

APPENDIX

A US 127 TRAFFIC FORECAST REPORT

Traffic Forecast Report

US 127 Corridor Planning Study

Casey and Lincoln Counties, Kentucky
July 18, 2023

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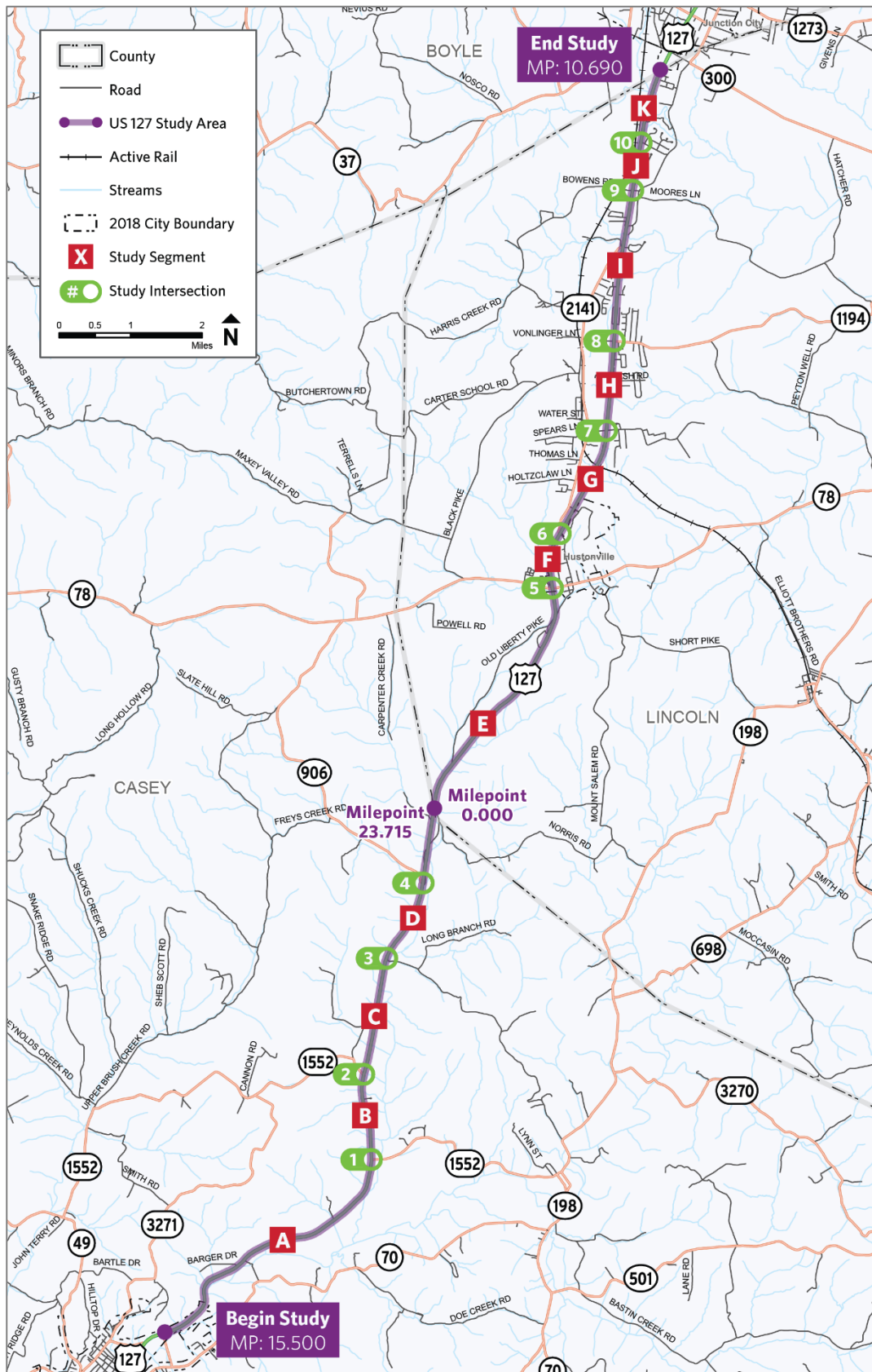
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Introduction and Study Area

The Kentucky Transportation Cabinet (KYTC) initiated a study to evaluate an approximately 18.9-mile section of the US 127 corridor from MP 15.500 to MP 23.715 in Casey County and from MP 0.000 to MP 10.690 in Lincoln County, Kentucky. US 127 in the study area is located north of the City of Liberty and south of the City of Danville and is classified as a rural other principal arterial facility. The study corridor is shown in **Figure 1** along with the eleven evaluation segments and the ten study intersections.

The objective of the US 127 Corridor Study is to identify short-term and long-term improvements to reduce congestion and improve safety, capacity, and mobility along US 127 within the study area. This report summarizes the methodology used to develop the US 127 Corridor Study traffic forecasts.

Figure 1: US 127 Study Area Map



Traffic Forecast Type

The traffic forecast developed for the US 127 corridor addressed both total traffic and trucks for 2023 and 2045. The forecast results include:

- 2023 and 2045 Average Annual Daily Traffic (AADT) and Design Hourly Volume (DHV) volumes
- 2023 and 2045 Truck AADT and DHV volumes

Traffic Counts

KYTC provided traffic count data for the corridor, including hourly segment traffic counts. Peak period intersection turning movement counts (TMC) were obtained as part of the study in February 2023 for five study intersections. Streetlight TMC data were obtained and used for the remaining study intersections. This Streetlight data included traffic volumes from January 2021 to April 2022. Upon comparing the Collected TMC and Streetlight TMC, it was determined that the volumes are consistent.

The following list shows study intersections and the TMC data source.

1. KY 1552 (Short Town Road): Collected TMC
2. KY 1552 (Loop Road): Streetlight TMC
3. Patsy Riffe Road: Streetlight TMC
4. KY 906: Collected TMC
5. KY 78: Collected TMC
6. KY 2141/Danville Pike: Collected TMC
7. Jeffries Lane: Streetlight TMC
8. KY 1194: Collected TMC
9. Bowens Loop Road: Streetlight TMC
10. Arcadia View Drive: Streetlight TMC

Segment Counts

KYTC conducted short-term hourly counts at six locations in the study corridor. **Table 1** presents the station's location and the count results, conducted between 2009 and 2022. The counts provided hourly traffic volume data by vehicle class and direction. The raw traffic count data is provided in **Appendix A**. A graph of the hourly volumes for these six count stations is presented in **Figure 2**, which shows the AM peak from this data source is occurring between 7 and 8 am, and the PM peak is occurring between 4 and 5 pm.

