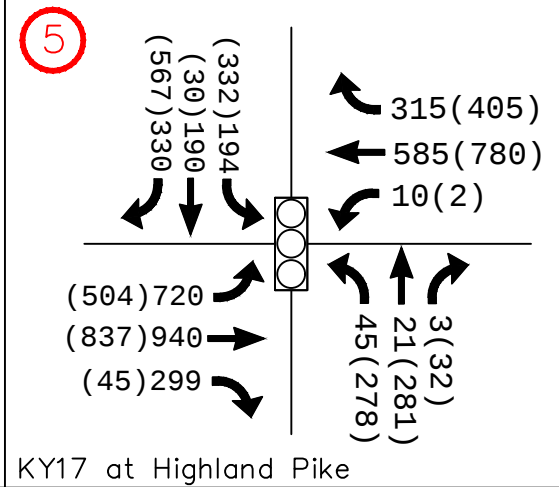
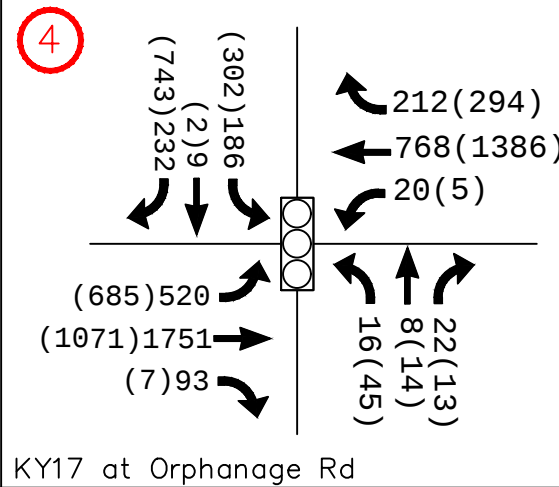
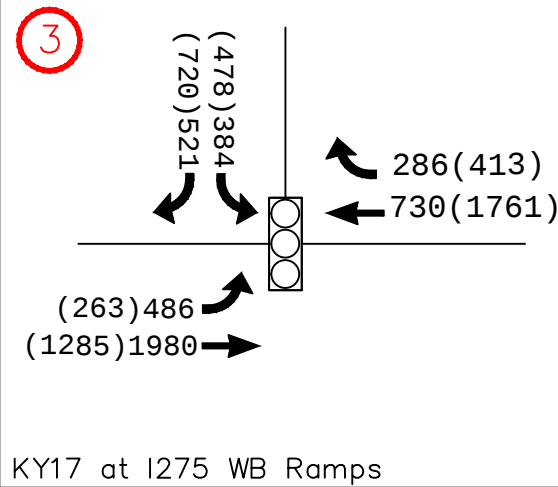
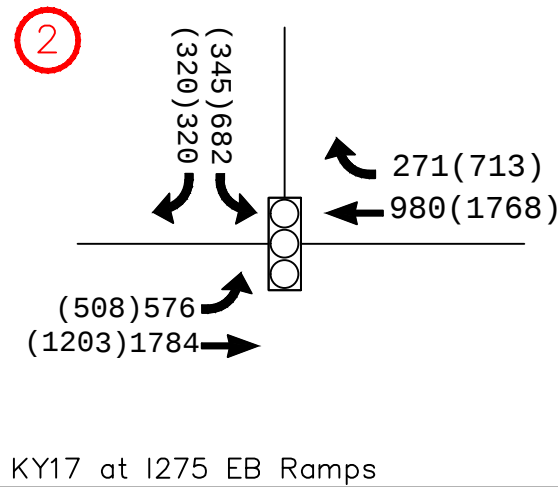
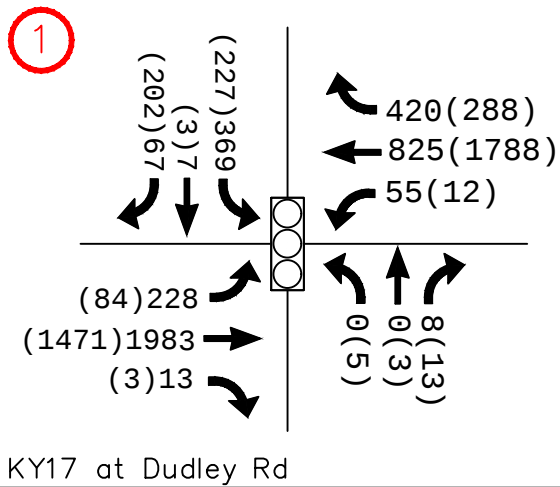
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Type Road
Classification Totals

Start Time	Southbound St. Southbound				Westbound St. Westbound				Northbound St. Northbound				Eastbound St. Eastbound			
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn
6:00 AM	32	97	0	0	0	0	0	0	0	165	17	0	9	0	19	0
6:15 AM	46	139	1	0	0	0	0	0	0	215	30	0	1	0	37	0
6:30 AM	82	140	1	0	0	0	1	0	0	224	40	0	8	1	37	0
6:45 AM	80	152	7	0	0	0	0	0	1	270	51	0	11	0	36	0
7:00 AM	55	144	4	0	0	0	0	0	0	412	37	0	16	0	72	0
7:15 AM	72	161	10	0	0	0	0	0	0	470	41	0	10	0	78	0
7:30 AM	94	189	11	0	3	0	0	0	2	420	52	0	19	5	91	0
7:45 AM	92	177	21	0	4	0	0	0	8	405	54	0	14	1	79	0
8:00 AM	107	178	6	0	0	0	0	0	1	429	51	0	15	0	73	0
2037 AM Peak	420	811	55	0	8	0	0	0	13	1983	228	0	67	7	369	0
8:15 AM	92	142	3	0	2	0	2	0	1	354	55	0	18	3	94	0
8:30 AM	73	156	2	0	0	0	0	0	0	331	46	0	12	0	81	0
8:45 AM	79	163	0	0	0	0	0	0	0	304	39	0	15	0	57	0
9:00 AM	53	144	0	0	10	0	0	0	0	233	23	0	17	0	66	0
9:15 AM	50	146	3	0	4	0	0	0	0	211	24	0	11	0	66	0
9:30 AM	44	119	0	0	0	0	3	0	1	213	27	0	26	0	64	0
9:45 AM	51	131	2	0	1	0	1	0	0	199	15	0	14	0	62	0
10:00 AM	52	148	1	0	1	0	1	0	2	165	22	0	14	0	69	0
10:15 AM	44	143	4	0	15	3	5	0	0	212	22	0	21	0	61	0
10:30 AM	53	154	0	0	9	1	6	0	0	211	27	0	18	0	46	0
10:45 AM	43	186	2	0	2	1	1	0	1	196	17	0	23	0	58	0
11:00 AM	41	189	3	0	4	0	0	0	2	202	15	0	22	2	44	0
11:15 AM	60	206	3	0	0	0	0	0	0	210	9	0	21	0	53	0
11:30 AM	49	221	2	0	4	0	1	0	0	207	14	0	19	0	52	0
11:45 AM	62	237	3	0	4	0	2	0	1	195	17	0	10	1	72	0
12:00 PM	49	239	1	0	2	0	0	0	1	174	13	0	29	1	55	0
12:15 PM	76	220	6	0	2	0	1	0	2	195	21	0	24	0	57	0
12:30 PM	66	227	1	0	3	0	1	0	1	197	25	0	14	1	54	0
12:45 PM	58	230	2	0	0	0	1	0	0	200	15	0	19	0	60	0
1:00 PM	62	225	1	0	2	0	0	0	0	174	25	0	15	0	58	0
1:15 PM	60	230	2	0	1	1	0	0	1	199	15	0	17	0	66	0
1:30 PM	81	242	3	0	5	0	2	0	2	202	29	0	19	0	54	0
1:45 PM	73	255	4	0	2	0	3	0	2	187	20	0	13	0	60	0
2:00 PM	67	283	1	0	0	1	1	0	0	206	18	0	33	1	60	0
2:15 PM	77	277	4	0	1	0	0	0	1	221	28	0	25	1	68	0
2:30 PM	68	288	5	1	4	0	0	0	0	209	20	0	31	0	74	0
2:45 PM	71	355	2	1	2	0	0	0	0	196	21	0	44	0	68	0
3:00 PM	68	352	2	0	3	0	1	0	2	220	26	0	45	0	76	0
3:15 PM	84	426	2	0	5	0	3	0	0	225	22	0	32	0	62	0
3:30 PM	71	390	0	0	8	2	4	0	0	324	21	0	43	1	69	0
3:45 PM	78	409	0	0	7	0	2	0	0	225	24	0	59	0	67	0
4:00 PM	75	422	0	0	3	0	2	0	1	245	21	0	67	0	59	0
4:15 PM	63	373	1	0	0	0	0	0	2	281	23	0	44	0	70	0
4:30 PM	56	370	2	0	1	0	2	0	0	349	22	0	47	0	51	0
4:45 PM	67	375	0	0	5	3	1	0	0	297	11	0	38	0	48	0
5:00 PM	72	408	2	0	4	0	1	0	3	215	17	0	48	0	42	0
5:15 PM	55	435	6	0	1	0	0	0	0	189	23	0	43	3	56	0
2037 PM Peak	288	1826	12	0	13	3	5	0	3	1208	84	0	202	3	227	0
5:30 PM	64	409	0	0	0	0	1	0	2	184	22	0	77	2	78	0
5:45 PM	54	415	6	0	0	0	0	0	1	175	15	0	66	0	75	0
6:00 PM	60	423	2	0	1	1	0	0	0	241	26	0	46	0	77	0
6:15 PM	54	322	1	0	1	1	0	0	0	203	20	0	26	0	65	0
6:30 PM	62	270	1	0	1	0	0	0	0	223	25	0	24	0	35	0
6:45 PM	49	260	0	0	0	1	0	0	0	179	7	0	12	0	34	0

Appendix D:

Traffic Volumes w/LOS



LEGEND

- TRAFFIC LANE/TRAFFIC MOVEMENT
- TRAFFIC SIGNAL
- STOP CONTROL
- XX (XX) AM (PM) PEAK HOUR VOLUME/LOS



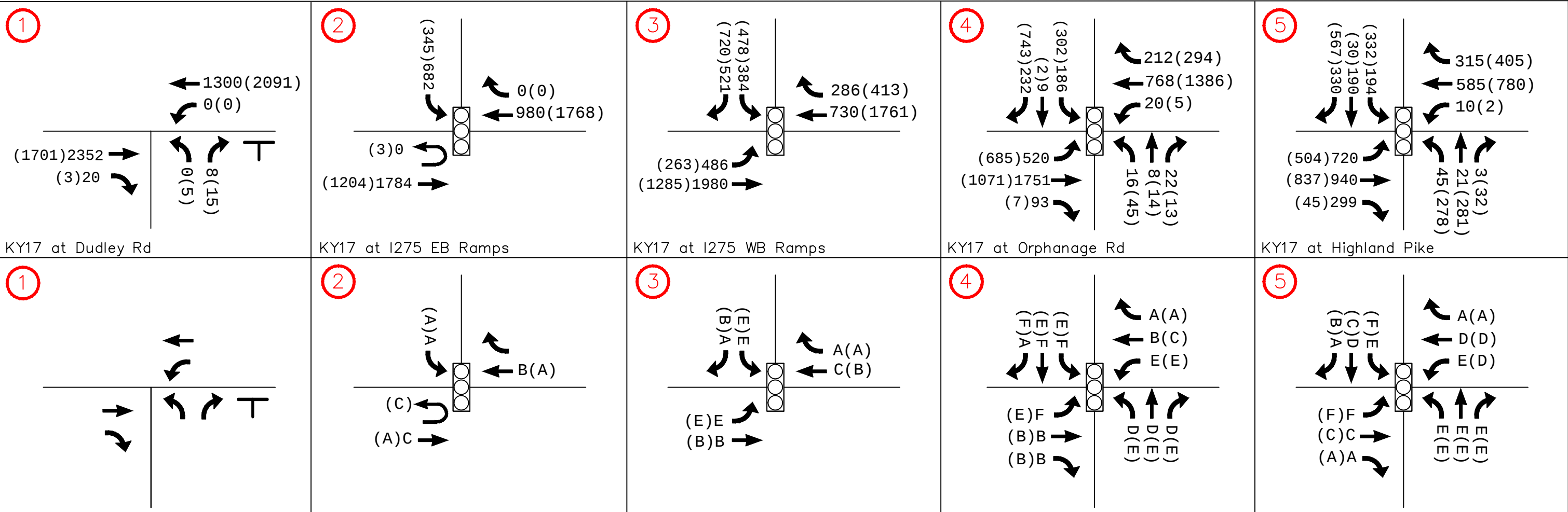
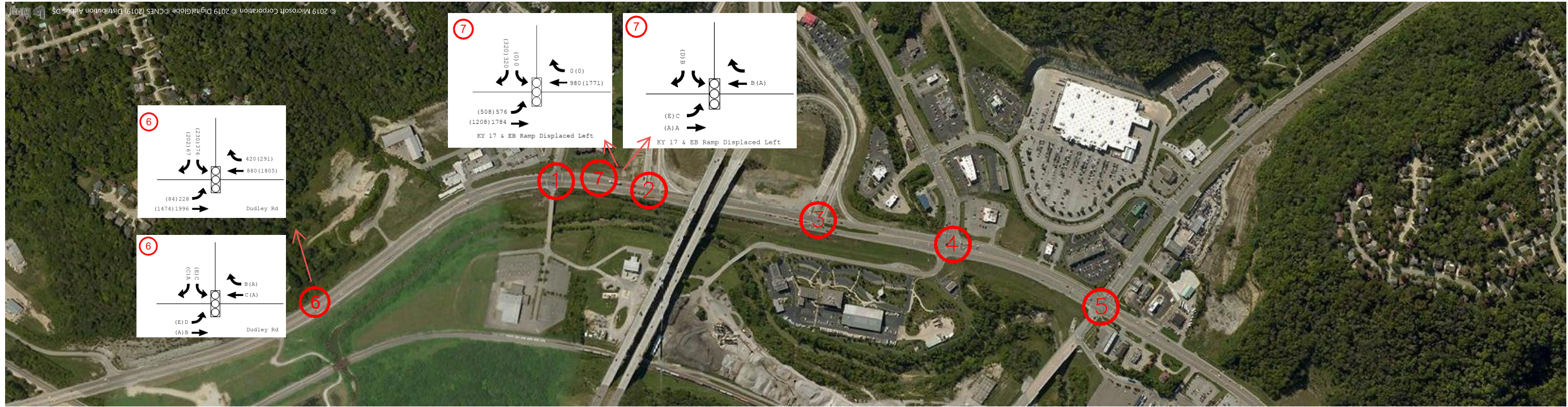
NOT TO SCALE

2037 NO BUILD PEAK HOUR TRAFFIC VOLUME/LOS
KY17 SIGNAL ANALYSIS
CITY OF COVINGTON, KENTUCKY

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LEGEND

- TRAFFIC LANE/TRAFFIC MOVEMENT
- TRAFFIC SIGNAL
- STOP CONTROL
- XX (XX) AM (PM) PEAK HOUR VOLUME/LOS



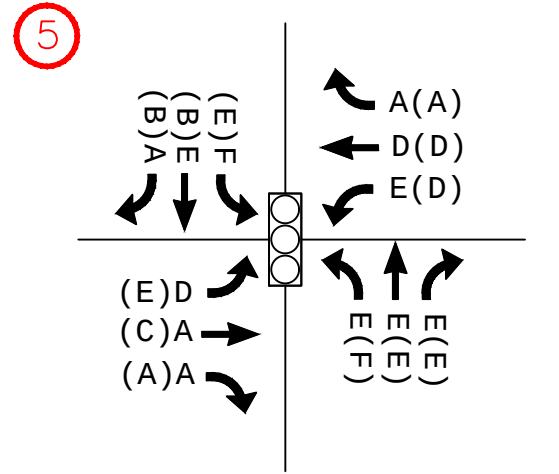
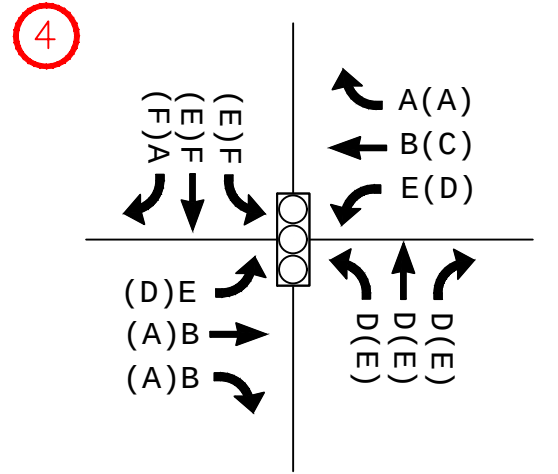
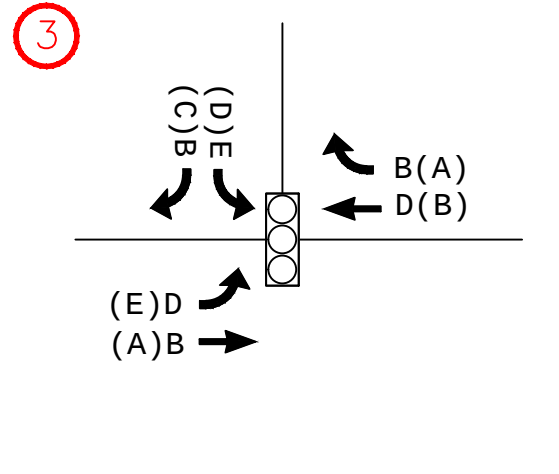
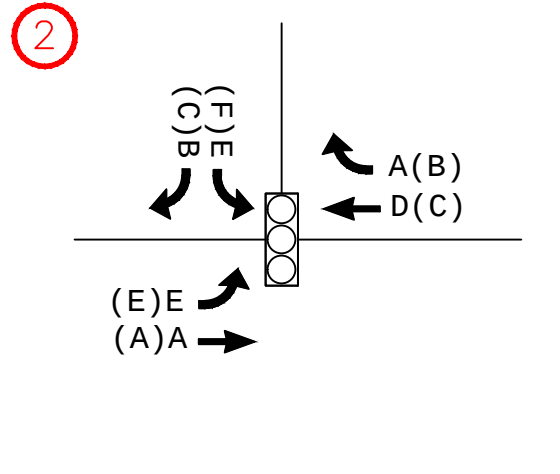
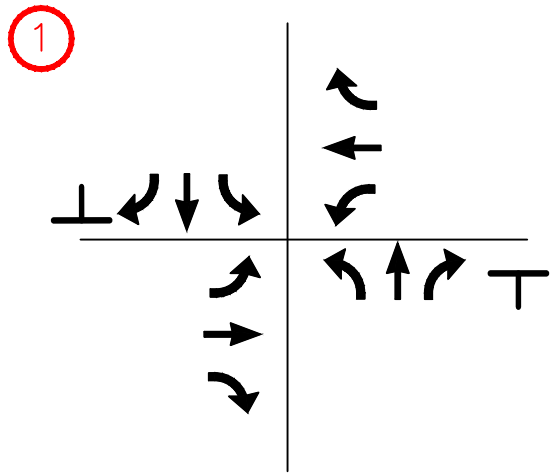
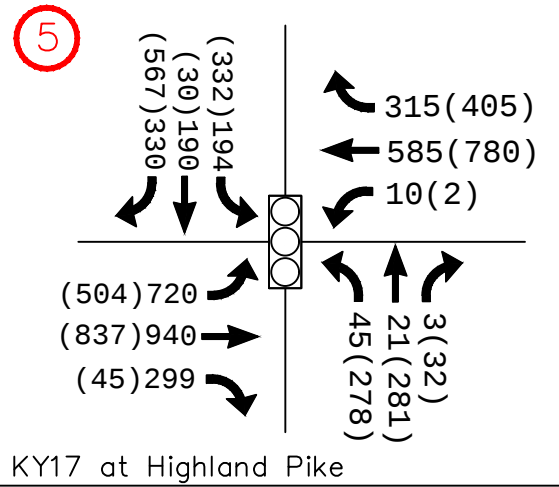
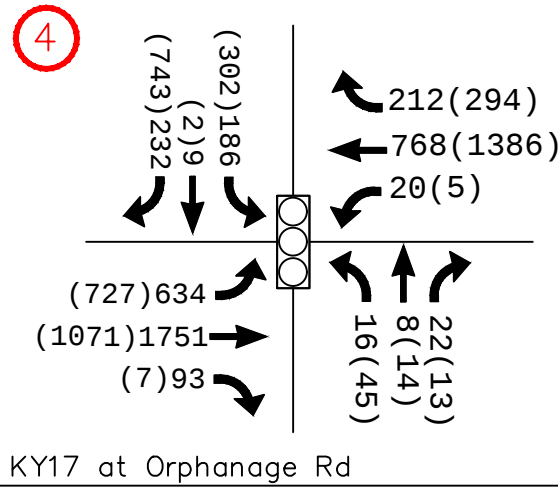
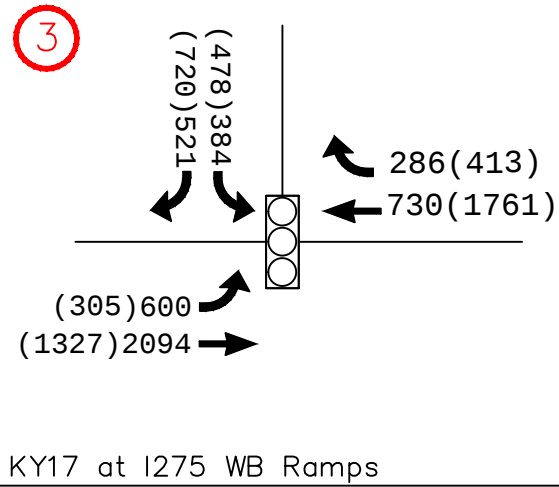
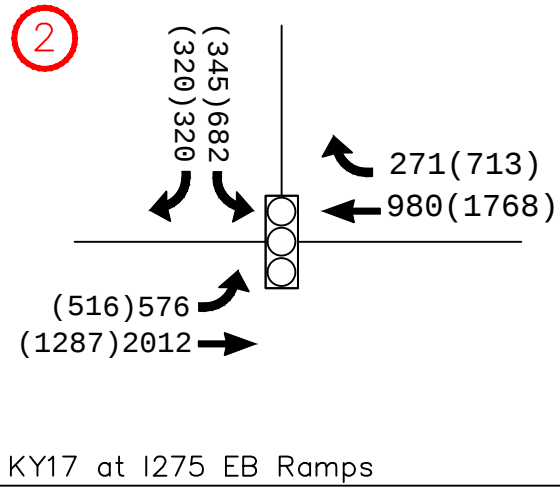
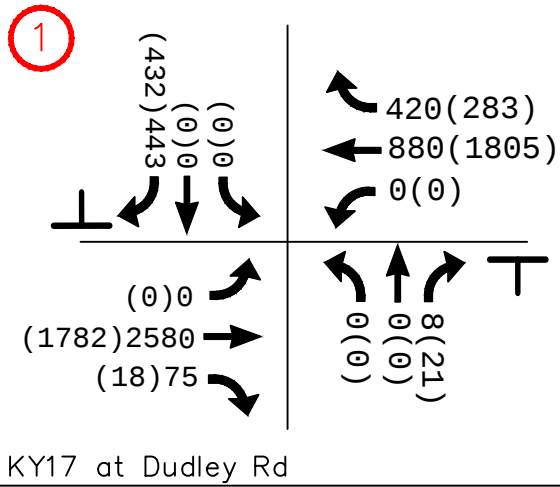
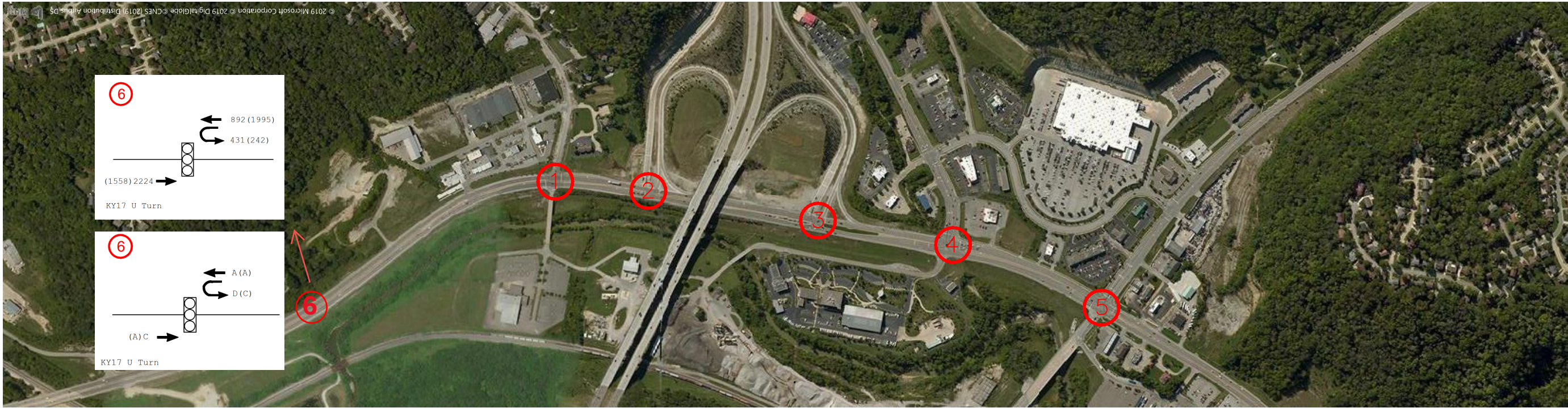
NOT TO SCALE

2037 Alternative 3A PEAK HOUR TRAFFIC VOLUME/LOS
KY17 SIGNAL ANALYSIS
CITY OF COVINGTON, KENTUCKY

AECOM

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LEGEND

- TRAFFIC LANE/TRAFFIC MOVEMENT
- TRAFFIC SIGNAL
- STOP CONTROL
- XX (XX) AM (PM) PEAK HOUR VOLUME/LOS



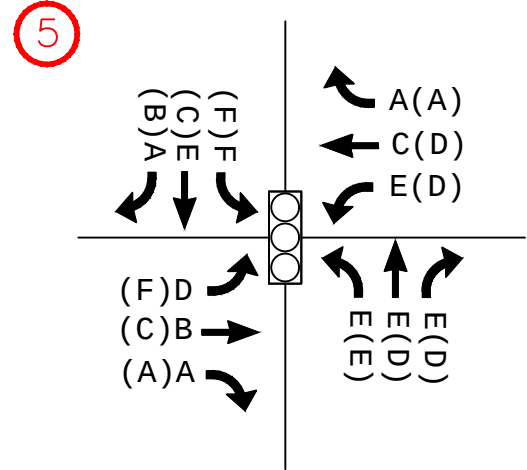
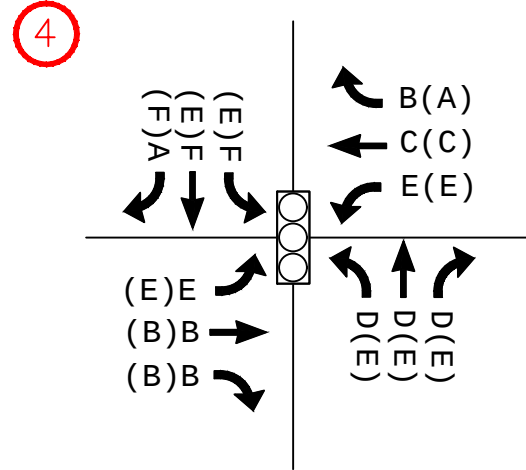
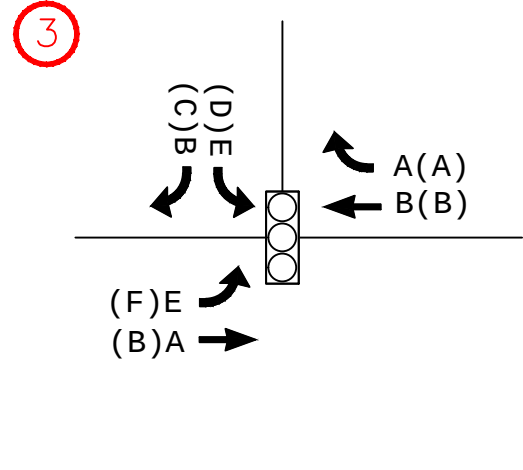
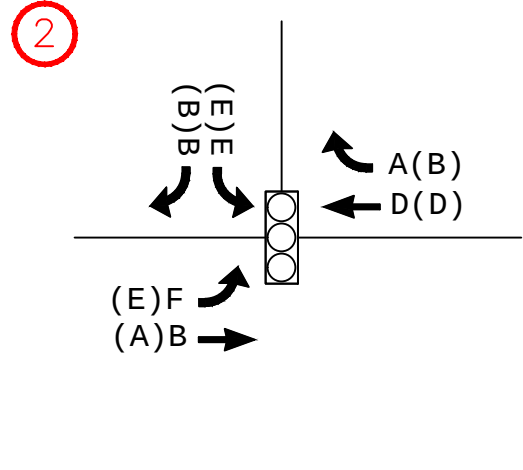
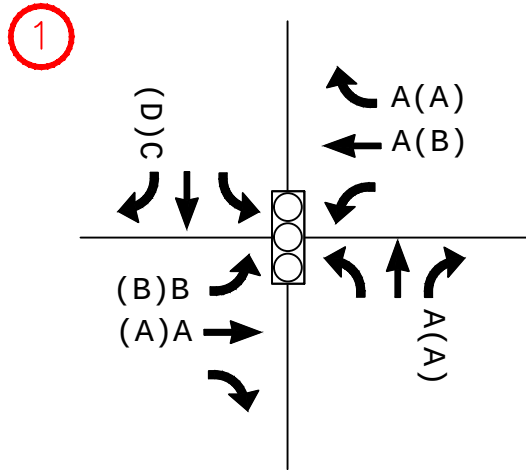
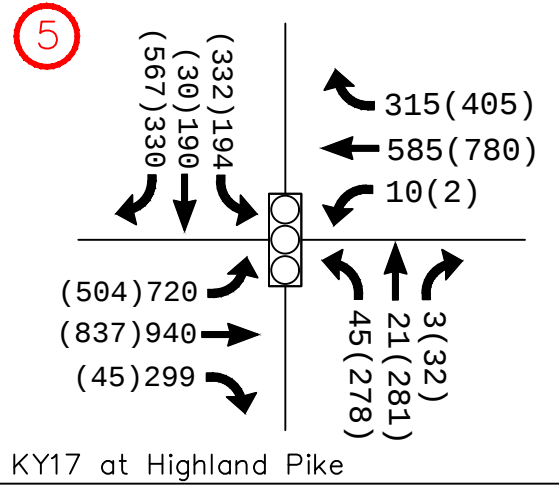
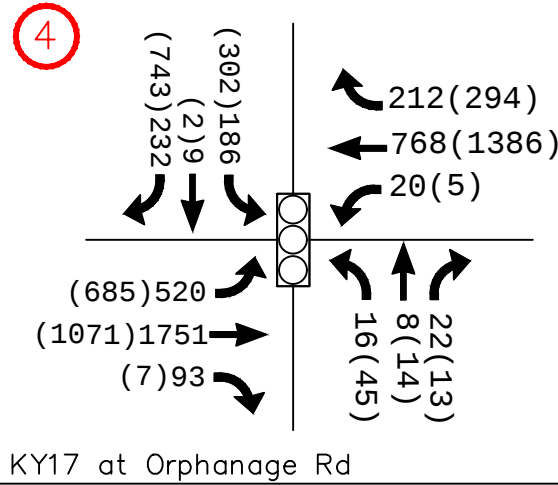
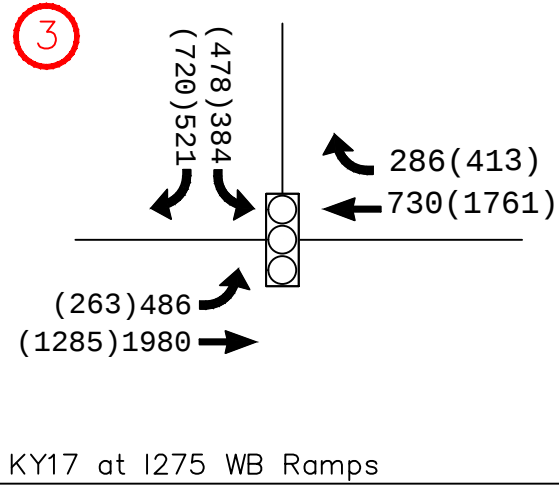
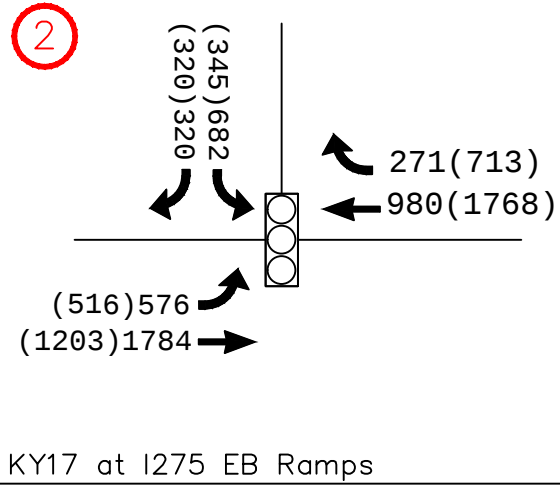
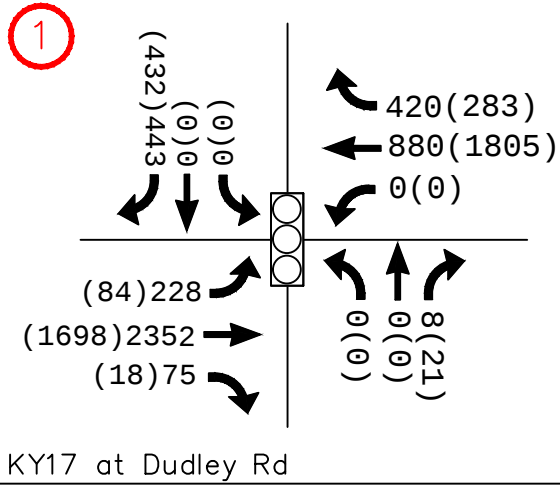
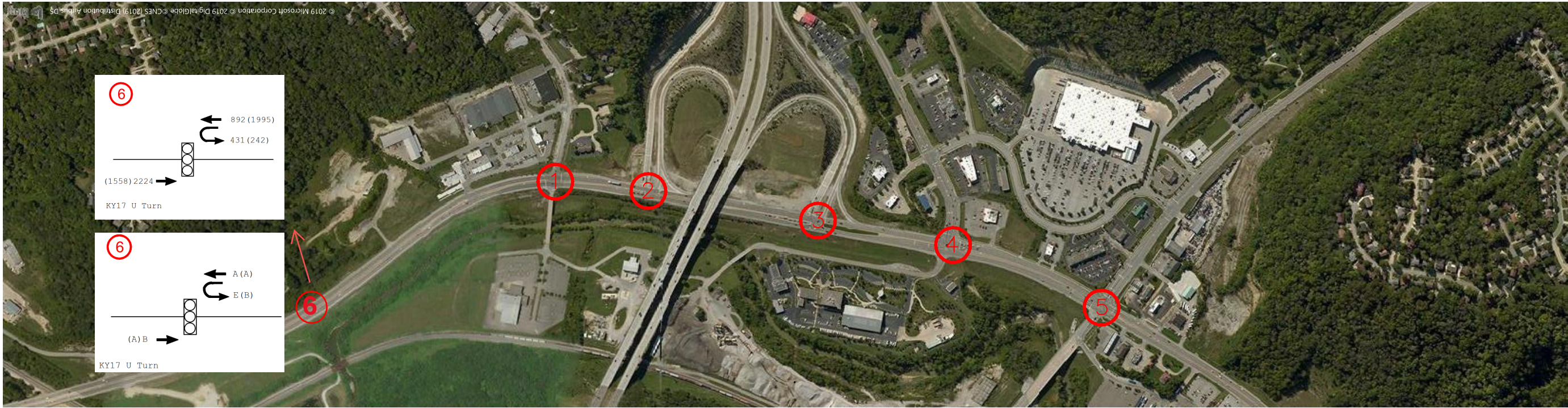
NOT TO SCALE

