

final report

January 27, 2026

Traffic Impact Study

*Subdivision
Haunz Lane
Crestwood, KY*

Prepared for

Oldham County Planning Commission



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INTRODUCTION

The development plan for an age restricted residential community on Haunz Lane in Crestwood, KY shows 379 detached lots, 80 townhouses and 240 apartments. **Figure 1** displays a map of the site. Access to the community will be from two entrances Haunz Lane. The purpose of this study is to examine the traffic impacts of the development upon the adjacent highway system. For this study, the impact area was defined to be the intersections of Haunz Lane with KY22 and Moser Farm Road, and the two entrances.



Figure 1. Site Map

EXISTING CONDITIONS

Haunz Lane is maintained by Oldham County with an estimated 2025 Average Annual Daily Traffic (AADT) volume of 1,400 vehicles per day north of Poplar Hill Drive, as estimated from the Kentucky Transportation Cabinet 2023 count at station 540. The road is a two-lane highway with eleven-foot lanes and a stabilized shoulder. The speed limit is 35 mph. The intersection with KY 22 is controlled with a stop sign on Haunz Lane. At the intersection there is a left turn lane. At the intersection with Moser Farm Road there are no turn lanes and a stop sign on Moser Farm Road.

Peak hour traffic counts for the intersections were obtained on Wednesday, November 19, 2025. The a.m. peak was 8:00 to 9:00 and the p.m. peak hour was 4:45 to 5:45. **Figure 2** illustrates the existing a.m. and p.m. peak hour traffic volumes. The Appendix contains the full count data.

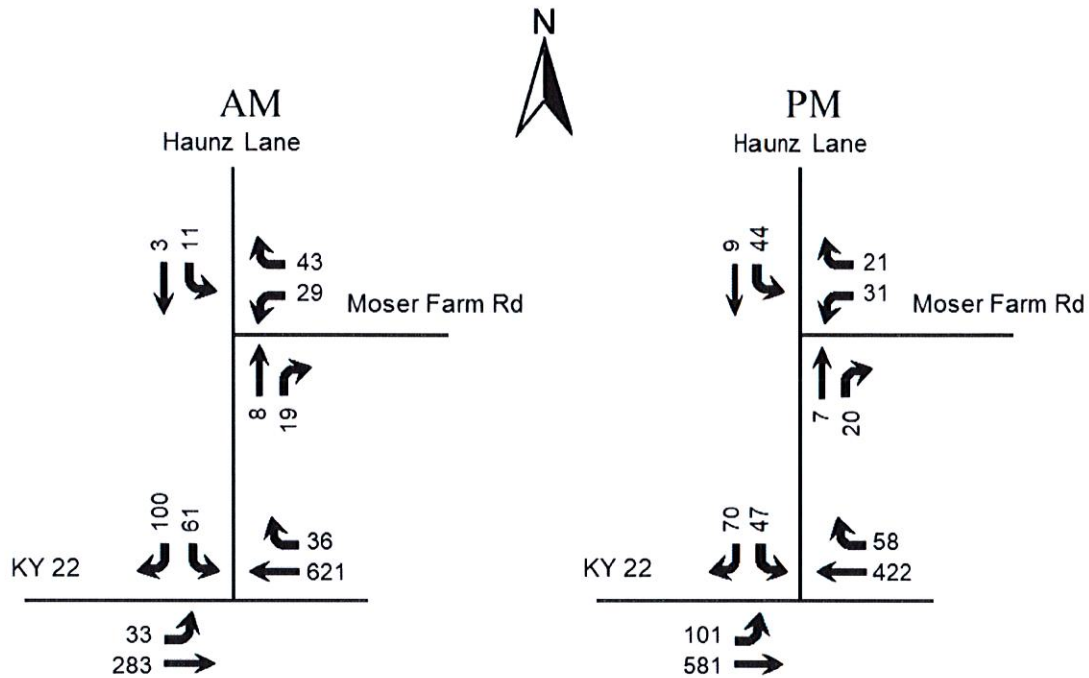


Figure 2. Existing Peak Hour Volumes

FUTURE CONDITIONS

The projected completion year for this development is 2033. The volumes were increased by 2.5 percent annual growth to reflect historical traffic growth in the area using stations 500, 008, and 081. Trip generation for the Summit Creek apartments was also included (see Appendix Page 16). The Summit Creek apartment developer has also agreed to construct a left turn lane on KY 22 at Haunz Lane. **Figure 3** illustrates the 2033 traffic volumes without the development.

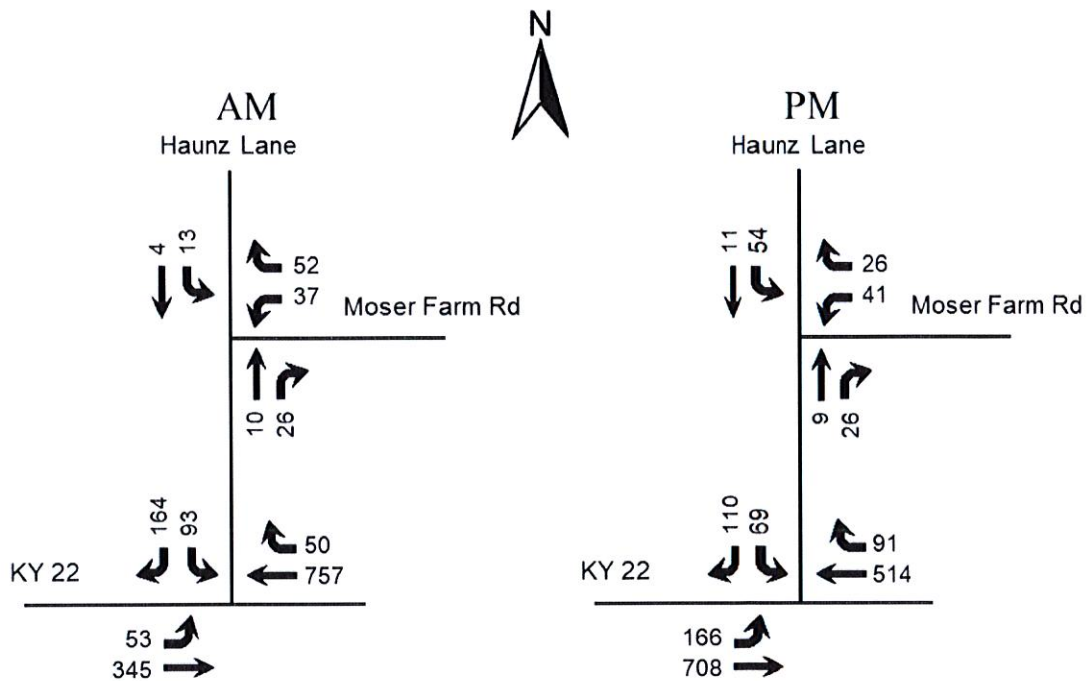


Figure 3. 2033 Peak Hour No Build Volumes

TRIP GENERATION

The Institute of Transportation Engineers Trip Generation Manual, 12th Edition contains trip generation rates for a wide range of developments. The land uses of “Senior Adult Housing – Single-Family (251),” and “Multifamily Housing (Low-Rise) (220),” and “Single-Family Attached Housing (215)” were reviewed and determined to be the best match. The trip generation results are listed in **Table 1**. The trips were assigned to the highway network with the percentages shown in **Figure 4**. **Figure 5** shows the trips generated by this development and distributed throughout the road network during the peak hours. 75% of the Adult Senior trips were assigned to Entrance 1. **Figure 6** displays the individual turning movements for the peak hours when the development is completed.