Table 1: US 127 Count Station Data

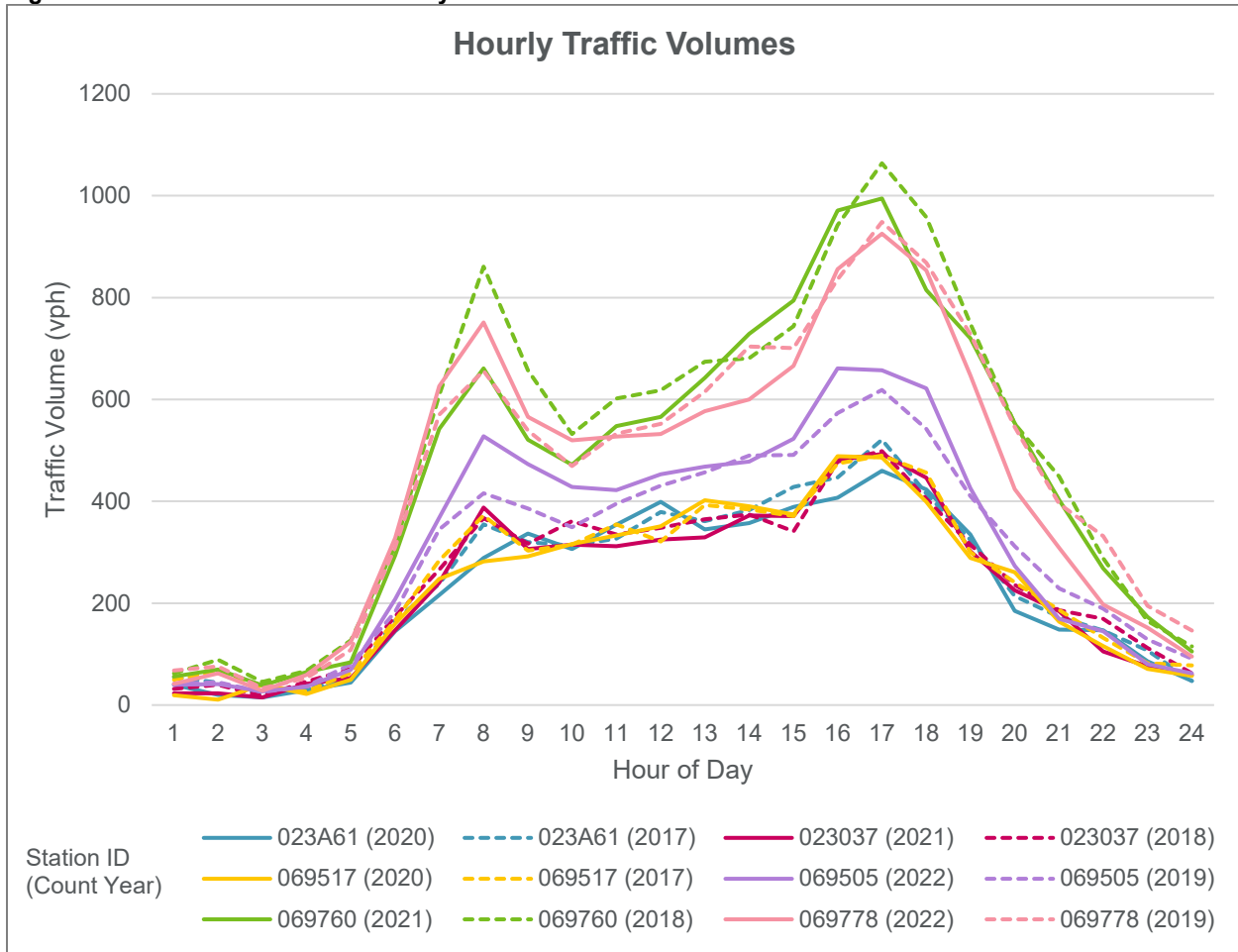
Count Station ID		023A61	023037	069517	069505	069760	069778
County		Casey		Lincoln			
Route		023-US-0127-000		069-US-0127-000			
Begin Milepoint		15.03	18.95	0	3.44	6.94	9.02
End Milepoint		18.95	22.82	3.44	6.94	9.02	10.69
K		10	10	11	10	10	9
D		57	64	56	58	57	69
Truck %	Single	8.2	8.2	8.2	5.0	5.0	5.0
	Combo	4.8	4.9	4.9	2.8	2.8	2.8
	Total	13.0	13.1	13.1	7.7	7.7	7.7
AADT	2022				6,219		9,982
	2021		5,181			9,808	
	2020	5,015		4,623			
	2019				6,357		10,437
	2018		5,192			9,703	
	2017	5,798		5,030			
	2016				6,501		10,921
	2015		5,146			9,547	
	2014	5,163		4,463			
	2013				6,126		10,023
	2012		4,754			9,466	
	2011	5,240		4,650			
2010				6,730		10,400	
2009		4,920			11,000		

Note: AADTs from 2009 to 2019 were used to estimate historical traffic growth.

Note: K factor rounded to nearest whole number

Note: K factor, D factor, and truck percentages from prior to 2022 used.

Figure 2: US 127 Count Stations Hourly Traffic Volumes



A comparison was made between the 2020, 2021 and 2022 counts and the previous years to determine if changes in travel patterns and volumes were impacted significantly by the COVID-19 pandemic. The 2020 AADT volume at station 023A61 was 14% lower than the 2017 count and 2020 AADT volume at station 069517 was 8% lower than the 2017 count. This difference showed that travel pattern changes during the COVID-19 pandemic had a significant impact on traffic in the study area.

The 24-hour volume counts conducted at count stations 069505 and 069778 in 2022 were used to check if volumes had returned back to pre-pandemic levels. These indicated that volumes post-2020 had approximately returned back to pre-pandemic values at count station 069505. In 2019, an AADT of 6,357 was recorded at this station, while in 2022 the AADT decreased to 6,219, resulting in a slight decrease of 2%. Station 069778 had slightly lower volume in 2022 (AADT of 9,982) compared to pre-pandemic years (AADT of 10,437 was recorded in 2019). This reduction in AADT is associated with observed decreasing rates of volume at this station since 2004 with an annual rate of -1.1% and is probably not related to the COVID-19 pandemic.

Intersection Counts

To evaluate intersection-level traffic operations and to confirm the design hour volumes from the segment counts it was necessary to collect intersection turning movement counts at the ten study intersections. The turning movement volumes are shown in **Figure 5** (rounded to the nearest ten vehicles per hour (vph)).

These counts were used to develop the 2023 design hour volumes. An evaluation of these 2023 intersection counts indicated they were consistent with expectations based on historical traffic volumes. **Appendix B** provides the detailed intersection turning movement count data.

Traffic Growth Rates

2023 was selected as the baseline year for analysis due to recent intersection counts being available for comparison and the planning study will be finalized in 2023. 2045 was selected as the design year. The growth rate for the study area was determined by comparing the results from three independent assessments:

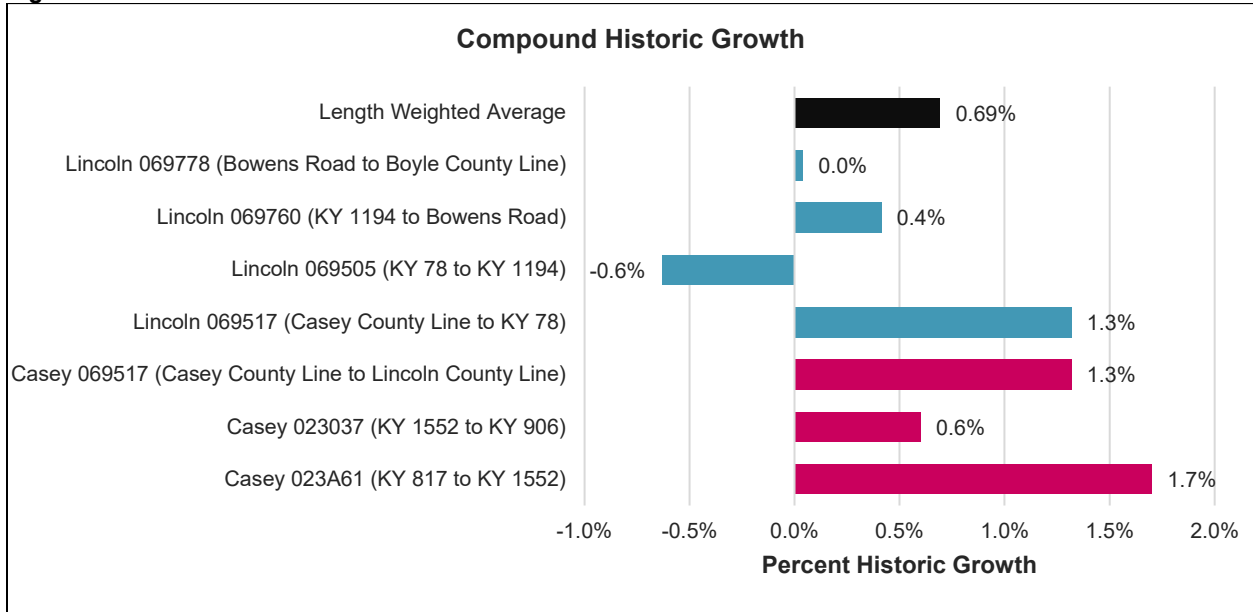
1. Reviewing historical traffic counts for growth trends
2. Analyzing results from the KYTC statewide model – KYSTMv19 with 6,003 zones.
3. Examining the expected population growth in Casey and Lincoln Counties, Kentucky.

Historical Traffic Count Trends

Historical AADT information was obtained from KYTC for count stations in the corridor study area. The data included the basic volume numbers as well as supporting information such as heavy vehicle percentages, directional distribution, design hour factor (K factor), and hourly count data. The traffic count data from the most recent 10 years prior to COVID-19 (2020) was used to estimate the historical growth trends since post 2019 counts were slightly lower than previous counts. This resulted in using volume data from 2009 to 2019.

As shown in **Figure 3**, the maximum traffic growth occurred at Station 023A61 (KY 817 to KY 1552) with a 1.7% increase per year, and the minimum traffic growth happened at Station 069505 (KY 78 to KY 1194) with a 0.6% reduction per year. The resulting length weighted average traffic growth for this time period within the study area is 0.69% (length weighting means that a longer count station segment is weighted proportionately more than a shorter segment).

Figure 3: Historical Growth on US 127



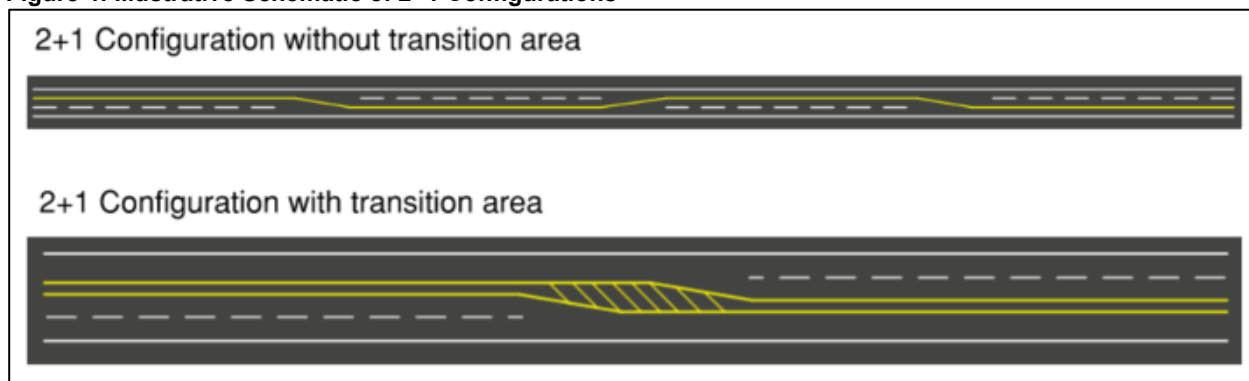
KYTC Statewide Model Forecasts

The KYSTMv19 model results for the base year (2019) and the future year (2045) were examined. The consultant team reviewed land use data, the network model and calculated the percent Root Mean Square Error (%RMSE) for the study area and study corridor. %RMSE is a measure of the accuracy of the traffic assignment, estimating the average error between the observed and modeled traffic volumes on links with traffic counts. A low %RMSE value indicates that the estimated and observed data are close to each other, suggesting a better overall accuracy for the model. Based on the analysis results, it was found that the KYSTM in the project area is sufficiently well-calibrated (See **Appendix C: KYSTM Calibration Review Memorandum**).

The Build model uses a 2+1 configuration. From the Highway Capacity Manual 7th Edition, a 2+1 is a nominally two-lane highway with a three-lane cross section, with the middle lane being a passing lane that periodically alternates direction. It has been found that 2+1 roads improve the free flow speed without increasing roadway capacity. **Figure 4** shows illustrative schematics of 2+1 configurations.

The annual length-weighted average growth rate in the corridor based on the model results was approximately 0.37% for the No-Build and 0.74% for the Build model. The Build model included increasing the free flow speed on US 127 to account for the effects of the new 2+1 lane configuration, using the methodology outlined in the Highway Capacity Manual 7th Edition.

Figure 4: Illustrative Schematic of 2+1 Configurations



Population Growth

Historical census data and population projections for Casey and Lincoln Counties were examined to assess the past and expected future population growth in the area, see **Table 2**. The data was obtained from the University of Louisville State Data Center. The average annual population growth for Casey and Lincoln Counties from 2010 to 2020 was 0.0% and -0.2%, respectively. For the 2020 to 2045 projected time period, annual population growth in Casey and Lincoln Counties is expected to decrease at a rate of -0.3% and -0.4%, respectively.

Table 2: Population Data

Location	Census		Projections				Extrapolation	Annual Growth	
	2010	2020	2025	2030	2035	2040	2045	2010 to 2020	2020 to 2045
Kentucky	4,339,367	4,505,836	4,580,143	4,641,150	4,686,067	4,721,118	4,750,369	0.4%	0.2%
Casey	15,955	15,941	15,764	15,544	15,261	14,960	14,687	0.0%	-0.3%
Lincoln	24,742	24,275	24,041	23,712	23,224	22,615	21,990	-0.2%	-0.4%

Source: University of Louisville Data Center

Selected Growth Rate

Based on the 0.69% annual historical traffic count growth rate, the 0.74% projected Build model growth, and the expectation that the population in Casey and Lincoln Counties is projected to decrease by -0.3% and -0.4%, a 0.75% annual growth rate was selected for the corridor. This is sufficient to explore the potential effects of a continued modest increase in traffic volumes over the forecast horizon.

2023 Traffic Volumes

The 2023 study volumes were estimated using the selected growth rate of 0.75%, 2023 intersection counts and the KYTC Count Station information (**Table 1**).