2037 Alternative 4 PEAK HOUR TRAFFIC VOLUME/LOS
KY17 SIGNAL ANALYSIS
CITY OF COVINGTON, KENTUCKY

AECOM

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LEGEND

- TRAFFIC LANE/TRAFFIC MOVEMENT
- TRAFFIC SIGNAL
- STOP CONTROL
- XX (XX) AM (PM) PEAK HOUR VOLUME/LOS



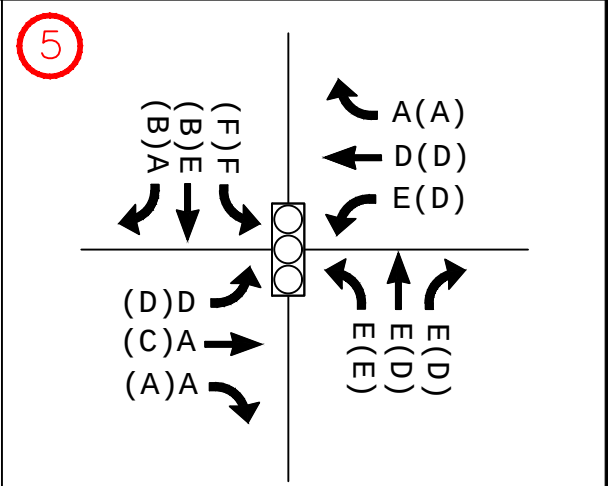
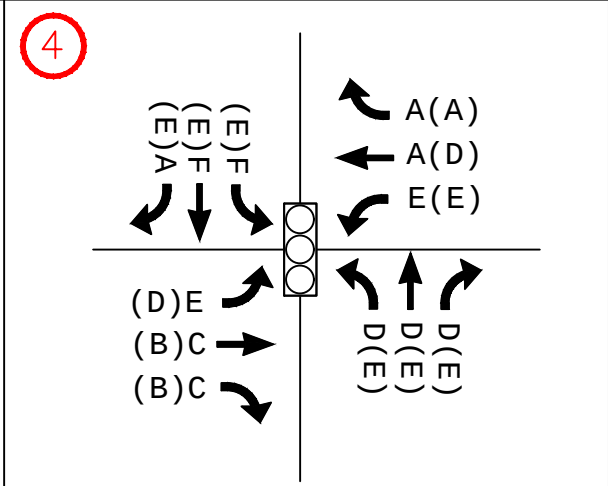
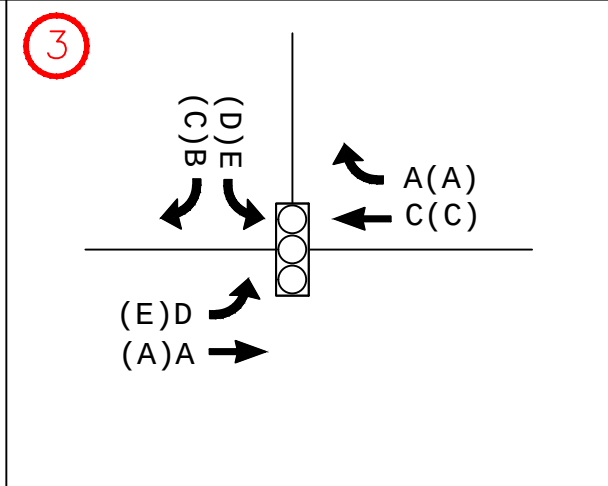
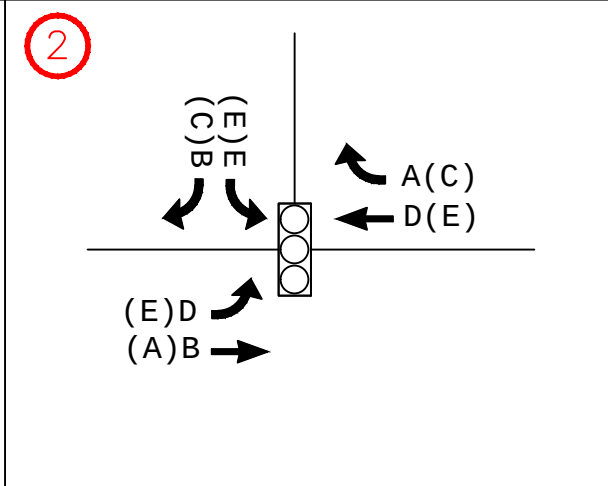
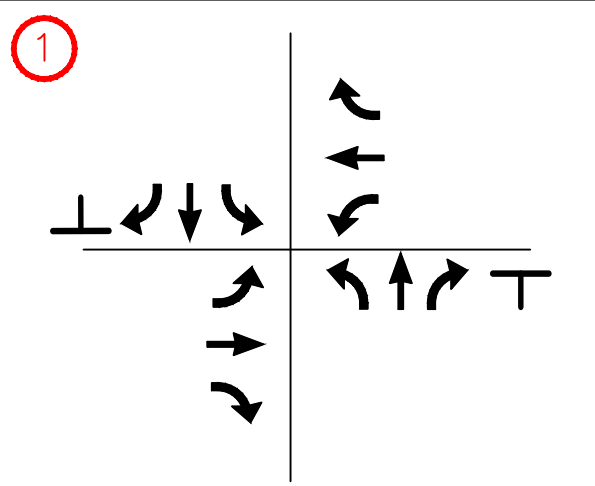
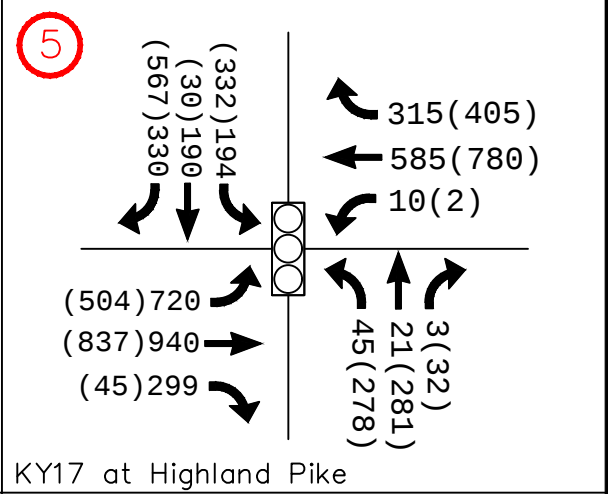
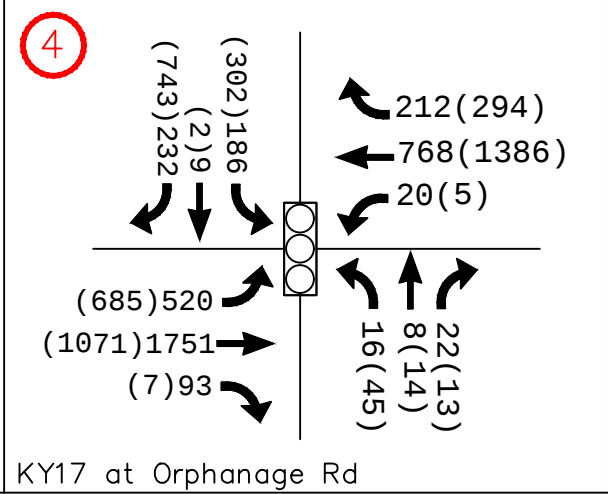
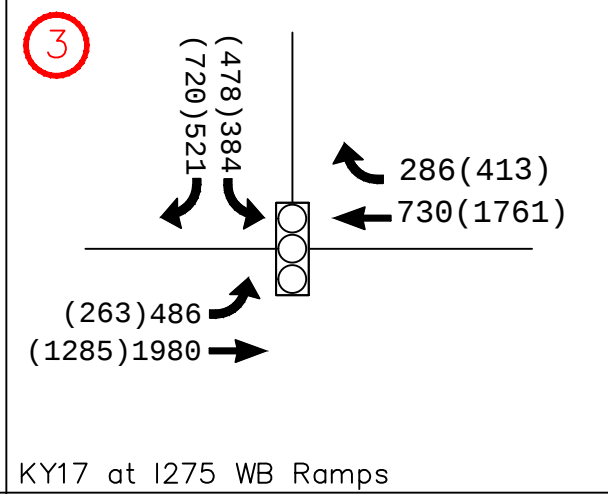
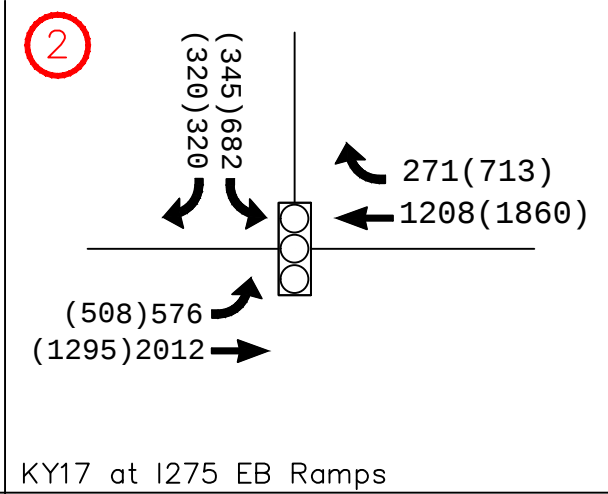
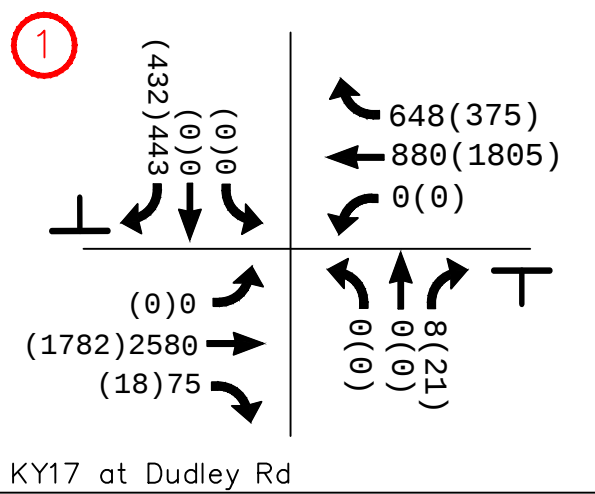
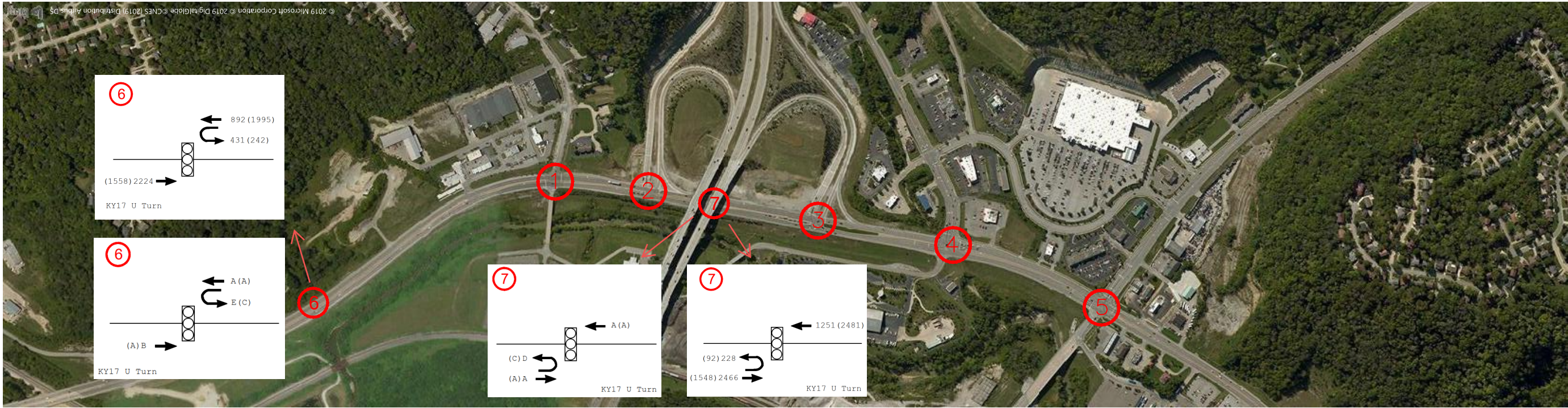
NOT TO SCALE

2037 Alternative 4A PEAK HOUR TRAFFIC VOLUME/LOS
KY17 SIGNAL ANALYSIS
CITY OF COVINGTON, KENTUCKY

AECOM

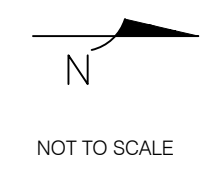
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LEGEND

- TRAFFIC LANE/TRAFFIC MOVEMENT
- TRAFFIC SIGNAL
- STOP CONTROL
- XX (XX) AM (PM) PEAK HOUR VOLUME/LOS



2037 Alternative 4B PEAK HOUR TRAFFIC VOLUME/LOS
KY17 SIGNAL ANALYSIS
CITY OF COVINGTON, KENTUCKY

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Appendix E:

Synchro Intersection Reports

Lanes, Volumes, Timings

5: EB Ramps

05/06/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	682	320	576	1784	980	271
Future Volume (vph)	682	320	576	1784	980	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385	0	220			0
Storage Lanes	2	1	1			1
Taper Length (ft)	100		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3433	1583	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		2				172
Link Speed (mph)	35			35	35	
Link Distance (ft)	2110			595	1088	
Travel Time (s)	41.1			11.6	21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	741	348	626	1939	1065	295
Shared Lane Traffic (%)						
Lane Group Flow (vph)	741	348	626	1939	1065	295
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	11.0	11.0	22.5	22.5	22.5
Total Split (s)	45.0	70.0	70.0	115.0	45.0	45.0
Total Split (%)	28.1%	43.8%	43.8%	71.9%	28.1%	28.1%
Maximum Green (s)	39.0	64.0	64.0	109.0	39.0	39.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	37.4	103.7	60.3	110.6	44.3	44.3
Actuated g/C Ratio	0.23	0.65	0.38	0.69	0.28	0.28
v/c Ratio	0.92	0.34	0.94	0.79	1.09	0.52
Control Delay (s/veh)	77.5	13.1	63.7	12.4	91.1	14.2
Queue Delay	0.0	0.0	48.5	3.3	0.0	0.0
Total Delay (s/veh)	77.5	13.1	112.2	15.7	91.1	14.2
LOS	E	B	F	B	F	B
Approach Delay (s/veh)	56.9			39.2	74.4	
Approach LOS	E			D	E	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 20 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay (s/veh): 52.6

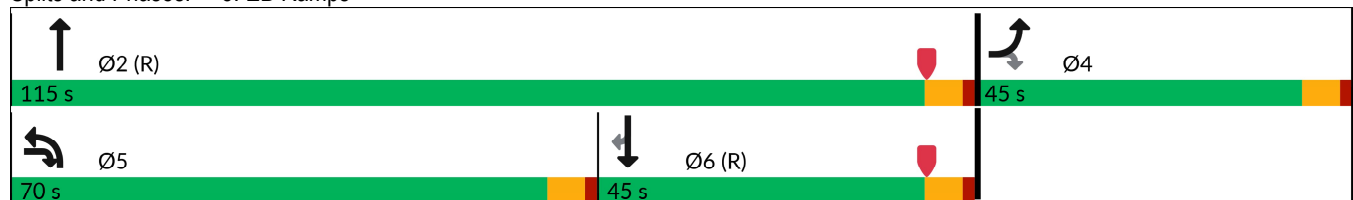
Intersection LOS: D

Intersection Capacity Utilization 93.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 5: EB Ramps



Lanes, Volumes, Timings
10: KY 17 & WB Ramps

05/06/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			 	  	
Traffic Volume (vph)	384	521	486	1980	730	286
Future Volume (vph)	384	521	486	1980	730	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	390			340
Storage Lanes	2	1	1			1
Taper Length (ft)	100		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.91	1.00
Frt	0.943	0.850				0.850
Flt Protected	0.970		0.950			
Satd. Flow (prot)	3306	1441	1770	3539	5085	1583
Flt Permitted	0.970		0.950			
Satd. Flow (perm)	3306	1441	1770	3539	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	80	311				311
Link Speed (mph)	35			35	35	
Link Distance (ft)	1810			1088	946	
Travel Time (s)	35.3			21.2	18.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	417	566	528	2152	793	311
Shared Lane Traffic (%)		45%				
Lane Group Flow (vph)	672	311	528	2152	793	311
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings

10: KY 17 & WB Ramps

05/06/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	11.0	22.0	22.0	22.0
Total Split (s)	40.0	40.0	75.0	120.0	45.0	45.0
Total Split (%)	25.0%	25.0%	46.9%	75.0%	28.1%	28.1%
Maximum Green (s)	34.0	34.0	69.0	114.0	39.0	39.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	32.5	32.5	54.8	115.5	54.7	54.7
Actuated g/C Ratio	0.20	0.20	0.34	0.72	0.34	0.34
v/c Ratio	0.92	0.58	0.87	0.84	0.46	0.42
Control Delay (s/veh)	72.6	9.7	54.1	18.9	48.5	21.8
Queue Delay	33.7	0.0	0.0	0.7	0.0	0.0
Total Delay (s/veh)	106.2	9.7	54.1	19.6	48.5	21.8
LOS	F	A	D	B	D	C
Approach Delay (s/veh)	75.7			26.4	41.0	
Approach LOS	E			C	D	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 20 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay (s/veh): 39.9

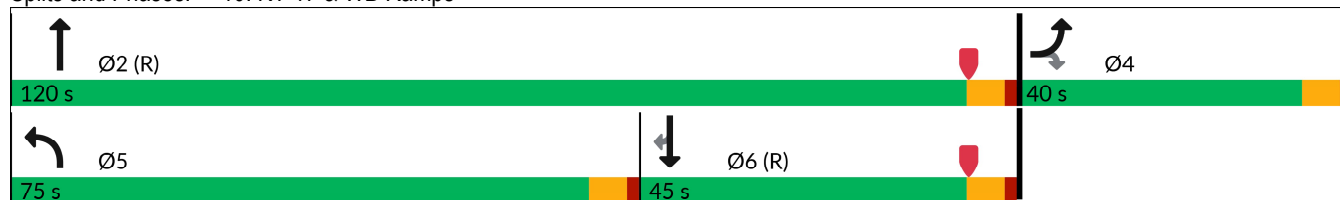
Intersection LOS: D

Intersection Capacity Utilization 81.2%

ICU Level of Service D

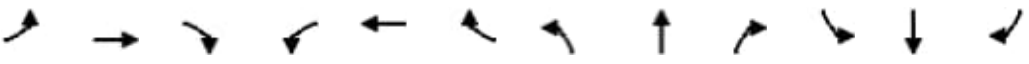
Analysis Period (min) 15

Splits and Phases: 10: KY 17 & WB Ramps



Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

05/06/2025

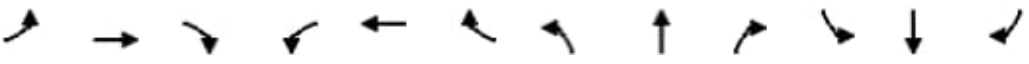
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	9	232	16	8	22	520	1751	93	20	768	212
Future Volume (vph)	186	9	232	16	8	22	520	1751	93	20	768	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	240		0	230		210
Storage Lanes	1		1	0		0	2		0	1		1
Taper Length (ft)	50			25			50			50		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00
Frt			0.850		0.935			0.992				0.850
Flt Protected	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (prot)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Flt Permitted	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (perm)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		24			5				230
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		965			313			946			1084	
Travel Time (s)		18.8			6.1			18.4			21.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	10	252	17	9	24	565	1903	101	22	835	230
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	105	107	252	0	50	0	565	2004	0	22	835	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8									6

2037 AM w Balanced Volume NB
VMN

Synchro 12 Report
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Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

05/06/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	11.2	11.2	11.2	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	22.0	22.0	22.0	25.0	25.0		53.0	90.0		23.0	60.0	60.0
Total Split (%)	13.8%	13.8%	13.8%	15.6%	15.6%		33.1%	56.3%		14.4%	37.5%	37.5%
Maximum Green (s)	15.8	15.8	15.8	18.8	18.8		46.8	83.8		16.8	53.8	53.8
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effect Green (s)	15.8	15.8	15.8		8.2		31.8	110.9		7.5	81.7	81.7
Actuated g/C Ratio	0.10	0.10	0.10		0.05		0.20	0.69		0.05	0.51	0.51
v/c Ratio	0.64	0.64	0.66		0.45		0.83	0.82		0.27	0.32	0.25
Control Delay (s/veh)	85.7	86.0	15.6		55.3		62.2	27.2		71.4	26.9	8.1
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.8		0.0	0.0	0.0
Total Delay (s/veh)	85.7	86.0	15.6		55.3		62.2	27.9		71.4	26.9	8.1
LOS	F	F	B		E		E	C		E	C	A
Approach Delay (s/veh)		47.7			55.3			35.5			23.9	
Approach LOS		D			E			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 116 (73%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay (s/veh): 34.0

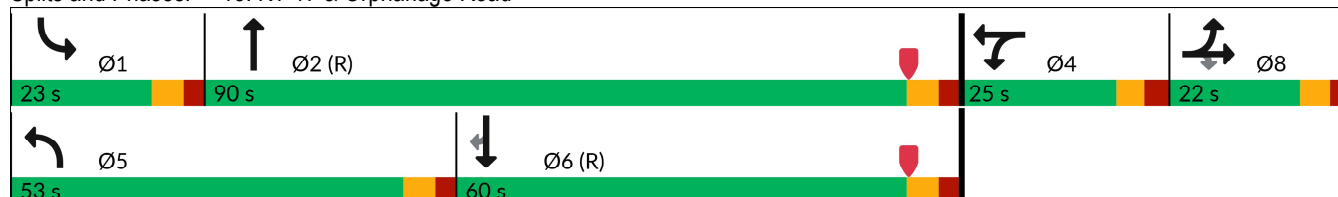
Intersection LOS: C

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 15: KY 17 & Orphanage Road



Lanes, Volumes, Timings
20: Highland Pike & KY 17

05/06/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Future Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		270	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.91	0.86	0.91	0.91	0.91	0.95
Frt			0.850			0.850			0.935	0.850		0.991
Flt Protected	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Flt Permitted	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			325			299			78	183		3
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1084			455			766			327	
Travel Time (s)		21.1			8.9			14.9			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	1022	325	11	636	342	211	207	359	49	23	3
Shared Lane Traffic (%)							10%		49%	49%		
Lane Group Flow (vph)	783	1022	325	11	636	342	190	404	183	25	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			

2037 AM w Balanced Volume NB
VMN

Synchro 12 Report
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Lanes, Volumes, Timings
20: Highland Pike & KY 17

05/06/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	22.5	32.7	32.7	
Total Split (s)	53.0	88.0	88.0	20.0	55.0	55.0	28.0	28.0	28.0	24.0	24.0	
Total Split (%)	33.1%	55.0%	55.0%	12.5%	34.4%	34.4%	17.5%	17.5%	17.5%	15.0%	15.0%	
Maximum Green (s)	47.5	82.5	82.5	14.5	49.5	49.5	22.3	22.3	22.3	18.3	18.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.7	5.7	5.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effect Green (s)	41.7	106.3	106.3	6.6	64.4	64.4	25.8	25.8	25.8	8.0	8.0	
Actuated g/C Ratio	0.26	0.66	0.66	0.04	0.40	0.40	0.16	0.16	0.16	0.05	0.05	
v/c Ratio	0.88	0.43	0.28	0.15	0.45	0.42	0.73	0.74	0.48	0.31	0.30	
Control Delay (s/veh)	67.1	8.1	0.8	78.1	39.0	8.4	80.2	59.5	11.2	82.5	72.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	67.1	8.1	0.8	78.1	39.0	8.4	80.2	59.5	11.2	82.5	72.7	
LOS	E	A	A	E	D	A	F	E	B	F	E	
Approach Delay (s/veh)		28.7			28.8			53.2			76.0	
Approach LOS		C			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 127 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay (s/veh): 34.4

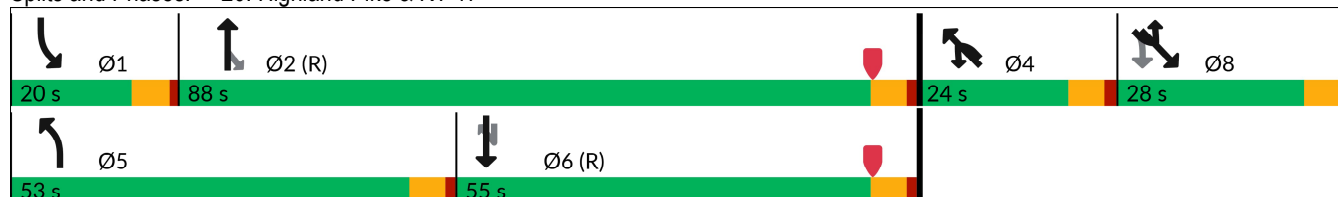
Intersection LOS: C

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: Dudley Road & KY 17

05/06/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	369	7	67	0	0	8	228	1983	13	55	825	420
Future Volume (vph)	369	7	67	0	0	8	228	1983	13	55	825	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	160		35	120		220
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.865				0.850			0.850
Flt Protected		0.953					0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1611	0	1770	3539	1583	1770	3539	1583
Flt Permitted		0.724					0.201			0.053		
Satd. Flow (perm)	0	1349	1583	0	1611	0	374	3539	1583	99	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112		112				68			420
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1180			328			3549			595	
Travel Time (s)		23.0			6.4			69.1			11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	401	8	73	0	0	9	248	2155	14	60	897	457
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	73	0	9	0	248	2155	14	60	897	457
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm		NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4			2		2	6		6

2037 AM w Balanced Volume NB
VMN

Synchro 12 Report
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Lanes, Volumes, Timings
30: Dudley Road & KY 17

05/06/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.5	24.5		11.5	24.4	24.4	11.5	24.4	24.4
Total Split (s)	49.0	49.0	49.0	49.0	49.0		26.0	97.0	97.0	14.0	85.0	85.0
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%		16.3%	60.6%	60.6%	8.8%	53.1%	53.1%
Maximum Green (s)	43.0	43.0	43.0	42.5	42.5		19.5	90.6	90.6	7.5	78.6	78.6
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0		3.5	4.8	4.8	3.5	4.8	4.8
All-Red Time (s)	3.0	3.0	3.0	2.5	2.5		3.0	1.6	1.6	3.0	1.6	1.6
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.5		6.5	6.4	6.4	6.5	6.4	6.4
Lead/Lag							Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)		43.0	43.0		42.5		93.3	93.4	93.4	81.9	82.0	82.0
Actuated g/C Ratio		0.27	0.27		0.27		0.58	0.58	0.58	0.51	0.51	0.51
v/c Ratio		1.13	0.14		0.02		0.69	1.04	0.01	0.48	0.50	0.45
Control Delay (s/veh)		138.8	2.1		0.1		27.5	65.1	0.0	27.2	8.1	1.2
Queue Delay		5.4	0.0		0.0		0.0	5.4	0.0	0.0	0.6	0.5
Total Delay (s/veh)		144.2	2.1		0.1		27.5	70.6	0.0	27.2	8.7	1.7
LOS		F	A		A		C	E	A	C	A	A
Approach Delay (s/veh)		122.6			0.1			65.7			7.2	
Approach LOS		F			A			E			A	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 33 (21%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay (s/veh): 52.8

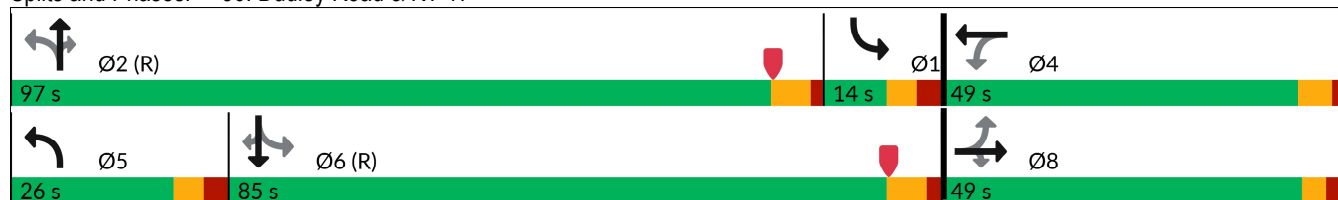
Intersection LOS: D

Intersection Capacity Utilization 102.2%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 30: Dudley Road & KY 17



Lanes, Volumes, Timings

5: EB Ramps

05/06/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	345	320	508	1203	1768	713
Future Volume (vph)	345	320	508	1203	1768	713
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385	0	220			0
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3433	1583	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		6				384
Link Speed (mph)	35			35	35	
Link Distance (ft)	2100			595	1088	
Travel Time (s)	40.9			11.6	21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	348	552	1308	1922	775
Shared Lane Traffic (%)						
Lane Group Flow (vph)	375	348	552	1308	1922	775
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings

5: EB Ramps

05/06/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	11.0	11.0	22.5	22.5	22.5
Total Split (s)	35.0	38.0	38.0	125.0	87.0	87.0
Total Split (%)	21.9%	23.8%	23.8%	78.1%	54.4%	54.4%
Maximum Green (s)	29.0	32.0	32.0	119.0	81.0	81.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	22.7	67.0	38.3	125.3	81.0	81.0
Actuated g/C Ratio	0.14	0.42	0.24	0.78	0.51	0.51
v/c Ratio	0.77	0.52	1.30	0.47	1.07	0.78
Control Delay (s/veh)	77.0	37.4	193.1	3.7	71.8	19.5
Queue Delay	0.0	6.9	0.0	0.2	0.0	1.1
Total Delay (s/veh)	77.0	44.4	193.1	4.0	71.8	20.6
LOS	E	D	F	A	E	C
Approach Delay (s/veh)	61.3			60.1	57.1	
Approach LOS	E			E	E	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 92 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.30

Intersection Signal Delay (s/veh): 58.7

Intersection LOS: E

Intersection Capacity Utilization 101.9%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 5: EB Ramps



Lanes, Volumes, Timings
10: KY 17 & WB Ramps

05/06/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			 	  	
Traffic Volume (vph)	478	720	263	1285	1761	413
Future Volume (vph)	478	720	263	1285	1761	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	390			0
Storage Lanes	2	1	1			1
Taper Length (ft)	100		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.91	1.00
Frt	0.938	0.850				0.850
Flt Protected	0.972		0.950			
Satd. Flow (prot)	3295	1441	1770	3539	5085	1583
Flt Permitted	0.972		0.950			
Satd. Flow (perm)	3295	1441	1770	3539	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	105	351				282
Link Speed (mph)	35			35	35	
Link Distance (ft)	1802			1088	946	
Travel Time (s)	35.1			21.2	18.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	520	783	286	1397	1914	449
Shared Lane Traffic (%)		47%				
Lane Group Flow (vph)	888	415	286	1397	1914	449
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	11.0	22.0	22.0	22.0
Total Split (s)	45.0	45.0	39.0	115.0	76.0	76.0
Total Split (%)	28.1%	28.1%	24.4%	71.9%	47.5%	47.5%
Maximum Green (s)	39.0	39.0	33.0	109.0	70.0	70.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	39.0	39.0	29.5	109.0	73.5	73.5
Actuated g/C Ratio	0.24	0.24	0.18	0.68	0.46	0.46
v/c Ratio	1.01	0.67	0.88	0.58	0.82	0.51
Control Delay (s/veh)	84.1	15.4	101.6	11.7	22.4	2.3
Queue Delay	34.5	4.9	0.0	0.0	0.0	0.0
Total Delay (s/veh)	118.6	20.3	101.6	11.7	22.5	2.3
LOS	F	C	F	B	C	A
Approach Delay (s/veh)	87.3			27.0	18.7	
Approach LOS	F			C	B	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 34 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay (s/veh): 38.0

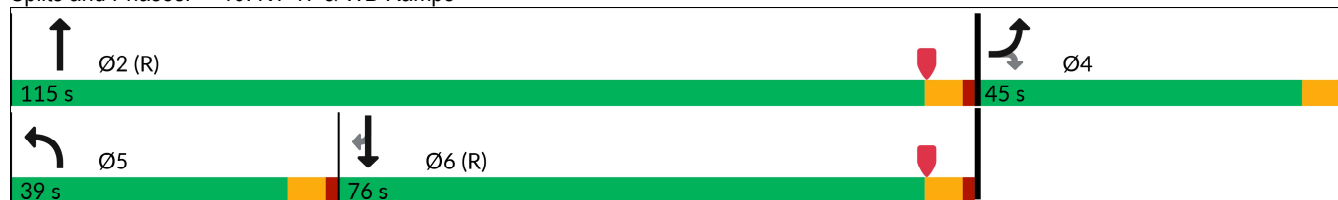
Intersection LOS: D

Intersection Capacity Utilization 84.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 10: KY 17 & WB Ramps



Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

05/06/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	2	743	45	14	13	685	1071	7	5	1386	294
Future Volume (vph)	302	2	743	45	14	13	685	1071	7	5	1386	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	240		0	230		210
Storage Lanes	1		1	0		0	2		0	1		1
Taper Length (ft)	50			25			50			50		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00
Frt			0.850		0.976			0.999				0.850
Flt Protected	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	0	1763	0	3433	3536	0	1770	5085	1583
Flt Permitted	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (perm)	1681	1686	1583	0	1763	0	3433	3536	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			369		6			1				196
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		930			313			946			1086	
Travel Time (s)		18.1			6.1			18.4			21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	328	2	808	49	15	14	745	1164	8	5	1507	320
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	164	166	808	0	78	0	745	1172	0	5	1507	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8									6

2037 PM w Balanced Volume NB
VMN

Synchro 12 Report
Page 5

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

05/06/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	33.0	33.0	33.0	28.0	28.0		33.0	82.0		17.0	66.0	66.0
Total Split (%)	20.6%	20.6%	20.6%	17.5%	17.5%		20.6%	51.3%		10.6%	41.3%	41.3%
Maximum Green (s)	26.8	26.8	26.8	21.8	21.8		26.8	75.8		10.8	59.8	59.8
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)	36.7	36.7	36.7		11.9		26.8	90.1		6.1	59.8	59.8
Actuated g/C Ratio	0.23	0.23	0.23		0.07		0.17	0.56		0.04	0.37	0.37
v/c Ratio	0.43	0.43	1.25		0.57		1.30	0.59		0.07	0.79	0.45
Control Delay (s/veh)	57.8	57.8	150.9		81.6		197.1	24.2		68.8	38.4	12.2
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	57.8	57.8	150.9		81.6		197.1	24.2		68.8	38.4	12.2
LOS	E	E	F		F		F	C		E	D	B
Approach Delay (s/veh)		123.9			81.6			91.4			33.9	
Approach LOS		F			F			F			C	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 7 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.30