Table 1. Peak Hour Trips Generated by Site

Land Use	A.M. Peak Hour			P.M. Peak Hour		
	Trips	In	Out	Trips	In	Out
Senior Adult Single Family (379 units)	101	34	67	127	77	50
Multifamily Housing (240 units)	97	23	74	123	76	47
Single-Family Attached (80 units)	32	8	24	38	22	16
TOTAL	230	65	165	288	175	113



Figure 4. Trip Distribution Percentages

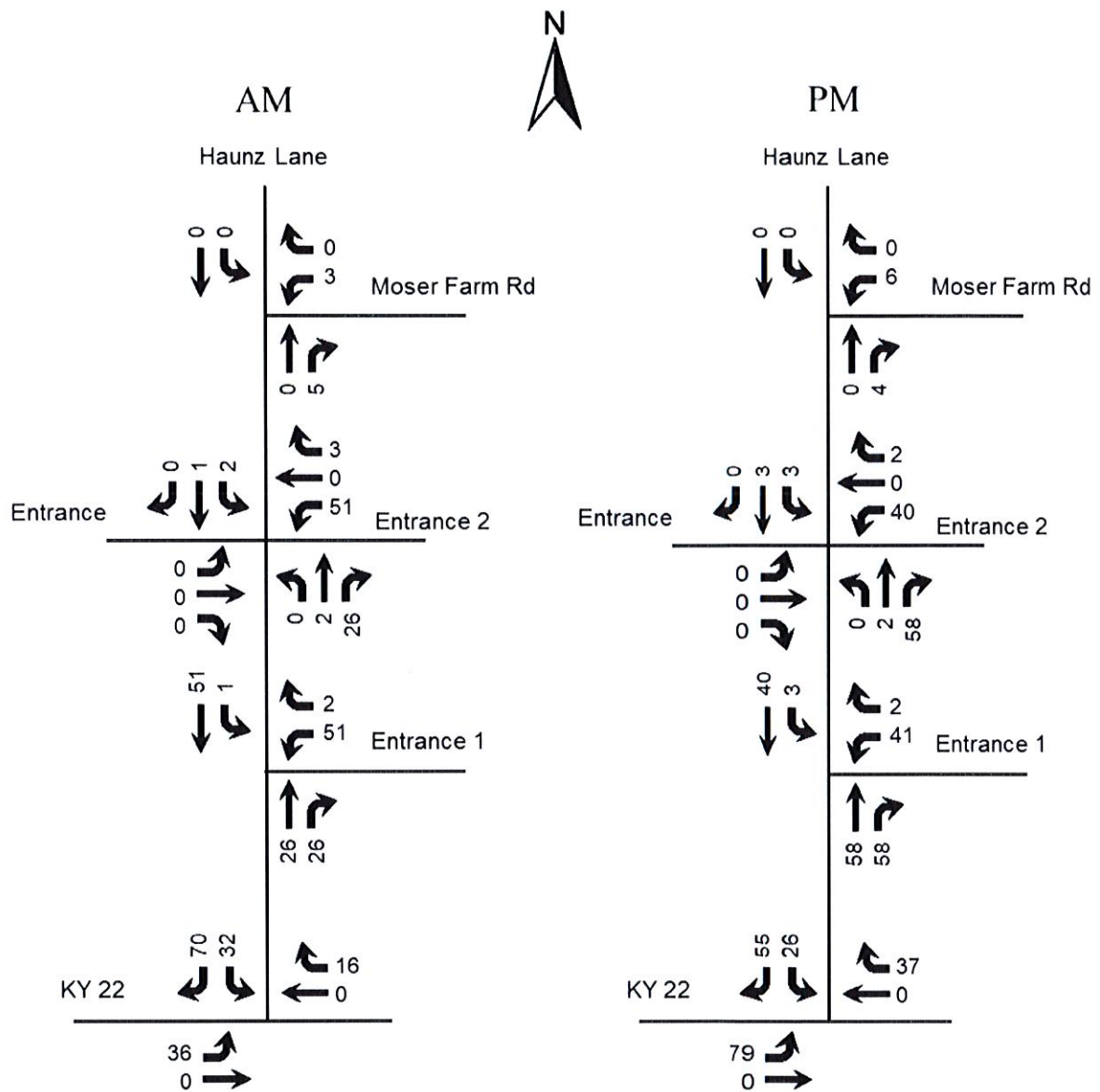


Figure 5. Peak Hour Trips Generated by Site

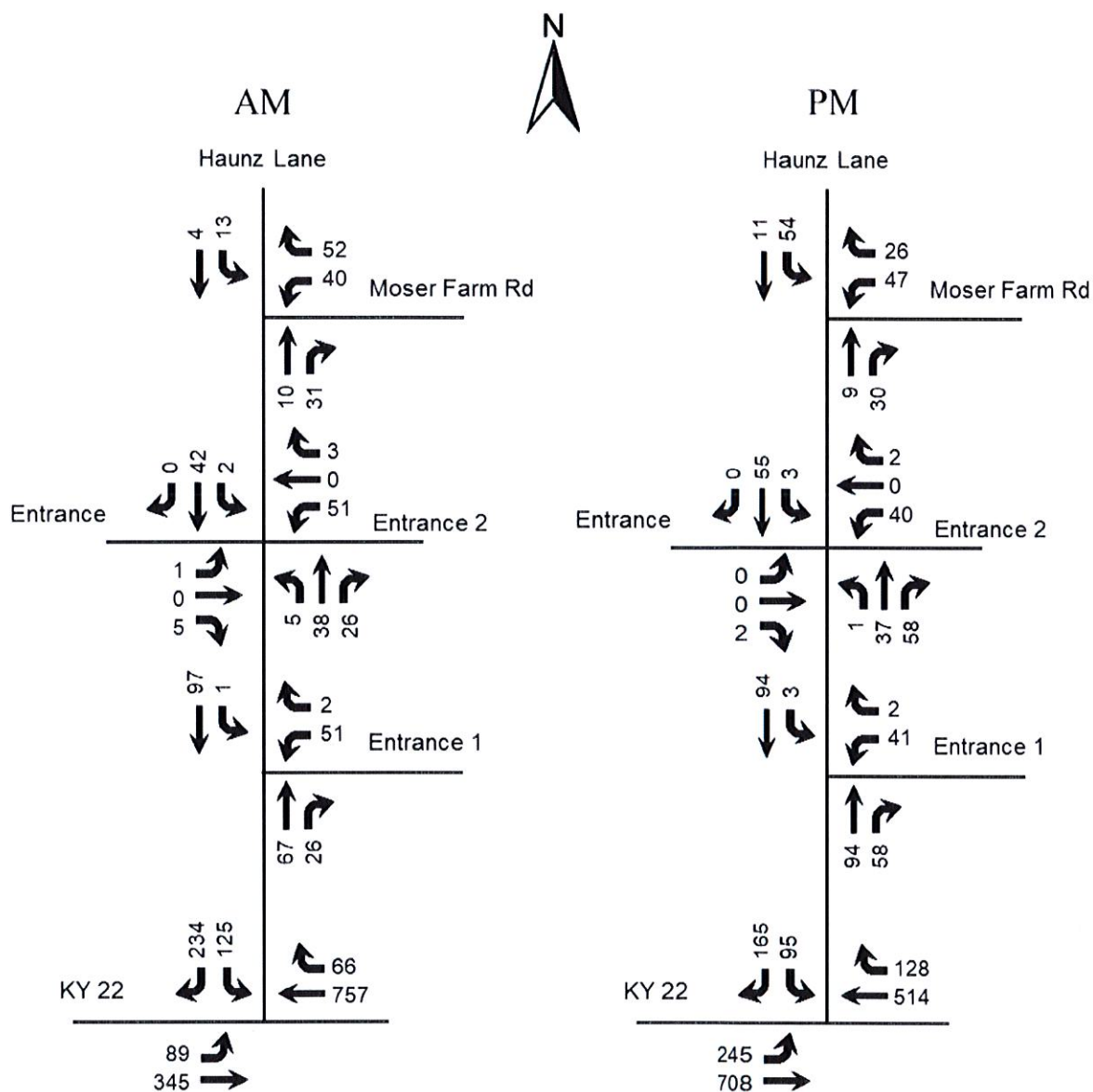


Figure 6. Build Peak Hour Volumes

ANALYSIS

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

To evaluate the impact of the proposed development, the vehicle delays at the intersections were determined using procedures detailed in the Highway Capacity Manual, 7th edition. Future delays and Level of Service were determined for the intersections using the HCS TWSC software (version 2026). The delays and Level of Service are summarized in

Table 2. The base critical headway for southbound Haunz Lane was increased to 7.6 seconds to account for the geometric conditions at the intersection.

Table 2. Peak Hour Level of Service

Approach	A.M.			P.M.		
	2025 Existing	2033 No Build	2033 Build	2025 Existing	2033 No Build	2033 Build
Haunz Lane at Moser Farm Road						
Moser Farm Road Westbound	A 8.9	A 9.0	A 9.1	A 9.3	A 9.6	A 9.8
Haunz Lane Southbound	A 7.4	A 7.4	A 7.4	A 7.3	A 7.4	A 7.4