2023 Segment Volumes (AADT, DHV, and Truck Volumes)

The 2023 segment volume data is presented in **Table 4**. The intersection turning movement counts that were obtained in 2023 were used to develop the segment AADT volumes. A check

was made between the calculated AADT's, and the traffic count stations from 2019 to 2021 (grown at 0.75% to 2023) to determine if the intersection counts would yield reasonable results. The 2023 intersection counts resulted in -10% to +4% difference compared to the count stations volumes for all segments except segment H (Jeffries Lane to KY 1194). The AADT at segment H was 26% higher than count station data. This difference could be associated with the location of count station 069505, which could be closer to Jeffries Lane than KY 1194 (KY 1194 has significantly higher TMC volume than Jeffries Lane).

2023 AADTs

The volumes in each segment were calculated by applying a K factor (See **Table 3**) to the highest peak hour volume in each segment. The highest volumes were found to be in the PM peak for each of the eleven segments. **Table 4** summarizes 2023 AADT volumes, rounded to the nearest fifty vehicles per day (vpd). The volumes are also shown in **Figure 5**.

Table 3: Proposed K Factor for Volume Estimation

Segment ID	Begin MP	End MP	Segment	Original K Factor	Proposed K Factor
A	15.50	18.95	Beginning of Project to KY 1552/Short Town Road	10.0	10.0
B	18.95	20.10	KY 1552/Short Town Road to Old KY 1552/Loop Road	9.5	9.5
C	20.10	21.74	Old KY 1552/Loop Road to Patsy Riffe Road	9.5	9.5
D	21.74	22.82	Patsy Riffe Road to KY 906	9.5	9.5
E	22.82 (Casey)/ 0.00 (Lincoln)	23.70(Casey)/ 3.44 (Lincoln)	KY 906 to KY 78/Main Street	10.6	10.0
F	3.44	4.20	KY 78/Main Street to KY 2141/Danville Pike	9.7	9.7
G	4.20	5.74	KY 2141/ Danville Pike to Jeffries Lane	9.7	9.7
H	5.74	6.94	Jeffries Lane to KY 1194/McCormak Church Road	9.7	9.7
I	6.94	9.02	KY 1194/McCormak Church Road to Bowens Road	10.4	10.0
J	9.02	9.68	Bowens Road to Arcadia View Drive	9.1	9.5
K	9.68	10.69	Arcadia View Drive to End of Project	9.1	9.5

Table 4: Baseline (2023) Traffic Volumes

Segment ID	Begin MP	End MP	Segment	AADT	DHV	AADTT	TDHV
A	15.50	18.95	Beginning of Project to KY 1552/Short Town Road	4,600	460	600	60
B	18.95	20.10	KY 1552/Short Town Road to Old KY 1552/Loop Road	5,150	490	670	65
C	20.10	21.74	Old KY 1552/Loop Road to Patsy Riffe Road	4,850	460	630	60
D	21.74	22.82	Patsy Riffe Road to KY 906	5,150	490	670	65
E	22.82 (Casey)/ 0.00 (Lincoln)	23.70(Casey)/ 3.44 (Lincoln)	KY 906 to KY 78/Main Street	4,700	470	620	60
F	3.44	4.20	KY 78/Main Street to KY 2141/Danville Pike	5,900	570	460	45
G	4.20	5.74	KY 2141/Danville Pike to Jeffries Lane	6,700	650	520	50
H	5.74	6.94	Jeffries Lane to KY 1194/McCormak Church Road	8,250	800	640	60
I	6.94	9.02	KY 1194/McCormak Church Road to Bowens Road	9,950	1,000	770	75
J	9.02	9.68	Bowens Road to Arcadia View Drive	10,800	1,030	840	80
K	9.68	10.69	Arcadia View Drive to End of Project	11,150	1,060	860	80

AADT rounded to the nearest fifty. AADTT and DHV rounded to the nearest ten. TDHV rounded to the nearest five.

2023 DHVs

DHV values were calculated using the highest peak hour volume in each segment from the turning movement count data and were rounded to the nearest ten vph. Hourly volumes generally increased along the corridor from south to north approaching Junction City (MP: 10.690) in Boyle County.

2023 Truck AADTs and DHVs

Truck percent data was obtained from the KYTC Statewide Traffic Counts Map. This data was used along with the classification counts to estimate Average Annual Daily Truck Traffic (AADTT) and truck DHV volumes for each segment in the corridor in 2023 (AADTT rounded to the nearest ten vpd, truck DHV rounded to nearest five vph). The results are shown in **Table 4** and **Figure 5**.

Truck percentages used in this calculation are presented in **Table 5**. These are percentages of AADT to calculate both daily and peak hour truck volumes.

Table 5: Truck Percentages (Percent of AADT)

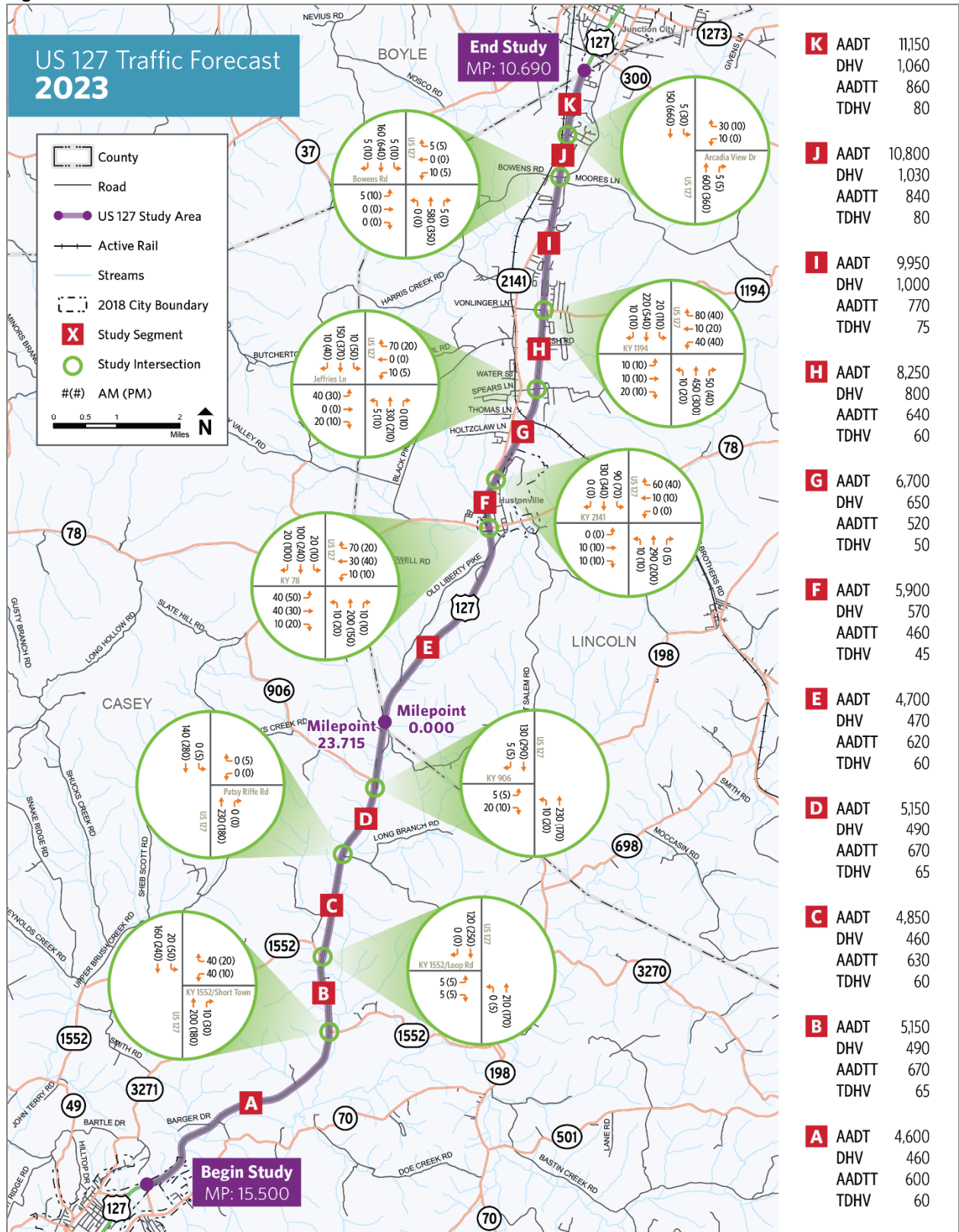
ID	Begin MP (County)	End MP (County)	Segment	% Trucks of AADT			% Trucks of AADT in Peak Hour*		
				Single	Combo	Total	Single	Combo	Total
A to E	15.50 (Casey)/ 0.00 (Lincoln)	23.70(Casey)/ 3.44 (Lincoln)	Beginning of Project to KY 78/Main Street	8.2	4.9	13.1	8.2	4.9	13.1
F to K	3.44 (Lincoln)	10.69 (Lincoln)	KY 78/Main Street to End of Project	5.0	2.8	7.7	5.0	2.8	7.7