Intersection Signal Delay (s/veh): 77.5

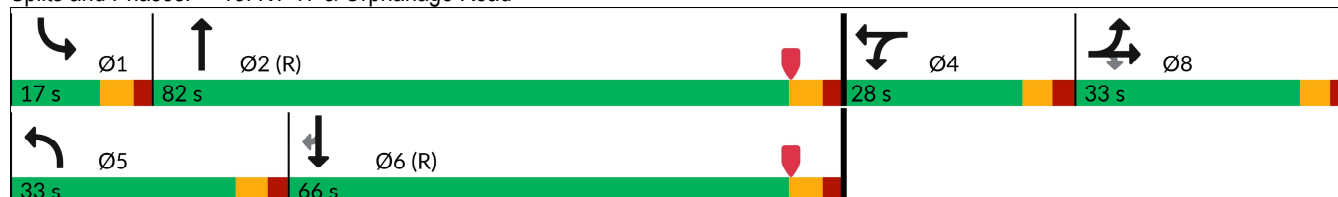
Intersection LOS: E

Intersection Capacity Utilization 92.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 15: KY 17 & Orphanage Road



Lanes, Volumes, Timings
20: Highland Pike & KY 17

05/06/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Future Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		270	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.91	0.86	0.91	0.91	0.91	0.95
Frt			0.850			0.850		0.899	0.850		0.988	
Flt Protected	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1610	2843	1441	1610	3316	0
Flt Permitted	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1610	2843	1441	1610	3316	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			95			297		288	297		5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1086			455			775			327	
Travel Time (s)		21.2			8.9			15.1			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	548	910	49	2	848	440	361	33	616	302	305	35
Shared Lane Traffic (%)							32%		50%	30%		
Lane Group Flow (vph)	548	910	49	2	848	440	245	457	308	211	431	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			

2037 PM w Balanced Volume NB
VMN

Synchro 12 Report
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Lanes, Volumes, Timings
20: Highland Pike & KY 17

05/06/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	22.5	32.7	32.7	
Total Split (s)	35.0	71.0	71.0	22.0	58.0	58.0	33.0	33.0	33.0	34.0	34.0	
Total Split (%)	21.9%	44.4%	44.4%	13.8%	36.3%	36.3%	20.6%	20.6%	20.6%	21.3%	21.3%	
Maximum Green (s)	29.5	65.5	65.5	16.5	52.5	52.5	27.3	27.3	27.3	28.3	28.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.7	5.7	5.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effct Green (s)	28.4	87.7	87.7	5.8	56.2	56.2	27.4	27.4	27.4	25.6	25.6	
Actuated g/C Ratio	0.18	0.55	0.55	0.04	0.35	0.35	0.17	0.17	0.17	0.16	0.16	
v/c Ratio	0.90	0.47	0.05	0.03	0.68	0.59	0.89	0.63	0.62	0.82	0.81	
Control Delay (s/veh)	99.7	14.6	0.7	75.0	48.6	17.2	96.4	26.2	13.0	89.4	76.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	99.7	14.6	0.7	75.0	48.6	17.2	96.4	26.2	13.0	89.4	76.2	
LOS	F	B	A	E	D	B	F	C	B	F	E	
Approach Delay (s/veh)		45.1			37.9			39.2			80.6	
Approach LOS		D			D			D			F	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay (s/veh): 46.8

Intersection LOS: D

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: Dudley Road & KY 17

05/06/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	3	202	5	3	13	84	1471	3	12	1788	288
Future Volume (vph)	227	3	202	5	3	13	84	1471	3	12	1788	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	160		35	120		220
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.914				0.850			0.850
Flt Protected		0.953			0.989		0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1684	0	1770	3539	1583	1770	3539	1583
Flt Permitted		0.713			0.926		0.038			0.103		
Satd. Flow (perm)	0	1328	1583	0	1577	0	71	3539	1583	192	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152		14				68			151
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1196			328			3454			595	
Travel Time (s)		23.3			6.4			67.3			11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	247	3	220	5	3	14	91	1599	3	13	1943	313
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	220	0	22	0	91	1599	3	13	1943	313
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4			2		2	6		6

2037 PM w Balanced Volume NB
VMN

Synchro 12 Report
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Lanes, Volumes, Timings
30: Dudley Road & KY 17

05/06/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.5	24.5		11.5	24.4	24.4	11.5	24.4	24.4
Total Split (s)	40.0	40.0	40.0	40.0	40.0		25.0	100.0	100.0	20.0	95.0	95.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	25.0%		15.6%	62.5%	62.5%	12.5%	59.4%	59.4%
Maximum Green (s)	34.0	34.0	34.0	33.5	33.5		18.5	93.6	93.6	13.5	88.6	88.6
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0		3.5	4.8	4.8	3.5	4.8	4.8
All-Red Time (s)	3.0	3.0	3.0	2.5	2.5		3.0	1.6	1.6	3.0	1.6	1.6
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.5		6.5	6.4	6.4	6.5	6.4	6.4
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)		32.4	32.4		31.9		114.8	110.1	110.1	105.0	99.2	99.2
Actuated g/C Ratio		0.20	0.20		0.20		0.72	0.69	0.69	0.66	0.62	0.62
v/c Ratio		0.93	0.50		0.07		0.60	0.66	0.00	0.07	0.89	0.30
Control Delay (s/veh)		101.6	21.8		28.7		43.9	17.0	0.0	11.0	27.2	12.2
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	14.4	0.0
Total Delay (s/veh)		101.6	21.8		28.7		43.9	17.0	0.0	11.0	41.6	12.2
LOS		F	C		C		D	B	A	B	D	B
Approach Delay (s/veh)		64.3			28.7			18.4			37.4	
Approach LOS		E			C			B			D	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 72 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay (s/veh): 33.0

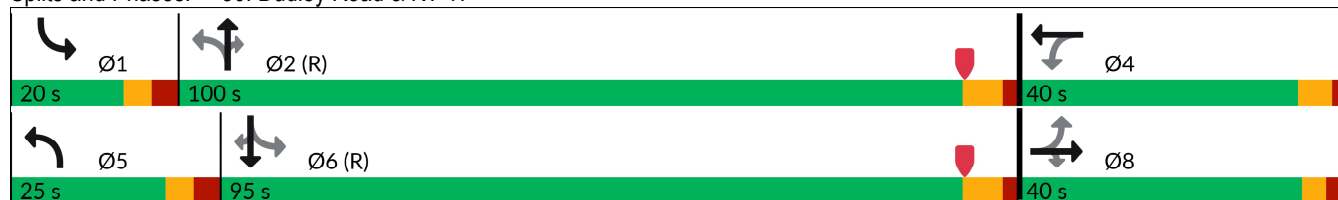
Intersection LOS: C

Intersection Capacity Utilization 89.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 30: Dudley Road & KY 17



Lanes, Volumes, Timings
7: Dudley Rd & #1 KY17

05/16/2025



Lane Group	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	↔↔	↗	↕↕	↗	↗	↕↕
Traffic Volume (vph)	376	67	880	420	228	1996
Future Volume (vph)	376	67	880	420	228	1996
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	100		0	350	
Storage Lanes	1	1		1	1	
Taper Length (ft)	50				100	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	*1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3725
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	3539	1583	1770	3725
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		73		457		
Link Speed (mph)	35		35			35
Link Distance (ft)	1569		947			3092
Travel Time (s)	30.6		18.4			60.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	409	73	957	457	248	2170
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	73	957	457	248	2170
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6		

Lanes, Volumes, Timings
7: Dudley Rd & #1 KY17

05/16/2025



Lane Group	EBL	EBR	SET	SER	NWL	NWT
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	22.5	33.8	33.8	18.7	52.5
Total Split (%)	30.0%	30.0%	45.1%	45.1%	24.9%	70.0%
Maximum Green (s)	18.0	18.0	29.3	29.3	14.2	48.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0		7.0
Flash Don't Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effect Green (s)	14.1	14.1	34.0	34.0	13.4	51.9
Actuated g/C Ratio	0.19	0.19	0.45	0.45	0.18	0.69
v/c Ratio	0.63	0.20	0.60	0.47	0.79	0.84
Control Delay (s/veh)	32.3	8.0	27.1	13.3	48.5	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.3	8.0	27.1	13.3	48.5	13.7
LOS	C	A	C	B	D	B
Approach Delay (s/veh)	28.7		22.6			17.2
Approach LOS	C		C			B

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay (s/veh): 20.3

Intersection LOS: C

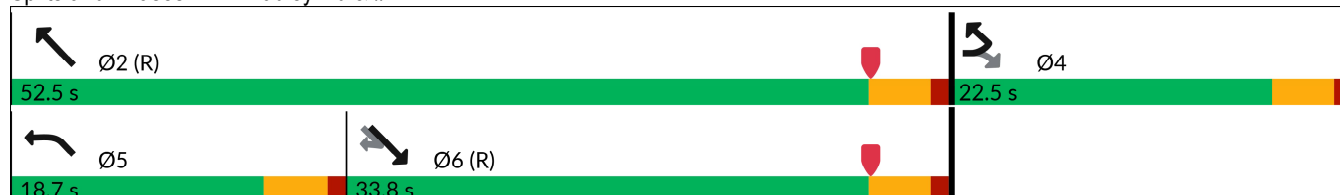
Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 7: Dudley Rd & #1 KY17



Lanes, Volumes, Timings

9: #1 KY17 & EB Ramp

05/16/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			  	  	
Traffic Volume (vph)	682	0	0	1784	980	0
Future Volume (vph)	682	0	0	1784	980	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	2	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Fr						
Flt Protected	0.950					
Satd. Flow (prot)	3433	0	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	0	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	105			425	88	
Travel Time (s)	2.0			8.3	1.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	741	0	0	1939	1065	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	741	0	0	1939	1065	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	18			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	20	9	15			9
Number of Detectors	1			2	2	
Detector Template	Left			Thru	Thru	
Leading Detector (ft)	20			100	100	
Trailing Detector (ft)	0			0	0	
Detector 1 Position(ft)	0			0	0	
Detector 1 Size(ft)	20			6	6	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot			NA	NA	
Protected Phases	4			2	6	
Permitted Phases						

Lanes, Volumes, Timings

9: #1 KY17 & EB Ramp

05/16/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4			2	6	
Switch Phase						
Minimum Initial (s)	5.0			5.0	5.0	
Minimum Split (s)	22.5			22.5	22.5	
Total Split (s)	53.0			57.0	57.0	
Total Split (%)	48.2%			51.8%	51.8%	
Maximum Green (s)	48.5			52.5	52.5	
Yellow Time (s)	3.5			3.5	3.5	
All-Red Time (s)	1.0			1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.5			4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	
Recall Mode	None			C-Max	C-Max	
Walk Time (s)	7.0			7.0	7.0	
Flash Don't Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effect Green (s)	40.8			60.2	60.2	
Actuated g/C Ratio	0.37			0.55	0.55	
v/c Ratio	0.58			0.70	0.38	
Control Delay (s/veh)	3.6			21.3	15.9	
Queue Delay	0.0			8.0	0.0	
Total Delay (s/veh)	3.6			29.3	15.9	
LOS	A			C	B	
Approach Delay (s/veh)	3.6			29.3	15.9	
Approach LOS	A			C	B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay (s/veh): 20.4

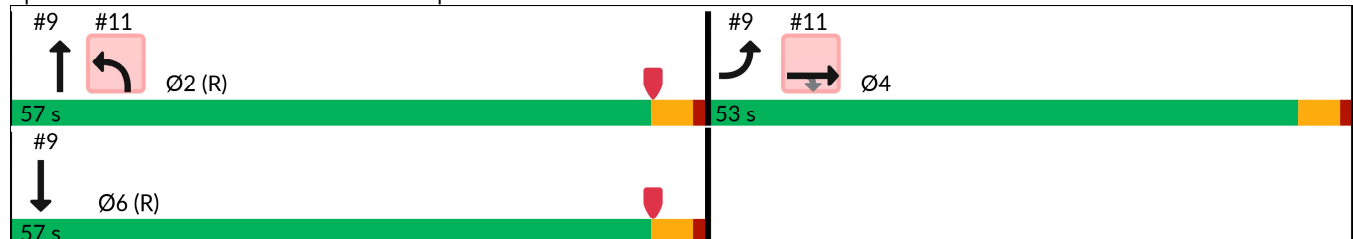
Intersection LOS: C

Intersection Capacity Utilization 61.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 9: #1 KY17 & EB Ramp



Lanes, Volumes, Timings
10: #1 KY17 & WB Ramp

05/16/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			  	  	
Traffic Volume (vph)	384	521	486	1980	730	286
Future Volume (vph)	384	521	486	1980	730	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	400			350
Storage Lanes	2	1	1			1
Taper Length (ft)	50		75			
Lane Util. Factor	0.97	0.91	1.00	0.91	0.91	1.00
Frt	0.943	0.850				0.850
Flt Protected	0.970		0.950			
Satd. Flow (prot)	3306	1441	1770	5085	5085	1583
Flt Permitted	0.970		0.950			
Satd. Flow (perm)	3306	1441	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	89	311				311
Link Speed (mph)	35			35	35	
Link Distance (ft)	1799			992	946	
Travel Time (s)	35.0			19.3	18.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	417	566	528	2152	793	311
Shared Lane Traffic (%)		45%				
Lane Group Flow (vph)	672	311	528	2152	793	311
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
10: #1 KY17 & WB Ramp

05/16/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	11.0	22.0	22.0	22.0
Total Split (s)	43.0	43.0	67.0	107.0	40.0	40.0
Total Split (%)	28.7%	28.7%	44.7%	71.3%	26.7%	26.7%
Maximum Green (s)	37.0	37.0	61.0	101.0	34.0	34.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	32.4	32.4	50.8	105.6	48.8	48.8
Actuated g/C Ratio	0.22	0.22	0.34	0.70	0.33	0.33
v/c Ratio	0.86	0.56	0.88	0.60	0.48	0.43
Control Delay (s/veh)	60.3	8.7	63.0	12.7	34.5	7.8
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay (s/veh)	60.3	8.7	63.0	12.8	34.5	7.8
LOS	E	A	E	B	C	A
Approach Delay (s/veh)	44.0			22.7	27.0	
Approach LOS	D			C	C	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay (s/veh): 28.1

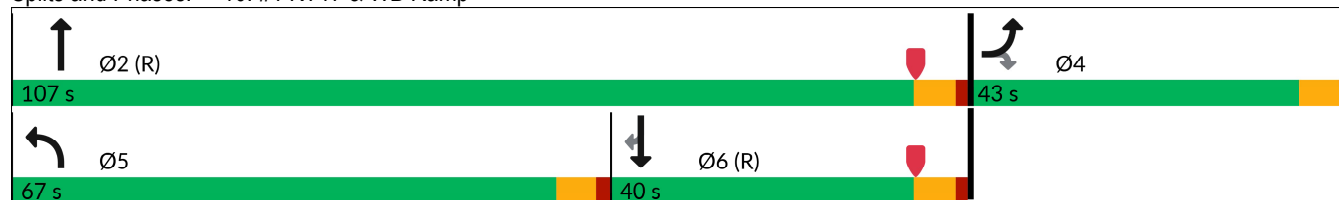
Intersection LOS: C

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: #1 KY17 & WB Ramp



Lanes, Volumes, Timings

11: EB Ramp Displaced Left & EB Ramp

05/16/2025

							
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6
Lane Configurations	↑↑	↑			↑		
Traffic Volume (vph)	682	320	0	0	576	0	
Future Volume (vph)	682	320	0	0	576	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		150	0		0	0	
Storage Lanes		1	0		1	0	
Taper Length (ft)			25		25		
Lane Util. Factor	*1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.850					
Flt Protected					0.950		
Satd. Flow (prot)	3725	1583	0	0	1770	0	
Flt Permitted					0.950		
Satd. Flow (perm)	3725	1583	0	0	1770	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		348					
Link Speed (mph)	35			35	35		
Link Distance (ft)	667			105	447		
Travel Time (s)	13.0			2.0	8.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	741	348	0	0	626	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	741	348	0	0	626	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	0			0	24		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		20	15		25	9	
Number of Detectors	2	1			1		
Detector Template	Thru	Right			Left		
Leading Detector (ft)	100	20			20		
Trailing Detector (ft)	0	0			0		
Detector 1 Position(ft)	0	0			0		
Detector 1 Size(ft)	6	20			20		
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0			0.0		
Detector 1 Queue (s)	0.0	0.0			0.0		
Detector 1 Delay (s)	0.0	0.0			0.0		
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm			Prot		
Protected Phases	4				2		6
Permitted Phases		4					

Lanes, Volumes, Timings

11: EB Ramp Displaced Left & EB Ramp

05/16/2025



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6
Detector Phase	4	4			2		
Switch Phase							
Minimum Initial (s)	5.0	5.0			5.0		5.0
Minimum Split (s)	22.5	22.5			22.5		22.5
Total Split (s)	53.0	53.0			57.0		57.0
Total Split (%)	48.2%	48.2%			51.8%		52%
Maximum Green (s)	48.5	48.5			52.5		52.5
Yellow Time (s)	3.5	3.5			3.5		3.5
All-Red Time (s)	1.0	1.0			1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		
Total Lost Time (s)	4.5	4.5			4.5		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0			3.0		3.0
Recall Mode	None	None			C-Max		C-Max
Walk Time (s)	7.0	7.0			7.0		7.0
Flash Don't Walk (s)	11.0	11.0			11.0		11.0
Pedestrian Calls (#/hr)	0	0			0		0
Act Effect Green (s)	40.8	40.8			60.2		
Actuated g/C Ratio	0.37	0.37			0.55		
v/c Ratio	0.54	0.43			0.65		
Control Delay (s/veh)	27.9	3.8			23.3		
Queue Delay	0.0	0.0			6.1		
Total Delay (s/veh)	28.0	3.8			29.4		
LOS	C	A			C		
Approach Delay (s/veh)	20.2				29.4		
Approach LOS	C				C		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay (s/veh): 23.6

Intersection LOS: C

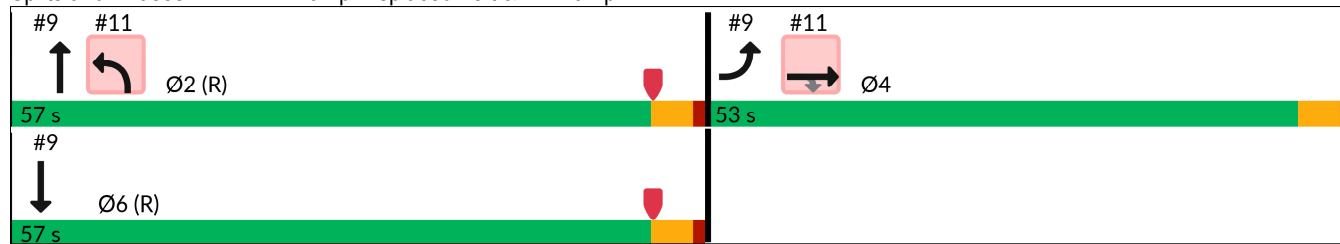
Intersection Capacity Utilization 58.3%

ICU Level of Service B

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 11: EB Ramp Displaced Left & EB Ramp



Lanes, Volumes, Timings

13: #1 KY17

05/16/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↑↑↑	↑↑↑	
Traffic Volume (vph)	0	0	0	2466	980	271
Future Volume (vph)	0	0	0	2466	980	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt	0.967					
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	4917	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	4917	0
Link Speed (mph)	35			35	35	
Link Distance (ft)	638			88	992	
Travel Time (s)	12.4			1.7	19.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	2680	1065	295
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2680	1360	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	9		
Sign Control	Free			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	89.7%			ICU Level of Service E		
Analysis Period (min)	15					

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

05/16/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	9	232	16	8	22	520	1751	93	20	768	212
Future Volume (vph)	186	9	232	16	8	22	520	1751	93	20	768	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	300		180	230		210
Storage Lanes	1		1	0		0	2		0	1		1
Taper Length (ft)	50			25			100			50		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00
Frt			0.850		0.935			0.992				0.850
Flt Protected	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (prot)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Flt Permitted	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (perm)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		24			6				230
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		918			313			946			1086	
Travel Time (s)		17.9			6.1			18.4			21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	10	252	17	9	24	565	1903	101	22	835	230
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	105	107	252	0	50	0	565	2004	0	22	835	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8	5	4	4		5	2		1	6	
Permitted Phases			8									6

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

05/16/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	5	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	11.2	11.2	11.2	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	14.0	14.0	47.0	24.0	24.0		47.0	96.0		16.0	65.0	65.0
Total Split (%)	9.3%	9.3%	31.3%	16.0%	16.0%		31.3%	64.0%		10.7%	43.3%	43.3%
Maximum Green (s)	7.8	7.8	40.8	17.8	17.8		40.8	89.8		9.8	58.8	58.8
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.2	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag			Lead				Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effect Green (s)	7.8	7.8	44.6		8.0		30.6	109.1		7.4	81.1	81.1
Actuated g/C Ratio	0.05	0.05	0.30		0.05		0.20	0.73		0.05	0.54	0.54
v/c Ratio	1.21	1.22	0.39		0.44		0.81	0.78		0.25	0.30	0.24
Control Delay (s/veh)	218.5	220.7	5.7		51.7		80.7	13.1		69.2	11.8	1.2
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	218.5	220.7	5.7		51.7		80.7	13.1		69.2	11.8	1.2
LOS	F	F	A		D		F	B		E	B	A
Approach Delay (s/veh)		103.4			51.7			28.0			10.7	
Approach LOS		F			D			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.22

Intersection Signal Delay (s/veh): 32.2

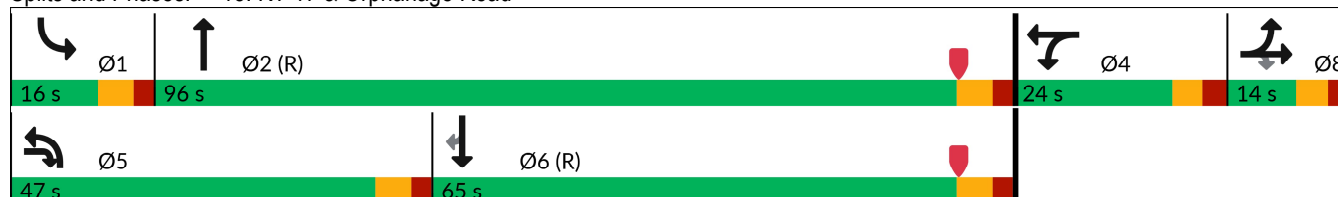
Intersection LOS: C

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 15: KY 17 & Orphanage Road



Lanes, Volumes, Timings

16: #1 KY17 & EB Ramp Displaced Left

05/16/2025

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		 	  			
Traffic Volume (vph)	576	1784	980	0	0	320
Future Volume (vph)	576	1784	980	0	0	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	*1.00	0.91	1.00	1.00	1.00
Fr t						0.865
Flt Protected	0.950					
Satd. Flow (prot)	1770	3725	5085	0	0	1611
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3725	5085	0	0	1611
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						13
Link Speed (mph)		35	35		35	
Link Distance (ft)		196	425		447	
Travel Time (s)		3.8	8.3		8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	626	1939	1065	0	0	348
Shared Lane Traffic (%)						
Lane Group Flow (vph)	626	1939	1065	0	0	348
Enter Blocked Intersection	Yes	Yes	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			15	15	25
Number of Detectors	1	2	2			1
Detector Template	Left	Thru	Thru			Right
Leading Detector (ft)	20	100	100			20
Trailing Detector (ft)	0	0	0			0
Detector 1 Position(ft)	0	0	0			0
Detector 1 Size(ft)	20	6	6			20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Prot	NA	NA			Over
Protected Phases	4	Free	6			4
Permitted Phases						
Detector Phase	4		6			4
Switch Phase						
Minimum Initial (s)	5.0		5.0			5.0

Lanes, Volumes, Timings

16: #1 KY17 & EB Ramp Displaced Left

05/16/2025

	↰	↑	↓	↱	↷	↘
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Minimum Split (s)	22.5		22.5			22.5
Total Split (s)	46.0		29.0			46.0
Total Split (%)	61.3%		38.7%			61.3%
Maximum Green (s)	41.5		24.5			41.5
Yellow Time (s)	3.5		3.5			3.5
All-Red Time (s)	1.0		1.0			1.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	4.5		4.5			4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0			3.0
Recall Mode	None		C-Max			None
Walk Time (s)	7.0		7.0			7.0
Flash Don't Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effect Green (s)	33.7	75.0	32.3			33.7
Actuated g/C Ratio	0.45	1.00	0.43			0.45
v/c Ratio	0.79	0.52	0.49			0.48
Control Delay (s/veh)	21.9	0.3	17.7			15.1
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	21.9	0.3	17.7			15.1
LOS	C	A	B			B
Approach Delay (s/veh)		5.6	17.7		15.1	
Approach LOS		A	B		B	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 6:SBT, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay (s/veh): 9.7

Intersection LOS: A

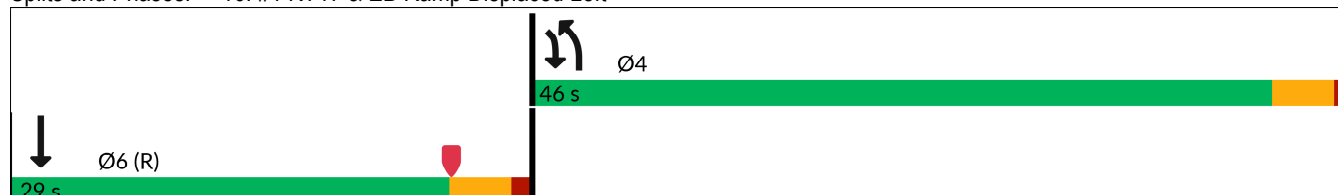
Intersection Capacity Utilization 58.3%

ICU Level of Service B

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 16: #1 KY17 & EB Ramp Displaced Left



Lanes, Volumes, Timings
20: Highland Pike & KY 17

05/16/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Future Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		300	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.91	0.86	0.91	0.91	0.91	0.95
Frt			0.850			0.850		0.935	0.850		0.991	
Flt Protected	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Flt Permitted	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			325			289		89	183		3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1086			448			780			327	
Travel Time (s)		21.2			8.7			15.2			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	1022	325	11	636	342	211	207	359	49	23	3
Shared Lane Traffic (%)							10%		49%	49%		
Lane Group Flow (vph)	783	1022	325	11	636	342	190	404	183	25	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Over	Split	NA	
Protected Phases	5	2		1	6		8	8	5	4	4	
Permitted Phases			2			6						

Lanes, Volumes, Timings
20: Highland Pike & KY 17

05/16/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	10.5	32.7	32.7	
Total Split (s)	46.0	71.0	71.0	16.0	41.0	41.0	35.0	35.0	46.0	28.0	28.0	
Total Split (%)	30.7%	47.3%	47.3%	10.7%	27.3%	27.3%	23.3%	23.3%	30.7%	18.7%	18.7%	
Maximum Green (s)	40.5	65.5	65.5	10.5	35.5	35.5	29.3	29.3	40.5	22.3	22.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.5	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.5	5.7	5.7	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead			Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effect Green (s)	40.5	99.1	99.1	6.5	58.3	58.3	23.1	23.1	40.5	7.9	7.9	
Actuated g/C Ratio	0.27	0.66	0.66	0.04	0.39	0.39	0.15	0.15	0.27	0.05	0.05	
v/c Ratio	0.85	0.44	0.28	0.14	0.46	0.43	0.77	0.76	0.35	0.30	0.28	
Control Delay (s/veh)	62.8	15.0	3.2	72.6	37.5	8.8	80.1	55.9	7.4	76.5	67.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	62.8	15.0	3.2	72.6	37.5	8.8	80.1	55.9	7.4	76.5	67.6	
LOS	E	B	A	E	D	A	F	E	A	E	E	
Approach Delay (s/veh)		30.8			28.0			50.4			70.6	
Approach LOS		C			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 34.7

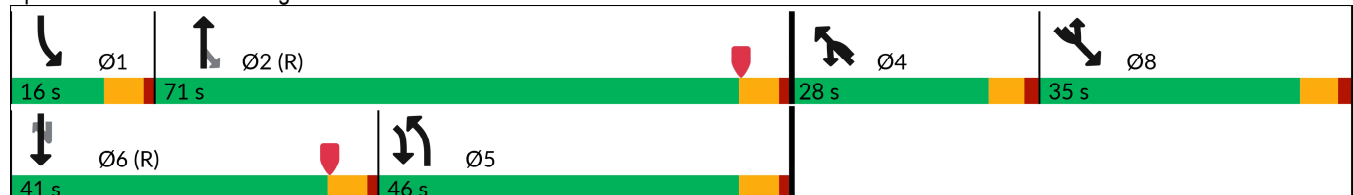
Intersection LOS: C

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: #1 KY17 & Dudley Road

05/16/2025

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			  
Traffic Volume (vph)	0	8	2352	20	0	1300
Future Volume (vph)	0	8	2352	20	0	1300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		120	120	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	*1.00	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected						
Satd. Flow (prot)	1863	1583	5588	1583	0	5085
Flt Permitted						
Satd. Flow (perm)	1863	1583	5588	1583	0	5085
Link Speed (mph)	35		35			35
Link Distance (ft)	464		253			196
Travel Time (s)	9.0		4.9			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	9	2557	22	0	1413
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	9	2557	22	0	1413
Enter Blocked Intersection	No	No	Yes	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.4%			ICU Level of Service B		
Analysis Period (min)	15					
* User Entered Value						

HCM Unsignalized Intersection Capacity Analysis

30: #1 KY17 & Dudley Road

07/22/2025

									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations			  			  			
Traffic Volume (veh/h)	0	8	2352	20	0	1300			
Future Volume (Veh/h)	0	8	2352	20	0	1300			
Sign Control	Stop		Free			Free			
Grade	0%		0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Hourly flow rate (vph)	0	9	2557	22	0	1413			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type	None				None				
Median storage veh									
Upstream signal (ft)	1200				196				
pX, platoon unblocked	0.74	0.67					0.67		
vC, conflicting volume	3028	852					2579		
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	1159	0					1613		
tC, single (s)	6.8	6.9					4.1		
tC, 2 stage (s)									
tF (s)	3.5	3.3					2.2		
p0 queue free %	100	99					100		
cM capacity (veh/h)	140	721					267		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	0	9	852	852	852	22	471	471	471
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	9	0	0	0	22	0	0	0
cSH	1700	721	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.01	0.50	0.50	0.50	0.01	0.28	0.28	0.28
Queue Length 95th (ft)	0	1	0	0	0	0	0	0	0
Control Delay (s/veh)	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B							
Approach Delay (s/veh)	10.1		0.0	0.0					
Approach LOS	B								
Intersection Summary									
Average Delay			0.0						
Intersection Capacity Utilization			55.4%	ICU Level of Service				B	
Analysis Period (min)			15						

Lanes, Volumes, Timings
7: Dudley Rd & #1 KY17

05/16/2025



Lane Group	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	↔↔	↗	↕↕	↗	↗	↕↕
Traffic Volume (vph)	230	202	1805	291	84	1474
Future Volume (vph)	230	202	1805	291	84	1474
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	100		0	350	
Storage Lanes	1	1		1	1	
Taper Length (ft)	50				100	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		144		307		
Link Speed (mph)	35		35			35
Link Distance (ft)	1482		981			2596
Travel Time (s)	28.9		19.1			50.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	250	220	1962	316	91	1602
Shared Lane Traffic (%)						
Lane Group Flow (vph)	250	220	1962	316	91	1602
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6		

Lanes, Volumes, Timings
7: Dudley Rd & #1 KY17

05/16/2025



Lane Group	EBL	EBR	SET	SER	NWL	NWT
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	20.0	20.0	85.0	85.0	15.0	100.0
Total Split (%)	16.7%	16.7%	70.8%	70.8%	12.5%	83.3%
Maximum Green (s)	15.5	15.5	80.5	80.5	10.5	95.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	13.5	13.5	83.1	83.1	9.9	97.5
Actuated g/C Ratio	0.11	0.11	0.69	0.69	0.08	0.81
v/c Ratio	0.65	0.72	0.80	0.27	0.63	0.56
Control Delay (s/veh)	58.8	32.4	8.9	0.4	72.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.8	32.4	8.9	0.4	72.3	4.9
LOS	E	C	A	A	E	A
Approach Delay (s/veh)	46.5		7.7			8.5
Approach LOS	D		A			A

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 16 (13%), Referenced to phase 2:NWT and 6:SET, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay (s/veh): 12.1

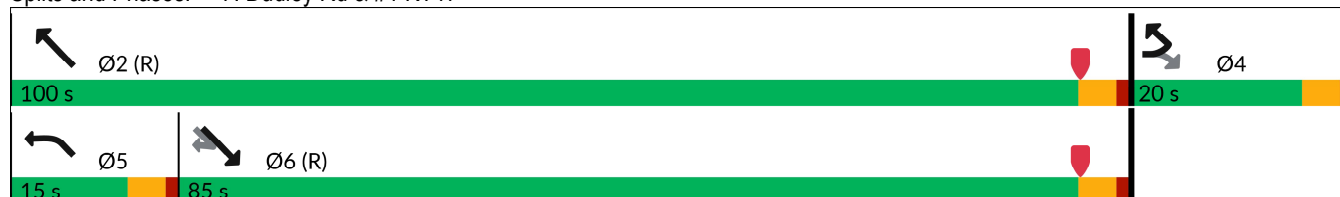
Intersection LOS: B

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: Dudley Rd & #1 KY17



Lanes, Volumes, Timings

9: #1 KY17 & EB Ramp

05/16/2025



Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations	←←		←		↑↑	↑↑↑	
Traffic Volume (vph)	345	0	3	0	1204	1768	0
Future Volume (vph)	345	0	3	0	1204	1768	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		250			0
Storage Lanes	2	0		1			0
Taper Length (ft)	25			25			
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.91	1.00
Fr							
Flt Protected	0.950		0.950				
Satd. Flow (prot)	3433	0	1770	0	3539	5085	0
Flt Permitted	0.950		0.950				
Satd. Flow (perm)	3433	0	1770	0	3539	5085	0
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)							
Link Speed (mph)	35				35	35	
Link Distance (ft)	105				464	88	
Travel Time (s)	2.0				9.0	1.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	0	3	0	1309	1922	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	375	0	3	0	1309	1922	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	24				12	12	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	9	15			9
Number of Detectors	1		1		2	2	
Detector Template	Left		Left		Thru	Thru	
Leading Detector (ft)	20		20		100	100	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	20		20		6	6	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)					94	94	
Detector 2 Size(ft)					6	6	
Detector 2 Type					Cl+Ex	Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)					0.0	0.0	
Turn Type	Prot		Prot		NA	NA	
Protected Phases	4		4		2	6	
Permitted Phases							

Lanes, Volumes, Timings

9: #1 KY17 & EB Ramp

05/16/2025



Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Detector Phase	4		4		2	6	
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5		22.5		22.5	22.5	
Total Split (s)	60.0		60.0		60.0	60.0	
Total Split (%)	50.0%		50.0%		50.0%	50.0%	
Maximum Green (s)	55.5		55.5		55.5	55.5	
Yellow Time (s)	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.5		4.5		4.5	4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0		3.0	3.0	
Recall Mode	None		None		C-Max	C-Max	
Walk Time (s)	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0		0		0	0	
Act Effect Green (s)	23.3		23.3		87.7	87.7	
Actuated g/C Ratio	0.19		0.19		0.73	0.73	
v/c Ratio	0.56		0.01		0.51	0.52	
Control Delay (s/veh)	5.1		32.0		9.4	3.9	
Queue Delay	0.0		0.0		0.2	0.0	
Total Delay (s/veh)	5.2		32.0		9.6	3.9	
LOS	A		C		A	A	
Approach Delay (s/veh)	5.2				9.6	3.9	
Approach LOS	A				A	A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 89 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay (s/veh): 6.1