Haunz Lane at Entrance 2						
Underground Park Entrance			A 9.2			A 9.1
Entrance 2 Westbound			B 10.1			B 10.5
Haunz Lane Northbound			A 7.9			A 8.3
Haunz Lane Southbound			A 7.4			A 7.6
Haunz Lane at Entrance 1						
Entrance 1 Westbound			B 10.4			B 11.4
Haunz Lane Southbound			A 7.4			A 7.8
KY 22 at Haunz Lane						
KY 22 Eastbound	A 9.1	A 9.9	B 10.2	A 8.9	A 9.8	B 11.1
Haunz Lane Southbound	C 22.7	D 32.4	F 79.0	D 28.5	C 24.5	F 54.8

Key: Level of Service, Delay in seconds per vehicle

The level of service F condition in the AM 2033 scenario may not materialize once the left turn lane is constructed on KY 22 and the sight distance is be mitigated with a westbound right turn lane.

The entrance on Haunz Lane was evaluated for turn lanes using the Kentucky Transportation Cabinet Highway Design Guidance Manual dated July, 2020. Using the volumes in Figure 6, the volume warrant for turn lanes at the entrance are not satisfied.

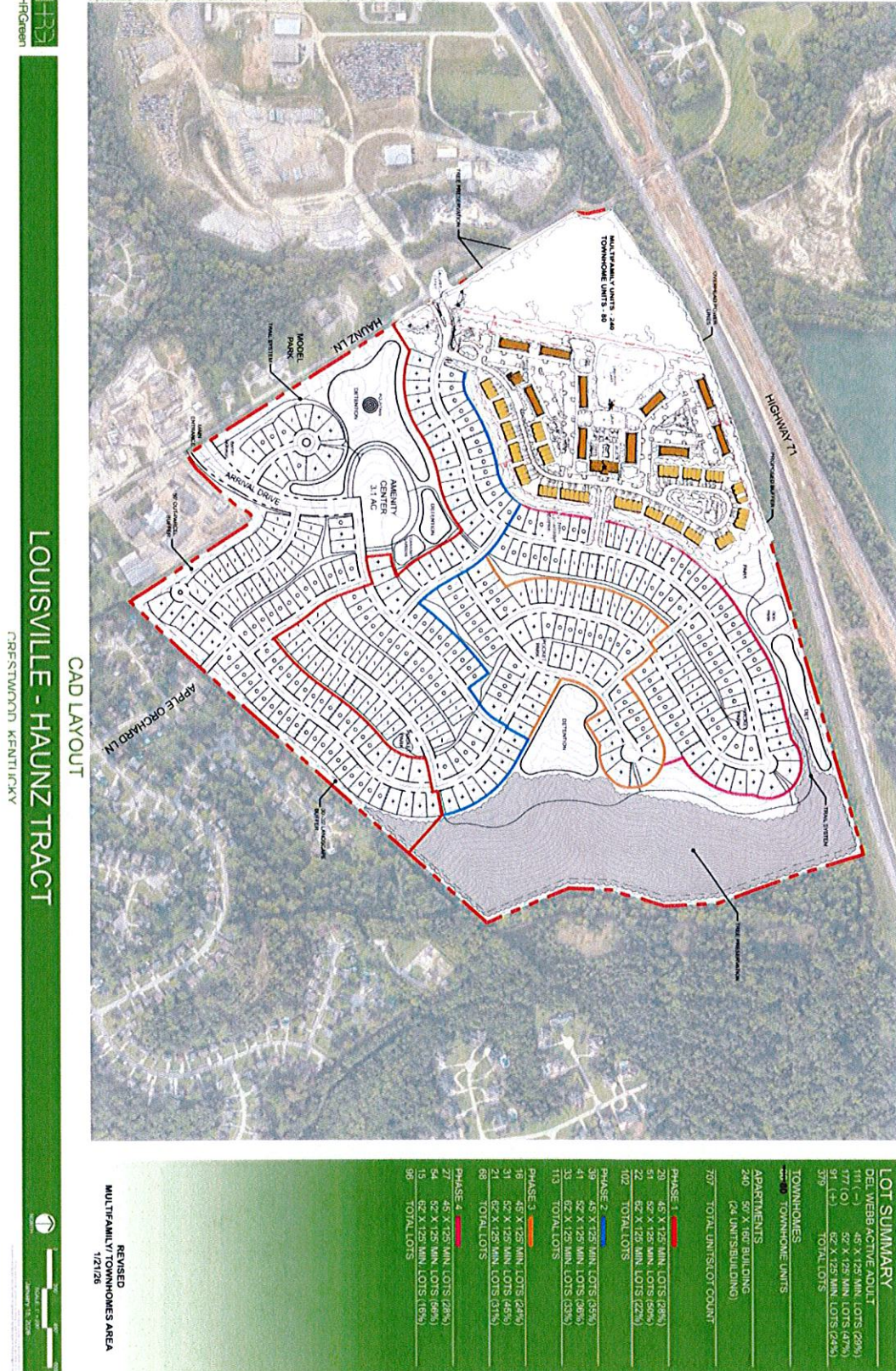
A traffic shed analysis of this project shows that 95 percent of the traffic from this development will utilize KY 22. The Major Thoroughfare Plan reported that in 2003 KY 22 was operating at Level of Service C. The 2003 ADT was reported to be 7,600 vehicles per day. The same count station has an estimated 2025 ADT of 11,600 vehicles per day.