**The original percent peak trucks were less than one for most segments, hence, percent total trucks was used.*

2023 Intersection Volumes

The 2023 intersection volumes were derived from the 2023 intersection traffic counts but have been rounded to the nearest ten. For most intersections, the peak hour in the AM occurred between 7:00am and 8:00am and the peak hour in the PM occurred between 4:30pm and 5:30pm. Volumes increased the closer the intersection was located to the northern end of the study area.

Figure 5: 2023 Traffic Volumes



Future (2045) Traffic Volumes

Design Year

AASHTO's *A Policy on Geometric Design of Highways and Streets, 7th Edition (2018)* recommends that the design for new construction or improvements to existing roadways consider future traffic volumes expected to use the facility, with these future traffic volumes typically being at least 20 years into the future. During project scoping, the project team selected 2045 as the design year to use in this study.

Future Growth Rate Considerations

The growth rate for the corridor was based on a review of the historical trends, historical population growth in the corridor, and the KYSTM projections for No-Build and Build models.

2045 Segment Volumes (AADT, DHV, and Truck Volumes)

2045 AADTs

The 2045 AADT volumes were calculated by growing the 2023 values using the 0.75% annual growth rate. The 2045 volumes are shown in **Table 6** and **Figure 6**.

Table 6: Future Year (2045) Traffic Volumes

Segment ID	Begin MP	End MP	Segment	AADT	DHV	AADTT	TDHV
A	15.50	18.95	Begin Project to KY 1552/Short Town Road	5,400	540	710	70
B	18.95	20.10	KY 1552/Short Town Road to Old KY 1552/Loop Road	6,050	580	790	75
C	20.10	21.74	Old KY 1552/Loop Road to Patsy Riffe Road	5,700	540	740	70
D	21.74	22.82	Patsy Riffe Road to KY 906	6,050	580	790	75
E	22.82 (Casey)/ 0.00 (Lincoln)	23.70(Casey)/ 3.44 (Lincoln)	KY 906 to KY 78/Main Street	5,550	550	730	70
F	3.44	4.20	KY 78/Main Street to KY 2141/Danville Pike	6,950	670	540	55
G	4.20	5.74	KY 2141/Danville Pike to Jeffries Lane	7,900	770	610	60
H	5.74	6.94	Jeffries Lane to KY 1194/McCormak Church Road	9,700	940	750	70
I	6.94	9.02	KY 1194/McCormak Church Road to Bowens Road	11,750	1,180	910	90
J	9.02	9.68	Bowens Road to Arcadia View Drive	12,750	1,210	990	95
K	9.68	10.69	Arcadia View Drive to End of Project	13,150	1,250	1,010	95

AADT rounded to the nearest fifty. AADTT and DHV rounded to the nearest ten. TDHV rounded to the nearest five.