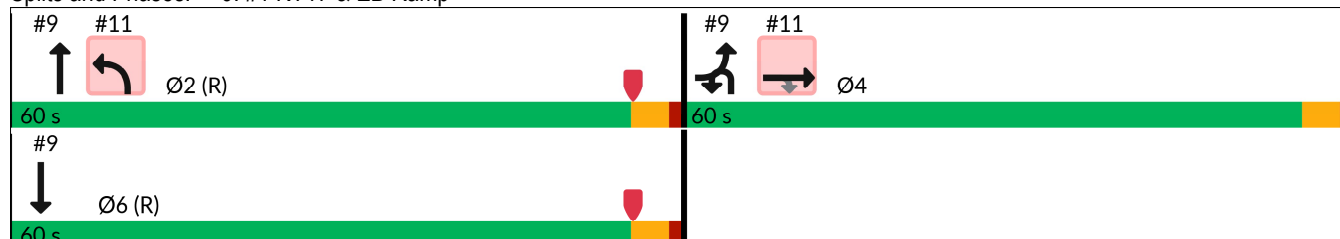
Intersection LOS: A

Intersection Capacity Utilization 51.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: #1 KY17 & EB Ramp



Lanes, Volumes, Timings
10: #1 KY17 & WB Ramp

05/16/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			 	  	
Traffic Volume (vph)	478	720	263	1285	1761	413
Future Volume (vph)	478	720	263	1285	1761	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	400			350
Storage Lanes	2	1	1			1
Taper Length (ft)	100		75			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.91	1.00
Frt	0.938	0.850				0.850
Flt Protected	0.972		0.950			
Satd. Flow (prot)	3295	1441	1770	3539	5085	1583
Flt Permitted	0.972		0.950			
Satd. Flow (perm)	3295	1441	1770	3539	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	142	335				449
Link Speed (mph)	35			35	35	
Link Distance (ft)	1801			992	946	
Travel Time (s)	35.1			19.3	18.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	520	783	286	1397	1914	449
Shared Lane Traffic (%)		47%				
Lane Group Flow (vph)	888	415	286	1397	1914	449
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
10: #1 KY17 & WB Ramp

05/16/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	11.0	22.0	22.0	22.0
Total Split (s)	36.0	36.0	28.0	84.0	56.0	56.0
Total Split (%)	30.0%	30.0%	23.3%	70.0%	46.7%	46.7%
Maximum Green (s)	30.0	30.0	22.0	78.0	50.0	50.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	29.9	29.9	21.3	78.1	50.8	50.8
Actuated g/C Ratio	0.25	0.25	0.18	0.65	0.42	0.42
v/c Ratio	0.96	0.68	0.91	0.61	0.89	0.48
Control Delay (s/veh)	58.4	14.9	77.5	10.1	17.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.4	14.9	77.5	10.1	17.5	0.9
LOS	E	B	E	B	B	A
Approach Delay (s/veh)	44.6			21.5	14.4	
Approach LOS	D			C	B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 68 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 24.0

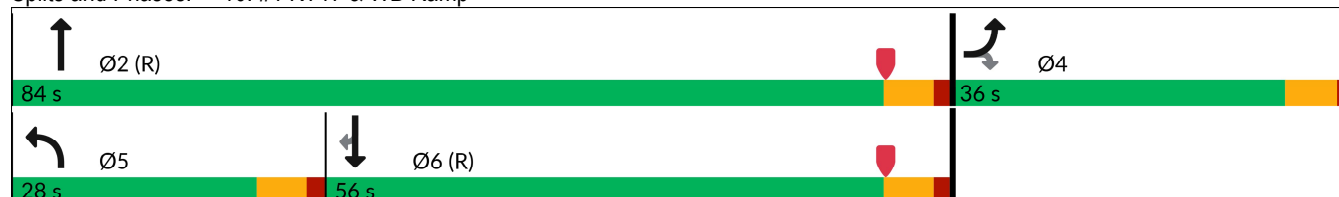
Intersection LOS: C

Intersection Capacity Utilization 84.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 10: #1 KY17 & WB Ramp



Lanes, Volumes, Timings

11: EB Ramp Displaced Left & EB Ramp

05/16/2025

							
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6
Lane Configurations	↑↑	↑			↑		
Traffic Volume (vph)	345	320	0	0	508	0	
Future Volume (vph)	345	320	0	0	508	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		150	0		0	0	
Storage Lanes		1	0		1	0	
Taper Length (ft)			25		25		
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00	
Frt		0.850					
Flt Protected					0.950		
Satd. Flow (prot)	3539	1583	0	0	1770	0	
Flt Permitted					0.950		
Satd. Flow (perm)	3539	1583	0	0	1770	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		348					
Link Speed (mph)	35			35	35		
Link Distance (ft)	594			105	483		
Travel Time (s)	11.6			2.0	9.4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	375	348	0	0	552	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	375	348	0	0	552	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	0			0	24		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors	2	1			1		
Detector Template	Thru	Right			Left		
Leading Detector (ft)	100	20			20		
Trailing Detector (ft)	0	0			0		
Detector 1 Position(ft)	0	0			0		
Detector 1 Size(ft)	6	20			20		
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0			0.0		
Detector 1 Queue (s)	0.0	0.0			0.0		
Detector 1 Delay (s)	0.0	0.0			0.0		
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm			Prot		
Protected Phases	4				2		6
Permitted Phases		4					

Lanes, Volumes, Timings

11: EB Ramp Displaced Left & EB Ramp

05/16/2025



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6
Detector Phase	4	4			2		
Switch Phase							
Minimum Initial (s)	5.0	5.0			5.0		5.0
Minimum Split (s)	22.5	22.5			22.5		22.5
Total Split (s)	60.0	60.0			60.0		60.0
Total Split (%)	50.0%	50.0%			50.0%		50%
Maximum Green (s)	55.5	55.5			55.5		55.5
Yellow Time (s)	3.5	3.5			3.5		3.5
All-Red Time (s)	1.0	1.0			1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		
Total Lost Time (s)	4.5	4.5			4.5		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0			3.0		3.0
Recall Mode	None	None			C-Max		C-Max
Walk Time (s)	7.0	7.0			7.0		7.0
Flash Don't Walk (s)	11.0	11.0			11.0		11.0
Pedestrian Calls (#/hr)	0	0			0		0
Act Effect Green (s)	23.3	23.3			87.7		
Actuated g/C Ratio	0.19	0.19			0.73		
v/c Ratio	0.55	0.59			0.43		
Control Delay (s/veh)	45.8	8.3			2.6		
Queue Delay	0.0	0.0			2.6		
Total Delay (s/veh)	45.8	8.3			5.3		
LOS	D	A			A		
Approach Delay (s/veh)	27.7				5.3		
Approach LOS	C				A		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 89 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay (s/veh): 18.0

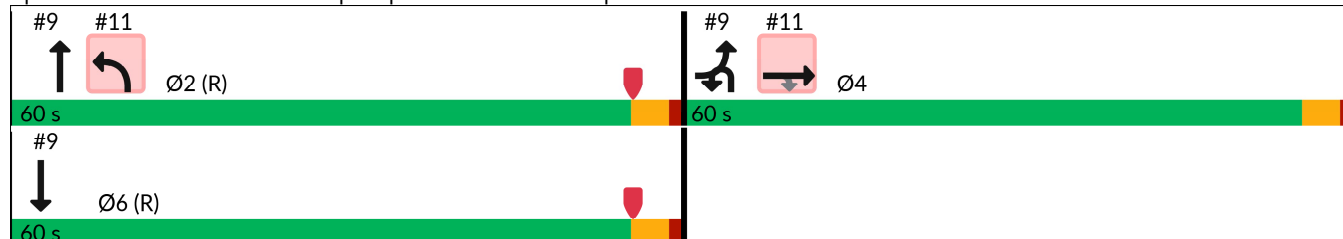
Intersection LOS: B

Intersection Capacity Utilization 45.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 11: EB Ramp Displaced Left & EB Ramp



Lanes, Volumes, Timings

13: #1 KY17

05/16/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↑↑	↑↑↑	
Traffic Volume (vph)	0	0	0	1548	1768	713
Future Volume (vph)	0	0	0	1548	1768	713
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.91	0.91
Frt	0.957					
Flt Protected						
Satd. Flow (prot)	0	0	0	3539	4867	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	3539	4867	0
Link Speed (mph)	35			35	35	
Link Distance (ft)	638			88	992	
Travel Time (s)	12.4			1.7	19.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1683	1922	775
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1683	2697	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	9		
Sign Control	Free			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	104.1%			ICU Level of Service G		
Analysis Period (min)	15					

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

05/16/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	2	743	45	14	13	685	1071	7	5	1386	294
Future Volume (vph)	302	2	743	45	14	13	685	1071	7	5	1386	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	300		180	230		210
Storage Lanes	1		1	0		0	2		0	1		1
Taper Length (ft)	50			25			100			50		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00
Frt			0.850		0.976			0.999				0.850
Flt Protected	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	0	1763	0	3433	3536	0	1770	5085	1583
Flt Permitted	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (perm)	1681	1686	1583	0	1763	0	3433	3536	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		7			1				257
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		920			338			946			1086	
Travel Time (s)		17.9			6.6			18.4			21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	328	2	808	49	15	14	745	1164	8	5	1507	320
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	164	166	808	0	78	0	745	1172	0	5	1507	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8	5	4	4		5	2		1	6	
Permitted Phases			8									6

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

05/16/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	5	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	11.2	11.2	11.2	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	38.0	38.0	17.0	15.0	15.0		17.0	52.0		15.0	50.0	50.0
Total Split (%)	31.7%	31.7%	14.2%	12.5%	12.5%		14.2%	43.3%		12.5%	41.7%	41.7%
Maximum Green (s)	31.8	31.8	10.8	8.8	8.8		10.8	45.8		8.8	43.8	43.8
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.2	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag			Lead				Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes			Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)	17.3	17.3	51.8		8.2		28.3	75.7		6.0	43.8	43.8
Actuated g/C Ratio	0.14	0.14	0.43		0.07		0.24	0.63		0.05	0.37	0.37
v/c Ratio	0.68	0.68	1.10		0.61		0.92	0.53		0.06	0.81	0.43
Control Delay (s/veh)	62.0	62.4	96.1		70.1		69.9	12.7		71.6	30.6	6.8
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	62.0	62.4	96.1		70.1		69.9	12.7		71.6	30.6	6.8
LOS	E	E	F		E		E	B		E	C	A
Approach Delay (s/veh)		86.3			70.1			35.0			26.6	
Approach LOS		F			E			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 58 (48%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay (s/veh): 44.2

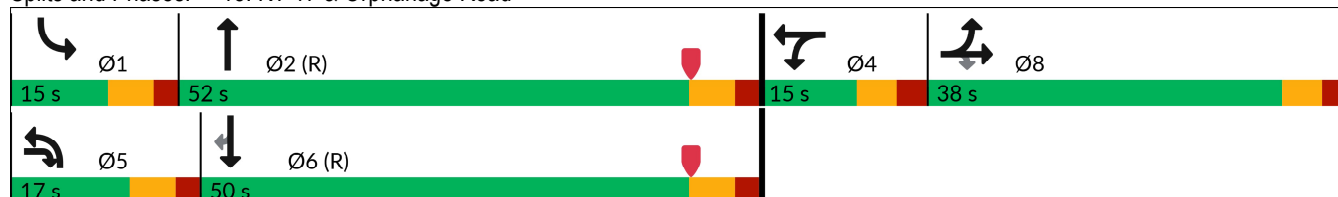
Intersection LOS: D

Intersection Capacity Utilization 92.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 15: KY 17 & Orphanage Road



Lanes, Volumes, Timings

16: #1 KY17 & EB Ramp Displaced Left

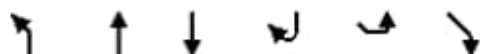
05/16/2025

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		 	  			
Traffic Volume (vph)	508	1208	1771	0	0	320
Future Volume (vph)	508	1208	1771	0	0	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.91	1.00	1.00	1.00
Fr t						0.865
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	5085	0	0	1611
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	5085	0	0	1611
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						8
Link Speed (mph)		35	35		35	
Link Distance (ft)		163	464		483	
Travel Time (s)		3.2	9.0		9.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	552	1313	1925	0	0	348
Shared Lane Traffic (%)						
Lane Group Flow (vph)	552	1313	1925	0	0	348
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2			1
Detector Template	Left	Thru	Thru			Right
Leading Detector (ft)	20	100	100			20
Trailing Detector (ft)	0	0	0			0
Detector 1 Position(ft)	0	0	0			0
Detector 1 Size(ft)	20	6	6			20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Prot	NA	NA			Over
Protected Phases	4	Free	6			4
Permitted Phases						
Detector Phase	4		6			4
Switch Phase						
Minimum Initial (s)	5.0		5.0			5.0

Lanes, Volumes, Timings

16: #1 KY17 & EB Ramp Displaced Left

05/16/2025



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Minimum Split (s)	22.5		22.5			22.5
Total Split (s)	50.0		70.0			50.0
Total Split (%)	41.7%		58.3%			41.7%
Maximum Green (s)	45.5		65.5			45.5
Yellow Time (s)	3.5		3.5			3.5
All-Red Time (s)	1.0		1.0			1.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	4.5		4.5			4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0			3.0
Recall Mode	None		C-Max			None
Walk Time (s)	7.0		7.0			7.0
Flash Don't Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effect Green (s)	41.5	120.0	69.5			41.5
Actuated g/C Ratio	0.35	1.00	0.58			0.35
v/c Ratio	0.90	0.37	0.65			0.62
Control Delay (s/veh)	56.2	0.3	8.8			35.1
Queue Delay	1.9	0.0	0.5			0.9
Total Delay (s/veh)	58.0	0.3	9.3			36.0
LOS	E	A	A			D
Approach Delay (s/veh)		17.4	9.3		36.0	
Approach LOS		B	A		D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 110 (92%), Referenced to phase 2: and 6: SBT, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay (s/veh): 15.2

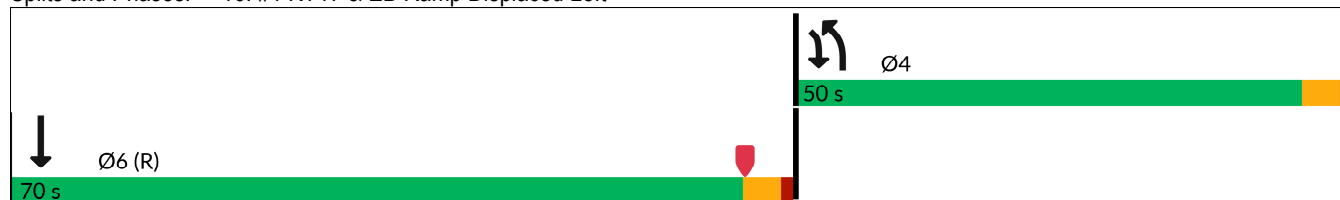
Intersection LOS: B

Intersection Capacity Utilization 69.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 16: #1 KY17 & EB Ramp Displaced Left



Lanes, Volumes, Timings
20: Highland Pike & KY 17

05/16/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Future Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		300	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.91	0.86	0.91	0.91	0.91	0.95
Frt			0.850			0.850		0.899	0.850		0.988	
Flt Protected	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1610	2843	1441	1610	3316	0
Flt Permitted	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1610	2843	1441	1610	3316	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			397		254	290		6	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1086			448			780			327	
Travel Time (s)		21.2			8.7			15.2			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	548	910	49	2	848	440	361	33	616	302	305	35
Shared Lane Traffic (%)							32%		50%	30%		
Lane Group Flow (vph)	548	910	49	2	848	440	245	457	308	211	431	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Over	Split	NA	
Protected Phases	5	2		1	6		8	8	5	4	4	
Permitted Phases			2			6						

Lanes, Volumes, Timings
20: Highland Pike & KY 17

05/16/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	10.5	32.7	32.7	
Total Split (s)	25.0	55.0	55.0	15.0	45.0	45.0	23.0	23.0	25.0	27.0	27.0	
Total Split (%)	20.8%	45.8%	45.8%	12.5%	37.5%	37.5%	19.2%	19.2%	20.8%	22.5%	22.5%	
Maximum Green (s)	19.5	49.5	49.5	9.5	39.5	39.5	17.3	17.3	19.5	21.3	21.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.5	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.5	5.7	5.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effect Green (s)	19.5	62.2	62.2	5.7	39.5	39.5	18.9	18.9	19.5	19.7	19.7	
Actuated g/C Ratio	0.16	0.52	0.52	0.05	0.33	0.33	0.16	0.16	0.16	0.16	0.16	
v/c Ratio	0.98	0.50	0.06	0.02	0.73	0.56	0.97	0.69	0.65	0.80	0.79	
Control Delay (s/veh)	80.1	25.6	3.1	55.0	39.9	7.6	100.2	27.3	13.5	70.3	58.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	80.1	25.6	3.1	55.0	39.9	7.6	100.2	27.3	13.5	70.3	58.1	
LOS	F	C	A	D	D	A	F	C	B	E	E	
Approach Delay (s/veh)		44.7			28.9			40.8			62.1	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay (s/veh): 41.7

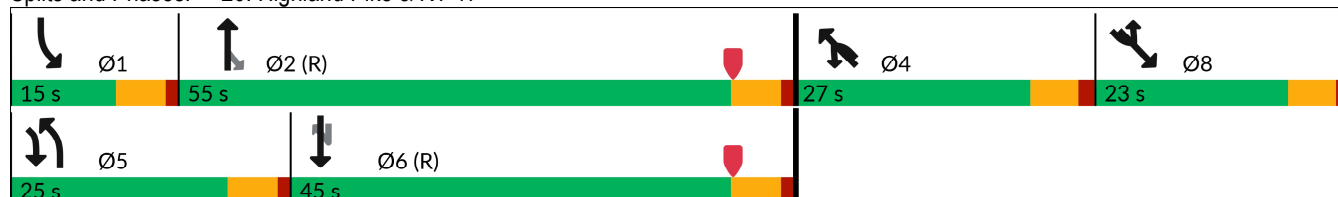
Intersection LOS: D

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: #1 KY17 & Dudley Road

05/16/2025

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	15	1701	3	0	2091
Future Volume (vph)	5	15	1701	3	0	2091
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		120	120	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	5085	1583	0	5085
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	5085	1583	0	5085
Link Speed (mph)	35		35			35
Link Distance (ft)	464		211			163
Travel Time (s)	9.0		4.1			3.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	16	1849	3	0	2273
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	16	1849	3	0	2273
Enter Blocked Intersection	No	No	Yes	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

30: #1 KY17 & Dudley Road

07/22/2025

										
Movement	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (veh/h)	5	15	1701	3	0	2091				
Future Volume (Veh/h)	5	15	1701	3	0	2091				
Sign Control	Stop		Free		Free					
Grade	0%		0%		0%					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Hourly flow rate (vph)	5	16	1849	3	0	2273				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type	None				None					
Median storage veh										
Upstream signal (ft)	1192				163					
pX, platoon unblocked	0.77	0.94					0.94			
vC, conflicting volume	2607	616					1852			
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	1494	350					1671			
tC, single (s)	6.8	6.9					4.1			
tC, 2 stage (s)										
tF (s)	3.5	3.3					2.2			
p0 queue free %	94	97					100			
cM capacity (veh/h)	88	604					356			
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	
Volume Total	5	16	616	616	616	3	758	758	758	
Volume Left	5	0	0	0	0	0	0	0	0	
Volume Right	0	16	0	0	0	3	0	0	0	
cSH	88	604	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.06	0.03	0.36	0.36	0.36	0.00	0.45	0.45	0.45	
Queue Length 95th (ft)	4	2	0	0	0	0	0	0	0	
Control Delay (s/veh)	48.3	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS	E	B								
Approach Delay (s/veh)	20.0		0.0	0.0						
Approach LOS	C									
Intersection Summary										
Average Delay			0.1							
Intersection Capacity Utilization			50.4%	ICU Level of Service				A		
Analysis Period (min)			15							

Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/17/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			  	  	
Traffic Volume (vph)	682	320	576	2012	980	271
Future Volume (vph)	682	320	576	2012	980	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385	0	490			350
Storage Lanes	2	1	1			1
Taper Length (ft)	100		25			
Lane Util. Factor	*1.00	1.00	1.00	*1.00	*1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3539	1583	1770	5588	5588	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3539	1583	1770	5588	5588	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		2				288
Link Speed (mph)	35			35	35	
Link Distance (ft)	2110			595	1088	
Travel Time (s)	41.1			11.6	21.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	726	340	613	2140	1043	288
Shared Lane Traffic (%)						
Lane Group Flow (vph)	726	340	613	2140	1043	288
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	18			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	11.0	11.0	22.5	22.5	22.5
Total Split (s)	44.0	66.0	66.0	106.0	40.0	40.0
Total Split (%)	29.3%	44.0%	44.0%	70.7%	26.7%	26.7%
Maximum Green (s)	38.0	60.0	60.0	100.0	34.0	34.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	34.7	96.7	56.0	103.3	41.3	41.3
Actuated g/C Ratio	0.23	0.64	0.37	0.69	0.28	0.28
v/c Ratio	0.89	0.33	0.93	0.56	0.68	0.45
Control Delay (s/veh)	69.1	12.3	57.9	10.0	38.6	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	69.1	12.3	57.9	10.0	38.6	5.8
LOS	E	B	E	A	D	A
Approach Delay (s/veh)	51.0			20.6	31.5	
Approach LOS	D			C	C	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 52 (35%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay (s/veh): 29.7

Intersection LOS: C

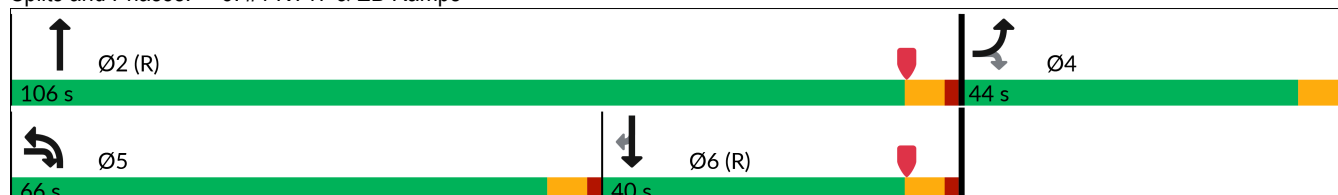
Intersection Capacity Utilization 85.3%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 5: #1 KY17 & EB Ramps



Lanes, Volumes, Timings

7: #1 KY17

06/17/2025

							
Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations	↔↔		↕↕	↕↕			
Traffic Volume (vph)	431	0	892	2224	0	0	0
Future Volume (vph)	431	0	892	2224	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		450			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		50				25	
Lane Util. Factor	0.97	1.00	0.95	0.95	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	3539	3539	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	3539	3539	0	0	0
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			808	1981		147	
Travel Time (s)			15.7	38.6		2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	468	0	970	2417	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	468	0	970	2417	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Left	Right	Left	Right
Median Width(ft)			24	24		0	
Link Offset(ft)			0	0		0	
Crosswalk Width(ft)			16	16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15			9	15	9
Number of Detectors	1		2	2			
Detector Template	Left		Thru	Thru			
Leading Detector (ft)	20		100	100			
Trailing Detector (ft)	0		0	0			
Detector 1 Position(ft)	0		0	0			
Detector 1 Size(ft)	20		6	6			
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0	0.0			
Detector 2 Position(ft)			94	94			
Detector 2 Size(ft)			6	6			
Detector 2 Type			Cl+Ex	Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)			0.0	0.0			
Turn Type	Prot		NA	NA			
Protected Phases	1		Free	2			
Permitted Phases							

Lanes, Volumes, Timings

7: #1 KY17

06/17/2025



Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Detector Phase	1			2			
Switch Phase							
Minimum Initial (s)	5.0			5.0			
Minimum Split (s)	9.5			22.5			
Total Split (s)	17.0			58.0			
Total Split (%)	22.7%			77.3%			
Maximum Green (s)	12.5			53.5			
Yellow Time (s)	3.5			3.5			
All-Red Time (s)	1.0			1.0			
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.5			4.5			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?	Yes			Yes			
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Max			
Walk Time (s)				7.0			
Flash Don't Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effect Green (s)	12.3		75.0	53.7			
Actuated g/C Ratio	0.16		1.00	0.72			
v/c Ratio	0.83		0.27	0.95			
Control Delay (s/veh)	46.9		0.2	21.1			
Queue Delay	0.0		0.0	0.0			
Total Delay (s/veh)	46.9		0.2	21.1			
LOS	D		A	C			
Approach Delay (s/veh)			15.4	21.1			
Approach LOS			B	C			

Intersection Summary

Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 10 (13%), Referenced to phase 2:NWT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay (s/veh): 19.0	Intersection LOS: B
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: #1 KY17



Lanes, Volumes, Timings
10: #1 KY17/KY17 & WB Ramps

06/17/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			  	  	
Traffic Volume (vph)	384	521	600	2094	730	286
Future Volume (vph)	384	521	600	2094	730	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	850			340
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	0.97	0.91	1.00	0.91	0.91	1.00
Frt	0.943	0.850				0.850
Flt Protected	0.970		0.950			
Satd. Flow (prot)	3306	1441	1770	5085	5085	1583
Flt Permitted	0.970		0.950			
Satd. Flow (perm)	3306	1441	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	91	2				311
Link Speed (mph)	35			35	35	
Link Distance (ft)	1810			1088	946	
Travel Time (s)	35.3			21.2	18.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	417	566	652	2276	793	311
Shared Lane Traffic (%)		45%				
Lane Group Flow (vph)	672	311	652	2276	793	311
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
10: #1 KY17/KY17 & WB Ramps

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	5.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	11.0	11.0	22.0	22.0	22.0
Total Split (s)	45.0	72.0	72.0	105.0	33.0	33.0
Total Split (%)	30.0%	48.0%	48.0%	70.0%	22.0%	22.0%
Maximum Green (s)	39.0	66.0	66.0	99.0	27.0	27.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	32.3	98.9	60.5	105.7	39.1	39.1
Actuated g/C Ratio	0.22	0.66	0.40	0.70	0.26	0.26
v/c Ratio	0.86	0.33	0.91	0.64	0.60	0.48
Control Delay (s/veh)	60.0	11.2	52.3	10.7	35.5	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	60.0	11.2	52.3	10.7	35.5	14.8
LOS	E	B	D	B	D	B
Approach Delay (s/veh)	44.6			20.0	29.7	
Approach LOS	D			B	C	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 34 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay (s/veh): 26.9

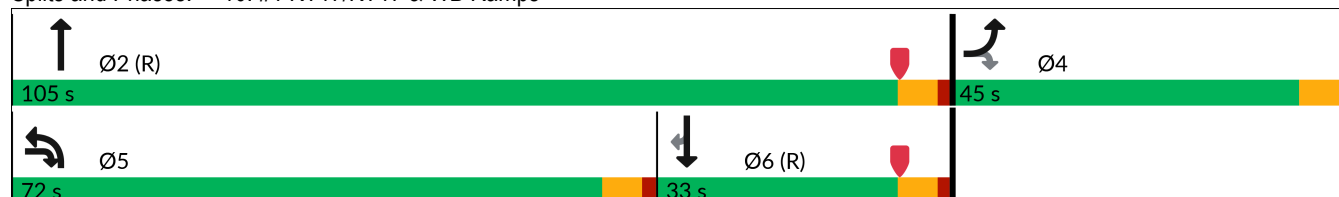
Intersection LOS: C

Intersection Capacity Utilization 78.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: #1 KY17/KY17 & WB Ramps



Lanes, Volumes, Timings
15: KY17 & Orphanage Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	9	232	16	8	22	634	1751	93	20	768	212
Future Volume (vph)	186	9	232	16	8	22	634	1751	93	20	768	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	240		0	230		210
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	50			25			50			50		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00
Frt			0.850		0.935			0.992				0.850
Flt Protected	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (prot)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Flt Permitted	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (perm)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		24			4				221
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		965			313			946			1084	
Travel Time (s)		18.8			6.1			18.4			21.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	10	252	17	9	24	689	1903	101	22	835	230
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	105	107	252	0	50	0	689	2004	0	22	835	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8	5	4	4		5	2		1	6	
Permitted Phases			8									6

Lanes, Volumes, Timings
15: KY17 & Orphanage Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	5	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	11.2	11.2	11.2	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	27.0	27.0	40.0	42.0	42.0		40.0	63.0		18.0	41.0	41.0
Total Split (%)	18.0%	18.0%	26.7%	28.0%	28.0%		26.7%	42.0%		12.0%	27.3%	27.3%
Maximum Green (s)	20.8	20.8	33.8	35.8	35.8		33.8	56.8		11.8	34.8	34.8
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.2	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag			Lag				Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effect Green (s)	14.8	14.8	48.8		8.0		32.8	100.1		9.4	71.9	71.9
Actuated g/C Ratio	0.10	0.10	0.33		0.05		0.22	0.67		0.06	0.48	0.48
v/c Ratio	0.64	0.64	0.37		0.44		0.92	0.85		0.20	0.34	0.26
Control Delay (s/veh)	81.6	81.8	3.9		51.7		65.4	15.8		64.4	12.6	0.9
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	81.6	81.8	3.9		51.7		65.4	15.8		64.4	12.6	0.9
LOS	F	F	A		D		E	B		E	B	A
Approach Delay (s/veh)		39.5			51.7			28.5			11.2	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 4 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay (s/veh): 25.6

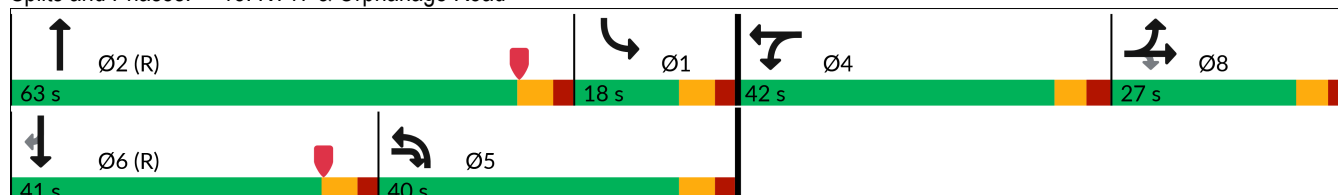
Intersection LOS: C

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 15: KY17 & Orphanage Road



Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/17/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Future Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		270	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.91	0.86	0.91	0.91	0.91	0.95
Frt			0.850			0.850		0.935	0.850		0.991	
Flt Protected	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Flt Permitted	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			311			289		85	183		3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1084			876			1358			737	
Travel Time (s)		21.1			17.1			26.5			14.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	1022	325	11	636	342	211	207	359	49	23	3
Shared Lane Traffic (%)							10%		49%	49%		
Lane Group Flow (vph)	783	1022	325	11	636	342	190	404	183	25	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Over	Split	NA	
Protected Phases	5	2		1	6		8	8	5	4	4	
Permitted Phases			2			6						

Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/17/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	10.5	32.7	32.7	
Total Split (s)	46.0	73.0	73.0	14.0	41.0	41.0	30.0	30.0	46.0	33.0	33.0	
Total Split (%)	30.7%	48.7%	48.7%	9.3%	27.3%	27.3%	20.0%	20.0%	30.7%	22.0%	22.0%	
Maximum Green (s)	40.5	67.5	67.5	8.5	35.5	35.5	24.3	24.3	40.5	27.3	27.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.5	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.5	5.7	5.7	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead			Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effect Green (s)	40.5	100.4	100.4	6.5	59.6	59.6	21.8	21.8	40.5	7.9	7.9	
Actuated g/C Ratio	0.27	0.67	0.67	0.04	0.40	0.40	0.15	0.15	0.27	0.05	0.05	
v/c Ratio	0.85	0.43	0.28	0.14	0.45	0.43	0.82	0.80	0.35	0.30	0.28	
Control Delay (s/veh)	38.7	2.6	0.6	72.6	36.0	8.3	87.6	60.7	7.4	76.5	67.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	38.7	2.6	0.6	72.6	36.0	8.3	87.6	60.7	7.4	76.5	67.6	
LOS	D	A	A	E	D	A	F	E	A	E	E	
Approach Delay (s/veh)		15.6			26.8			54.7			70.6	
Approach LOS		B			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 27.1

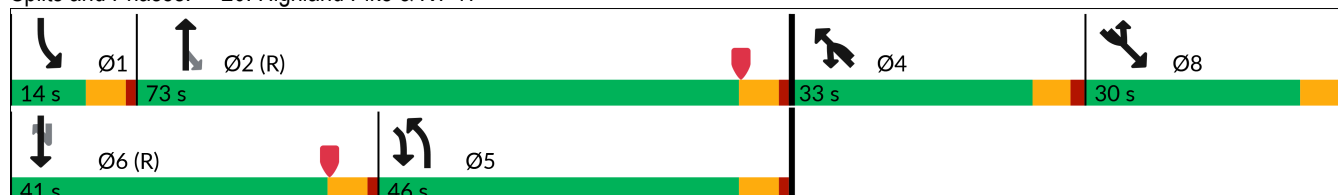
Intersection LOS: C

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: #1 KY17 & #1 D1/Dudley Road

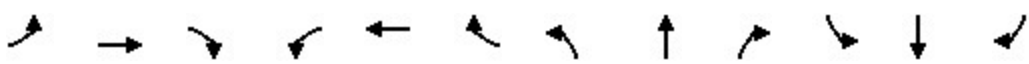
06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	443	0	0	8	0	2580	75	0	880	420
Future Volume (vph)	0	0	443	0	0	8	0	2580	75	0	880	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	160		35	120		350
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.865			0.865		0.996				0.850
Flt Protected												
Satd. Flow (prot)	0	0	1611	0	0	1611	0	5065	0	0	5085	1583
Flt Permitted												
Satd. Flow (perm)	0	0	1611	0	0	1611	0	5065	0	0	5085	1583
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1180			328			826			595	
Travel Time (s)		23.0			6.4			16.1			11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	482	0	0	9	0	2804	82	0	957	457
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	482	0	0	9	0	2886	0	0	957	457
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	61.5%						ICU Level of Service B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

30: #1 KY17 & #1 D1/Dudley Road

07/22/2025

																								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Lane Configurations			↗			↗		↑↑↑			↑↑↑	↗												
Traffic Volume (veh/h)	0	0	443	0	0	8	0	2580	75	0	880	420												
Future Volume (Veh/h)	0	0	443	0	0	8	0	2580	75	0	880	420												
Sign Control	Stop			Stop			Free			Free														
Grade	0%			0%			0%			0%														
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92												
Hourly flow rate (vph)	0	0	482	0	0	9	0	2804	82	0	957	457												
Pedestrians																								
Lane Width (ft)																								
Walking Speed (ft/s)																								
Percent Blockage																								
Right turn flare (veh)																								
Median type							None			None														
Median storage veh																								
Upstream signal (ft)												595												
pX, platoon unblocked	0.86	0.86	0.86	0.86	0.86		0.86																	
vC, conflicting volume	1901	3843	319	3164	3802	976	957			2886														
vC1, stage 1 conf vol																								
vC2, stage 2 conf vol																								
vCu, unblocked vol	1490	3739	0	2953	3692	976	397			2886														
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1														
tC, 2 stage (s)																								
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2														
p0 queue free %	100	100	49	100	100	96	100			100														
cM capacity (veh/h)	71	4	936	3	4	251	1000			126														
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4															
Volume Total	482	9	1122	1122	643	319	319	319	457															
Volume Left	0	0	0	0	0	0	0	0	0															
Volume Right	482	9	0	0	82	0	0	0	457															
cSH	936	251	1700	1700	1700	1700	1700	1700	1700															
Volume to Capacity	0.51	0.04	0.66	0.66	0.38	0.19	0.19	0.19	0.27															
Queue Length 95th (ft)	76	3	0	0	0	0	0	0	0															
Control Delay (s/veh)	12.8	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0															
Lane LOS	B	C																						
Approach Delay (s/veh)	12.8	19.9	0.0																					
Approach LOS	B	C																						
Intersection Summary																								
Average Delay			1.3																					
Intersection Capacity Utilization			61.5%	ICU Level of Service					B															
Analysis Period (min)			15																					

Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/17/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			  	  	
Traffic Volume (vph)	345	320	516	1287	1768	713
Future Volume (vph)	345	320	516	1287	1768	713
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385	0	490			350
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	1583	1770	5085	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3433	1583	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				370
Link Speed (mph)	35			35	35	
Link Distance (ft)	2100			595	1088	
Travel Time (s)	40.9			11.6	21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	348	561	1399	1922	775
Shared Lane Traffic (%)						
Lane Group Flow (vph)	375	348	561	1399	1922	775
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	18			25
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	11.0	11.0	22.5	22.5	22.5
Total Split (s)	20.0	45.0	45.0	100.0	55.0	55.0
Total Split (%)	16.7%	37.5%	37.5%	83.3%	45.8%	45.8%
Maximum Green (s)	14.0	39.0	39.0	94.0	49.0	49.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	14.0	59.0	39.0	94.0	49.0	49.0
Actuated g/C Ratio	0.12	0.49	0.33	0.78	0.41	0.41
v/c Ratio	0.94	0.45	0.98	0.35	0.93	0.90
Control Delay (s/veh)	84.6	22.1	64.1	2.3	22.8	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	84.6	22.1	64.1	2.3	22.8	13.9
LOS	F	C	E	A	C	B
Approach Delay (s/veh)	54.5			20.0	20.3	
Approach LOS	D			C	C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay (s/veh): 24.8

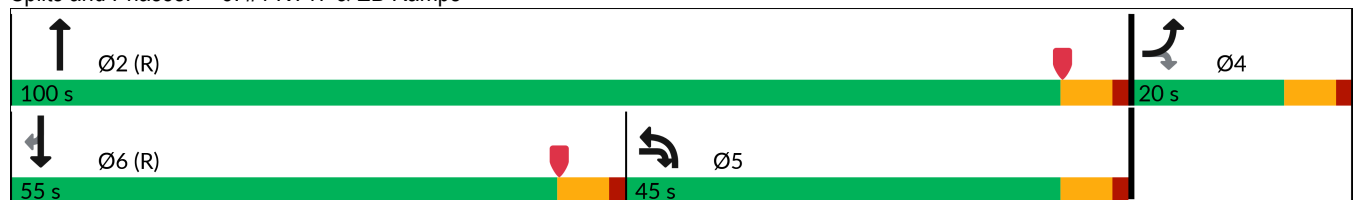
Intersection LOS: C

Intersection Capacity Utilization 87.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: #1 KY17 & EB Ramps



Lanes, Volumes, Timings

7: #1 KY17

06/17/2025

							
Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations	↔↔		↕↕	↕↕			
Traffic Volume (vph)	242	0	1995	1558	0	0	0
Future Volume (vph)	242	0	1995	1558	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		450			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		50				25	
Lane Util. Factor	0.97	1.00	0.95	0.95	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	3539	3539	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	3539	3539	0	0	0
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			786	1365		174	
Travel Time (s)			15.3	26.6		3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	263	0	2168	1693	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	263	0	2168	1693	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Left	Right	Left	Right
Median Width(ft)			24	24		0	
Link Offset(ft)			0	0		0	
Crosswalk Width(ft)			16	16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15			9	15	9
Number of Detectors	1		2	2			
Detector Template	Left		Thru	Thru			
Leading Detector (ft)	20		100	100			
Trailing Detector (ft)	0		0	0			
Detector 1 Position(ft)	0		0	0			
Detector 1 Size(ft)	20		6	6			
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0	0.0			
Detector 2 Position(ft)			94	94			
Detector 2 Size(ft)			6	6			
Detector 2 Type			Cl+Ex	Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)			0.0	0.0			
Turn Type	Prot		NA	NA			
Protected Phases	1		Free	2			
Permitted Phases							

Lanes, Volumes, Timings

7: #1 KY17

06/17/2025



Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Detector Phase	1			2			
Switch Phase							
Minimum Initial (s)	5.0			5.0			
Minimum Split (s)	9.5			22.5			
Total Split (s)	14.0			46.0			
Total Split (%)	23.3%			76.7%			
Maximum Green (s)	9.5			41.5			
Yellow Time (s)	3.5			3.5			
All-Red Time (s)	1.0			1.0			
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.5			4.5			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?	Yes			Yes			
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Max			
Walk Time (s)				7.0			
Flash Don't Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effect Green (s)	8.9		60.0	42.1			
Actuated g/C Ratio	0.15		1.00	0.70			
v/c Ratio	0.52		0.61	0.68			
Control Delay (s/veh)	28.2		4.9	7.0			
Queue Delay	0.0		0.0	0.0			
Total Delay (s/veh)	28.2		4.9	7.0			
LOS	C		A	A			
Approach Delay (s/veh)			7.5	7.0			
Approach LOS			A	A			

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	43 (72%), Referenced to phase 2:NWT, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay (s/veh):	7.3
Intersection Capacity Utilization	58.5%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	B

Splits and Phases: 7: #1 KY17



Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/17/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			  	  	
Traffic Volume (vph)	478	720	305	1327	1761	413
Future Volume (vph)	478	720	305	1327	1761	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	850			0
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	0.97	0.91	1.00	*1.00	*1.00	1.00
Frt	0.938	0.850				0.850
Flt Protected	0.972		0.950			
Satd. Flow (prot)	3295	1441	1770	5588	5588	1583
Flt Permitted	0.972		0.070			
Satd. Flow (perm)	3295	1441	130	5588	5588	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	147	2				392
Link Speed (mph)	35			35	35	
Link Distance (ft)	1802			1088	946	
Travel Time (s)	35.1			21.2	18.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	509	766	324	1412	1873	439
Shared Lane Traffic (%)		47%				
Lane Group Flow (vph)	869	406	324	1412	1873	439
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	18	15	15			25
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			6

Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	5.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	11.0	11.0	22.0	22.0	22.0
Total Split (s)	39.0	26.0	26.0	81.0	55.0	55.0
Total Split (%)	32.5%	21.7%	21.7%	67.5%	45.8%	45.8%
Maximum Green (s)	33.0	20.0	20.0	75.0	49.0	49.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag	Lag		Lead	Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	31.0	57.0	77.0	77.0	51.0	51.0
Actuated g/C Ratio	0.26	0.48	0.64	0.64	0.43	0.43
v/c Ratio	0.90	0.59	0.91	0.39	0.79	0.49
Control Delay (s/veh)	49.1	26.8	66.4	8.1	17.7	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	49.1	26.8	66.4	8.1	17.7	1.1
LOS	D	C	E	A	B	A
Approach Delay (s/veh)	42.0			19.0	14.6	
Approach LOS	D			B	B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 88 (73%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay (s/veh): 22.6

Intersection LOS: C

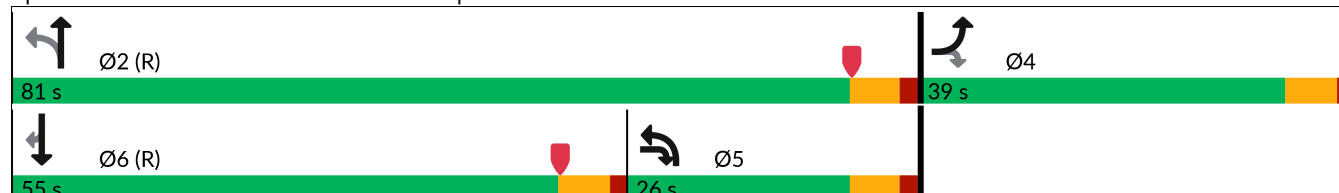
Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 10: #1 KY17 & WB Ramps



Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	2	743	45	14	13	727	1071	7	5	1386	294
Future Volume (vph)	302	2	743	45	14	13	727	1071	7	5	1386	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	240		0	230		210
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	50			25			50			50		
Lane Util. Factor	*1.00	*1.00	1.00	1.00	1.00	1.00	*1.00	*1.00	*1.00	1.00	*1.00	1.00
Frt			0.850		0.975			0.999				0.850
Flt Protected	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (prot)	1770	1775	1583	0	1762	0	3539	3722	0	1770	5588	1583
Flt Permitted	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (perm)	1770	1775	1583	0	1762	0	3539	3722	0	1770	5588	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142		7			1				256
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		930			313			946			1086	
Travel Time (s)		18.1			6.1			18.4			21.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	321	2	790	48	15	14	773	1139	7	5	1474	313
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	160	163	790	0	77	0	773	1146	0	5	1474	313
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8	5	4	4		5	2		1	6	
Permitted Phases			8									6

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	5	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	22.5	22.5	11.2	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	27.0	27.0	37.0	14.0	14.0		37.0	62.0		17.0	42.0	42.0
Total Split (%)	22.5%	22.5%	30.8%	11.7%	11.7%		30.8%	51.7%		14.2%	35.0%	35.0%
Maximum Green (s)	20.8	20.8	30.8	7.8	7.8		30.8	55.8		10.8	35.8	35.8
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.2	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag			Lag				Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	Max	None	None		Max	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effect Green (s)	16.0	16.0	48.0		7.5		30.8	77.8		6.0	43.4	43.4
Actuated g/C Ratio	0.13	0.13	0.40		0.06		0.26	0.65		0.05	0.36	0.36
v/c Ratio	0.68	0.69	1.10		0.66		0.85	0.47		0.06	0.73	0.43
Control Delay (s/veh)	63.9	64.5	86.6		76.1		42.6	8.4		48.2	25.1	5.3
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	63.9	64.5	86.6		76.1		42.6	8.4		48.2	25.1	5.3
LOS	E	E	F		E		D	A		D	C	A
Approach Delay (s/veh)		80.1			76.1			22.2			21.7	
Approach LOS		F			E			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 68 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay (s/veh): 36.0

Intersection LOS: D

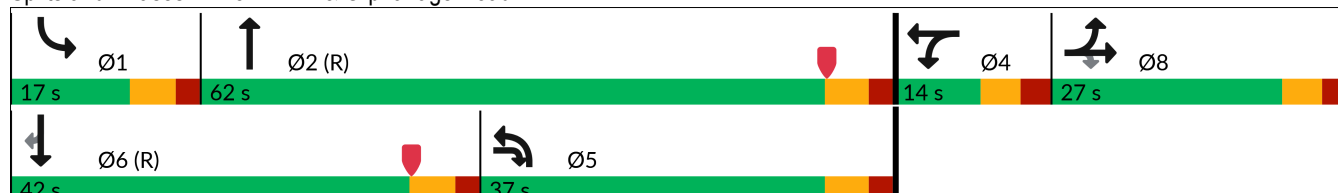
Intersection Capacity Utilization 92.5%

ICU Level of Service F

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 15: KY 17 & Orphanage Road



Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/17/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Future Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		270	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	0.97	*1.00	1.00	1.00	*1.00	1.00	0.91	*1.00	0.91	0.91	*1.00	0.95
Frt			0.850			0.850		0.899	0.850		0.988	
Flt Protected	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (prot)	3433	3725	1583	1770	3725	1583	1610	3306	1441	1610	3644	0
Flt Permitted	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (perm)	3433	3725	1583	1770	3725	1583	1610	3306	1441	1610	3644	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			393		308	308		7	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1086			1960			775			665	
Travel Time (s)		21.2			38.2			15.1			13.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	548	910	49	2	848	440	361	33	616	302	305	35
Shared Lane Traffic (%)							32%		50%	30%		
Lane Group Flow (vph)	548	910	49	2	848	440	245	457	308	211	431	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Over	Split	NA	
Protected Phases	5	2		1	6		8	8	5	4	4	
Permitted Phases			2			6						

Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/17/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	10.5	32.7	32.7	
Total Split (s)	25.0	48.0	48.0	17.0	40.0	40.0	31.0	31.0	25.0	24.0	24.0	
Total Split (%)	20.8%	40.0%	40.0%	14.2%	33.3%	33.3%	25.8%	25.8%	20.8%	20.0%	20.0%	
Maximum Green (s)	19.5	42.5	42.5	11.5	34.5	34.5	25.3	25.3	19.5	18.3	18.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.5	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.5	5.7	5.7	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effect Green (s)	19.5	59.5	59.5	6.8	37.9	37.9	22.5	22.5	19.5	17.7	17.7	
Actuated g/C Ratio	0.16	0.50	0.50	0.06	0.32	0.32	0.19	0.19	0.16	0.15	0.15	
v/c Ratio	0.98	0.49	0.06	0.02	0.72	0.57	0.81	0.52	0.63	0.89	0.79	
Control Delay (s/veh)	76.4	24.2	0.8	52.0	41.5	8.6	67.1	15.6	11.1	86.4	60.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	76.4	24.2	0.8	52.0	41.5	8.6	67.1	15.6	11.1	86.4	60.1	
LOS	E	C	A	D	D	A	E	B	B	F	E	
Approach Delay (s/veh)		42.5			30.3			26.7			68.7	
Approach LOS		D			C			C			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 6 (5%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay (s/veh): 39.2

Intersection LOS: D

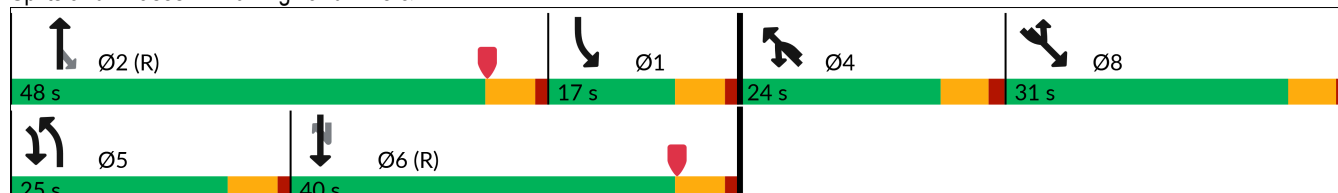
Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: #1 KY17 & Dudley Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	0	0	432	0	0	21	0	1782	18	0	1805	283
Future Volume (vph)	0	0	432	0	0	21	0	1782	18	0	1805	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	160		35	120		220
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.865			0.865		0.998				0.850
Flt Protected												
Satd. Flow (prot)	0	0	1611	0	0	1611	0	5075	0	0	5085	1583
Flt Permitted												
Satd. Flow (perm)	0	0	1611	0	0	1611	0	5075	0	0	5085	1583
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1196			328			755			595	
Travel Time (s)		23.3			6.4			14.7			11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	470	0	0	23	0	1937	20	0	1962	308
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	470	0	0	23	0	1957	0	0	1962	308
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	68.3%						ICU Level of Service C					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

30: #1 KY17 & Dudley Road

07/22/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	432	0	0	21	0	1782	18	0	1805	283
Future Volume (Veh/h)	0	0	432	0	0	21	0	1782	18	0	1805	283
Sign Control	Stop				Stop				Free		Free	
Grade	0%				0%				0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	470	0	0	23	0	1937	20	0	1962	308
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh)												
Upstream signal (ft)												595
pX, platoon unblocked	0.65	0.65	0.65	0.65	0.65	0.65						
vC, conflicting volume	2631	3919	654	2601	3909	656	1962			1957		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1638	3610	0	1592	3595	656	614			1957		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	34	100	100	94	100			100		
cM capacity (veh/h)	41	3	708	16	3	408	628			294		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4			
Volume Total	470	23	775	775	407	654	654	654	308			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	470	23	0	0	20	0	0	0	308			
cSH	708	408	1700	1700	1700	1700	1700	1700	1700			
Volume to Capacity	0.66	0.06	0.46	0.46	0.24	0.38	0.38	0.38	0.18			
Queue Length 95th (ft)	127	4	0	0	0	0	0	0	0			
Control Delay (s/veh)	19.5	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Lane LOS	C	B										
Approach Delay (s/veh)	19.5	14.3	0.0	0.0								
Approach LOS	C	B										
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			68.3%	ICU Level of Service					C			
Analysis Period (min)			15									

Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/04/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			  	  	
Traffic Volume (vph)	682	320	576	1784	980	271
Future Volume (vph)	682	320	576	1784	980	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385	0	490			350
Storage Lanes	2	1	1			1
Taper Length (ft)	100		25			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	1583	1770	5085	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3433	1583	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		2				295
Link Speed (mph)	35			35	35	
Link Distance (ft)	2110			595	1088	
Travel Time (s)	41.1			11.6	21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	741	348	626	1939	1065	295
Shared Lane Traffic (%)						
Lane Group Flow (vph)	741	348	626	1939	1065	295
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	18			25
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/04/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	11.0	11.0	22.5	22.5	22.5
Total Split (s)	44.0	65.0	65.0	106.0	41.0	41.0
Total Split (%)	29.3%	43.3%	43.3%	70.7%	27.3%	27.3%
Maximum Green (s)	38.0	59.0	59.0	100.0	35.0	35.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	35.9	98.1	56.3	102.1	39.9	39.9
Actuated g/C Ratio	0.24	0.65	0.38	0.68	0.27	0.27
v/c Ratio	0.90	0.34	0.94	0.56	0.79	0.46
Control Delay (s/veh)	70.3	11.9	72.0	12.8	45.4	6.3
Queue Delay	0.0	0.0	11.0	0.2	0.0	0.0
Total Delay (s/veh)	70.3	11.9	83.0	12.9	45.4	6.3
LOS	E	B	F	B	D	A
Approach Delay (s/veh)	51.7			30.0	36.9	
Approach LOS	D			C	D	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 141 (94%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 36.6

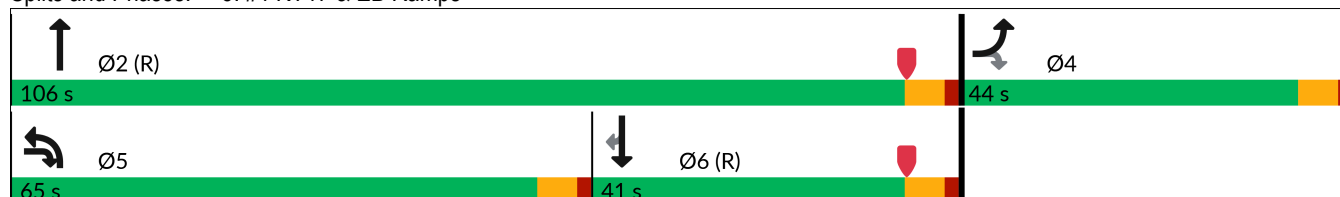
Intersection LOS: D

Intersection Capacity Utilization 85.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: #1 KY17 & EB Ramps



Lanes, Volumes, Timings

7: #1 KY17

06/04/2025

							
Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations	⇐⇐		⇐⇐	⇐⇐			
Traffic Volume (vph)	431	0	892	2224	0	0	0
Future Volume (vph)	431	0	892	2224	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		450			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		50				25	
Lane Util. Factor	0.97	1.00	0.95	0.95	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	3539	3539	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	3539	3539	0	0	0
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			808	1981		147	
Travel Time (s)			15.7	38.6		2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	468	0	970	2417	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	468	0	970	2417	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Left	Right	Left	Right
Median Width(ft)			24	24		0	
Link Offset(ft)			0	0		0	
Crosswalk Width(ft)			16	16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15			9	15	9
Number of Detectors	1		2	2			
Detector Template	Left		Thru	Thru			
Leading Detector (ft)	20		100	100			
Trailing Detector (ft)	0		0	0			
Detector 1 Position(ft)	0		0	0			
Detector 1 Size(ft)	20		6	6			
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0	0.0			
Detector 2 Position(ft)			94	94			
Detector 2 Size(ft)			6	6			
Detector 2 Type			Cl+Ex	Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)			0.0	0.0			
Turn Type	Prot		NA	NA			
Protected Phases	1		Free	2			
Permitted Phases							

Lanes, Volumes, Timings

7: #1 KY17

06/04/2025



Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Detector Phase	1			2			
Switch Phase							
Minimum Initial (s)	5.0			5.0			
Minimum Split (s)	9.5			22.5			
Total Split (s)	30.0			120.0			
Total Split (%)	20.0%			80.0%			
Maximum Green (s)	25.5			115.5			
Yellow Time (s)	3.5			3.5			
All-Red Time (s)	1.0			1.0			
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.5			4.5			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?	Yes			Yes			
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Max			
Walk Time (s)				7.0			
Flash Don't Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effect Green (s)	24.0		150.0	117.0			
Actuated g/C Ratio	0.16		1.00	0.78			
v/c Ratio	0.85		0.27	0.88			
Control Delay (s/veh)	62.9		0.2	16.7			
Queue Delay	0.0		0.0	0.0			
Total Delay (s/veh)	62.9		0.2	16.7			
LOS	E		A	B			
Approach Delay (s/veh)			20.6	16.7			
Approach LOS			C	B			

Intersection Summary

Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 0 (0%), Referenced to phase 2:NWT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay (s/veh): 18.2	Intersection LOS: B
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: #1 KY17

 Ø1	 Ø2 (R)
30 s	120 s

Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/04/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	384	521	486	1980	730	286
Future Volume (vph)	384	521	486	1980	730	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	850			340
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	0.97	0.91	1.00	0.91	0.91	1.00
Frt	0.943	0.850				0.850
Flt Protected	0.970		0.950			
Satd. Flow (prot)	3306	1441	1770	5085	5085	1583
Flt Permitted	0.970		0.950			
Satd. Flow (perm)	3306	1441	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	89	9				311
Link Speed (mph)	35			35	35	
Link Distance (ft)	1810			1088	946	
Travel Time (s)	35.3			21.2	18.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	417	566	528	2152	793	311
Shared Lane Traffic (%)		45%				
Lane Group Flow (vph)	672	311	528	2152	793	311
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			25
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/04/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	5.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	11.0	11.0	22.0	22.0	22.0
Total Split (s)	43.0	67.0	67.0	107.0	40.0	40.0
Total Split (%)	28.7%	44.7%	44.7%	71.3%	26.7%	26.7%
Maximum Green (s)	37.0	61.0	61.0	101.0	34.0	34.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	31.9	89.1	51.2	106.1	48.9	48.9
Actuated g/C Ratio	0.21	0.59	0.34	0.71	0.33	0.33
v/c Ratio	0.87	0.36	0.88	0.60	0.48	0.43
Control Delay (s/veh)	61.7	15.4	57.7	9.6	19.7	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.7	15.4	57.7	9.6	19.7	4.1
LOS	E	B	E	A	B	A
Approach Delay (s/veh)	47.1			19.1	15.3	
Approach LOS	D			B	B	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 128 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay (s/veh): 24.0

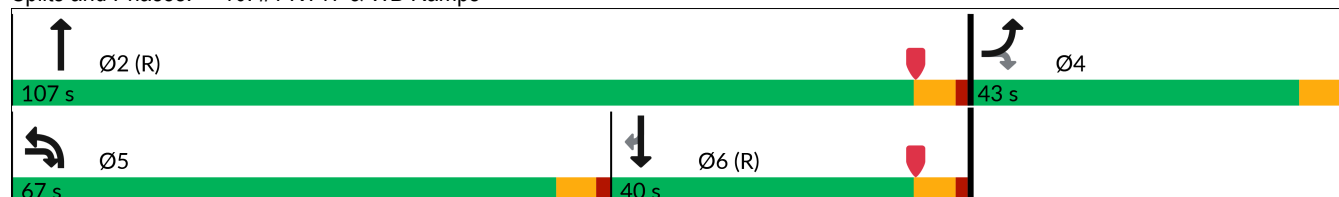
Intersection LOS: C

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: #1 KY17 & WB Ramps



Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/04/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	9	232	16	8	22	520	1751	93	20	768	212
Future Volume (vph)	186	9	232	16	8	22	520	1751	93	20	768	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	240		0	230		210
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	50			25			50			50		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00
Frt			0.850		0.935			0.992				0.850
Flt Protected	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (prot)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Flt Permitted	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (perm)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		24			4				223
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		965			313			946			1084	
Travel Time (s)		18.8			6.1			18.4			21.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	10	252	17	9	24	565	1903	101	22	835	230
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	105	107	252	0	50	0	565	2004	0	22	835	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8	5	4	4		5	2		1	6	
Permitted Phases			8									6

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/04/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	5	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	11.2	11.2	11.2	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	24.0	24.0	38.0	46.0	46.0		38.0	63.0		17.0	42.0	42.0
Total Split (%)	16.0%	16.0%	25.3%	30.7%	30.7%		25.3%	42.0%		11.3%	28.0%	28.0%
Maximum Green (s)	17.8	17.8	31.8	39.8	39.8		31.8	56.8		10.8	35.8	35.8
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.2	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag			Lead				Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effect Green (s)	14.2	14.2	49.4		8.0		28.9	102.7		7.4	76.3	76.3
Actuated g/C Ratio	0.09	0.09	0.33		0.05		0.19	0.68		0.05	0.51	0.51
v/c Ratio	0.66	0.66	0.37		0.44		0.85	0.83		0.25	0.32	0.25
Control Delay (s/veh)	84.6	84.9	5.0		51.7		78.9	18.7		58.1	30.7	15.4
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	84.6	84.9	5.0		51.7		78.9	18.7		58.1	30.7	15.4
LOS	F	F	A		D		E	B		E	C	B
Approach Delay (s/veh)		41.5			51.7			31.9			28.0	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 132 (88%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 32.2

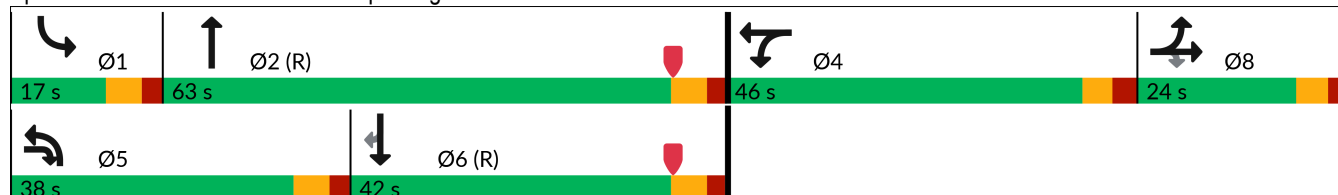
Intersection LOS: C

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 15: KY 17 & Orphanage Road



Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/04/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Future Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		270	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.91	0.86	0.91	0.91	0.91	0.95
Frt			0.850			0.850		0.935	0.850		0.991	
Flt Protected	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Flt Permitted	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			307			289		85	183		3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1084			876			1358			737	
Travel Time (s)		21.1			17.1			26.5			14.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	1022	325	11	636	342	211	207	359	49	23	3
Shared Lane Traffic (%)							10%		49%	49%		
Lane Group Flow (vph)	783	1022	325	11	636	342	190	404	183	25	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Over	Split	NA	
Protected Phases	5	2		1	6		8	8	5	4	4	
Permitted Phases			2			6						

Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/04/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	10.5	32.7	32.7	
Total Split (s)	46.0	72.0	72.0	15.0	41.0	41.0	30.0	30.0	46.0	33.0	33.0	
Total Split (%)	30.7%	48.0%	48.0%	10.0%	27.3%	27.3%	20.0%	20.0%	30.7%	22.0%	22.0%	
Maximum Green (s)	40.5	66.5	66.5	9.5	35.5	35.5	24.3	24.3	40.5	27.3	27.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.5	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.5	5.7	5.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effect Green (s)	38.1	100.4	100.4	6.5	62.0	62.0	21.8	21.8	38.1	7.9	7.9	
Actuated g/C Ratio	0.25	0.67	0.67	0.04	0.41	0.41	0.15	0.15	0.25	0.05	0.05	
v/c Ratio	0.90	0.43	0.28	0.14	0.44	0.42	0.82	0.80	0.36	0.30	0.28	
Control Delay (s/veh)	49.5	14.8	4.8	72.6	34.7	8.2	87.6	60.7	7.6	76.5	67.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	49.5	14.8	4.8	72.6	34.7	8.2	87.6	60.7	7.6	76.5	67.6	
LOS	D	B	A	E	C	A	F	E	A	E	E	
Approach Delay (s/veh)		26.0			26.0			54.8			70.6	
Approach LOS		C			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 44 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay (s/veh): 32.5

Intersection LOS: C

Intersection Capacity Utilization 69.2%

ICU Level of Service C

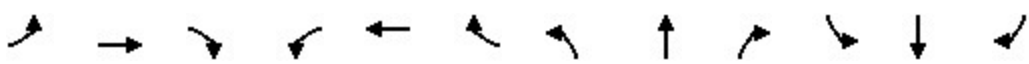
Analysis Period (min) 15

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: #1 KY17 & Dudley Road

06/04/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	443	0	0	8	228	2352	75	0	880	420
Future Volume (vph)	0	0	443	0	0	8	228	2352	75	0	880	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	260		35	120		220
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.865			0.865		0.995				0.850
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	5060	0	0	5085	1583
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	5060	0	0	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			87		4				457
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1180			328			826			595	
Travel Time (s)		23.0			6.4			16.1			11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	482	0	0	9	248	2557	82	0	957	457
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	482	0	0	9	248	2639	0	0	957	457
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1			1	1	2			2	1
Detector Template			Right			Right	Left	Thru			Thru	Right
Leading Detector (ft)			20			20	20	100			100	20
Trailing Detector (ft)			0			0	0	0			0	0
Detector 1 Position(ft)			0			0	0	0			0	0
Detector 1 Size(ft)			20			20	20	6			6	20
Detector 1 Type			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0			0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)			0.0			0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)			0.0			0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type			Perm			Free	Prot	NA			NA	Perm
Protected Phases							5	Free			6	
Permitted Phases			5			Free						6

Lanes, Volumes, Timings
30: #1 KY17 & Dudley Road

06/04/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			5				5				6	6
Switch Phase												
Minimum Initial (s)			5.0				5.0				5.0	5.0
Minimum Split (s)			9.5				9.5				22.5	22.5
Total Split (s)			41.0				41.0				34.0	34.0
Total Split (%)			54.7%				54.7%				45.3%	45.3%
Maximum Green (s)			36.5				36.5				29.5	29.5
Yellow Time (s)			3.5				3.5				3.5	3.5
All-Red Time (s)			1.0				1.0				1.0	1.0
Lost Time Adjust (s)			0.0				0.0				0.0	0.0
Total Lost Time (s)			4.5				4.5				4.5	4.5
Lead/Lag			Lead				Lead				Lag	Lag
Lead-Lag Optimize?			Yes				Yes				Yes	Yes
Vehicle Extension (s)			3.0				3.0				3.0	3.0
Recall Mode			None				None				C-Max	C-Max
Walk Time (s)											7.0	7.0
Flash Don't Walk (s)											11.0	11.0
Pedestrian Calls (#/hr)											0	0
Act Effect Green (s)			27.1			75.0	27.1	75.0			38.9	38.9
Actuated g/C Ratio			0.36			1.00	0.36	1.00			0.52	0.52
v/c Ratio			0.79			0.01	0.39	0.52			0.36	0.44
Control Delay (s/veh)			28.7			0.0	17.3	0.2			6.6	4.6
Queue Delay			0.0			0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)			28.7			0.0	17.3	0.2			6.6	4.6
LOS			C			A	B	A			A	A
Approach Delay (s/veh)		28.7						1.7			6.0	
Approach LOS		C						A			A	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 72 (96%), Referenced to phase 6:SBT, Start of Yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay (s/veh): 5.7

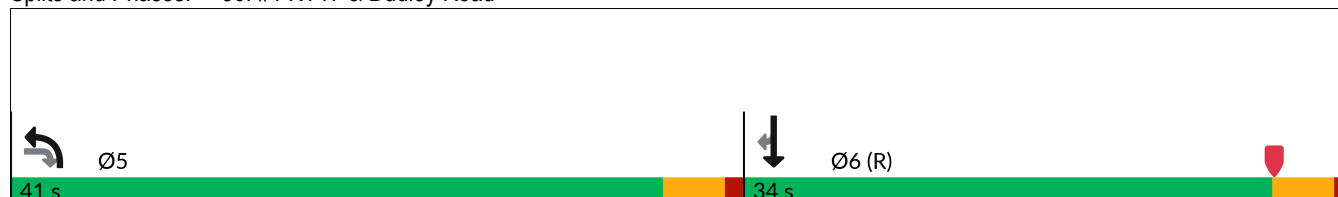
Intersection LOS: A

Intersection Capacity Utilization 51.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: #1 KY17 & Dudley Road



Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/02/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑↑↑	↑↑↑	↱
Traffic Volume (vph)	345	320	516	1203	1768	713
Future Volume (vph)	345	320	516	1203	1768	713
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385	0	490			350
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	1583	1770	5085	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3433	1583	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				408
Link Speed (mph)	35			35	35	
Link Distance (ft)	2100			595	1088	
Travel Time (s)	40.9			11.6	21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	348	561	1308	1922	775
Shared Lane Traffic (%)						
Lane Group Flow (vph)	375	348	561	1308	1922	775
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	18			25
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/02/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	11.0	11.0	22.5	22.5	22.5
Total Split (s)	23.0	48.0	48.0	97.0	49.0	49.0
Total Split (%)	19.2%	40.0%	40.0%	80.8%	40.8%	40.8%
Maximum Green (s)	17.0	42.0	42.0	91.0	43.0	43.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	16.3	62.7	40.5	91.7	45.3	45.3
Actuated g/C Ratio	0.14	0.52	0.34	0.76	0.38	0.38
v/c Ratio	0.81	0.42	0.94	0.34	1.00	0.91
Control Delay (s/veh)	64.4	18.9	61.2	3.3	38.1	13.5
Queue Delay	0.0	0.0	0.7	0.0	0.0	0.0
Total Delay (s/veh)	64.4	18.9	61.9	3.3	38.1	13.5
LOS	E	B	E	A	D	B
Approach Delay (s/veh)	42.5			20.9	31.1	
Approach LOS	D			C	C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 16 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay (s/veh): 29.0

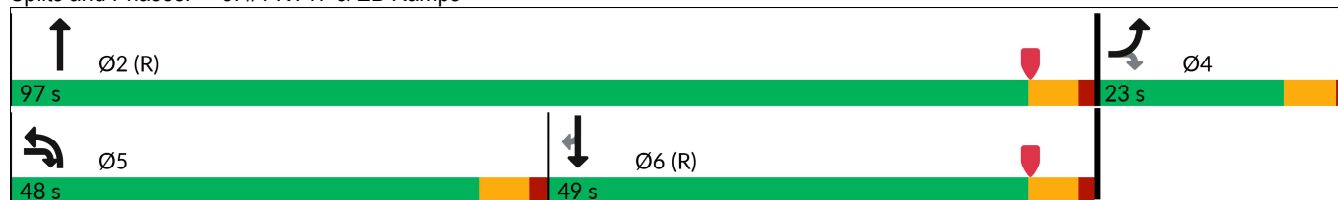
Intersection LOS: C

Intersection Capacity Utilization 87.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: #1 KY17 & EB Ramps



Lanes, Volumes, Timings

7: #1 KY17

06/02/2025



Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations	⬇⬇		⬆⬆	⬆⬆			
Traffic Volume (vph)	242	0	1995	1558	0	0	0
Future Volume (vph)	242	0	1995	1558	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		450			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		50				25	
Lane Util. Factor	0.97	1.00	0.95	0.95	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	3539	3539	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	3539	3539	0	0	0
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			786	1365		174	
Travel Time (s)			15.3	26.6		3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	263	0	2168	1693	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	263	0	2168	1693	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Left	Right	Left	Right
Median Width(ft)			24	24		0	
Link Offset(ft)			0	0		0	
Crosswalk Width(ft)			16	16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15			9	15	9
Number of Detectors	1		2	2			
Detector Template	Left		Thru	Thru			
Leading Detector (ft)	20		100	100			
Trailing Detector (ft)	0		0	0			
Detector 1 Position(ft)	0		0	0			
Detector 1 Size(ft)	20		6	6			
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0	0.0			
Detector 2 Position(ft)			94	94			
Detector 2 Size(ft)			6	6			
Detector 2 Type			Cl+Ex	Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)			0.0	0.0			
Turn Type	Prot		NA	NA			
Protected Phases	1		Free	2			
Permitted Phases							