CONCLUSIONS

Based upon the volume of traffic generated by the development and the amount of traffic forecasted for the year 2033, there will be an impact to the existing highway network. There are no additional lanes that can be constructed that will improve the Level of Service at the Haunz Lane intersection with KY 22. The projected volumes would not meet the warrant to install a traffic signal. The volume warrant for turn lanes is not met for the entrances on Haunz Lane.

APPENDIX

Site Plan



Haunz Lane Traffic Impact Study

Traffic Counts

Classified Turn Movement Count | All vehicles

Oldham County, KY (Crestwood)



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Site 1

Haunz Ln
Hitt Ln



Date

Wednesday, November 19, 2025

Weather

Cloudy
47°F

####

[Click here for Detailed Weather](#)

Lat/Long

38.331080°, -85.537218°

[Click here for Map](#)

Moser Farm Rd



0700 - 0900 (Weekday 2h Session) (11-19-2025)

All vehicles

TIME	Northbound					Southbound					Westbound				
	Haunz Ln					Hitt Ln					Moser Farm Rd				
	Thru 1.1	Right 1.2	U-Turn 1.3	App Total	Left 1.4	Thru 1.5	U-Turn 1.6	App Total	Left 1.7	Right 1.8	U-Turn 1.9	App Total	Int Total		
0700 - 0715	1	1	0	2	5	2	0	7	8	9	0	17	26		
0715 - 0730	1	4	0	5	2	4	0	6	8	11	0	19	30		
0730 - 0745	2	4	0	6	2	4	0	6	6	5	0	11	23		
0745 - 0800	3	2	0	5	3	0	0	3	10	8	0	18	26		
Hourly Total	7	11	0	18	12	10	0	22	32	33	0	65	105		
0800 - 0815	3	3	0	6	3	3	0	6	8	7	0	15	27		
0815 - 0830	0	3	0	3	4	0	0	4	10	7	1	18	25		
0830 - 0845	1	7	0	8	2	0	0	2	5	17	0	22	32		
0845 - 0900	4	6	0	10	2	0	0	2	5	12	0	17	29		
Hourly Total	8	19	0	27	11	3	0	14	28	43	1	72	113		
Grand Total	15	30	0	45	23	13	0	36	60	76	1	137	218		
Approach %	33.33	66.67	0.00	-	63.89	36.11	0.00	-	43.80	55.47	0.00	-			
Intersection %	6.88	13.76	0.00	20.64	10.55	5.96	0.00	16.51	27.52	34.86	0.46	62.84			
Heavy Vehicle %	20	17	-	18	13	8	-	11	2	1	0	1	6		
PHF	0.50	0.68	0.00	0.68	0.69	0.25	0.00	0.58	0.70	0.63	0.25	0.82	0.88		
Peak Hour Total	8	19	0	27	11	3	0	14	28	43	1	72	113		
Peak Hour HV %	13	5	0	7	9	0	0	7	4	2	0	3	4		

1600 - 1800 (Weekday 2h Session) (11-19-2025)

All vehicles

TIME	Northbound					Southbound					Westbound				
	Haunz Ln					Hitt Ln					Moser Farm Rd				
	Thru 1.1	Right 1.2	U-Turn 1.3	App Total	Left 1.4	Thru 1.5	U-Turn 1.6	App Total	Left 1.7	Right 1.8	U-Turn 1.9	App Total	Int Total		
1600 - 1615	6	6	0	12	7	5	0	12	6	3	0	9	33		
1615 - 1630	0	5	0	5	10	1	0	11	6	10	0	16	32		
1630 - 1645	5	7	0	12	11	3	0	14	4	6	0	10	36		
1645 - 1700	1	6	0	7	9	3	0	12	8	3	0	11	30		
Hourly Total	12	24	0	36	37	12	0	49	24	22	0	46	131		
1700 - 1715	1	2	0	3	7	2	0	9	8	5	0	13	25		
1715 - 1730	1	4	1	6	14	2	0	16	7	5	0	12	34		
1730 - 1745	3	8	0	11	14	2	0	16	8	8	0	16	43		
1745 - 1800	0	6	0	6	12	0	0	12	4	8	0	12	30		
Hourly Total	5	20	1	26	47	6	0	53	27	26	0	53	132		
Grand Total	17	44	1	62	84	18	0	102	51	48	0	99	263		
Approach %	27.42	70.97	1.61	-	82.35	17.65	0.00	-	51.52	48.48	0.00	-			
Intersection %	6.46	16.73	0.38	23.57	31.94	6.84	0.00	38.78	19.39	18.25	0.00	37.64			
Heavy Vehicle %	12	0	0	3	0	11	-	2	2	0	-	1	2		
PHF	0.50	0.63	0.25	0.61	0.79	0.75	0.00	0.83	0.97	0.66	0.00	0.81	0.77		
Peak Hour Total	6	20	1	27	44	9	0	53	31	21	0	52	132		
Peak Hour HV %	17	0	0	4	0	11	0	2	0	0	0	0	2		

Haunz Lane Traffic Impact Study

Classified Turn Movement Count || All vehicles

Oldham County, KY (Crestwood)



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Site 2

Haunz Ln (South)
Haunz Ln (North)
Underearth Business Park Driveway

Date

Wednesday, November 19, 2025

Weather

Cloudy
47°F

Lat/Long

38.329076°, -85.535539°

[Click here for Map](#)

[Click here for Detailed Weather](#)

0700 - 0900 (Weekday 2h Session) (11-19-2025)

All vehicles

TIME	Northbound Haunz Ln (South)				Southbound Haunz Ln (North)				Eastbound Underearth Business Park Driveway				Int Total
	Left 2.1	Thru 2.2	U-Turn 2.3	App Total	Thru 2.4	Right 2.5	U-Turn 2.6	App Total	Left 2.7	Right 2.8	U-Turn 2.9	App Total	
0700 - 0715	1	2	0	3	7	3	0	10	0	0	0	0	13
0715 - 0730	2	5	0	7	10	3	0	13	0	1	0	1	21
0730 - 0745	0	6	0	6	7	2	0	9	0	0	0	0	15
0745 - 0800	2	4	0	6	10	1	0	11	1	0	0	1	18
Hourly Total	5	17	0	22	34	9	0	43	1	1	0	2	67
0800 - 0815	2	6	0	8	11	0	0	11	0	3	0	3	22
0815 - 0830	3	2	0	5	10	0	0	10	0	1	0	1	16
0830 - 0845	0	7	0	7	4	0	0	4	0	1	0	1	12
0845 - 0900	0	10	0	10	4	0	0	4	1	0	0	1	15
Hourly Total	5	25	0	30	29	0	0	29	1	5	0	6	65
Grand Total	10	42	0	52	63	9	0	72	2	6	0	8	132
Approach %	19.23	80.77	0.00	-	87.50	12.50	0.00	-	25.00	75.00	0.00	-	
Intersection %	7.58	31.82	0.00	39.39	47.73	6.82	0.00	54.55	1.52	4.55	0.00	6.06	
Heavy Vehicle %	50	19	-	25	2	11	-	3	0	50	-	38	14
PHF	0.42	0.63	0.00	0.75	0.66	0.00	0.00	0.66	0.25	0.42	0.00	0.50	0.74
Peak Hour Total	5	25	0	30	29	0	0	29	1	5	0	6	65
Peak Hour HV %	60	8	0	17	3	0	0	3	0	60	0	50	14

1600 - 1800 (Weekday 2h Session) (11-19-2025)