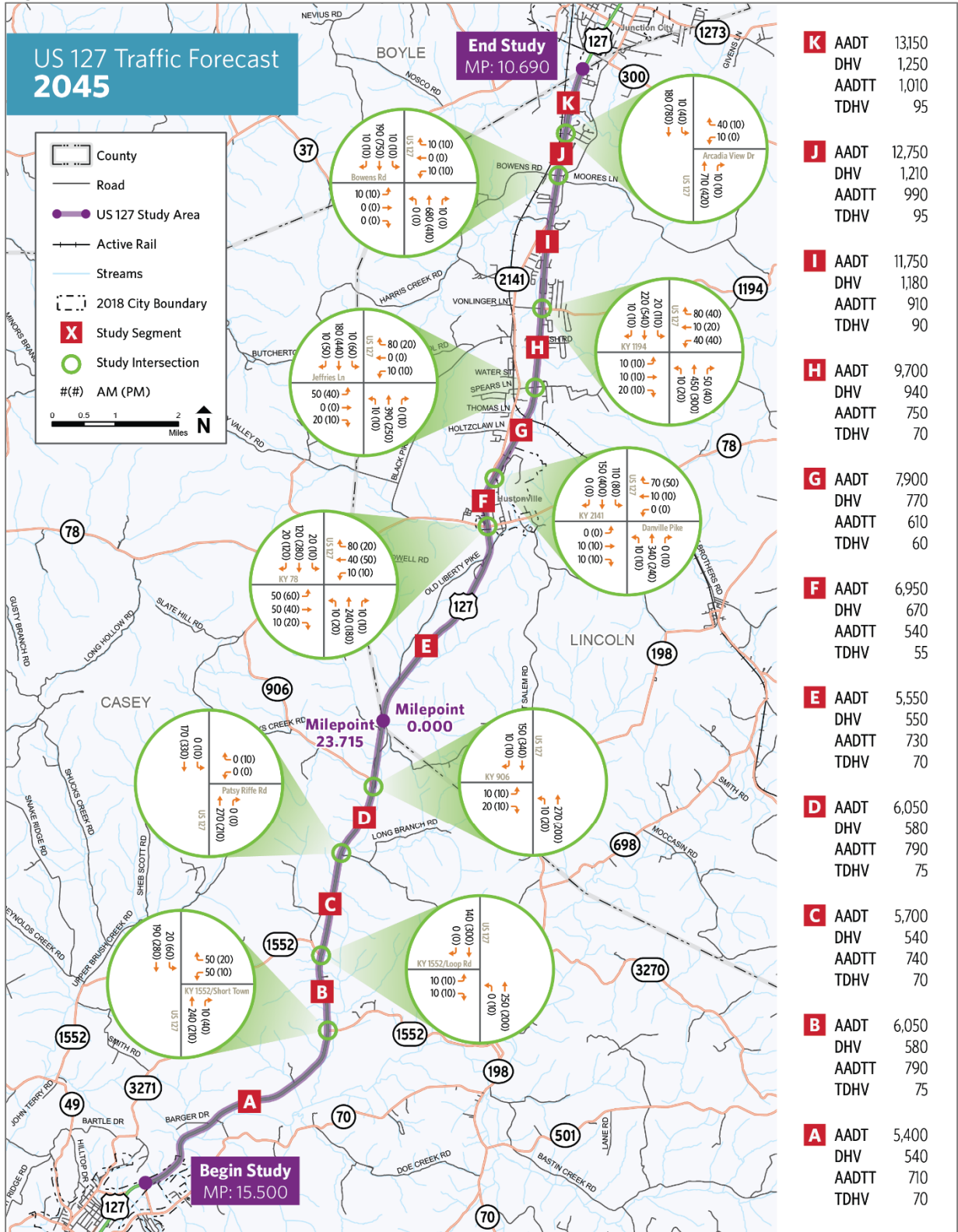
2045 DHVs

The 2045 DHVs were estimated by applying the K factor (see **Table 3**) to the calculated 2045 AADTs. These results are shown in **Table 6** and **Figure 6**.

2045 Truck AADTs and DHVs

The 2045 truck AADTs and DHVs were grown using the corridor growth rate. The results are shown on **Figure 6**. The same truck percentage was used for 2023 and 2045 to calculate truck volumes. **Table 6** shows truck traffic data (AADTT rounded to the nearest ten vpd, truck DHV rounded to nearest five vph).

Figure 6: 2045 Traffic Volumes





Appendix A
Traffic Count Data

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 06/23/2020 through 06/25/2020

Site names:	023A61,	Seasonal Factor Grp:	2
County:	Casey	Daily Factor Grp:	2
Funct Class:	Principal Arterial - Other	Axle Factor Grp:	02
Location:	023-US-0127 -000 @ 16.300 From: KY 817	Growth Factor Grp:	02

	Sun, Jun 21, 2020			Mon, Jun 22, 2020			Tue, Jun 23, 2020			Wed, Jun 24, 2020			Thu, Jun 25, 2020			Fri, Jun 26, 2020			Sat, Jun 27, 2020		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										40	18	22	33	15	18						
01:00										20	5	15	24	9	15						
02:00										15	12	3	13	10	3						
03:00										29	23	6	28	24	4						
04:00										44	34	10	45	29	16						
05:00										145	82	63	136	82	54						
06:00										216	144	72	236	158	78						
07:00							289	161	128	289	168	121									
08:00							268	122	146	337	172	165									
09:00							306	161	145	306	156	150									
10:00							313	176	137	354	162	192									
11:00							393	211	182	399	215	184									
12:00							392	209	183	345	181	164									
13:00							364	195	169	357	185	172									
14:00							390	182	208	389	189	200									
15:00							430	208	222	407	186	221									
16:00							503	218	285	460	198	262									
17:00							393	192	201	423	208	215									
18:00							308	122	186	335	144	191									
19:00							219	79	140	185	83	102									
20:00							182	85	97	148	64	84									
21:00							136	56	80	147	58	89									
22:00							72	36	36	86	43	43									
23:00							48	23	25	47	16	31									
Total							5,006	2,436	2,570	5,523	2,746	2,777	515	327	188						
AM Peak Vol										399	215	193									
AM Peak Fct										.978	.927	.877									
AM Peak Hr										11: 00	11: 00	9: 45									
PM Peak Vol							506	230	286	471	225	269									
PM Peak Fct							.937	.913	.883	.885	.827	.897									
PM Peak Hr							16: 15	16: 15	15: 45	16: 15	16: 30	15: 30									
Seasonal Fct							.921	.921	.921	.921	.921	.921	.921	.921	.921						
Daily Fct							1.000	1.000	1.000	.976	.976	.976	.960	.960	.960						
Axle Fct							.500	.500	.500	.500	.500	.500	.500	.500	.500						
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 07/17/2017 through 07/19/2017

Site names:	023A61,	Seasonal Factor Grp:	2
County:	Casey	Daily Factor Grp:	2
Funct Class:	Principal Arterial - Other	Axle Factor Grp:	02
Location:	023-US-0127 -000 @ 16.300 From: KY 817	Growth Factor Grp:	02

	Sun, Jul 16, 2017			Mon, Jul 17, 2017			Tue, Jul 18, 2017			Wed, Jul 19, 2017			Thu, Jul 20, 2017			Fri, Jul 21, 2017			Sat, Jul 22, 2017		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							55	31	24	43	19	24									
01:00							44	25	19	50	22	28									
02:00							21	10	11	12	1	11									
03:00							34	20	14	26	19	7									
04:00							48	27	21	68	42	26									
05:00							166	95	71	163	95	68									
06:00							238	158	80	227	135	92									
07:00							355	170	185	359	176	183									
08:00							320	153	167	319	152	167									
09:00				321	171	150	313	171	142												
10:00				385	194	191	327	155	172												
11:00				358	190	168	379	197	182												
12:00				400	207	193	361	176	185												
13:00				399	246	153	383	204	179												
14:00				431	226	205	428	223	205												
15:00				459	244	215	447	210	237												
16:00				527	241	286	521	230	291												
17:00				434	209	225	415	199	216												
18:00				323	158	165	324	148	176												
19:00				232	109	123	214	72	142												
20:00				186	81	105	173	74	99												
21:00				172	78	94	146	96	50												
22:00				98	37	61	107	50	57												
23:00				67	25	42	47	18	29												
Total				4,792	2,416	2,376	5,866	2,912	2,954	1,267	661	606									
AM Peak Vol				0	0	0	379	197	185	0	0	0									
AM Peak Fct				0	0	0	1	1	1	0	0	0									
AM Peak Hr				:	:	:	11: 00	11: 00	7: 00	:	:	:									
PM Peak Vol				527	246	286	521	230	291	0	0	0									
PM Peak Fct				1	1	1	1	1	1	0	0	0									
PM Peak Hr				16: 00	13: 00	16: 00	16: 00	16: 00	16: 00	:	:	:									
Seasonal Fct				.969	.969	.969	.969	.969	.969	.969	.969	.969									
Daily Fct				1.005	1.005	1.005	1.006	1.006	1.006	.987	.987	.987									
Axle Fct				.500	.500	.500	.500	.500	.500	.500	.500	.500									
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000									

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 05/10/2021 through 05/12/2021

Site names: 023037, Seasonal Factor Grp: 2
 County: Casey, Daily Factor Grp: 2
 Funct Class: Principal Arterial - Other, Axle Factor Grp: 02
 Location: 023-US-0127 -000 @ 20.100 From: KY 1552, Growth Factor Grp: 02