Lanes, Volumes, Timings

7: #1 KY17

06/02/2025



Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Detector Phase	1			2			
Switch Phase							
Minimum Initial (s)	5.0			5.0			
Minimum Split (s)	9.5			22.5			
Total Split (s)	14.0			46.0			
Total Split (%)	23.3%			76.7%			
Maximum Green (s)	9.5			41.5			
Yellow Time (s)	3.5			3.5			
All-Red Time (s)	1.0			1.0			
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.5			4.5			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?	Yes			Yes			
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Max			
Walk Time (s)				7.0			
Flash Don't Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effect Green (s)	8.9		60.0	42.1			
Actuated g/C Ratio	0.15		1.00	0.70			
v/c Ratio	0.52		0.61	0.68			
Control Delay (s/veh)	18.7		2.8	7.0			
Queue Delay	0.0		0.0	0.0			
Total Delay (s/veh)	18.7		2.8	7.0			
LOS	B		A	A			
Approach Delay (s/veh)			4.5	7.0			
Approach LOS			A	A			

Intersection Summary

Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 35 (58%), Referenced to phase 2:NWT, Start of Yellow	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay (s/veh): 5.5	Intersection LOS: A
Intersection Capacity Utilization 58.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: #1 KY17



Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/02/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←←	→	←	↑↑↑	↑↑↑	→
Traffic Volume (vph)	478	720	263	1285	1761	413
Future Volume (vph)	478	720	263	1285	1761	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	850			340
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	*1.00	0.91	1.00	0.91	0.91	1.00
Frt	0.938	0.850				0.850
Flt Protected	0.972		0.950			
Satd. Flow (prot)	3397	1441	1770	5085	5085	1583
Flt Permitted	0.972		0.950			
Satd. Flow (perm)	3397	1441	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	148	1				449
Link Speed (mph)	35			35	35	
Link Distance (ft)	1802			1088	946	
Travel Time (s)	35.1			21.2	18.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	520	783	286	1397	1914	449
Shared Lane Traffic (%)		47%				
Lane Group Flow (vph)	888	415	286	1397	1914	449
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	18	9	15			25
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/02/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	5.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	11.0	11.0	22.0	22.0	22.0
Total Split (s)	40.0	26.0	26.0	80.0	54.0	54.0
Total Split (%)	33.3%	21.7%	21.7%	66.7%	45.0%	45.0%
Maximum Green (s)	34.0	20.0	20.0	74.0	48.0	48.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	31.3	57.3	20.0	76.7	50.7	50.7
Actuated g/C Ratio	0.26	0.48	0.17	0.64	0.42	0.42
v/c Ratio	0.89	0.60	0.97	0.43	0.89	0.48
Control Delay (s/veh)	47.2	26.8	95.8	12.7	19.4	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	47.2	26.8	95.8	12.7	19.4	0.9
LOS	D	C	F	B	B	A
Approach Delay (s/veh)	40.7			26.8	15.9	
Approach LOS	D			C	B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 118 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay (s/veh): 25.4

Intersection LOS: C

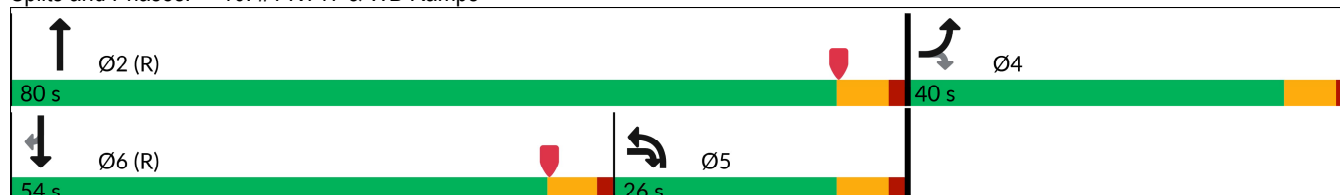
Intersection Capacity Utilization 84.8%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 10: #1 KY17 & WB Ramps



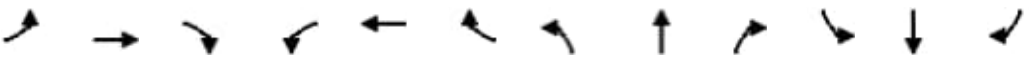
Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/02/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	2	743	45	14	13	685	1071	7	5	1386	294
Future Volume (vph)	302	2	743	45	14	13	685	1071	7	5	1386	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	240		0	230		210
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	50			25			50			50		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	*1.00	1.00
Frt			0.850		0.976			0.999				0.850
Flt Protected	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	0	1763	0	3433	3536	0	1770	5588	1583
Flt Permitted	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (perm)	1681	1686	1583	0	1763	0	3433	3536	0	1770	5588	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131		7			1				234
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1283			313			946			1086	
Travel Time (s)		25.0			6.1			18.4			21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	328	2	808	49	15	14	745	1164	8	5	1507	320
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	164	166	808	0	78	0	745	1172	0	5	1507	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		15	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8	5	4	4		5	2		1	6	
Permitted Phases			8									6

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/02/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	5	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	22.5	22.5	11.2	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	36.0	36.0	34.0	16.0	16.0		34.0	52.0		16.0	34.0	34.0
Total Split (%)	30.0%	30.0%	28.3%	13.3%	13.3%		28.3%	43.3%		13.3%	28.3%	28.3%
Maximum Green (s)	29.8	29.8	27.8	9.8	9.8		27.8	45.8		9.8	27.8	27.8
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.2	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag			Lead				Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)	17.3	17.3	51.3		8.8		27.8	75.2		6.0	43.8	43.8
Actuated g/C Ratio	0.14	0.14	0.43		0.07		0.23	0.63		0.05	0.37	0.37
v/c Ratio	0.68	0.69	1.08		0.58		0.94	0.53		0.06	0.74	0.44
Control Delay (s/veh)	62.1	62.5	83.5		65.6		69.7	17.1		73.6	27.4	6.8
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	62.1	62.5	83.5		65.6		69.7	17.1		73.6	27.4	6.8
LOS	E	E	F		E		E	B		E	C	A
Approach Delay (s/veh)		77.4			65.6			37.6			23.9	
Approach LOS		E			E			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay (s/veh): 42.1

Intersection LOS: D

Intersection Capacity Utilization 92.5%

ICU Level of Service F

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 15: KY 17 & Orphanage Road



Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/02/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Future Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		270	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.91	0.86	0.91	0.91	0.91	0.95
Frt			0.850			0.850		0.899	0.850		0.988	
Flt Protected	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1610	2843	1441	1610	3316	0
Flt Permitted	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1610	2843	1441	1610	3316	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			383		308	308		7	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1086			1310			775			733	
Travel Time (s)		21.2			25.5			15.1			14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	548	910	49	2	848	440	361	33	616	302	305	35
Shared Lane Traffic (%)							32%		50%	30%		
Lane Group Flow (vph)	548	910	49	2	848	440	245	457	308	211	431	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Over	Split	NA	
Protected Phases	5	2		1	6		8	8	5	4	4	
Permitted Phases			2			6						

Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/02/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	10.5	32.7	32.7	
Total Split (s)	24.0	51.0	51.0	15.0	42.0	42.0	24.0	24.0	24.0	30.0	30.0	
Total Split (%)	20.0%	42.5%	42.5%	12.5%	35.0%	35.0%	20.0%	20.0%	20.0%	25.0%	25.0%	
Maximum Green (s)	18.5	45.5	45.5	9.5	36.5	36.5	18.3	18.3	18.5	24.3	24.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.5	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.5	5.7	5.7	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effect Green (s)	18.5	60.8	60.8	6.4	39.8	39.8	18.3	18.3	18.5	21.0	21.0	
Actuated g/C Ratio	0.15	0.51	0.51	0.05	0.33	0.33	0.15	0.15	0.15	0.18	0.18	
v/c Ratio	1.04	0.51	0.06	0.02	0.72	0.56	1.00	0.66	0.64	0.75	0.74	
Control Delay (s/veh)	95.6	22.2	2.6	53.0	40.2	8.6	108.8	20.3	11.7	63.5	53.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	95.6	22.2	2.6	53.0	40.2	8.6	108.8	20.3	11.7	63.5	53.8	
LOS	F	C	A	D	D	A	F	C	B	E	D	
Approach Delay (s/veh)		48.2			29.4			39.1			56.9	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 40 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay (s/veh): 42.0

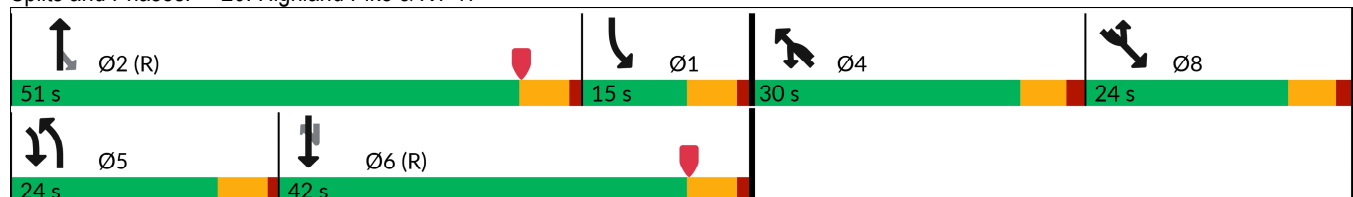
Intersection LOS: D

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: #1 KY17 & Dudley Road

06/02/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	432	0	0	21	84	1698	18	0	1805	283
Future Volume (vph)	0	0	432	0	0	21	84	1698	18	0	1805	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	260		35	120		220
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.865			0.865		0.998				0.850
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	5075	0	0	5085	1583
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	5075	0	0	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			27			109		2				308
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1196			328			755			595	
Travel Time (s)		23.3			6.4			14.7			11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	470	0	0	23	91	1846	20	0	1962	308
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	470	0	0	23	91	1866	0	0	1962	308
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1			1	1	2			2	1
Detector Template			Right			Right	Left	Thru			Thru	Right
Leading Detector (ft)			20			20	20	100			100	20
Trailing Detector (ft)			0			0	0	0			0	0
Detector 1 Position(ft)			0			0	0	0			0	0
Detector 1 Size(ft)			20			20	20	6			6	20
Detector 1 Type			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0			0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)			0.0			0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)			0.0			0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type			Perm			Free	Prot	NA			NA	Perm
Protected Phases							5	Free			6	
Permitted Phases			5			Free						6

Lanes, Volumes, Timings
30: #1 KY17 & Dudley Road

06/02/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			5				5				6	6
Switch Phase												
Minimum Initial (s)			5.0				5.0				5.0	5.0
Minimum Split (s)			9.5				9.5				22.5	22.5
Total Split (s)			26.0				26.0				34.0	34.0
Total Split (%)			43.3%				43.3%				56.7%	56.7%
Maximum Green (s)			21.5				21.5				29.5	29.5
Yellow Time (s)			3.5				3.5				3.5	3.5
All-Red Time (s)			1.0				1.0				1.0	1.0
Lost Time Adjust (s)			0.0				0.0				0.0	0.0
Total Lost Time (s)			4.5				4.5				4.5	4.5
Lead/Lag			Lead				Lead				Lag	Lag
Lead-Lag Optimize?			Yes				Yes				Yes	Yes
Vehicle Extension (s)			3.0				3.0				3.0	3.0
Recall Mode			None				None				C-Max	C-Max
Walk Time (s)											7.0	7.0
Flash Don't Walk (s)											11.0	11.0
Pedestrian Calls (#/hr)											0	0
Act Effect Green (s)			19.7			60.0	19.7	60.0			31.3	31.3
Actuated g/C Ratio			0.33			1.00	0.33	1.00			0.52	0.52
v/c Ratio			0.86			0.01	0.16	0.37			0.74	0.32
Control Delay (s/veh)			35.1			0.0	19.3	0.2			10.9	3.7
Queue Delay			0.0			0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)			35.1			0.0	19.3	0.2			10.9	3.7
LOS			D			A	B	A			B	A
Approach Delay (s/veh)		35.1						1.1			9.9	
Approach LOS		D						A			A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 12 (20%), Referenced to phase 6:SBT, Start of Yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay (s/veh): 8.7

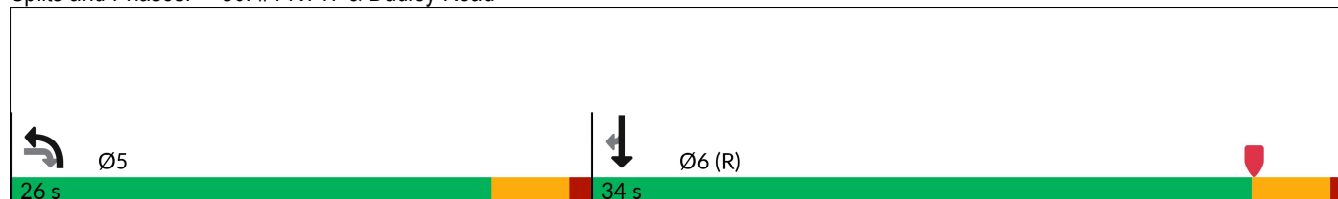
Intersection LOS: A

Intersection Capacity Utilization 69.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 30: #1 KY17 & Dudley Road



Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/17/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			  	  	
Traffic Volume (vph)	682	320	576	2012	1208	271
Future Volume (vph)	682	320	576	2012	1208	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385	0	490			350
Storage Lanes	2	1	1			1
Taper Length (ft)	100		25			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	1583	1770	5085	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3433	1583	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		2				285
Link Speed (mph)	35			35	35	
Link Distance (ft)	2110			595	486	
Travel Time (s)	41.1			11.6	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	718	337	606	2118	1272	285
Shared Lane Traffic (%)						
Lane Group Flow (vph)	718	337	606	2118	1272	285
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	18	18	18			25
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	11.0	11.0	22.5	22.5	22.5
Total Split (s)	40.0	62.0	62.0	110.0	48.0	48.0
Total Split (%)	26.7%	41.3%	41.3%	73.3%	32.0%	32.0%
Maximum Green (s)	34.0	56.0	56.0	104.0	42.0	42.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	33.4	95.4	56.0	104.6	42.6	42.6
Actuated g/C Ratio	0.22	0.64	0.37	0.70	0.28	0.28
v/c Ratio	0.94	0.33	0.92	0.60	0.88	0.44
Control Delay (s/veh)	78.0	13.6	54.4	12.4	42.6	5.7
Queue Delay	0.0	0.0	0.0	0.0	3.1	0.2
Total Delay (s/veh)	78.0	13.6	54.4	12.4	45.6	5.9
LOS	E	B	D	B	D	A
Approach Delay (s/veh)	57.4			21.8	38.3	
Approach LOS	E			C	D	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 73 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 33.6

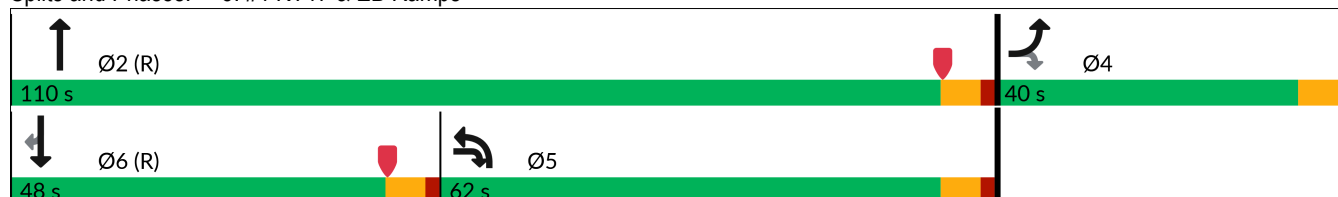
Intersection LOS: C

Intersection Capacity Utilization 89.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: #1 KY17 & EB Ramps



Lanes, Volumes, Timings

7: #1 KY17

06/17/2025

							
Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations	🚗🚗		🚗🚗	🚗🚗			
Traffic Volume (vph)	431	0	892	2224	0	0	0
Future Volume (vph)	431	0	892	2224	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		450			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		50				25	
Lane Util. Factor	0.97	1.00	0.95	0.95	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	3539	3539	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	3539	3539	0	0	0
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			808	1981		147	
Travel Time (s)			15.7	38.6		2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	468	0	970	2417	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	468	0	970	2417	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Left	Right	Left	Right
Median Width(ft)			24	24		0	
Link Offset(ft)			0	0		0	
Crosswalk Width(ft)			16	16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15			9	15	9
Number of Detectors	1		2	2			
Detector Template	Left		Thru	Thru			
Leading Detector (ft)	20		100	100			
Trailing Detector (ft)	0		0	0			
Detector 1 Position(ft)	0		0	0			
Detector 1 Size(ft)	20		6	6			
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0	0.0			
Detector 2 Position(ft)			94	94			
Detector 2 Size(ft)			6	6			
Detector 2 Type			Cl+Ex	Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)			0.0	0.0			
Turn Type	Prot		NA	NA			
Protected Phases	1		Free	2			
Permitted Phases							

Lanes, Volumes, Timings

7: #1 KY17

06/17/2025



Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Detector Phase	1			2			
Switch Phase							
Minimum Initial (s)	5.0			5.0			
Minimum Split (s)	9.5			22.5			
Total Split (s)	35.0			115.0			
Total Split (%)	23.3%			76.7%			
Maximum Green (s)	30.5			110.5			
Yellow Time (s)	3.5			3.5			
All-Red Time (s)	1.0			1.0			
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.5			4.5			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?	Yes			Yes			
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Max			
Walk Time (s)				7.0			
Flash Don't Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effect Green (s)	25.4		150.0	115.6			
Actuated g/C Ratio	0.17		1.00	0.77			
v/c Ratio	0.81		0.27	0.89			
Control Delay (s/veh)	69.1		0.2	18.5			
Queue Delay	0.0		0.0	0.0			
Total Delay (s/veh)	69.1		0.2	18.5			
LOS	E		A	B			
Approach Delay (s/veh)			22.6	18.5			
Approach LOS			C	B			

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	146 (97%), Referenced to phase 2:NWT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay (s/veh):	20.1
Intersection LOS:	C
Intersection Capacity Utilization	81.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 7: #1 KY17



Lanes, Volumes, Timings

8: #1 KY17

06/17/2025

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations			□		↑↑↑	↑↑↑	
Traffic Volume (vph)	0	0	228	0	2466	1251	0
Future Volume (vph)	0	0	228	0	2466	1251	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		380			0
Storage Lanes	0	0		1			0
Taper Length (ft)	25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	*1.00	1.00
Frt							
Flt Protected			0.950				
Satd. Flow (prot)	0	0	1770	0	5085	5588	0
Flt Permitted			0.950				
Satd. Flow (perm)	0	0	1770	0	5085	5588	0
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)							
Link Speed (mph)	35				35	35	
Link Distance (ft)	209				486	602	
Travel Time (s)	4.1				9.5	11.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	248	0	2680	1360	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	248	0	2680	1360	0
Enter Blocked Intersection	No	No	Yes	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	0				12	12	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	15			9
Number of Detectors			1		2	2	
Detector Template			Left		Thru	Thru	
Leading Detector (ft)			20		100	100	
Trailing Detector (ft)			0		0	0	
Detector 1 Position(ft)			0		0	0	
Detector 1 Size(ft)			20		6	6	
Detector 1 Type			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)			0.0		0.0	0.0	
Detector 1 Queue (s)			0.0		0.0	0.0	
Detector 1 Delay (s)			0.0		0.0	0.0	
Detector 2 Position(ft)					94	94	
Detector 2 Size(ft)					6	6	
Detector 2 Type					Cl+Ex	Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)					0.0	0.0	
Turn Type			Prot		NA	NA	
Protected Phases			5		Free	6	
Permitted Phases							

Lanes, Volumes, Timings

8: #1 KY17

06/17/2025



Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Detector Phase			5			6	
Switch Phase							
Minimum Initial (s)			5.0			7.0	
Minimum Split (s)			9.5			22.5	
Total Split (s)			20.0			55.0	
Total Split (%)			26.7%			73.3%	
Maximum Green (s)			15.5			50.5	
Yellow Time (s)			3.5			3.5	
All-Red Time (s)			1.0			1.0	
Lost Time Adjust (s)			0.0			0.0	
Total Lost Time (s)			4.5			4.5	
Lead/Lag			Lead			Lag	
Lead-Lag Optimize?			Yes			Yes	
Vehicle Extension (s)			3.0			3.0	
Recall Mode			None			C-Max	
Act Effect Green (s)			14.0		75.0	52.0	
Actuated g/C Ratio			0.19		1.00	0.69	
v/c Ratio			0.75		0.53	0.35	
Control Delay (s/veh)			40.9		0.3	6.4	
Queue Delay			0.0		0.0	0.0	
Total Delay (s/veh)			40.9		0.3	6.4	
LOS			D		A	A	
Approach Delay (s/veh)					3.7	6.4	
Approach LOS					A	A	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 10 (13%), Referenced to phase 6:SBT, Start of Yellow

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay (s/veh): 4.6

Intersection LOS: A

Intersection Capacity Utilization 51.0%

ICU Level of Service A

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 8: #1 KY17



Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/17/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←←	→	←	↑↑↑	↑↑↑	→
Traffic Volume (vph)	384	521	486	1980	730	286
Future Volume (vph)	384	521	486	1980	730	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	450			340
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	0.97	0.91	1.00	0.91	0.91	1.00
Frt	0.943	0.850				0.850
Flt Protected	0.970		0.950			
Satd. Flow (prot)	3306	1441	1770	5085	5085	1583
Flt Permitted	0.970		0.950			
Satd. Flow (perm)	3306	1441	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	96	4				311
Link Speed (mph)	35			35	35	
Link Distance (ft)	1810			602	946	
Travel Time (s)	35.3			11.7	18.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	417	566	528	2152	793	311
Shared Lane Traffic (%)		45%				
Lane Group Flow (vph)	672	311	528	2152	793	311
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			25
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	5.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	11.0	11.0	22.0	22.0	22.0
Total Split (s)	51.0	63.0	63.0	99.0	36.0	36.0
Total Split (%)	34.0%	42.0%	42.0%	66.0%	24.0%	24.0%
Maximum Green (s)	45.0	57.0	57.0	93.0	30.0	30.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	32.7	95.7	57.0	105.3	42.3	42.3
Actuated g/C Ratio	0.22	0.64	0.38	0.70	0.28	0.28
v/c Ratio	0.85	0.34	0.79	0.60	0.55	0.46
Control Delay (s/veh)	58.2	12.9	39.2	8.0	30.1	4.3
Queue Delay	0.0	0.0	3.7	0.1	0.0	0.0
Total Delay (s/veh)	58.2	12.9	42.9	8.1	30.1	4.3
LOS	E	B	D	A	C	A
Approach Delay (s/veh)	43.9			15.0	22.8	
Approach LOS	D			B	C	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 28 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 22.8

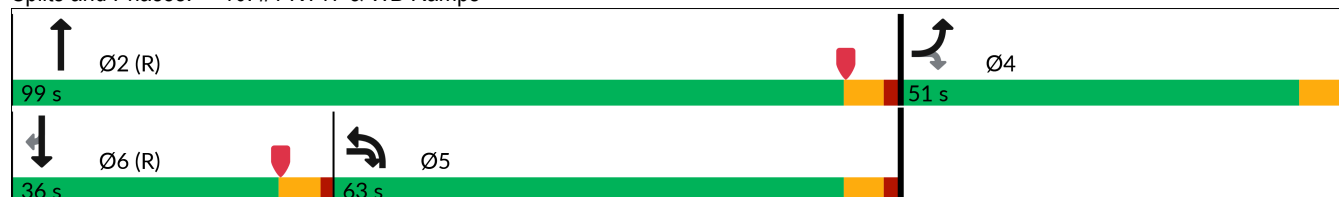
Intersection LOS: C

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: #1 KY17 & WB Ramps



Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	9	232	16	8	22	520	1751	93	20	768	212
Future Volume (vph)	186	9	232	16	8	22	520	1751	93	20	768	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	240		0	230		210
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	50			25			50			50		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00
Frt			0.850		0.935			0.992				0.850
Flt Protected	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (prot)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Flt Permitted	0.950	0.957			0.983		0.950			0.950		
Satd. Flow (perm)	1681	1694	1583	0	1712	0	3433	3511	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		24			4				230
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		965			313			946			1084	
Travel Time (s)		18.8			6.1			18.4			21.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	10	252	17	9	24	565	1903	101	22	835	230
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	105	107	252	0	50	0	565	2004	0	22	835	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8	5	4	4		5	2		1	6	
Permitted Phases			8									6

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	5	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	11.2	11.2	11.2	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	36.0	36.0	40.0	27.0	27.0		40.0	69.0		18.0	47.0	47.0
Total Split (%)	24.0%	24.0%	26.7%	18.0%	18.0%		26.7%	46.0%		12.0%	31.3%	31.3%
Maximum Green (s)	29.8	29.8	33.8	20.8	20.8		33.8	62.8		11.8	40.8	40.8
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.2	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag			Lag				Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effect Green (s)	14.8	14.8	45.7		8.0		29.6	100.9		8.7	75.1	75.1
Actuated g/C Ratio	0.10	0.10	0.30		0.05		0.20	0.67		0.06	0.50	0.50
v/c Ratio	0.64	0.64	0.38		0.44		0.83	0.85		0.22	0.33	0.25
Control Delay (s/veh)	81.4	81.6	4.1		51.7		69.6	25.2		73.6	9.4	0.9
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	81.4	81.6	4.1		51.7		69.6	25.2		73.6	9.4	0.9
LOS	F	F	A		D		E	C		E	A	A
Approach Delay (s/veh)		39.5			51.7			34.9			8.9	
Approach LOS		D			D			C			A	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 36 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 28.9

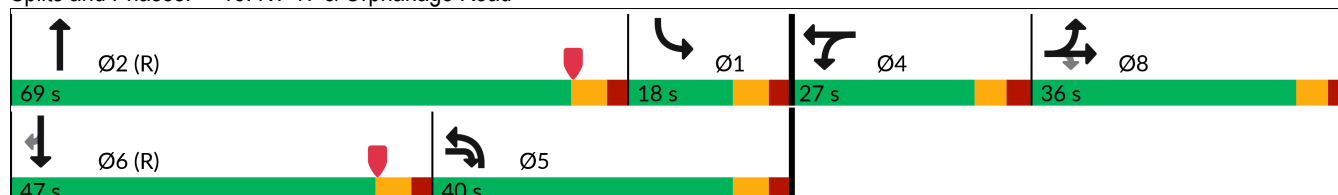
Intersection LOS: C

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 15: KY 17 & Orphanage Road



Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/17/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Future Volume (vph)	720	940	299	10	585	315	194	190	330	45	21	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		270	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.91	0.86	0.91	0.91	0.91	0.95
Frt			0.850			0.850		0.935	0.850		0.991	
Flt Protected	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Flt Permitted	0.950			0.950			0.950	0.997		0.950	0.977	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1610	2987	1441	1610	3282	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			325			297		85	183		3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1084			876			1358			737	
Travel Time (s)		21.1			17.1			26.5			14.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	1022	325	11	636	342	211	207	359	49	23	3
Shared Lane Traffic (%)							10%		49%	49%		
Lane Group Flow (vph)	783	1022	325	11	636	342	190	404	183	25	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Over	Split	NA	
Protected Phases	5	2		1	6		8	8	5	4	4	
Permitted Phases			2			6						

Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/17/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	10.5	32.7	32.7	
Total Split (s)	49.0	79.0	79.0	14.0	44.0	44.0	30.0	30.0	49.0	27.0	27.0	
Total Split (%)	32.7%	52.7%	52.7%	9.3%	29.3%	29.3%	20.0%	20.0%	32.7%	18.0%	18.0%	
Maximum Green (s)	43.5	73.5	73.5	8.5	38.5	38.5	24.3	24.3	43.5	21.3	21.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.5	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.5	5.7	5.7	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead				Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effect Green (s)	43.5	100.4	100.4	6.5	56.6	56.6	21.8	21.8	43.5	7.9	7.9	
Actuated g/C Ratio	0.29	0.67	0.67	0.04	0.38	0.38	0.15	0.15	0.29	0.05	0.05	
v/c Ratio	0.79	0.43	0.28	0.14	0.48	0.44	0.82	0.80	0.33	0.30	0.28	
Control Delay (s/veh)	38.1	6.2	0.8	72.6	38.4	8.2	87.6	60.7	6.9	76.5	67.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	38.1	6.2	0.8	72.6	38.4	8.2	87.6	60.7	6.9	76.5	67.6	
LOS	D	A	A	E	D	A	F	E	A	E	E	
Approach Delay (s/veh)		17.1			28.4			54.6			70.6	
Approach LOS		B			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 19 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay (s/veh): 28.2

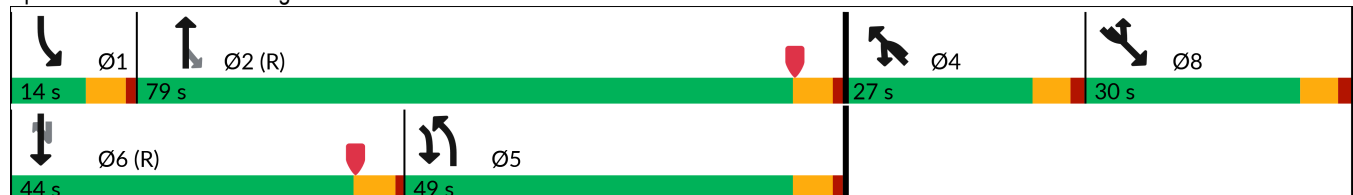
Intersection LOS: C

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: #1 KY17 & Dudley Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	443	0	0	8	0	2580	75	0	880	648
Future Volume (vph)	0	0	443	0	0	8	0	2580	75	0	880	648
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	160		35	120		220
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.865			0.865		0.996				0.850
Flt Protected												
Satd. Flow (prot)	0	0	1611	0	0	1611	0	5065	0	0	5085	1583
Flt Permitted												
Satd. Flow (perm)	0	0	1611	0	0	1611	0	5065	0	0	5085	1583
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1180			328			826			595	
Travel Time (s)		23.0			6.4			16.1			11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	482	0	0	9	0	2804	82	0	957	704
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	482	0	0	9	0	2886	0	0	957	704
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		18
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	61.5%					ICU Level of Service B						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

30: #1 KY17 & Dudley Road

07/22/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	443	0	0	8	0	2580	75	0	880	648
Future Volume (Veh/h)	0	0	443	0	0	8	0	2580	75	0	880	648
Sign Control	Stop				Stop				Free		Free	
Grade	0%				0%				0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	482	0	0	9	0	2804	82	0	957	704
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (ft)												595
pX, platoon unblocked												
vC, conflicting volume	1901	3843	319	3164	3802	976	957			2886		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1901	3843	319	3164	3802	976	957			2886		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	29	100	100	96	100			100		
cM capacity (veh/h)	41	4	677	1	4	251	714			126		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4			
Volume Total	482	9	1122	1122	643	319	319	319	704			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	482	9	0	0	82	0	0	0	704			
cSH	677	251	1700	1700	1700	1700	1700	1700	1700			
Volume to Capacity	0.71	0.04	0.66	0.66	0.38	0.19	0.19	0.19	0.41			
Queue Length 95th (ft)	149	3	0	0	0	0	0	0	0			
Control Delay (s/veh)	22.4	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Lane LOS	C	C										
Approach Delay (s/veh)	22.4	19.9	0.0	0.0								
Approach LOS	C	C										
Intersection Summary												
Average Delay			2.2									
Intersection Capacity Utilization			61.5%	ICU Level of Service					B			
Analysis Period (min)			15									

Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/17/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			  	  	
Traffic Volume (vph)	345	320	508	1295	1860	713
Future Volume (vph)	345	320	508	1295	1860	713
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385	0	490			350
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	1583	1770	5085	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3433	1583	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				386
Link Speed (mph)	35			35	35	
Link Distance (ft)	2100			595	477	
Travel Time (s)	40.9			11.6	9.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	348	552	1408	2022	775
Shared Lane Traffic (%)						
Lane Group Flow (vph)	375	348	552	1408	2022	775
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	18			15
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
5: #1 KY17 & EB Ramps

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	11.0	11.0	22.5	22.5	22.5
Total Split (s)	21.0	44.0	44.0	99.0	55.0	55.0
Total Split (%)	17.5%	36.7%	36.7%	82.5%	45.8%	45.8%
Maximum Green (s)	15.0	38.0	38.0	93.0	49.0	49.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	14.9	58.9	38.0	93.1	49.1	49.1
Actuated g/C Ratio	0.12	0.49	0.32	0.78	0.41	0.41
v/c Ratio	0.88	0.45	0.99	0.36	0.97	0.89
Control Delay (s/veh)	73.8	22.2	67.0	2.9	33.3	19.1
Queue Delay	0.0	0.0	0.0	0.0	31.1	5.3
Total Delay (s/veh)	73.8	22.2	67.0	2.9	64.4	24.3
LOS	E	C	E	A	E	C
Approach Delay (s/veh)	49.0			21.0	53.3	
Approach LOS	D			C	D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 93 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay (s/veh): 41.2

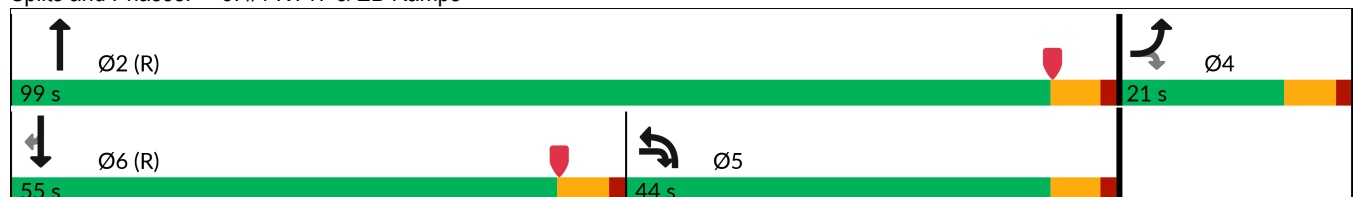
Intersection LOS: D

Intersection Capacity Utilization 88.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: #1 KY17 & EB Ramps



Lanes, Volumes, Timings

7: #1 KY17

06/17/2025

							
Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations	↔↔		↕↕	↕↕			
Traffic Volume (vph)	242	0	1995	1558	0	0	0
Future Volume (vph)	242	0	1995	1558	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		450			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		50				25	
Lane Util. Factor	0.97	1.00	0.95	0.95	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	3539	3539	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	3539	3539	0	0	0
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			786	1365		174	
Travel Time (s)			15.3	26.6		3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	263	0	2168	1693	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	263	0	2168	1693	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Left	Right	Left	Right
Median Width(ft)			24	24		0	
Link Offset(ft)			0	0		0	
Crosswalk Width(ft)			16	16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15			9	15	9
Number of Detectors	1		2	2			
Detector Template	Left		Thru	Thru			
Leading Detector (ft)	20		100	100			
Trailing Detector (ft)	0		0	0			
Detector 1 Position(ft)	0		0	0			
Detector 1 Size(ft)	20		6	6			
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0	0.0			
Detector 2 Position(ft)			94	94			
Detector 2 Size(ft)			6	6			
Detector 2 Type			Cl+Ex	Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)			0.0	0.0			
Turn Type	Prot		NA	NA			
Protected Phases	1		Free	2			
Permitted Phases							