All vehicles

TIME	Northbound Haunz Ln (South)				Southbound Haunz Ln (North)				Eastbound Underearth Business Park Driveway				Int Total
	Left 2.1	Thru 2.2	U-Turn 2.3	App Total	Thru 2.4	Right 2.5	U-Turn 2.6	App Total	Left 2.7	Right 2.8	U-Turn 2.9	App Total	
1600 - 1615	0	8	0	8	11	0	0	11	4	2	0	6	25
1615 - 1630	0	6	0	6	7	1	0	8	0	2	0	2	16
1630 - 1645	1	8	0	9	7	0	0	7	3	2	0	5	21
1645 - 1700	1	7	0	8	11	0	0	11	0	0	0	0	19
Hourly Total	2	29	0	31	36	1	0	37	7	6	0	13	81
1700 - 1715	0	4	0	4	8	0	0	8	0	2	0	2	14
1715 - 1730	0	5	0	5	11	0	0	11	0	0	0	0	16
1730 - 1745	0	11	0	11	10	0	0	10	0	0	0	0	21
1745 - 1800	0	5	0	5	3	0	0	3	0	1	0	1	9
Hourly Total	0	25	0	25	32	0	0	32	0	3	0	3	60
Grand Total	2	54	0	56	68	1	0	69	7	9	0	16	141
Approach %	3.57	96.43	0.00	-	98.55	1.45	0.00	-	43.75	56.25	0.00	-	
Intersection %	1.42	38.30	0.00	39.72	48.23	0.71	0.00	48.94	4.96	6.38	0.00	11.35	
Heavy Vehicle %	50	2	-	4	4	0	-	4	14	44	-	31	7
PHF	0.25	0.61	0.00	0.64	0.91	0.00	0.00	0.91	0.00	0.25	0.00	0.25	0.83
Peak Hour Total	1	27	0	28	40	0	0	40	0	2	0	2	70
Peak Hour HV %	100	4	0	7	3	0	0	3	0	50	0	50	6

Haunz Lane Traffic Impact Study

Classified Turn Movement Count || All vehicles

Oldham County, KY (Crestwood)



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Site 4



Haunz Ln
KY-22 Ballardsville Rd (West)
KY-22 Ballardsville Rd (East)

Date

Wednesday, November 19, 2025

Weather

Cloudy

47°F

#####

[Click here for Detailed Weather](#)

Lat/Long

38.317987°, -85.526583°

[Click here for Map](#)



0700 - 0900 (Weekday 2h Session) (11-19-2025)

All vehicles

TIME	Southbound				Eastbound				Westbound			
	Haunz Ln				KY-22 Ballardsville Rd (West)				KY-22 Ballardsville Rd (East)			
	Left 4.1	Right 4.2	U-Turn 4.3	App Total	Left 4.4	Thru 4.5	U-Turn 4.6	App Total	Thru 4.7	Right 4.8	U-Turn 4.9	App Total
0700 - 0715	28	26	0	54	15	42	0	57	92	7	0	99
0715 - 0730	17	30	0	47	23	73	0	96	121	8	0	129
0730 - 0745	13	26	0	39	7	70	0	77	137	17	0	154
0745 - 0800	16	22	0	38	7	61	0	68	157	6	0	163
Hourly Total	74	104	0	178	52	246	0	298	507	38	0	545
0800 - 0815	14	32	0	46	7	63	0	70	158	5	0	163
0815 - 0830	22	30	0	52	7	77	0	84	148	7	0	155
0830 - 0845	15	23	0	38	7	68	0	75	156	15	0	171
0845 - 0900	10	15	0	25	12	75	0	87	159	9	0	168
Hourly Total	61	100	0	161	33	283	0	316	621	36	0	657
Grand Total	135	204	0	339	85	529	0	614	1128	74	0	1202
Approach %	39.82	60.18	0.00	-	13.84	86.16	0.00	-	93.84	6.16	0.00	-
Intersection %	6.26	9.47	0.00	15.73	3.94	24.55	0.00	28.49	52.34	3.43	0.00	55.78
Heavy Vehicle %	4	4	-	4	5	1	-	2	1	18	-	2
PHF	0.69	0.78	0.00	0.77	0.69	0.92	0.00	0.91	0.98	0.60	0.00	0.96
Peak Hour Total	61	100	0	161	33	283	0	316	621	36	0	657
Peak Hour HV %	2	8	0	6	3	1	0	2	1	17	0	2

1600 - 1800 (Weekday 2h Session) (11-19-2025)

All vehicles

TIME	Southbound				Eastbound				Westbound			
	Haunz Ln				KY-22 Ballardsville Rd (West)				KY-22 Ballardsville Rd (East)			
	Left 4.1	Right 4.2	U-Turn 4.3	App Total	Left 4.4	Thru 4.5	U-Turn 4.6	App Total	Thru 4.7	Right 4.8	U-Turn 4.9	App Total
1600 - 1615	16	18	0	34	16	114	0	130	101	16	0	117
1615 - 1630	12	14	0	26	13	144	0	157	113	28	0	141
1630 - 1645	7	18	0	25	25	145	0	170	111	10	0	121
1645 - 1700	9	17	0	26	24	168	0	192	102	17	0	119
Hourly Total	44	67	0	111	78	571	0	649	427	71	0	498
1700 - 1715	16	14	0	30	22	127	0	149	105	14	0	119
1715 - 1730	11	20	0	31	26	131	0	157	117	9	0	126
1730 - 1745	11	19	0	30	29	155	0	184	98	18	0	116
1745 - 1800	14	16	0	30	30	121	0	151	87	15	0	102
Hourly Total	52	69	0	121	107	534	0	641	407	56	0	463
Grand Total	96	136	0	232	185	1105	0	1290	834	127	0	961
Approach %	41.38	58.62	0.00	-	14.34	85.66	0.00	-	86.78	13.22	0.00	-
Intersection %	3.87	5.48	0.00	9.34	7.45	44.50	0.00	51.95	33.59	5.11	0.00	38.70
Heavy Vehicle %	3	6	-	5	4	0	-	1	1	3	-	1
PHF	0.73	0.88	0.00	0.94	0.87	0.86	0.00	0.89	0.90	0.81	0.00	0.95
Peak Hour Total	47	70	0	117	101	581	0	682	422	58	0	480
Peak Hour HV %	0	4	0	3	7	0	0	1	0	2	0	1



TIS Simplified Traffic Forecast

Count Year	2025	Number of Counts	13
Opening Year	2033	Growth Rate	2.53%
Design Year	2043		
Years Back	15		

KYTC Traffic Count Station #1

STA ID 093500

Paste Count Data Here	
2025	
2024	
2023	11247
2022	
2021	
2020	*8056
2019	
2018	
2017	9855
2016	
2015	
2014	8845
2013	
2012	
2011	7970
2010	
2009	
2008	7000
2007	
2006	
2005	6540
2004	
2003	
2002	7550
2001	
2000	