	Sun, May 9, 2021			Mon, May 10, 2021			Tue, May 11, 2021			Wed, May 12, 2021			Thu, May 13, 2021			Fri, May 14, 2021			Sat, May 15, 2021		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							23	10	13	23	10	13									
01:00							23	7	16	22	7	15									
02:00							15	8	7	12	5	7									
03:00							42	31	11	44	32	12									
04:00							53	40	13	57	42	15									
05:00							147	112	35	177	132	45									
06:00							240	157	83	208	139	69									
07:00							388	237	151	394	234	160									
08:00							306	179	127	310	174	136									
09:00				292	162	130	315	157	158												
10:00				312	178	134	312	156	156												
11:00				345	179	166	325	175	150												
12:00				358	187	171	329	173	156												
13:00				330	162	168	372	193	179												
14:00				334	165	169	371	176	195												
15:00				413	183	230	481	246	235												
16:00				488	205	283	493	178	315												
17:00				426	185	241	446	171	275												
18:00				301	121	180	302	114	188												
19:00				192	75	117	225	100	125												
20:00				174	65	109	184	76	108												
21:00				139	68	71	105	47	58												
22:00				64	26	38	76	28	48												
23:00				29	7	22	59	23	36												
Total				4,197	1,968	2,229	5,632	2,794	2,838	1,247	775	472									
AM Peak Vol							388	237	173												
AM Peak Fct							.866	.871	.709												
AM Peak Hr							7: 00	7: 00	9: 45												
PM Peak Vol				488	211	283	518	246	323												
PM Peak Fct				.891	.894	.907	.912	.904	.85												
PM Peak Hr				16: 00	16: 45	16: 00	16: 30	15: 00	16: 15												
Seasonal Fct				.918	.918	.918	.918	.918	.918	.918	.918	.918									
Daily Fct				1.030	1.030	1.030	1.017	1.017	1.017	.990	.990	.990									
Axle Fct				.500	.500	.500	.500	.500	.500	.500	.500	.500									
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000									

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Short-term Hourly Traffic Volume for 05/22/2018 through 05/24/2018

Site names:	023037,	Seasonal Factor Grp:	2
County:	Casey	Daily Factor Grp:	2
Funct Class:	Principal Arterial - Other	Axle Factor Grp:	02
Location:	023-US-0127 -000 @ 20.100 From: KY 1552	Growth Factor Grp:	02

	Sun, May 20, 2018			Mon, May 21, 2018			Tue, May 22, 2018			Wed, May 23, 2018			Thu, May 24, 2018			Fri, May 25, 2018			Sat, May 26, 2018		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										32	13	19	29	12	17						
01:00										40	8	32	46	6	40						
02:00										18	12	6	20	13	7						
03:00										46	31	15	39	31	8						
04:00										71	49	22	70	52	18						
05:00										174	131	43	166	126	40						
06:00										266	199	67	266	207	59						
07:00										367	200	167	362	218	144						
08:00							294	172	122	317	173	144	332	178	154						
09:00							301	158	143	361	192	169									
10:00							297	161	136	335	166	169									
11:00							349	154	195	348	163	185									
12:00							343	182	161	365	191	174									
13:00							319	153	166	374	198	176									
14:00							379	186	193	341	168	173									
15:00							459	206	253	478	211	267									
16:00							485	205	280	499	190	309									
17:00							460	186	274	405	180	225									
18:00							268	103	165	315	142	173									
19:00							212	96	116	236	102	134									
20:00							158	68	90	186	83	103									
21:00							142	62	80	169	64	105									
22:00							73	26	47	112	48	64									
23:00							46	17	29	62	21	41									
Total							4,585	2,135	2,450	5,917	2,935	2,982	1,330	843	487						
AM Peak Vol										367	200	185									
AM Peak Fct										1	1	1									
AM Peak Hr										7: 00	7: 00	11: 00									
PM Peak Vol							485	206	280	499	211	309									
PM Peak Fct							1	1	1	1	1	1									
PM Peak Hr							16: 00	15: 00	16: 00	16: 00	15: 00	16: 00									
Seasonal Fct							.915	.915	.915	.915	.915	.915	.915	.915	.915						
Daily Fct							.993	.993	.993	.987	.987	.987	.950	.950	.950						
Axle Fct							.500	.500	.500	.500	.500	.500	.500	.500	.500						
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						

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Short-term Hourly Traffic Volume for 06/17/2019 through 06/19/2019

Site names: 069505, Seasonal Factor Grp: 2
 County: Lincoln Daily Factor Grp: 2
 Funct Class: Principal Arterial - Other Axle Factor Grp: 02
 Location: 069-US-0127 -000 @ 4.600 From: KY 78 To: Growth Factor Grp: 02

	Sun, Jun 16, 2019			Mon, Jun 17, 2019			Tue, Jun 18, 2019			Wed, Jun 19, 2019			Thu, Jun 20, 2019			Fri, Jun 21, 2019			Sat, Jun 22, 2019		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							42			32											
01:00							45			52											
02:00							26			18											
03:00							37			46											
04:00							80			96											
05:00							183			198											
06:00							345			371											
07:00							416			477											
08:00							386			387											
09:00							349			395											
10:00							395														
11:00				475			431														
12:00				518			457														
13:00				486			490														
14:00				475			491														
15:00				618			573														
16:00				561			619														
17:00				550			542														
18:00				432			410														
19:00				326			312														
20:00				218			229														
21:00				186			189														
22:00				122			129														
23:00				82			91														
Total				5,049			7,267			2,072											
AM Peak Vol							436														
AM Peak Fct							.872														
AM Peak Hr							7: 15														
PM Peak Vol				618			619														
PM Peak Fct				.858			.879														
PM Peak Hr				15: 00			16: 00														
Seasonal Fct				.950			.950			.950											
Daily Fct				1.008			.985			.998											
Axle Fct				.455			.455			.455											
Pulse Fct				2.000			2.000			2.000											

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Short-term Hourly Traffic Volume for 11/28/2022 through 12/01/2022

Site names:	069505,	Seasonal Factor Grp:	2
County:	Lincoln	Daily Factor Grp:	2
Funct Class:	Principal Arterial - Other	Axle Factor Grp:	02
Location:	069-US-0127 -000 @ 4.600	From: KY 78 To:	Growth Factor Grp: 02

	Sun, Nov 27, 2022			Mon, Nov 28, 2022			Tue, Nov 29, 2022			Wed, Nov 30, 2022			Thu, Dec 1, 2022			Fri, Dec 2, 2022			Sat, Dec 3, 2022		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							40			23			35								
01:00							41			39			44								
02:00							27			21			19								
03:00							36			32			43								
04:00							69			80			83								
05:00							208			243			196								
06:00							368			362			353								
07:00							528			540			421								
08:00							473			449			399								
09:00							428			390			415								
10:00							422			396			367								
11:00							453			411											
12:00							468			454											
13:00							478			472											
14:00				504			523			516											
15:00				681			661			696											
16:00				655			657			620											
17:00				610			622			620											
18:00				391			426			446											
19:00				266			273			271											
20:00				140			169			197											
21:00				121			145			120											
22:00				75			80			95											
23:00				57			62			62											
Total				3,500			7,657			7,555			2,375								
AM Peak Vol							582			572											
AM Peak Fct							.945			.917											
AM Peak Hr							7: 15			7: 15											
PM Peak Vol							697			722											
PM Peak Fct							.957			.851											
PM Peak Hr							16: 15			15: 15											
Seasonal Fct				.996			.996			.996			1.044								
Daily Fct				.966			.945			.916			.918								
Axle Fct				.500			.500			.500			.500								
Pulse Fct				2.000			2.000			2.000			2.000								