Lanes, Volumes, Timings

7: #1 KY17

06/17/2025



Lane Group	SEU	SEL	SET	NWT	NWR	SWL	SWR
Detector Phase	1			2			
Switch Phase							
Minimum Initial (s)	5.0			5.0			
Minimum Split (s)	9.5			22.5			
Total Split (s)	14.0			46.0			
Total Split (%)	23.3%			76.7%			
Maximum Green (s)	9.5			41.5			
Yellow Time (s)	3.5			3.5			
All-Red Time (s)	1.0			1.0			
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.5			4.5			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?	Yes			Yes			
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Max			
Walk Time (s)				7.0			
Flash Don't Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effect Green (s)	8.9		60.0	42.1			
Actuated g/C Ratio	0.15		1.00	0.70			
v/c Ratio	0.52		0.61	0.68			
Control Delay (s/veh)	26.7		4.6	7.0			
Queue Delay	0.0		0.0	0.0			
Total Delay (s/veh)	26.7		4.6	7.0			
LOS	C		A	A			
Approach Delay (s/veh)			7.0	7.0			
Approach LOS			A	A			

Intersection Summary

Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 39 (65%), Referenced to phase 2:NWT, Start of Yellow	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay (s/veh): 7.0	Intersection LOS: A
Intersection Capacity Utilization 58.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: #1 KY17



Lanes, Volumes, Timings

8: #1 KY17

06/17/2025

Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations			□		↑↑↑	↑↑↑	
Traffic Volume (vph)	0	0	92	0	1548	2481	0
Future Volume (vph)	0	0	92	0	1548	2481	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		380			0
Storage Lanes	0	0		1			0
Taper Length (ft)	25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt							
Flt Protected			0.950				
Satd. Flow (prot)	0	0	1770	0	5085	5085	0
Flt Permitted			0.950				
Satd. Flow (perm)	0	0	1770	0	5085	5085	0
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)							
Link Speed (mph)	35				35	35	
Link Distance (ft)	202				477	611	
Travel Time (s)	3.9				9.3	11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	100	0	1683	2697	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	100	0	1683	2697	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	0				12	12	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	9	15			9
Number of Detectors			1		2	2	
Detector Template			Left		Thru	Thru	
Leading Detector (ft)			20		100	100	
Trailing Detector (ft)			0		0	0	
Detector 1 Position(ft)			0		0	0	
Detector 1 Size(ft)			20		6	6	
Detector 1 Type			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)			0.0		0.0	0.0	
Detector 1 Queue (s)			0.0		0.0	0.0	
Detector 1 Delay (s)			0.0		0.0	0.0	
Detector 2 Position(ft)					94	94	
Detector 2 Size(ft)					6	6	
Detector 2 Type					Cl+Ex	Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)					0.0	0.0	
Turn Type			Prot		NA	NA	
Protected Phases			5		Free	6	
Permitted Phases							

Lanes, Volumes, Timings

8: #1 KY17

06/17/2025



Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Detector Phase			5			6	
Switch Phase							
Minimum Initial (s)			5.0			5.0	
Minimum Split (s)			9.5			22.5	
Total Split (s)			14.0			46.0	
Total Split (%)			23.3%			76.7%	
Maximum Green (s)			9.5			41.5	
Yellow Time (s)			3.5			3.5	
All-Red Time (s)			1.0			1.0	
Lost Time Adjust (s)			0.0			0.0	
Total Lost Time (s)			4.5			4.5	
Lead/Lag			Lead			Lag	
Lead-Lag Optimize?			Yes			Yes	
Vehicle Extension (s)			3.0			3.0	
Recall Mode			None			C-Max	
Walk Time (s)						7.0	
Flash Don't Walk (s)						11.0	
Pedestrian Calls (#/hr)						0	
Act Effect Green (s)			8.1		60.0	45.8	
Actuated g/C Ratio			0.14		1.00	0.76	
v/c Ratio			0.42		0.33	0.70	
Control Delay (s/veh)			29.2		0.2	5.6	
Queue Delay			0.0		0.0	0.2	
Total Delay (s/veh)			29.2		0.2	5.8	
LOS			C		A	A	
Approach Delay (s/veh)					1.8	5.8	
Approach LOS					A	A	

Intersection Summary

Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 25 (42%), Referenced to phase 6: SBT, Start of Yellow	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay (s/veh): 4.2	Intersection LOS: A
Intersection Capacity Utilization 60.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: #1 KY17



Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/17/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	↑↑↑	↑↑↑	→
Traffic Volume (vph)	478	720	263	1285	1761	413
Future Volume (vph)	478	720	263	1285	1761	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0	450			430
Storage Lanes	2	1	1			1
Taper Length (ft)	100		50			
Lane Util. Factor	0.97	0.91	1.00	0.91	0.91	1.00
Frt	0.938	0.850				0.850
Flt Protected	0.972		0.950			
Satd. Flow (prot)	3295	1441	1770	5085	5085	1583
Flt Permitted	0.972		0.950			
Satd. Flow (perm)	3295	1441	1770	5085	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	148	1				449
Link Speed (mph)	35			35	35	
Link Distance (ft)	1802			611	946	
Travel Time (s)	35.1			11.9	18.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	520	783	286	1397	1914	449
Shared Lane Traffic (%)		47%				
Lane Group Flow (vph)	888	415	286	1397	1914	449
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	18	18	15			15
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
10: #1 KY17 & WB Ramps

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	5.0	5.0	4.0	4.0	4.0
Minimum Split (s)	22.0	11.0	11.0	22.0	22.0	22.0
Total Split (s)	40.0	29.0	29.0	80.0	51.0	51.0
Total Split (%)	33.3%	24.2%	24.2%	66.7%	42.5%	42.5%
Maximum Green (s)	34.0	23.0	23.0	74.0	45.0	45.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	31.9	60.9	23.0	76.1	47.1	47.1
Actuated g/C Ratio	0.27	0.51	0.19	0.63	0.39	0.39
v/c Ratio	0.90	0.57	0.84	0.43	0.96	0.50
Control Delay (s/veh)	48.4	23.7	65.3	8.4	30.4	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	48.4	23.7	65.3	8.4	30.4	1.1
LOS	D	C	E	A	C	A
Approach Delay (s/veh)	40.5			18.1	24.8	
Approach LOS	D			B	C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 80 (67%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 26.5

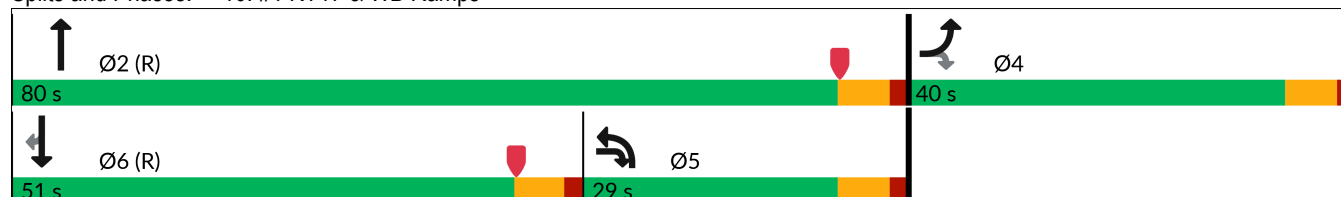
Intersection LOS: C

Intersection Capacity Utilization 84.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 10: #1 KY17 & WB Ramps



Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	2	743	45	14	13	685	1071	7	5	1386	294
Future Volume (vph)	302	2	743	45	14	13	685	1071	7	5	1386	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	0		0	240		0	230		210
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	50			25			50			50		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00
Frt			0.850		0.976			0.999				0.850
Flt Protected	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	0	1763	0	3433	3536	0	1770	5085	1583
Flt Permitted	0.950	0.953			0.970		0.950			0.950		
Satd. Flow (perm)	1681	1686	1583	0	1763	0	3433	3536	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233		7			1				217
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1212			313			946			1086	
Travel Time (s)		23.6			6.1			18.4			21.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	328	2	808	49	15	14	745	1164	8	5	1507	320
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	164	166	808	0	78	0	745	1172	0	5	1507	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	18		18	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8	5	4	4		5	2		1	6	
Permitted Phases			8									6

Lanes, Volumes, Timings
15: KY 17 & Orphanage Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	5	4	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	4.0	4.0
Minimum Split (s)	22.5	22.5	11.2	55.2	55.2		11.2	42.2		16.0	20.0	20.0
Total Split (s)	27.0	27.0	37.0	20.0	20.0		37.0	57.0		16.0	36.0	36.0
Total Split (%)	22.5%	22.5%	30.8%	16.7%	16.7%		30.8%	47.5%		13.3%	30.0%	30.0%
Maximum Green (s)	20.8	20.8	30.8	13.8	13.8		30.8	50.8		9.8	29.8	29.8
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.2	2.7	2.7		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2		6.2		6.2	6.2		6.2	6.2	6.2
Lead/Lag			Lag				Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0				
Flash Don't Walk (s)				42.0	42.0			29.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effect Green (s)	16.5	16.5	48.5		10.1		30.8	74.7		6.0	40.3	40.3
Actuated g/C Ratio	0.14	0.14	0.40		0.08		0.26	0.62		0.05	0.34	0.34
v/c Ratio	0.71	0.72	1.04		0.51		0.85	0.53		0.06	0.88	0.47
Control Delay (s/veh)	65.9	66.3	60.4		58.4		43.9	12.7		55.2	35.8	7.4
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	65.9	66.3	60.4		58.4		43.9	12.7		55.2	35.8	7.4
LOS	E	E	E		E		D	B		E	D	A
Approach Delay (s/veh)		62.0			58.4			24.8			30.9	
Approach LOS		E			E			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 52 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay (s/veh): 36.1

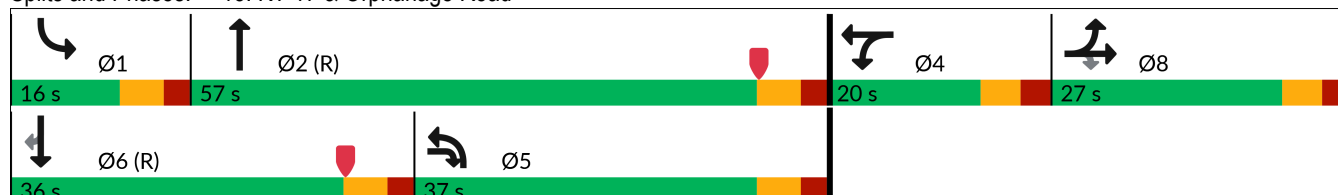
Intersection LOS: D

Intersection Capacity Utilization 92.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 15: KY 17 & Orphanage Road



Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/17/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Future Volume (vph)	504	837	45	2	780	405	332	30	567	278	281	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		270	200		200	360		360	0		0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	*1.00	*1.00	1.00	1.00	*1.00	1.00	*1.00	*1.00	0.91	*1.00	*1.00	*1.00
Frt			0.850			0.850			0.899	0.850		0.988
Flt Protected	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (prot)	3539	3725	1583	1770	3725	1583	1770	3306	1441	1770	3644	0
Flt Permitted	0.950			0.950			0.950	0.987		0.950	0.990	
Satd. Flow (perm)	3539	3725	1583	1770	3725	1583	1770	3306	1441	1770	3644	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			374			308	308		7
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1086			993			775			831	
Travel Time (s)		21.2			19.3			15.1			16.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	548	910	49	2	848	440	361	33	616	302	305	35
Shared Lane Traffic (%)							32%		50%	30%		
Lane Group Flow (vph)	548	910	49	2	848	440	245	457	308	211	431	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Over	Split	NA	
Protected Phases	5	2		1	6		8	8	5	4	4	
Permitted Phases			2			6						

Lanes, Volumes, Timings
20: Highland Pike & KY 17

06/17/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	5	2	2	1	6	6	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	38.5	38.5	22.5	22.5	10.5	32.7	32.7	
Total Split (s)	27.0	49.0	49.0	17.0	39.0	39.0	24.0	24.0	27.0	30.0	30.0	
Total Split (%)	22.5%	40.8%	40.8%	14.2%	32.5%	32.5%	20.0%	20.0%	22.5%	25.0%	25.0%	
Maximum Green (s)	21.5	43.5	43.5	11.5	33.5	33.5	18.3	18.3	21.5	24.3	24.3	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.2	4.5	4.2	4.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.7	5.7	5.5	5.7	5.7	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag			Lead			
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)					7.0	7.0				5.0	5.0	
Flash Don't Walk (s)					26.0	26.0				22.0	22.0	
Pedestrian Calls (#/hr)					0	0				0	0	
Act Effect Green (s)	21.0	61.4	61.4	6.8	38.3	38.3	18.1	18.1	21.0	20.2	20.2	
Actuated g/C Ratio	0.18	0.51	0.51	0.06	0.32	0.32	0.15	0.15	0.18	0.17	0.17	
v/c Ratio	0.89	0.48	0.06	0.02	0.71	0.58	0.92	0.60	0.61	0.71	0.70	
Control Delay (s/veh)	53.7	23.3	0.9	52.0	41.0	9.8	89.0	18.7	10.4	60.0	52.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	53.7	23.3	0.9	52.0	41.0	9.8	89.0	18.7	10.4	60.0	52.1	
LOS	D	C	A	D	D	A	F	B	B	E	D	
Approach Delay (s/veh)		33.6			30.4			33.2			54.7	
Approach LOS		C			C			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay (s/veh): 35.6

Intersection LOS: D

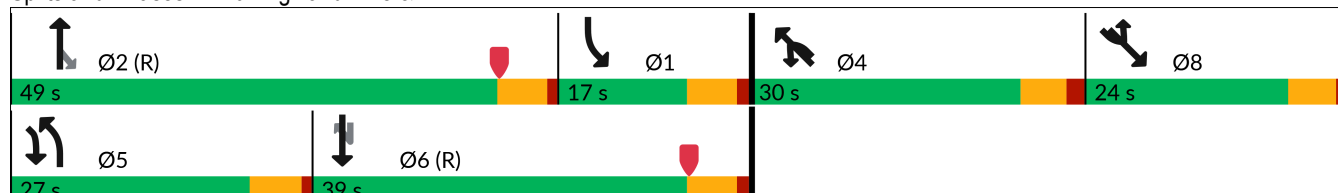
Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 20: Highland Pike & KY 17



Lanes, Volumes, Timings
30: #1 KY17 & Dudley Road

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	432	0	0	21	0	1782	18	0	1805	375
Future Volume (vph)	0	0	432	0	0	21	0	1782	18	0	1805	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	260		35	120		220
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.865			0.865		0.998				0.850
Flt Protected												
Satd. Flow (prot)	0	0	1611	0	0	1611	0	5075	0	0	5085	1583
Flt Permitted												
Satd. Flow (perm)	0	0	1611	0	0	1611	0	5075	0	0	5085	1583
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1196			328			755			595	
Travel Time (s)		23.3			6.4			14.7			11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	470	0	0	23	0	1937	20	0	1962	408
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	470	0	0	23	0	1957	0	0	1962	408
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	68.3%						ICU Level of Service C					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

30: #1 KY17 & Dudley Road

07/22/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	432	0	0	21	0	1782	18	0	1805	375
Future Volume (Veh/h)	0	0	432	0	0	21	0	1782	18	0	1805	375
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	470	0	0	23	0	1937	20	0	1962	408
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)												595
pX, platoon unblocked	0.63	0.63	0.63	0.63	0.63		0.63					
vC, conflicting volume	2631	3919	654	2601	3909	656	1962				1957	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1520	3574	0	1473	3558	656	454				1957	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	31	100	100	94	100				100	
cM capacity (veh/h)	48	3	680	17	4	408	692				294	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4			
Volume Total	470	23	775	775	407	654	654	654	408			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	470	23	0	0	20	0	0	0	408			
cSH	680	408	1700	1700	1700	1700	1700	1700	1700			
Volume to Capacity	0.69	0.06	0.46	0.46	0.24	0.38	0.38	0.38	0.24			
Queue Length 95th (ft)	138	4	0	0	0	0	0	0	0			
Control Delay (s/veh)	21.3	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Lane LOS	C	B										
Approach Delay (s/veh)	21.3	14.3	0.0	0.0								
Approach LOS	C	B										
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			68.3%	ICU Level of Service					C			
Analysis Period (min)			15									

Appendix F:

SimTraffic Queue Reports

Intersection: 5: #1 KY17 & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	435	485	1633	245	533	552	567	622	199
Average Queue (ft)	368	403	721	241	472	264	246	292	31
95th Queue (ft)	495	560	1778	249	633	573	452	514	234
Link Distance (ft)			2059		516	516	1021	1021	1021
Upstream Blk Time (%)			1		15	0			
Queuing Penalty (veh)			0		173	6			
Storage Bay Dist (ft)	385	385		220					
Storage Blk Time (%)	19	25	4	43	3				
Queuing Penalty (veh)	62	81	25	392	16				

Intersection: 10: #1 KY17/KY17 & WB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T
Maximum Queue (ft)	450	500	1161	414	697	484	326	333	294
Average Queue (ft)	337	389	451	287	251	195	171	198	152
95th Queue (ft)	485	540	991	427	511	369	278	304	256
Link Distance (ft)			1738		1021	1021	839	839	839
Upstream Blk Time (%)			0						
Queuing Penalty (veh)			0						
Storage Bay Dist (ft)	400	400		390					
Storage Blk Time (%)	3	18	10	4	0				0
Queuing Penalty (veh)	8	46	61	35	0				0

Intersection: 15: KY17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	197	200	152	74	264	290	684	570	58	165	234	287
Average Queue (ft)	75	98	58	23	179	226	312	256	13	68	112	143
95th Queue (ft)	155	165	117	57	274	331	596	494	39	139	202	239
Link Distance (ft)		886	886	214			839	839		979	979	979
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	175				240	240			230			
Storage Blk Time (%)	0	1			1	6	11			0		3
Queuing Penalty (veh)	0	1			9	52	57			0		7

Intersection: 15: KY17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	236
Average Queue (ft)	62
95th Queue (ft)	150
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	279	675	543	76	97	313	419	250	236	291	263
Average Queue (ft)	208	231	217	140	37	14	157	246	148	135	195	150
95th Queue (ft)	290	311	524	344	70	57	268	411	289	227	259	225
Link Distance (ft)			979	979			404	404			698	698
Upstream Blk Time (%)								3				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	230	230			270	200			200	360		
Storage Blk Time (%)	7	19	0	0			3	16	1			
Queuing Penalty (veh)	33	92	1	0			0	50	3			

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	210	76	108	26
Average Queue (ft)	77	21	47	3
95th Queue (ft)	165	56	97	17
Link Distance (ft)		257	257	257
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & #1 Dudlly/Dudley Road

Movement	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	1126	350	30	210	3566	3570	72	129	192	205	114
Average Queue (ft)	957	210	6	168	3300	3292	5	50	53	76	37
95th Queue (ft)	1386	484	21	262	4193	4210	35	108	134	155	81
Link Distance (ft)	1118		268		3512	3512			516	516	
Upstream Blk Time (%)	51				77	74					
Queuing Penalty (veh)	0				0	0					
Storage Bay Dist (ft)		300		160			35	120			220
Storage Blk Time (%)	83	0		12	57	29	0	1	2	0	0
Queuing Penalty (veh)	56	0		121	132	4	0	5	1	0	0

Network Summary

Network wide Queuing Penalty: 1531

Intersection: 5: #1 KY17 & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	288	343	398	270	552	522	860	888	774
Average Queue (ft)	174	154	208	268	523	218	582	619	213
95th Queue (ft)	253	273	335	273	577	600	918	942	734
Link Distance (ft)			2049		516	516	1023	1023	1023
Upstream Blk Time (%)					42	0	0	0	0
Queuing Penalty (veh)					366	3	0	3	2
Storage Bay Dist (ft)	385	385		220					
Storage Blk Time (%)	0	0	0	66	2				
Queuing Penalty (veh)	0	0	1	403	12				

Intersection: 10: #1 KY17 & WB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T
Maximum Queue (ft)	450	500	1776	406	568	438	218	235	223
Average Queue (ft)	428	490	1547	221	272	184	143	166	148
95th Queue (ft)	515	546	2227	373	491	362	206	228	204
Link Distance (ft)			1730		1023	1023	836	836	836
Upstream Blk Time (%)			51						
Queuing Penalty (veh)			0						
Storage Bay Dist (ft)	400	400		390					
Storage Blk Time (%)	36	68	37	2	2				
Queuing Penalty (veh)	132	248	316	12	5				

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	225	887	906	134	265	290	850	838	27	343	402	488
Average Queue (ft)	137	729	803	52	257	283	698	224	3	217	257	296
95th Queue (ft)	272	1196	1058	116	287	308	1044	690	18	319	368	440
Link Distance (ft)		848	848	214			836	836		973	973	973
Upstream Blk Time (%)		50	59				9	0				
Queuing Penalty (veh)		0	0				81	1				
Storage Bay Dist (ft)	175				240	240			230			
Storage Blk Time (%)	2	6			12	54	0			8		27
Queuing Penalty (veh)	3	9			64	294	1			0		82

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	260
Average Queue (ft)	142
95th Queue (ft)	312
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

2037 PM No Build

05/09/2025

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	253	279	340	233	47	27	377	439	250	261	302	250
Average Queue (ft)	180	197	122	112	9	3	239	336	200	163	207	152
95th Queue (ft)	264	279	254	200	32	16	352	487	327	239	283	229
Link Distance (ft)			973	973			404	404			708	708
Upstream Blk Time (%)							0	11				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)	230	230			270	200			200	360		
Storage Blk Time (%)	2	8	0				17	28	3		0	
Queuing Penalty (veh)	8	32	0				0	116	12		0	

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	233	251	281	268
Average Queue (ft)	110	125	240	180
95th Queue (ft)	203	220	301	266
Link Distance (ft)		254	254	254
Upstream Blk Time (%)		0	13	1
Queuing Penalty (veh)		0	0	0
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 Dudley Road/Dudley Road & #1 KY17

Movement	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	1172	325	68	210	3404	3413	34	145	513	525	270
Average Queue (ft)	1111	106	17	136	2391	2351	1	15	345	365	156
95th Queue (ft)	1330	349	50	276	4008	4027	16	69	513	537	345
Link Distance (ft)	1133		267		3418	3418			516	516	
Upstream Blk Time (%)	89				32	30			0	0	
Queuing Penalty (veh)	0				0	0			1	4	
Storage Bay Dist (ft)		300		160			35	120			220
Storage Blk Time (%)	95	0		0	71	23	0		27	23	0
Queuing Penalty (veh)	194	0		1	61	1	0		3	66	0

Network Summary

Network wide Queuing Penalty: 2538

Intersection: 7: Dudley Rd & #1 KY17

Movement	EB	EB	EB	SE	SE	SE	NW	NW	NW
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	157	156	85	311	324	343	450	1403	1425
Average Queue (ft)	94	87	16	173	191	148	262	527	523
95th Queue (ft)	146	145	49	295	314	270	535	1123	1132
Link Distance (ft)		1496		860	860	860		3060	3060
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300		100				350		
Storage Blk Time (%)		6						24	
Queuing Penalty (veh)		14						55	

Intersection: 9: #1 KY17/KY 17 & EB Ramp

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	T	T	T	T
Maximum Queue (ft)	38	50	450	435	337	64	101	76
Average Queue (ft)	24	25	416	332	267	47	56	51
95th Queue (ft)	34	42	458	431	363	66	80	63
Link Distance (ft)	18	18	318	318	318	42	42	42
Upstream Blk Time (%)	47	42	64	6	1	23	34	28
Queuing Penalty (veh)	161	145	384	37	8	78	114	94
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 10: #1 KY17 & WB Ramp

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	T
Maximum Queue (ft)	352	371	374	472	623	394	360	228	253	260
Average Queue (ft)	199	210	164	350	331	214	197	108	137	154
95th Queue (ft)	301	320	299	493	544	359	337	203	225	243
Link Distance (ft)			1726		936	936	936	844	844	844
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	400	400		400						
Storage Blk Time (%)	0	0	0	6	3					
Queuing Penalty (veh)	0	0	1	40	15					

Intersection: 11: #1 KY17 & EB Ramp

Movement	EB	EB	EB	B22	NB
Directions Served	T	T	R	T	L
Maximum Queue (ft)	670	693	200	1293	443
Average Queue (ft)	556	570	193	521	294
95th Queue (ft)	743	779	254	1455	512
Link Distance (ft)	597	597		1458	322
Upstream Blk Time (%)	17	27		9	10
Queuing Penalty (veh)	0	0		0	60
Storage Bay Dist (ft)			150		
Storage Blk Time (%)		82	0		
Queuing Penalty (veh)		264	0		

Intersection: 13: KY 17/#1 KY17

Movement	NB	SB	SB	SB
Directions Served	T	T	T	TR
Maximum Queue (ft)	18	250	283	311
Average Queue (ft)	1	92	118	100
95th Queue (ft)	10	197	227	220
Link Distance (ft)	42	936	936	936
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	225	518	186	125	320	351	528	508	66	131	169	230
Average Queue (ft)	179	320	79	50	210	236	198	197	14	47	69	104
95th Queue (ft)	268	611	141	98	293	324	419	411	44	99	135	187
Link Distance (ft)		832	832	217			844	844		969	969	969
Upstream Blk Time (%)							0	0				
Queuing Penalty (veh)							1	3				
Storage Bay Dist (ft)	175				300	300			230			
Storage Blk Time (%)	46	43			1	2	2					1
Queuing Penalty (veh)	47	40			7	16	9					2

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	166
Average Queue (ft)	46
95th Queue (ft)	103
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: #1 KY17

Movement	NB	NB	NB	SB	SB	SB	SE
Directions Served	L	T	T	T	T	T	R
Maximum Queue (ft)	267	256	256	291	308	327	290
Average Queue (ft)	221	205	141	134	156	143	108
95th Queue (ft)	270	318	263	276	302	288	227
Link Distance (ft)	157	157	157	318	318	318	322
Upstream Blk Time (%)	28	50	11	0	0	0	0
Queuing Penalty (veh)	226	396	92	0	0	2	1
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	280	615	574	279	130	315	414	250	233	272	234
Average Queue (ft)	238	259	337	254	65	17	160	232	149	129	198	148
95th Queue (ft)	288	315	597	478	153	69	257	382	281	235	266	221
Link Distance (ft)			969	969			399	399			714	714
Upstream Blk Time (%)								2				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	230	230			300	200			200	360		
Storage Blk Time (%)	7	21	2	1			4	15	0			
Queuing Penalty (veh)	34	102	15	2			0	47	1			

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	187	55	116	26
Average Queue (ft)	73	15	39	4
95th Queue (ft)	166	44	87	18
Link Distance (ft)		255	255	255
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & Dudley Road

Movement	NB	NB	NB	NB	B8	B8	SB
Directions Served	T	T	T	R	T	T	T
Maximum Queue (ft)	253	257	260	118	876	870	6
Average Queue (ft)	129	161	112	4	432	422	0
95th Queue (ft)	276	335	281	49	1031	1027	3
Link Distance (ft)	182	182	182		860	860	157
Upstream Blk Time (%)	6	18	5	0	1	1	
Queuing Penalty (veh)	49	148	40	0	12	7	
Storage Bay Dist (ft)				120			
Storage Blk Time (%)				5			
Queuing Penalty (veh)				1			

Network Summary

Network wide Queuing Penalty: 2774

Intersection: 7: Dudley Rd & #1 KY17

Movement	EB	EB	EB	SE	SE	SE	NW	NW	NW
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	157	156	85	311	324	343	450	1403	1425
Average Queue (ft)	94	87	16	173	191	148	262	527	523
95th Queue (ft)	146	145	49	295	314	270	535	1123	1132
Link Distance (ft)		1496		860	860	860		3060	3060
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300		100				350		
Storage Blk Time (%)		6						24	
Queuing Penalty (veh)		14						55	

Intersection: 9: #1 KY17 & EB Ramp

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	T	T	T	T
Maximum Queue (ft)	38	50	450	435	337	64	101	76
Average Queue (ft)	24	25	416	332	267	47	56	51
95th Queue (ft)	34	42	458	431	363	66	80	63
Link Distance (ft)	18	18	318	318	318	42	42	42
Upstream Blk Time (%)	47	42	64	6	1	23	34	28
Queuing Penalty (veh)	161	145	384	37	8	78	114	94
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 10: #1 KY17 & WB Ramp

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	T
Maximum Queue (ft)	352	371	374	472	623	394	360	228	253	260
Average Queue (ft)	199	210	164	350	331	214	197	108	137	154
95th Queue (ft)	301	320	299	493	544	359	337	203	225	243
Link Distance (ft)			1726		936	936	936	844	844	844
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	400	400		400						
Storage Blk Time (%)	0	0	0	6	3					
Queuing Penalty (veh)	0	0	1	40	15					

Intersection: 11: EB Ramp Displaced Left & EB Ramp

Movement	EB	EB	EB	B22	NB
Directions Served	T	T	R	T	L
Maximum Queue (ft)	670	693	200	1293	443
Average Queue (ft)	556	570	193	521	294
95th Queue (ft)	743	779	254	1455	512
Link Distance (ft)	597	597		1458	322
Upstream Blk Time (%)	17	27		9	10
Queuing Penalty (veh)	0	0		0	60
Storage Bay Dist (ft)			150		
Storage Blk Time (%)		82	0		
Queuing Penalty (veh)		264	0		

Intersection: 13: #1 KY17

Movement	NB	SB	SB	SB
Directions Served	T	T	T	TR
Maximum Queue (ft)	18	250	283	311
Average Queue (ft)	1	92	118	100
95th Queue (ft)	10	197	227	220
Link Distance (ft)	42	936	936	936
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	225	518	186	125	320	351	528	508	66	131	169	230
Average Queue (ft)	179	320	79	50	210	236	198	197	14	47	69	104
95th Queue (ft)	268	611	141	98	293	324	419	411	44	99	135	187
Link Distance (ft)		832	832	217			844	844		969	969	969
Upstream Blk Time (%)							0	0				
Queuing Penalty (veh)							1	3				
Storage Bay Dist (ft)	175				300	300			230			
Storage Blk Time (%)	46	43			1	2	2					1
Queuing Penalty (veh)	47	40			7	16	9					2

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	166
Average Queue (ft)	46
95th Queue (ft)	103
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: #1 KY17 & EB Ramp Displaced Left

Movement	NB	NB	NB	SB	SB	SB	SE
Directions Served	L	T	T	T	T	T	R
Maximum Queue (ft)	267	256	256	291	308	327	290
Average Queue (ft)	221	205	141	134	156	143	108
95th Queue (ft)	270	318	263	276	302	288	227
Link Distance (ft)	157	157	157	318	318	318	322
Upstream Blk Time (%)	28	50	11	0	0	0	0
Queuing Penalty (veh)	226	396	92	0	0	2	1
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	280	615	574	279	130	315	414	250	233	272	234
Average Queue (ft)	238	259	337	254	65	17	160	232	149	129	198	148
95th Queue (ft)	288	315	597	478	153	69	257	382	281	235	266	221
Link Distance (ft)			969	969			399	399			714	714
Upstream Blk Time (%)								2				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	230	230			300	200			200	360		
Storage Blk Time (%)	7	21	2	1			4	15	0			
Queuing Penalty (veh)	34	102	15	2			0	47	1			

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	187	55	116	26
Average Queue (ft)	73	15	39	4
95th Queue (ft)	166	44	87	18
Link Distance (ft)		255	255	255
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & Dudley Road

Movement	NB	NB	NB	NB	B8	B8	SB
Directions Served	T	T	T	R	T	T	T
Maximum Queue (ft)	253	257	260	118	876	870	6
Average Queue (ft)	129	161	112	4	432	422	0
95th Queue (ft)	276	335	281	49	1031	1027	3
Link Distance (ft)	182	182	182		860	860	157
Upstream Blk Time (%)	6	18	5	0	1	1	
Queuing Penalty (veh)	49	148	40	0	12	7	
Storage Bay Dist (ft)				120			
Storage Blk Time (%)				5			
Queuing Penalty (veh)				1			

Network Summary

Network wide Queuing Penalty: 2774

Intersection: 7: Dudley Rd & #1 KY17

Movement	EB	EB	EB	SE	SE	SE	B8	B8	B8	NW	NW	NW
Directions Served	L	L	R	T	T	R	T	T	T	L	T	T
Maximum Queue (ft)	196	251	150	212	300	98	11	11	30	140	180	224
Average Queue (ft)	76	133	102	102	112	21	0	0	1	73	101	102
95th Queue (ft)	160	216	171	168	206	58	6	6	10	121	175	182
Link Distance (ft)		1409		895	895	895	136	136	136		2564	2564
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		100							350		
Storage Blk Time (%)		17	13									
Queuing Penalty (veh)		56	29									

Intersection: 9: #1 KY17 & EB Ramp

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	U	T	T	T	T	T
Maximum Queue (ft)	27	36	31	384	359	60	86	63
Average Queue (ft)	7	4	1	228	184	51	55	50
95th Queue (ft)	25	21	11	400	362	62	73	64
Link Distance (ft)	17	17		359	359	46	46	46
Upstream Blk Time (%)	9	3		2	1	31	36	23
Queuing Penalty (veh)	17	5		12	3	187	217	137
Storage Bay Dist (ft)			250					
Storage Blk Time (%)				12				
Queuing Penalty (veh)				0				

Intersection: 10: #1 KY17 & WB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	R
Maximum Queue (ft)	411	446	1053	434	556	438	315	339	362	248
Average Queue (ft)	263	287	359	219	312	209	176	223	237	13
95th Queue (ft)	409	454	925	357	494	365	277	311	332	128
Link Distance (ft)			1729		940	940	848	848	848	
Upstream Blk Time (%)			1							
Queuing Penalty (veh)			0							
Storage Bay Dist (ft)	400	400		400						350
Storage Blk Time (%)	6	5	3	0	4			0	0	
Queuing Penalty (veh)	19	19	28	0	11			2	0	

Intersection: 11: #1 KY17 & EB Ramp

Movement	EB	EB	EB	NB
Directions Served	T	T	R	L
Maximum Queue (ft)	239	201	65	369
Average Queue (ft)	121	83	2	176
95th Queue (ft)	192	158	37	433
Link Distance (ft)	525	525		358
Upstream Blk Time (%)				1
Queuing Penalty (veh)				5
Storage Bay Dist (ft)			150	
Storage Blk Time (%)		0		
Queuing Penalty (veh)		1		

Intersection: 13: #1 KY17

Movement	SB	SB	SB
Directions Served	T	T	TR
Maximum Queue (ft)	252	341	324
Average Queue (ft)	139	170	125
95th Queue (ft)	237	286	247
Link Distance (ft)	940	940	940
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	225	847	852	147	350	400	861	846	38	402	419	547
Average Queue (ft)	144	562	685	71	294	327	420	198	4	215	248	306
95th Queue (ft)	254	1116	1039	129	414	464	935	573	20	319	353	456
Link Distance (ft)		842	842	257			848	848		979	979	979
Upstream Blk Time (%)		39	39				4	0				
Queuing Penalty (veh)		0	0				35	0				
Storage Bay Dist (ft)	175				300	300			230			
Storage Blk Time (%)	4	8			17	30	0			3		17
Queuing Penalty (veh)	6	12			91	163	0			0		50

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	260
Average Queue (ft)	197
95th Queue (ft)	345
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: #1 KY17

Movement	NB	NB	NB	SB	SB	SB	SE
Directions Served	L	T	T	T	T	T	R
Maximum Queue (ft)	236	211	152	283	302	298	349
Average Queue (ft)	209	87	26	91	110	80	172
95th Queue (ft)	222	230	108	243	278	225	292
Link Distance (ft)	124	124	124	359	359	359	358
Upstream Blk Time (%)	58	10	2	0	0	0	0
Queuing Penalty (veh)	336	59	9	0	0	0	0
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	280	638	544	347	19	370	421	250	237	299	283
Average Queue (ft)	213	236	313	239	31	2	204	263	176	153	200	138
95th Queue (ft)	298	323	571	409	136	14	307	426	306	220	272	227
Link Distance (ft)			979	979			399	399			714	714
Upstream Blk Time (%)								3				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	230	230			300	200			200	360		
Storage Blk Time (%)	11	22	4	1			8	17	1		0	
Queuing Penalty (veh)	48	95	19	1			0	69	3		0	