KYTC Traffic Count Station #2

STA ID 056008

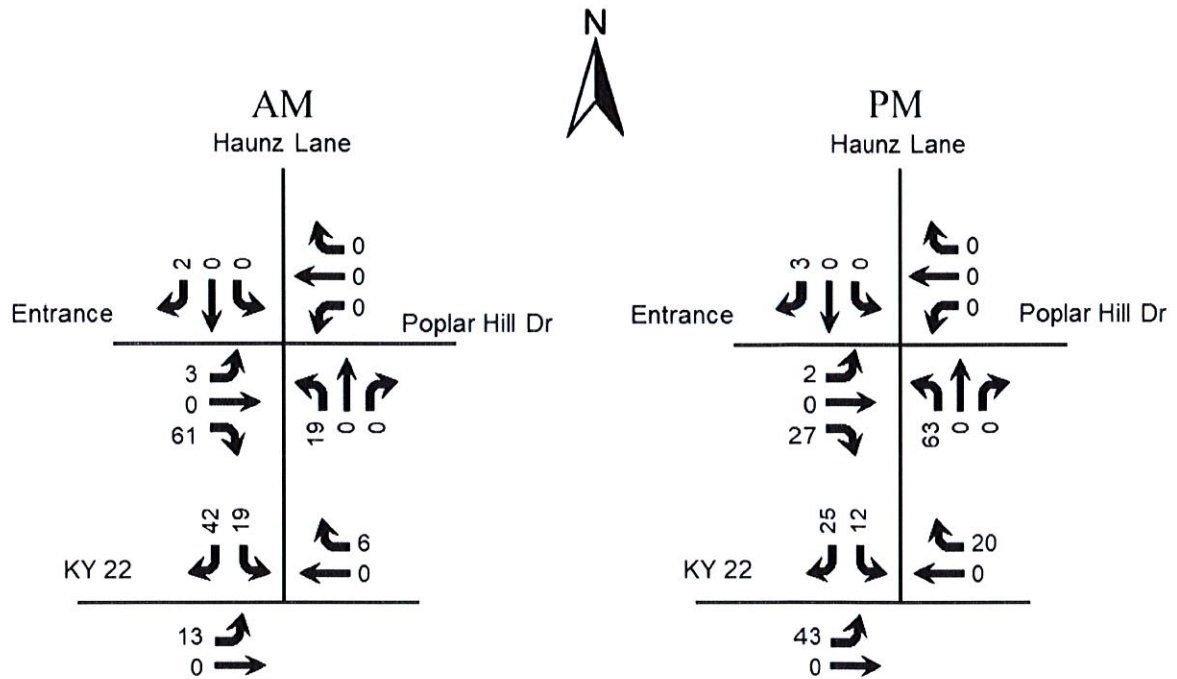
Paste Count Data Here	
2025	
2024	
2023	
2022	
2021	
2020	
2019	
2018	13922
2017	
2016	
2015	13610
2014	
2013	11613
2012	7853
2011	
2010	
2009	12100
2008	
2007	
2006	12100
2005	
2004	
2003	
2002	11100
2001	
2000	

KYTC Traffic Count Station #3

STA ID 056081

Paste Count Data Here	
2025	
2024	
2023	4436
2022	
2021	
2020	5445
2019	
2018	
2017	5868
2016	
2015	
2014	5499
2013	
2012	4843
2011	
2010	
2009	
2008	5660
2007	
2006	
2005	5670
2004	
2003	
2002	
2001	4900
2000	

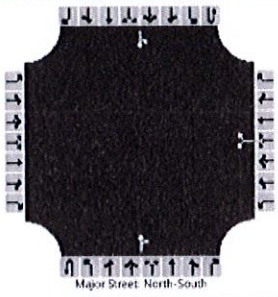
Summit Creek Trip Distribution



HCS Reports

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	Haunz Lane at Moser Farm Rd							
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	1/27/2026							East/West Street	Moser Farm Road							
Analysis Year	2025							North/South Street	Haunz Lane							
Time Analyzed	AM Peak							Peak Hour Factor	0.88							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Haunz Lane															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						29		43			8	19		11	3	
Percent Heavy Vehicles (%)						3		2						9		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage					Undivided											
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.22						4.19		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.32						2.28		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)							82							13		
Capacity, c (veh/h)							1012							1538		
v/c Ratio							0.08							0.01		
95% Queue Length, Q ₉₅ (veh)							0.3							0.0		
95% Queue Length, Q ₉₅ (ft)							7.6							0.0		
Control Delay (s/veh)							8.9							7.4	0.1	
Level of Service (LOS)							A							A	A	
Approach Delay (s/veh)					8.9								5.8			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				Haunz Lane at Moser Farm Rd				
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	1/27/2026							East/West Street				Moser Farm Road				
Analysis Year	2033							North/South Street				Haunz Lane				
Time Analyzed	AM Peak No Build							Peak Hour Factor				0.88				
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25				
Project Description	Haunz Lane															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						37		52			10	26		13	4	
Percent Heavy Vehicles (%)						3		2						9		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.22						4.19		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.32						2.28		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						101								15		
Capacity, c (veh/h)						999								1524		
v/c Ratio						0.10								0.01		
95% Queue Length, Q ₉₅ (veh)						0.3								0.0		
95% Queue Length, Q ₉₅ (ft)						7.6								0.0		
Control Delay (s/veh)						9.0								7.4	0.1	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					9.0								5.7			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				Haunz Lane at Moser Farm Rd				
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	2/6/2026							East/West Street				Moser Farm Road				
Analysis Year	2033							North/South Street				Haunz Lane				
Time Analyzed	AM Peak Build							Peak Hour Factor				0.88				
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25				
Project Description	Haunz Lane															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						40		52			10	34		13	4	
Percent Heavy Vehicles (%)						3		2						9		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.22						4.19		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.32						2.28		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						105								15		
Capacity, c (veh/h)						991								1513		
v/c Ratio						0.11								0.01		
95% Queue Length, Q ₉₅ (veh)						0.4								0.0		
95% Queue Length, Q ₉₅ (ft)						10.2								0.0		
Control Delay (s/veh)						9.1								7.4	0.1	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					9.1								5.7			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	Haunz Lane at Moser Farm Rd							
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	1/27/2026							East/West Street	Moser Farm Road							
Analysis Year	2025							North/South Street	Haunz Lane							
Time Analyzed	PM Peak							Peak Hour Factor	0.77							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Haunz Lane															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6	
Number of Lanes		0	0	0		0	1	0		0	1	0		0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						31		21			7	20		44	9	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						68								57		
Capacity, c (veh/h)						901								1589		
v/c Ratio						0.07								0.04		
95% Queue Length, Q ₉₅ (veh)						0.2								0.1		
95% Queue Length, Q ₉₅ (ft)						5.0								2.5		
Control Delay (s/veh)						9.3								7.3	0.3	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					9.3								6.1			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				Haunz Lane at Moser Farm Rd				
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	1/27/2026							East/West Street				Moser Farm Road				
Analysis Year	2033							North/South Street				Haunz Lane				
Time Analyzed	PM Peak No Build							Peak Hour Factor				0.77				
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25				
Project Description	Haunz Lane															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						41		26			9	26		54	11	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage					Undivided											
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.1		6.2							4.1	
Critical Headway (sec)						6.40		6.20							4.10	
Base Follow-Up Headway (sec)						3.5		3.3							2.2	
Follow-Up Headway (sec)						3.50		3.30							2.20	
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)							87								70	
Capacity, c (veh/h)							863								1575	
v/c Ratio							0.10								0.04	
95% Queue Length, Q ₉₅ (veh)							0.3								0.1	
95% Queue Length, Q ₉₅ (ft)							7.5								2.5	
Control Delay (s/veh)							9.6								7.4	0.3
Level of Service (LOS)							A								A	A
Approach Delay (s/veh)					9.6								6.2			
Approach LOS					A								A			

Haunz Lane
Traffic Impact Study

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				Haunz Lane at Moser Farm Rd				
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	2/6/2026							East/West Street				Moser Farm Road				
Analysis Year	2033							North/South Street				Haunz Lane				
Time Analyzed	PM Peak Build							Peak Hour Factor				0.77				
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25				
Project Description	Haunz Lane															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6	
Number of Lanes		0	0	0		0	1	0		0	1	0		0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						50		26			9	32		54	11	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						99								70		
Capacity, c (veh/h)						847								1565		
v/c Ratio						0.12								0.04		
95% Queue Length, Q ₉₅ (veh)						0.4								0.1		
95% Queue Length, Q ₉₅ (ft)						10.0								2.5		
Control Delay (s/veh)						9.8								7.4	0.3	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					9.8								6.2			
Approach LOS					A								A			

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HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	Haunz Lane at Entrance 2							
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	2/6/2026							East/West Street	Entrance 2/Underground Park							
Analysis Year	2033							North/South Street	Haunz Lane							
Time Analyzed	AM Peak Build							Peak Hour Factor	0.88							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Haunz Lane															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LR				LR				LTR				LTR	
Volume (veh/h)		1		5		110		5		5	39	37		2	42	0
Percent Heavy Vehicles (%)		0		60		0		0		60				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1		6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.80		7.10		6.20		4.70				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.84		3.50		3.30		2.74				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			7				131			6				2		
Capacity, c (veh/h)			871				840			1257				1523		
v/c Ratio			0.01				0.16			0.00				0.00		
95% Queue Length, Q ₉₅ (veh)			0.0				0.5			0.0				0.0		
95% Queue Length, Q ₉₅ (ft)			0.0				12.5			0.0				0.0		
Control Delay (s/veh)			9.2				10.1			7.9	0.0	0.0		7.4	0.0	0.0
Level of Service (LOS)			A				B			A	A	A		A	A	A
Approach Delay (s/veh)	9.2				10.1				0.5				0.3			
Approach LOS	A				B				A				A			

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				Haunz Lane at Entrance 2				
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	2/6/2026							East/West Street				Entrance 2/Underground Park				
Analysis Year	2033							North/South Street				Haunz Lane				
Time Analyzed	PM Peak Build							Peak Hour Factor				0.77				
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25				
Project Description	Haunz Lane															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6	
Number of Lanes		0	1	0		0	1	0		0	1	0		0	1	0
Configuration			LR				LR				LTR				LTR	
Volume (veh/h)		0		2		71		4		1	37	112		5	56	0
Percent Heavy Vehicles (%)		0		50		0		0		100				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1		6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.70		7.10		6.20		5.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.75		3.50		3.30		3.10				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			3				97				1				6	
Capacity, c (veh/h)			871				752				1081				1392	
v/c Ratio			0.00				0.13				0.00				0.00	
95% Queue Length, Q ₉₅ (veh)			0.0				0.4				0.0				0.0	
95% Queue Length, Q ₉₅ (ft)			0.0				10.0				0.0				0.0	
Control Delay (s/veh)			9.1				10.5				8.3	0.0	0.0		7.6	0.0
Level of Service (LOS)			A				B				A	A	A		A	A
Approach Delay (s/veh)	9.1				10.5				0.1				0.7			
Approach LOS	A				B				A				A			

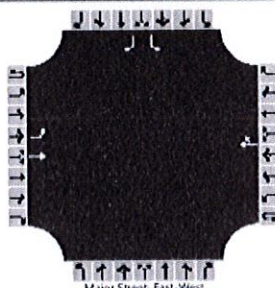
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	Haunz Lane at Entrance 1							
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	2/6/2026							East/West Street	Moser Farm Road							
Analysis Year	2033							North/South Street	Haunz Lane							
Time Analyzed	AM Peak Build							Peak Hour Factor	0.88							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Haunz Lane															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						47		3			78	25		1	156	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						57								1		
Capacity, c (veh/h)						723								1484		
v/c Ratio						0.08								0.00		
95% Queue Length, Q ₉₅ (veh)						0.3								0.0		
95% Queue Length, Q ₉₅ (ft)						7.5								0.0		
Control Delay (s/veh)						10.4								7.4	0.0	
Level of Service (LOS)						B								A	A	
Approach Delay (s/veh)					10.4								0.1			
Approach LOS					B								A			

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				Haunz Lane at Entrance 1				
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	2/6/2026							East/West Street				Moser Farm Road				
Analysis Year	2033							North/South Street				Haunz Lane				
Time Analyzed	PM Peak Build							Peak Hour Factor				0.77				
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25				
Project Description	Haunz Lane															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						36		2			148	58		3	126	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.1		6.2							4.1	
Critical Headway (sec)						6.40		6.20							4.10	
Base Follow-Up Headway (sec)						3.5		3.3							2.2	
Follow-Up Headway (sec)						3.50		3.30							2.20	
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						49									4	
Capacity, c (veh/h)						615									1308	
v/c Ratio						0.08									0.00	
95% Queue Length, Q ₉₅ (veh)						0.3									0.0	
95% Queue Length, Q ₉₅ (ft)						7.5									0.0	
Control Delay (s/veh)						11.4									7.8	0.0
Level of Service (LOS)						B									A	A
Approach Delay (s/veh)					11.4								0.2			
Approach LOS					B								A			

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 22 at Haunz Lane							
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	1/26/2026							East/West Street	KY 22							
Analysis Year	2025							North/South Street	Haunz Lane							
Time Analyzed	AM Peak							Peak Hour Factor	0.97							
Intersection Orientation	East-West							Analysis Time Period (hrs)	0.25							
Project Description	Haunz Ln															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		33	283				621	36						61		100
Percent Heavy Vehicles (%)		3												2		8
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1												7.6		7.6
Critical Headway (sec)		4.13												6.92		7.68
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.52		3.37
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		34												63		103
Capacity, c (veh/h)		910												218		351
v/c Ratio		0.04												0.29		0.29
95% Queue Length, Q ₉₅ (veh)		0.1												1.1		1.2
95% Queue Length, Q ₉₅ (ft)		2.6												27.9		31.9
Control Delay (s/veh)		9.1	0.4											28.1		19.5
Level of Service (LOS)		A	A											D		C
Approach Delay (s/veh)	1.3												22.7			
Approach LOS	A												C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	DBZ	Intersection	KY 22 at Haunz Lane
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC	Jurisdiction	
Date Performed	1/26/2026	East/West Street	KY 22
Analysis Year	2033	North/South Street	Haunz Lane
Time Analyzed	AM Peak No Build	Peak Hour Factor	0.97
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Haunz Ln		

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		53	345				657	50						93		164
Percent Heavy Vehicles (%)		3												2		8
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Left Only								1							

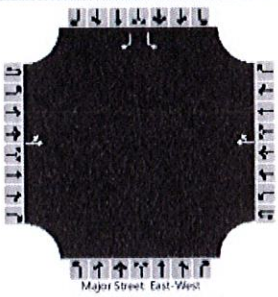
Critical and Follow-up Headways

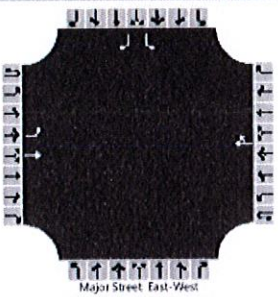
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Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)	55												96	169
Capacity, c (veh/h)	870												322	325
v/c Ratio	0.06												0.30	0.52
95% Queue Length, Q_{95} (veh)	0.2												1.2	2.8
95% Queue Length, Q_{95} (ft)	5.1												30.5	74.5
Control Delay (s/veh)	9.4												20.9	27.5
Level of Service (LOS)	A												C	D
Approach Delay (s/veh)	1.3												25.1	
Approach LOS	A												D	