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	220	221	272	278
Average Queue (ft)	90	128	236	168
95th Queue (ft)	181	200	296	263
Link Distance (ft)		255	255	255
Upstream Blk Time (%)			8	1
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & Dudley Road

Movement	WB	NB	NB	NB	B8	B8	SB
Directions Served	L	T	T	T	T	T	T
Maximum Queue (ft)	94	221	216	140	633	649	15
Average Queue (ft)	26	175	143	54	221	238	1
95th Queue (ft)	77	259	269	161	610	634	9
Link Distance (ft)	388	136	136	136	895	895	124
Upstream Blk Time (%)		27	13	1			
Queuing Penalty (veh)		156	74	3			
Storage Bay Dist (ft)							
Storage Blk Time (%)				1			
Queuing Penalty (veh)				0			

Network Summary

Network wide Queuing Penalty: 1982

Intersection: 7: Dudley Rd & #1 KY17

Movement	EB	EB	EB	SE	SE	SE	B8	B8	B8	NW	NW	NW
Directions Served	L	L	R	T	T	R	T	T	T	L	T	T
Maximum Queue (ft)	196	251	150	212	300	98	11	11	30	140	180	224
Average Queue (ft)	76	133	102	102	112	21	0	0	1	73	101	102
95th Queue (ft)	160	216	171	168	206	58	6	6	10	121	175	182
Link Distance (ft)		1409		895	895	895	136	136	136		2564	2564
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		100							350		
Storage Blk Time (%)		17	13									
Queuing Penalty (veh)		56	29									

Intersection: 9: #1 KY17 & EB Ramp

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	U	T	T	T	T	T
Maximum Queue (ft)	27	36	31	384	359	60	86	63
Average Queue (ft)	7	4	1	228	184	51	55	50
95th Queue (ft)	25	21	11	400	362	62	73	64
Link Distance (ft)	17	17		359	359	46	46	46
Upstream Blk Time (%)	9	3		2	1	31	36	23
Queuing Penalty (veh)	17	5		12	3	187	217	137
Storage Bay Dist (ft)			250					
Storage Blk Time (%)				12				
Queuing Penalty (veh)				0				

Intersection: 10: #1 KY17 & WB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	R
Maximum Queue (ft)	411	446	1053	434	556	438	315	339	362	248
Average Queue (ft)	263	287	359	219	312	209	176	223	237	13
95th Queue (ft)	409	454	925	357	494	365	277	311	332	128
Link Distance (ft)			1729		940	940	848	848	848	
Upstream Blk Time (%)			1							
Queuing Penalty (veh)			0							
Storage Bay Dist (ft)	400	400		400						350
Storage Blk Time (%)	6	5	3	0	4			0	0	
Queuing Penalty (veh)	19	19	28	0	11			2	0	

Intersection: 11: EB Ramp Displaced Left & EB Ramp

Movement	EB	EB	EB	NB
Directions Served	T	T	R	L
Maximum Queue (ft)	239	201	65	369
Average Queue (ft)	121	83	2	176
95th Queue (ft)	192	158	37	433
Link Distance (ft)	525	525		358
Upstream Blk Time (%)				1
Queuing Penalty (veh)				5
Storage Bay Dist (ft)			150	
Storage Blk Time (%)		0		
Queuing Penalty (veh)		1		

Intersection: 13: #1 KY17

Movement	SB	SB	SB
Directions Served	T	T	TR
Maximum Queue (ft)	252	341	324
Average Queue (ft)	139	170	125
95th Queue (ft)	237	286	247
Link Distance (ft)	940	940	940
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	225	847	852	147	350	400	861	846	38	402	419	547
Average Queue (ft)	144	562	685	71	294	327	420	198	4	215	248	306
95th Queue (ft)	254	1116	1039	129	414	464	935	573	20	319	353	456
Link Distance (ft)		842	842	257			848	848		979	979	979
Upstream Blk Time (%)		39	39				4	0				
Queuing Penalty (veh)		0	0				35	0				
Storage Bay Dist (ft)	175				300	300			230			
Storage Blk Time (%)	4	8			17	30	0			3		17
Queuing Penalty (veh)	6	12			91	163	0			0		50

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	260
Average Queue (ft)	197
95th Queue (ft)	345
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: #1 KY17 & EB Ramp Displaced Left

Movement	NB	NB	NB	SB	SB	SB	SE
Directions Served	L	T	T	T	T	T	R
Maximum Queue (ft)	236	211	152	283	302	298	349
Average Queue (ft)	209	87	26	91	110	80	172
95th Queue (ft)	222	230	108	243	278	225	292
Link Distance (ft)	124	124	124	359	359	359	358
Upstream Blk Time (%)	58	10	2	0	0	0	0
Queuing Penalty (veh)	336	59	9	0	0	0	0
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	280	638	544	347	19	370	421	250	237	299	283
Average Queue (ft)	213	236	313	239	31	2	204	263	176	153	200	138
95th Queue (ft)	298	323	571	409	136	14	307	426	306	220	272	227
Link Distance (ft)			979	979			399	399			714	714
Upstream Blk Time (%)								3				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	230	230			300	200			200	360		
Storage Blk Time (%)	11	22	4	1			8	17	1		0	
Queuing Penalty (veh)	48	95	19	1			0	69	3		0	

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	220	221	272	278
Average Queue (ft)	90	128	236	168
95th Queue (ft)	181	200	296	263
Link Distance (ft)		255	255	255
Upstream Blk Time (%)			8	1
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & Dudley Road

Movement	WB	NB	NB	NB	B8	B8	SB
Directions Served	L	T	T	T	T	T	T
Maximum Queue (ft)	94	221	216	140	633	649	15
Average Queue (ft)	26	175	143	54	221	238	1
95th Queue (ft)	77	259	269	161	610	634	9
Link Distance (ft)	388	136	136	136	895	895	124
Upstream Blk Time (%)		27	13	1			
Queuing Penalty (veh)		156	74	3			
Storage Bay Dist (ft)							
Storage Blk Time (%)				1			
Queuing Penalty (veh)				0			

Network Summary

Network wide Queuing Penalty: 1982

Intersection: 5: #1 KY17 & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	435	485	1292	515	568	503	411	247	279	355	263
Average Queue (ft)	338	369	413	435	380	260	191	136	150	205	5
95th Queue (ft)	495	558	1079	574	653	475	342	214	235	313	74
Link Distance (ft)			2047		516	516	516	1020	1020	1020	
Upstream Blk Time (%)				2	6	0					
Queuing Penalty (veh)				0	54	1					
Storage Bay Dist (ft)	385	385		490							350
Storage Blk Time (%)	11	17	4	7	6					1	
Queuing Penalty (veh)	36	56	26	46	35					2	

Intersection: 7: #1 KY17

Movement	SE	SE	SE	SE	B2	B2	NW	NW
Directions Served	U	U	T	T	T	T	T	T
Maximum Queue (ft)	226	236	160	36	20	27	805	784
Average Queue (ft)	133	121	7	0	0	0	354	346
95th Queue (ft)	197	196	71	0	0	0	675	663
Link Distance (ft)			764	764	765	765	1965	1965
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	450	450						
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 10: #1 KY17/KY17 & WB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	441	498	904	899	1018	958	804	318	637	727	365
Average Queue (ft)	228	313	306	594	493	428	279	187	280	397	147
95th Queue (ft)	416	482	627	994	1041	883	594	303	536	718	442
Link Distance (ft)			1748		1020	1020	1020	839	839	839	
Upstream Blk Time (%)					2	0			0	1	
Queuing Penalty (veh)					20	3			0	4	
Storage Bay Dist (ft)	400	400		850							340
Storage Blk Time (%)	1	7	7	7	5					17	0
Queuing Penalty (veh)	3	18	45	53	30					50	0

Intersection: 15: KY17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	170	198	167	99	290	858	855	867	57	98	190	241
Average Queue (ft)	69	105	55	26	241	384	327	314	13	34	66	133
95th Queue (ft)	139	178	118	70	336	757	722	712	40	81	144	216
Link Distance (ft)		886	886	214		839	839	839		979	979	979
Upstream Blk Time (%)						2	1	0				
Queuing Penalty (veh)						12	6	4				
Storage Bay Dist (ft)	175				240				230			
Storage Blk Time (%)	0	1			10	20						1
Queuing Penalty (veh)	0	1			31	62						2

Intersection: 15: KY17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	181
Average Queue (ft)	68
95th Queue (ft)	149
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	280	764	732	100	47	365	473	250	236	271	243
Average Queue (ft)	226	249	315	219	40	9	149	234	152	133	180	150
95th Queue (ft)	292	317	737	589	81	33	253	363	282	221	245	220
Link Distance (ft)			979	979			823	823			1289	1289
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230	230			270	200			200	360		
Storage Blk Time (%)	6	18	0	0			1	15	0			
Queuing Penalty (veh)	26	86	2	0			0	48	1			

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	186	93	113	30
Average Queue (ft)	84	17	44	5
95th Queue (ft)	166	54	87	21
Link Distance (ft)		668	668	668
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & #1 D1/Dudley Road

Movement	EB	WB	NB	NB	NB	B3	SB
Directions Served	R	R	T	T	TR	T	T
Maximum Queue (ft)	164	88	536	401	116	22	11
Average Queue (ft)	61	23	123	54	7	1	0
95th Queue (ft)	134	82	421	257	58	9	6
Link Distance (ft)	1121	268	765	765	765	764	516
Upstream Blk Time (%)			0	0			
Queuing Penalty (veh)			0	0			
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 764

Intersection: 5: #1 KY17 & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	268	274	271	482	499	388	148	348	354	336	325
Average Queue (ft)	147	149	115	309	142	84	36	237	259	226	14
95th Queue (ft)	232	238	224	481	387	255	95	317	340	306	121
Link Distance (ft)			2037		515	515	515	1021	1021	1021	
Upstream Blk Time (%)				1	1	0					
Queuing Penalty (veh)				0	4	0					
Storage Bay Dist (ft)	385	385		490							350
Storage Blk Time (%)				2	1					0	0
Queuing Penalty (veh)				7	4					0	0

Intersection: 7: #1 KY17

Movement	SE	SE	B2	B2	B2	NW	NW
Directions Served	U	U	T	T		T	T
Maximum Queue (ft)	144	117	688	721	249	196	219
Average Queue (ft)	79	62	45	79	9	113	84
95th Queue (ft)	125	104	311	420	127	168	162
Link Distance (ft)			697	697	697	1348	1348
Upstream Blk Time (%)			0	0	0		
Queuing Penalty (veh)			0	1	0		
Storage Bay Dist (ft)	450	450					
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 10: #1 KY17 & WB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	364	385	402	480	201	190	163	369	578	628	284
Average Queue (ft)	177	253	240	263	109	98	80	166	261	332	57
95th Queue (ft)	291	358	364	439	179	169	139	310	489	617	383
Link Distance (ft)			1735		1021	1021	1021	837	837	837	837
Upstream Blk Time (%)										0	0
Queuing Penalty (veh)										0	2
Storage Bay Dist (ft)	400	400		850							
Storage Blk Time (%)		0	1								
Queuing Penalty (veh)		0	8								

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	195	209	524	112	290	542	491	357	22	292	615	739
Average Queue (ft)	94	110	276	43	229	275	152	102	2	173	276	463
95th Queue (ft)	165	180	478	99	317	463	344	226	13	291	505	788
Link Distance (ft)		848	848	214		837	837	837		976	976	976
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	175				240				230			
Storage Blk Time (%)	0	1			5	12				2		32
Queuing Penalty (veh)	0	2			17	45				0		95

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	260
Average Queue (ft)	206
95th Queue (ft)	341
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	1
Queuing Penalty (veh)	7

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	280	762	706	226	17	689	839	250	250	309	212
Average Queue (ft)	229	252	394	279	25	2	265	369	221	123	191	107
95th Queue (ft)	300	325	766	582	102	12	515	673	306	238	274	189
Link Distance (ft)			976	976			1908	1908			707	707
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			1	0								
Storage Bay Dist (ft)	230	230			270	200			200	360		
Storage Blk Time (%)	17	35	1	1			14	31	7		0	
Queuing Penalty (veh)	71	147	5	0			0	127	26		0	

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	198	206	257	250
Average Queue (ft)	85	90	164	147
95th Queue (ft)	156	166	230	230
Link Distance (ft)		3374	3374	3374
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & Dudley Road

Movement	EB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	T	T	T
Maximum Queue (ft)	232	52	44	25	90	90	14
Average Queue (ft)	69	16	4	1	7	8	0
95th Queue (ft)	159	43	35	17	44	43	8
Link Distance (ft)	1137	269	697	697	515	515	515
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 572

Intersection: 5: #1 KY17 & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	434	484	754	514	573	501	381	307	470	502	266
Average Queue (ft)	285	300	175	423	337	248	188	146	165	204	10
95th Queue (ft)	413	443	529	551	600	460	313	245	307	372	110
Link Distance (ft)			2047		516	516	516	1020	1020	1020	
Upstream Blk Time (%)				2	4	0					
Queuing Penalty (veh)				0	31	0					
Storage Bay Dist (ft)	385	385		490							350
Storage Blk Time (%)	1	3	2	5	4					2	
Queuing Penalty (veh)	4	9	15	32	22					6	

Intersection: 7: #1 KY17

Movement	SE	SE	SE	B2	B2	NW	NW
Directions Served	U	U	T	T	T	T	T
Maximum Queue (ft)	413	414	367	257	283	627	644
Average Queue (ft)	248	243	42	18	10	317	309
95th Queue (ft)	388	396	224	212	154	567	568
Link Distance (ft)			764	765	765	1965	1965
Upstream Blk Time (%)				0	0		
Queuing Penalty (veh)				0	0		
Storage Bay Dist (ft)	450	450					
Storage Blk Time (%)	0	0					
Queuing Penalty (veh)	0	1					

Intersection: 10: #1 KY17 & WB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	367	416	630	762	501	486	287	281	357	506	365
Average Queue (ft)	188	270	253	358	169	183	162	113	147	195	35
95th Queue (ft)	371	429	553	644	358	336	247	233	275	368	210
Link Distance (ft)			1744		1020	1020	1020	839	839	839	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	400	400		850							340
Storage Blk Time (%)	0	6	4	0						1	0
Queuing Penalty (veh)	0	15	27	0						3	0

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	154	172	171	113	290	640	522	481	36	172	326	566
Average Queue (ft)	68	101	65	29	225	279	201	200	9	100	137	272
95th Queue (ft)	136	162	131	76	312	465	421	407	30	161	264	459
Link Distance (ft)		886	886	214		839	839	839		979	979	979
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	175				240				230			
Storage Blk Time (%)	0	0			9	17						12
Queuing Penalty (veh)	0	0			24	45						26

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	260
Average Queue (ft)	156
95th Queue (ft)	304
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	280	889	738	216	47	417	532	250	210	249	237
Average Queue (ft)	233	254	402	268	59	10	159	233	148	122	174	141
95th Queue (ft)	288	312	832	603	132	33	304	408	274	211	237	217
Link Distance (ft)			979	979			823	823			1289	1289
Upstream Blk Time (%)				0								
Queuing Penalty (veh)				0								
Storage Bay Dist (ft)	230	230			270	200			200	360		
Storage Blk Time (%)	9	24	0	1			3	13	0			
Queuing Penalty (veh)	41	115	3	2			0	42	1			

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	185	60	104	24
Average Queue (ft)	88	14	43	3
95th Queue (ft)	169	44	89	16
Link Distance (ft)		668	668	668
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & Dudley Road

Movement	EB	WB	NB	NB	NB	NB	B3	B3	B3	SB	SB	SB
Directions Served	R	R	L	T	T	TR	T	T	T	T	T	T
Maximum Queue (ft)	85	28	280	301	201	34	212	274	221	175	176	119
Average Queue (ft)	9	4	122	39	9	0	12	15	11	73	78	24
95th Queue (ft)	47	18	212	177	75	0	141	172	138	158	157	88
Link Distance (ft)	1121	268		765	765	765	764	764	764	516	516	516
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								1				
Storage Bay Dist (ft)			260									
Storage Blk Time (%)				1								
Queuing Penalty (veh)				2								

Intersection: 30: #1 KY17 & Dudley Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	256
Average Queue (ft)	110
95th Queue (ft)	238
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	220
Storage Blk Time (%)	1
Queuing Penalty (veh)	4

Network Summary

Network wide Queuing Penalty: 472

Intersection: 5: #1 KY17 & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	200	221	256	486	411	265	134	607	678	717	400
Average Queue (ft)	121	130	117	309	108	76	40	302	335	305	85
95th Queue (ft)	187	194	207	470	327	221	98	531	598	611	354
Link Distance (ft)			2037		515	515	515	1021	1021	1021	
Upstream Blk Time (%)				0	1					0	
Queuing Penalty (veh)				0	3					1	
Storage Bay Dist (ft)	385	385		490							350
Storage Blk Time (%)				0	0					4	0
Queuing Penalty (veh)				2	3					27	0

Intersection: 7: #1 KY17

Movement	SE	SE	B2	B2	NW	NW
Directions Served	U	U	T	T	T	T
Maximum Queue (ft)	146	115	504	534	188	228
Average Queue (ft)	69	59	39	53	115	89
95th Queue (ft)	121	97	292	342	184	178
Link Distance (ft)			696	696	1348	1348
Upstream Blk Time (%)			0	0		
Queuing Penalty (veh)			0	1		
Storage Bay Dist (ft)	450	450				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 10: #1 KY17 & WB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	448	499	718	466	358	336	292	406	832	843	365
Average Queue (ft)	225	317	336	307	150	143	123	222	308	442	161
95th Queue (ft)	380	481	601	503	265	248	230	365	541	769	458
Link Distance (ft)			1735		1021	1021	1021	837	837	837	
Upstream Blk Time (%)									0	1	
Queuing Penalty (veh)									0	5	
Storage Bay Dist (ft)	400	400		850							340
Storage Blk Time (%)	0	5	9							18	0
Queuing Penalty (veh)	0	17	79							75	2

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	208	577	877	127	290	683	611	590	115	428	981	1004
Average Queue (ft)	127	449	624	45	257	380	271	215	8	251	548	725
95th Queue (ft)	221	1266	1295	100	331	687	571	453	59	416	1062	1166
Link Distance (ft)		1200	1200	214		837	837	837		975	975	975
Upstream Blk Time (%)		19	19			2	2	0			0	8
Queuing Penalty (veh)		0	0			12	10	0			1	41
Storage Bay Dist (ft)	175				240				230			
Storage Blk Time (%)	7	5			16	31				9		58
Queuing Penalty (veh)	10	8			55	107				0		171

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	260
Average Queue (ft)	239
95th Queue (ft)	334
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	280	993	963	141	108	1000	1044	250	251	291	257
Average Queue (ft)	229	253	539	349	23	5	401	514	230	151	195	126
95th Queue (ft)	303	330	1044	760	104	51	904	1061	308	236	271	222
Link Distance (ft)			975	975			1260	1260			708	708
Upstream Blk Time (%)			4	0			0	4				
Queuing Penalty (veh)			29	0			0	0				
Storage Bay Dist (ft)	230	230			270	200			200	360		
Storage Blk Time (%)	20	49	2	1			19	40	6			
Queuing Penalty (veh)	85	208	9	1			0	163	24			

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	244	428	565	485
Average Queue (ft)	117	169	296	239
95th Queue (ft)	207	370	486	432
Link Distance (ft)		662	662	662
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & Dudley Road

Movement	EB	WB	NB	NB	NB	B2	SB	SB	SB	SB
Directions Served	R	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	162	46	84	73	28	6	320	409	400	47
Average Queue (ft)	43	9	37	5	1	0	140	173	118	2
95th Queue (ft)	121	34	73	37	13	3	320	382	306	27
Link Distance (ft)	1137	269		696	696	477	515	515	515	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			260							220
Storage Blk Time (%)									0	
Queuing Penalty (veh)									1	

Network Summary

Network wide Queuing Penalty: 1152

Intersection: 5: #1 KY17 & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	429	477	1020	515	581	516	430	363	438	517	400
Average Queue (ft)	312	358	332	441	444	299	211	207	290	419	204
95th Queue (ft)	435	514	845	583	660	502	357	329	488	587	532
Link Distance (ft)			2047		516	516	516	433	433	433	
Upstream Blk Time (%)				4	12	0		0	0	23	
Queuing Penalty (veh)				0	99	1		0	1	115	
Storage Bay Dist (ft)	385	385		490							350
Storage Blk Time (%)	3	6	7	10	11					32	0
Queuing Penalty (veh)	9	20	47	65	66					88	0

Intersection: 7: #1 KY17

Movement	SE	SE	SE	SE	B2	B2	B2	NW	NW
Directions Served	U	U	T	T	T	T		T	T
Maximum Queue (ft)	366	325	153	57	494	300	113	596	618
Average Queue (ft)	212	188	9	3	20	14	6	317	306
95th Queue (ft)	314	288	78	40	206	154	73	521	519
Link Distance (ft)			764	764	765	765	765	1965	1965
Upstream Blk Time (%)					0				
Queuing Penalty (veh)					0				
Storage Bay Dist (ft)	450	450							
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 8: #1 KY17

Movement	NB	NB	NB	SB	SB	SB
Directions Served	U	T	T	T	T	T
Maximum Queue (ft)	380	174	160	305	468	530
Average Queue (ft)	184	30	10	143	217	359
95th Queue (ft)	323	194	116	305	462	636
Link Distance (ft)		433	433	545	545	545
Upstream Blk Time (%)		0	0		0	9
Queuing Penalty (veh)		1	0		0	39
Storage Bay Dist (ft)	380					
Storage Blk Time (%)	1	0				
Queuing Penalty (veh)	6	0				

Intersection: 10: #1 KY17 & WB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	449	498	652	488	551	512	343	301	482	549	365
Average Queue (ft)	205	300	257	320	211	202	184	157	274	360	97
95th Queue (ft)	381	464	485	526	471	361	310	328	672	832	363
Link Distance (ft)			1744		545	545	545	839	839	839	
Upstream Blk Time (%)					2	0			0	8	
Queuing Penalty (veh)					13	0			0	27	
Storage Bay Dist (ft)	400	400		450							340
Storage Blk Time (%)	0	4	5	6	0					22	0
Queuing Penalty (veh)	0	11	30	40	1					62	0

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	162	178	253	71	290	576	603	577	51	164	364	419
Average Queue (ft)	68	95	84	18	196	248	338	333	13	35	88	162
95th Queue (ft)	137	166	226	50	298	435	545	530	38	131	308	430
Link Distance (ft)		886	886	214		839	839	839		979	979	979
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	175				240				230			
Storage Blk Time (%)	0	0			3	7				0		9
Queuing Penalty (veh)	0	0			8	18				0		19

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	155
Average Queue (ft)	60
95th Queue (ft)	183
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	0
Queuing Penalty (veh)	1

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	255	280	583	501	197	38	293	444	250	212	254	221
Average Queue (ft)	221	239	215	140	49	11	157	225	143	118	169	134
95th Queue (ft)	290	307	520	351	118	33	255	357	278	209	228	206
Link Distance (ft)			979	979			823	823			1289	1289
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230	230			270	200			200	360		
Storage Blk Time (%)	3	11	1	0			4	13	1			
Queuing Penalty (veh)	13	53	5	1			0	41	2			

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	177	78	125	54
Average Queue (ft)	72	19	39	4
95th Queue (ft)	149	54	90	27
Link Distance (ft)		668	668	668
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & Dudley Road

Movement	EB	WB	NB	NB	NB	B2	B2	B2	B3	B3	B3
Directions Served	R	R	T	T	TR	T	T	T	T	T	T
Maximum Queue (ft)	190	79	659	564	245	118	113	94	630	675	620
Average Queue (ft)	61	19	197	91	21	9	8	3	34	41	33
95th Queue (ft)	139	70	590	370	162	91	81	52	251	278	244
Link Distance (ft)	1121	268	765	765	765	283	283	283	764	764	764
Upstream Blk Time (%)			3	0		0	0	0	0	0	0
Queuing Penalty (veh)			22	0		4	1	0	0	0	0
Storage Bay Dist (ft)											
Storage Blk Time (%)											
Queuing Penalty (veh)											

Network Summary

Network wide Queuing Penalty: 933

Intersection: 5: #1 KY17 & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	222	215	246	513	526	492	219	431	416	409	388
Average Queue (ft)	132	130	121	347	195	118	54	270	295	281	125
95th Queue (ft)	194	191	226	503	486	309	147	415	434	434	411
Link Distance (ft)			2037		515	515	515	423	423	423	
Upstream Blk Time (%)				0	1	0		1	1	1	
Queuing Penalty (veh)				0	6	0		5	6	7	
Storage Bay Dist (ft)	385	385		490							350
Storage Blk Time (%)				1	2					4	1
Queuing Penalty (veh)				4	10					27	7

Intersection: 7: #1 KY17

Movement	SE	SE	B2	B2	NW	NW
Directions Served	U	U	T	T	T	T
Maximum Queue (ft)	145	118	420	652	186	186
Average Queue (ft)	67	58	16	88	113	73
95th Queue (ft)	112	97	172	450	166	145
Link Distance (ft)			697	697	1348	1348
Upstream Blk Time (%)			0	0		
Queuing Penalty (veh)			0	1		
Storage Bay Dist (ft)	450	450				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: #1 KY17

Movement	NB	SB	SB	SB
Directions Served	U	T	T	T
Maximum Queue (ft)	128	282	284	372
Average Queue (ft)	59	84	106	192
95th Queue (ft)	110	199	223	351
Link Distance (ft)		556	556	556
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	380			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: #1 KY17 & WB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LR	R	L	T	T	T	T	T	T	R
Maximum Queue (ft)	350	404	732	350	211	213	160	564	836	863	455
Average Queue (ft)	187	267	280	184	105	98	85	297	436	575	297
95th Queue (ft)	298	387	623	301	186	169	148	486	780	931	654
Link Distance (ft)			1735		556	556	556	837	837	837	
Upstream Blk Time (%)									0	2	
Queuing Penalty (veh)									0	11	
Storage Bay Dist (ft)	400	400		450							430
Storage Blk Time (%)		1	3							19	0
Queuing Penalty (veh)		4	23							77	2

Intersection: 15: KY 17 & Orphanage Road

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	LTR	L	L	T	TR	L	T	T	T
Maximum Queue (ft)	223	950	1025	127	285	498	432	288	115	817	1000	997
Average Queue (ft)	116	491	706	41	202	243	139	111	11	238	545	701
95th Queue (ft)	224	1208	1263	99	301	421	305	216	81	491	1073	1146
Link Distance (ft)		1129	1129	214		837	837	837		973	973	973
Upstream Blk Time (%)		17	16							0	0	5
Queuing Penalty (veh)		0	0							0	1	27
Storage Bay Dist (ft)	175				240				230			
Storage Blk Time (%)	6	7			5	9				7		60
Queuing Penalty (veh)	9	11			17	30				0		179

Intersection: 15: KY 17 & Orphanage Road

Movement	SB
Directions Served	R
Maximum Queue (ft)	260
Average Queue (ft)	244
95th Queue (ft)	328
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	210
Storage Blk Time (%)	3
Queuing Penalty (veh)	15

Intersection: 20: Highland Pike & KY 17

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SE	SE	SE
Directions Served	L	L	T	T	R	L	T	T	R	L	LT	TR
Maximum Queue (ft)	254	279	567	506	140	9	958	981	250	240	258	244
Average Queue (ft)	188	212	268	243	28	0	568	666	238	135	184	126
95th Queue (ft)	281	312	573	468	125	6	1084	1131	302	236	253	207
Link Distance (ft)			973	973			943	943			708	708
Upstream Blk Time (%)			0				5	30				
Queuing Penalty (veh)			1				0	0				
Storage Bay Dist (ft)	230	230			270	200			200	360		
Storage Blk Time (%)	7	13	3	2			30	51	13			
Queuing Penalty (veh)	29	54	13	1			1	210	50			

Intersection: 20: Highland Pike & KY 17

Movement	SE	NW	NW	NW
Directions Served	R	L	LT	TR
Maximum Queue (ft)	215	494	583	550
Average Queue (ft)	121	216	365	307
95th Queue (ft)	196	553	698	652
Link Distance (ft)		759	759	759
Upstream Blk Time (%)		1	5	1
Queuing Penalty (veh)		0	0	0
Storage Bay Dist (ft)	360			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: #1 KY17 & Dudley Road

Movement	EB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	T	T	T
Maximum Queue (ft)	210	60	148	99	341	467	44
Average Queue (ft)	82	19	10	4	33	57	2
95th Queue (ft)	176	47	78	59	205	278	18
Link Distance (ft)	1137	269	697	697	515	515	515
Upstream Blk Time (%)					0	0	
Queuing Penalty (veh)					0	1	
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 840

Appendix G:

Travel Time Backup

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Dudley Road	30	464.9	1110.7 1	0.7	5
EB Ramps	5	19.2	30.5 2	0.1	13
WB Ramps	10	11.5	33.2	0.2	22
Total		495.6	1174.4	1.0	6

Arterial Level of Service: SE #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
EB Ramps	5	33.7	54.8	0.2	14
#1 Dudlly	30	4.6	16.3	0.1	25
Total		38.3	71.1	0.3	16

Travel Time: **1** + **2** = 1141.2 sec

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Dudley Road	30	390.7	492.2 1	0.7	5
EB Ramps	5	18.0	29.2 2	0.1	14
WB Ramps	10	26.9	48.1	0.2	15
Total		435.5	569.5	1.0	7

Arterial Level of Service: SE #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
EB Ramps	5	46.9	68.1	0.2	11
#1 Dudley Road	30	23.7	35.4	0.1	11
Total		70.6	103.5	0.3	11

Travel Time: **1** + **2** = 521.4 sec

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	8	37.1	55.5 1	0.2	12
Dudley Road	30	9.7	14.3 2	0.0	12
#1 KY17	16	14.7	19.0 3	0.0	7
EB Ramp	11	26.2	38.7 4	0.1	8
Total		87.8	127.4	0.3	10

Arterial Level of Service: SE #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
#1 KY17	16	17.2	27.5	0.1	11
Dudley Road	30	2.5	7.2	0.0	18
	8	0.6	5.5	0.0	31
Dudley Rd	7	20.8	38.6	0.2	17
Total		41.0	78.9	0.3	16

Travel Time: **1** + **2** + **3** + **4** = 127.5 sec

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	8	24.6	43.7 1	0.2	15
Dudley Road	30	10.5	14.3 2	0.0	10
#1 KY17	16	3.3	7.0 3	0.0	16
EB Ramp	11	12.5	27.1 4	0.1	12
Total		50.9	92.2	0.3	14

Arterial Level of Service: SE #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
#1 KY17	16	34.5	52.4	0.1	6
Dudley Road	30	1.7	5.8	0.0	19
	8	0.9	5.0	0.0	29
Dudley Rd	7	6.9	25.5	0.2	26
Total		44.0	88.8	0.3	14

Travel Time: **1** + **2** + **3** + **4** = 92.1 sec

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	3	3.0	19.4 4	0.2	28
	2	1.0	7.7 5	0.1	30
Dudley Road	30	9.5	25.5 6	0.2	22
EB Ramps	5	20.6	31.8 7	0.1	13
WB Ramps	10	25.5	46.8	0.2	16
Total		59.7	131.2	0.7	19

Arterial Level of Service: SB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
EB Ramps	5	27.5	48.2	0.2	15
#1 D1	30	4.0	15.7	0.1	26
	2	3.3	19.6 1	0.2	29
	3	0.5	7.2 2	0.1	32
	7	1.0	17.2 3	0.2	32
Total		36.3	107.8	0.7	23

Travel Time: **1** + **2** + **3** + **4** + **5** + **6** + **7** = 128.4 sec

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	3	2.0	18.0 4	0.1	30
	2	0.7	11.2 5	0.1	32
Dudley Road	30	2.4	17.2 6	0.1	30
EB Ramps	5	10.7	21.9 7	0.1	19
WB Ramps	10	10.7	32.3	0.2	23
Total		26.6	100.7	0.7	25

Arterial Level of Service: SB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
EB Ramps	5	35.0	56.3	0.2	13
Dudley Road	30	8.3	20.0	0.1	20
	2	7.2	22.0 1	0.1	23
	3	1.4	11.9 2	0.1	31
	7	1.5	17.1 3	0.1	31
Total		53.4	127.2	0.7	20

Travel Time: **1** + **2** + **3** + **4** + **5** + **6** + **7** = 119.3 sec

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	3	2.8	19.3 4	0.2	29
	2	0.6	7.3 5	0.1	32
Dudley Road	30	2.9	19.0 6	0.2	30
EB Ramps	5	16.3	27.5 7	0.1	15
WB Ramps	10	12.9	34.4	0.2	22
Total		35.5	107.5	0.7	23

Arterial Level of Service: SB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
EB Ramps	5	25.1	46.3	0.2	16
Dudley Road	30	8.4	20.1	0.1	20
	2	3.7	19.7 1	0.2	29
	3	0.5	7.2 2	0.1	32
	7	1.2	17.2 3	0.2	32
Total		39.0	110.6	0.7	23

Travel Time: **1** + **2** + **3** + **4** + **5** + **6** + **7** = 117.2 sec

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	3	2.0	17.9 4	0.1	30
	2	0.8	11.2 5	0.1	32
Dudley Road	30	1.3	16.1 6	0.1	32
EB Ramps	5	5.2	16.4 7	0.1	25
WB Ramps	10	12.3	33.9	0.2	22
Total		21.6	95.5	0.7	27

Arterial Level of Service: SB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
EB Ramps	5	43.8	64.9	0.2	11
Dudley Road	30	12.3	23.9	0.1	17
	2	6.5	21.2 1	0.1	24
	3	1.2	11.7 2	0.1	31
	7	1.3	17.0 3	0.1	32
Total		65.1	138.8	0.7	18

Travel Time: **1** + **2** + **3** + **4** + **5** + **6** + **7** = 111.5 sec

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	3	3.1	19.5 4	0.2	28
	2	1.1	7.7 5	0.1	30
Dudley Road	30	10.0	26.1 6	0.2	22
EB Ramps	5	21.4	32.5 7	0.1	13
	8	3.2	13.2	0.1	25
WB Ramps	10	12.3	23.6	0.1	17
Total		51.0	122.7	0.7	20

Arterial Level of Service: SB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	8	35.8	47.9	0.1	9
EB Ramps	5	56.2	65.8	0.1	5
Dudley Road	30	4.4	16.1	0.1	25
	2	3.2	19.4 1	0.2	29
	3	0.5	7.2 2	0.1	32
	7	1.2	17.2 3	0.2	32
Total		101.3	173.6	0.7	14

Travel Time: **1** + **2** + **3** + **4** + **5** + **6** + **7** = 129.6 sec

Arterial Level of Service: NB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	3	1.9	17.7 4	0.1	30
	2	0.7	11.2 5	0.1	33
Dudley Road	30	1.5	16.3 6	0.1	32
EB Ramps	5	8.9	20.0 7	0.1	20
	8	1.3	11.2	0.1	29
WB Ramps	10	7.7	19.4	0.1	21
Total		21.9	95.9	0.7	27

Arterial Level of Service: SB #1 KY17

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	8	11.5	23.9	0.1	17
EB Ramps	5	35.2	44.4	0.1	7
Dudley Road	30	8.4	20.2	0.1	20
	2	6.7	21.5 1	0.1	24
	3	1.3	11.8 2	0.1	31
	7	1.4	17.1 3	0.1	31
Total		64.6	139.0	0.7	18

Travel Time: **1** + **2** + **3** + **4** + **5** + **6** + **7** = 115.6 sec

List of Appendices

- A. Traffic Count Data**
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