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				KY 22 at Haunz Lane				
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	2/6/2026							East/West Street				KY 22				
Analysis Year	2033							North/South Street				Haunz Lane				
Time Analyzed	AM Peak Build							Peak Hour Factor				0.97				
Intersection Orientation	East-West							Analysis Time Period (hrs)				0.25				
Project Description	Haunz Ln															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		95	345				757	70						143		271
Percent Heavy Vehicles (%)		1												1		4
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1												7.6		7.6
Critical Headway (sec)		4.11												6.91		7.64
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.21												3.51		3.34
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		98												147		279
Capacity, c (veh/h)		791												267		272
v/c Ratio		0.12												0.55		1.03
95% Queue Length, Q ₉₅ (veh)		0.4												3.1		10.7
95% Queue Length, Q ₉₅ (ft)		10.1												78.1		276.1
Control Delay (s/veh)		10.2												33.8		102.8
Level of Service (LOS)		B												D		F
Approach Delay (s/veh)	2.2												79.0			
Approach LOS	A												F			

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 22 at Haunz Lane							
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	1/26/2026							East/West Street	KY 22							
Analysis Year	2025							North/South Street	Haunz Lane							
Time Analyzed	PM Peak							Peak Hour Factor	0.95							
Intersection Orientation	East-West							Analysis Time Period (hrs)	0.25							
Project Description	Haunz Ln															
Lanes																
 Major Street, East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		101	581				422	58						47		70
Percent Heavy Vehicles (%)		7												0		4
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1												7.6		7.6
Critical Headway (sec)		4.17												6.90		7.64
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.26												3.50		3.34
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		106												49		74
Capacity, c (veh/h)		1034												127		487
v/c Ratio		0.10												0.39		0.15
95% Queue Length, Q ₉₅ (veh)		0.3												1.6		0.5
95% Queue Length, Q ₉₅ (ft)		7.9												40.0		12.9
Control Delay (s/veh)		8.9	1.4											50.5		13.7
Level of Service (LOS)		A	A											F		B
Approach Delay (s/veh)	2.5												28.5			
Approach LOS	A												D			

HCS Two-Way Stop-Control Report																		
General Information								Site Information										
Analyst	DBZ							Intersection	KY 22 at Haunz Lane									
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction										
Date Performed	1/26/2026							East/West Street	KY 22									
Analysis Year	2033							North/South Street	Haunz Lane									
Time Analyzed	PM Peak No Build							Peak Hour Factor	0.95									
Intersection Orientation	East-West							Analysis Time Period (hrs)	0.25									
Project Description	Haunz Ln																	
Lanes																		
 Major Street East-West																		
Vehicle Volumes and Adjustments																		
Approach	Eastbound				Westbound				Northbound				Southbound					
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R		
Priority	1U	1	2	3	4U	4	5	6			7	8	9			10	11	12
Number of Lanes	0	1	1	0	0	0	1	0			0	0	0			1	0	1
Configuration		L	T					TR							L		R	
Volume (veh/h)		166	708				514	91							69		110	
Percent Heavy Vehicles (%)		7													0		4	
Proportion Time Blocked																		
Percent Grade (%)													0					
Right Turn Channelized													No					
Median Type Storage					Left Only								1					
Critical and Follow-up Headways																		
Base Critical Headway (sec)		4.1													7.6		7.6	
Critical Headway (sec)		4.17													6.90		7.64	
Base Follow-Up Headway (sec)		2.2													3.5		3.3	
Follow-Up Headway (sec)		2.26													3.50		3.34	
Delay, Queue Length, and Level of Service																		
Flow Rate, v (veh/h)		175													73		116	
Capacity, c (veh/h)		923													189		401	
v/c Ratio		0.19													0.38		0.29	
95% Queue Length, Q ₉₅ (veh)		0.7													1.7		1.2	
95% Queue Length, Q ₉₅ (ft)		18.5													42.5		31.0	
Control Delay (s/veh)		9.8													35.5		17.6	
Level of Service (LOS)		A													E		C	
Approach Delay (s/veh)	1.9												24.5					
Approach LOS	A												C					

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 22 at Haunz Lane							
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	2/6/2026							East/West Street	KY 22							
Analysis Year	2033							North/South Street	Haunz Lane							
Time Analyzed	PM Peak Build							Peak Hour Factor	0.95							
Intersection Orientation	East-West							Analysis Time Period (hrs)	0.25							
Project Description	Haunz Ln															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		280	708				514	143						103		183
Percent Heavy Vehicles (%)		7												0		4
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Left Only								1							
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1												7.6		7.6
Critical Headway (sec)		4.17												6.90		7.64
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.26												3.50		3.34
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		295												108		193
Capacity, c (veh/h)		880												127		383
v/c Ratio		0.33												0.86		0.50
95% Queue Length, Q ₉₅ (veh)		1.5												5.3		2.7
95% Queue Length, Q ₉₅ (ft)		39.6												132.5		69.7
Control Delay (s/veh)		11.1												110.3		23.5
Level of Service (LOS)		B												F		C
Approach Delay (s/veh)	3.2								54.8							
Approach LOS	A								F							

Left Turn Lane Warrants

Input Fields

Left Turn Volume (vph)	3	Speed Limit (mph)	35
Advancing Volume (vph)	129	No. of through lanes	1
Opposing Volume (vph)	202	Percent Heavy Vehicles (decimal percent)	0.03

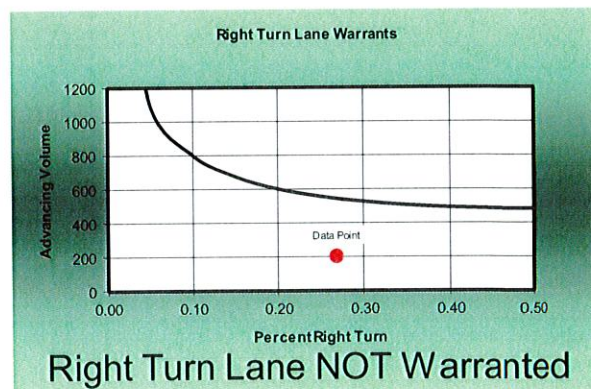


Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.

Right Turn Lane Warrants

Input Fields

Right Turn Volume (vph)	54	Speed Limit (mph)	35
Advancing Volume (vph)	202		



Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.

I, Diane Bridwell Zimmerman, certify that this Traffic Impact Study has been prepared under my direct supervision, that I am a Professional Engineer registered in the State of Kentucky and have successfully completed the Traffic Impact Study Requirements training course required by KYTC. Furthermore, I certify that this study has been completed in accordance with the KYTC Traffic Impact Study Requirements and in accordance with engineering standards of practice. The results presented have been determined to be accurate representations of existing and anticipated conditions based on the assumptions and methodologies presented in this report.

Diane Bridwell Zimmerman, Professional Engineer License #16462



**TECHNOLOGY
TRANSFER
PROGRAM**

**TRAFFIC IMPACT STUDY COURSE
Certificate of Completion (3.5 PDH)**

Diane Zimmerman

KY PE License No. 16462

Completed: 1/26-30/2026

Expires: 1/30/2030

Company: Diane B. Zimmerman Traffic
Engineering, LLC

TIM THARPE

Tim Tharpe, KYTC
Director of Traffic Operations

Adam Kirk, Instructor