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Short-term Hourly Traffic Volume for 06/16/2020 through 06/18/2020

Site names: 069517, Seasonal Factor Grp: 2
 County: Lincoln Daily Factor Grp: 2
 Funct Class: Principal Arterial - Other Axle Factor Grp: 02
 Location: 069-US-0127 -000 @ 1.100 From: CASEY Growth Factor Grp: 02

	Sun, Jun 14, 2020			Mon, Jun 15, 2020			Tue, Jun 16, 2020			Wed, Jun 17, 2020			Thu, Jun 18, 2020			Fri, Jun 19, 2020			Sat, Jun 20, 2020		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										19			23								
01:00										11			17								
02:00										40			36								
03:00										22			30								
04:00										50			53								
05:00										160			165								
06:00										248			256								
07:00										282			331								
08:00										292			290								
09:00										316			339								
10:00								355		333											
11:00								345		351											
12:00								341		402											
13:00								365		390											
14:00								355		374											
15:00								442		489											
16:00								469		486											
17:00								413		399											
18:00								302		289											
19:00								241		261											
20:00								193		164											
21:00								119		116											
22:00								70		71											
23:00								60		57											
Total								4,070		5,622			1,540								
AM Peak Vol										354											
AM Peak Fct										.805											
AM Peak Hr										10: 45											
PM Peak Vol								479		512											
PM Peak Fct								.943		.914											
PM Peak Hr								15: 15		15: 30											
Seasonal Fct								.921		.921			.921								
Daily Fct								1.000		.976			.960								
Axle Fct								.455		.455			.455								
Pulse Fct								2.000		2.000			2.000								

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Short-term Hourly Traffic Volume for 07/10/2017 through 07/12/2017

Site names:	069517,	Seasonal Factor Grp:	2
County:	Lincoln	Daily Factor Grp:	2
Funct Class:	Principal Arterial - Other	Axle Factor Grp:	02
Location:	069-US-0127 -000 @ 1.100 From: CASEY	Growth Factor Grp:	02

	Sun, Jul 9, 2017			Mon, Jul 10, 2017			Tue, Jul 11, 2017			Wed, Jul 12, 2017			Thu, Jul 13, 2017			Fri, Jul 14, 2017			Sat, Jul 15, 2017		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							50			35											
01:00							66			63											
02:00							38			25											
03:00							27			48											
04:00							63			76											
05:00							166			162											
06:00							284			298											
07:00							372			319											
08:00				269			303														
09:00				359			315														
10:00				350			355														
11:00				368			321														
12:00				358			393														
13:00				384			384														
14:00				375			371														
15:00				446			474														
16:00				525			490														
17:00				412			456														
18:00				295			300														
19:00				212			241														
20:00				166			187														
21:00				127			132														
22:00				97			82														
23:00				61			78														
Total				4,804			5,948			1,026											
AM Peak Vol				0			372			0											
AM Peak Fct				0			1			0											
AM Peak Hr				:			7: 00			:											
PM Peak Vol				525			490			0											
PM Peak Fct				1			1			0											
PM Peak Hr				16: 00			16: 00			:											
Seasonal Fct				.969			.969			.969											
Daily Fct				1.005			1.006			.987											
Axle Fct				.439			.439			.439											
Pulse Fct				2.000			2.000			2.000											

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Short-term Hourly Traffic Volume for 05/03/2021 through 05/05/2021

Site names: 069760,	Seasonal Factor Grp: 2	
County: Lincoln	Daily Factor Grp: 2	
Funct Class: Principal Arterial - Other	Axle Factor Grp: 02	
Location: 069-US-0127 -000 @ 8.900 From: KY	Growth Factor Grp: 02	

	Sun, May 2, 2021			Mon, May 3, 2021			Tue, May 4, 2021			Wed, May 5, 2021			Thu, May 6, 2021			Fri, May 7, 2021			Sat, May 8, 2021		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							56			37											
01:00							70			66											
02:00							39			39											
03:00							65			59											
04:00							84			106											
05:00							294			305											
06:00				550			542														
07:00				717			661														
08:00				598			521														
09:00				529			472														
10:00				621			548														
11:00				640			566														
12:00				740			642														
13:00				741			729														
14:00				838			794														
15:00				976			971														
16:00				1,019			995														
17:00				950			815														
18:00				718			720														
19:00				559			553														
20:00				435			403														
21:00				289			268														
22:00				150			173														
23:00				122			105														
Total				11,192			11,086			612											
AM Peak Vol							661														
AM Peak Fct							.978														
AM Peak Hr							7: 00														
PM Peak Vol				1,052			1,015														
PM Peak Fct				.926			.947														
PM Peak Hr				15: 45			15: 30														
Seasonal Fct				.918			.918			.918											
Daily Fct				1.030			1.017			.990											
Axle Fct				.456			.456			.456											
Pulse Fct				2.000			2.000			2.000											

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Short-term Hourly Traffic Volume for 05/15/2018 through 05/17/2018

Site names: 069760, Seasonal Factor Grp: 2
 County: Lincoln, Daily Factor Grp: 2
 Funct Class: Principal Arterial - Other, Axle Factor Grp: 02
 Location: 069-US-0127 -000 @ 8.900 From: KY, Growth Factor Grp: 02

	Sun, May 13, 2018			Mon, May 14, 2018			Tue, May 15, 2018			Wed, May 16, 2018			Thu, May 17, 2018			Fri, May 18, 2018			Sat, May 19, 2018		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										62			70								
01:00										89			95								
02:00										46			31								
03:00										67			63								
04:00										127			136								
05:00										312			309								
06:00										609			651								
07:00										861			834								
08:00								625		657											
09:00								619		532											
10:00								545		602											
11:00								605		618											
12:00								603		674											
13:00								665		681											
14:00								679		744											
15:00								901		942											
16:00								966		1,064											
17:00								943		958											
18:00								730		749											
19:00								589		552											
20:00								456		449											
21:00								320		288											
22:00								205		165											
23:00								139		115											
Total								9,590		11,963			2,189								
AM Peak Vol								0		861			0								
AM Peak Fct								0		1			0								
AM Peak Hr								:		7: 00			:								
PM Peak Vol								966		1,064			0								
PM Peak Fct								1		1			0								
PM Peak Hr								16: 00		16: 00			:								
Seasonal Fct								.915		.915			.915								
Daily Fct								.993		.987			.950								
Axle Fct								.453		.453			.453								
Pulse Fct								2.000		2.000			2.000								

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Short-term Hourly Traffic Volume for 06/17/2019 through 06/19/2019

Site names:	069778,	Seasonal Factor Grp:	2
County:	Lincoln	Daily Factor Grp:	2
Funct Class:	Principal Arterial - Other	Axle Factor Grp:	02
Location:	069-US-0127 -000 @ 9.600 From: BOWENS	Growth Factor Grp:	02

	Sun, Jun 16, 2019			Mon, Jun 17, 2019			Tue, Jun 18, 2019			Wed, Jun 19, 2019			Thu, Jun 20, 2019			Fri, Jun 21, 2019			Sat, Jun 22, 2019		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							68	24	44	62	22	40									
01:00							76	7	69	89	14	75									
02:00							33	16	17	31	17	14									
03:00							53	34	19	63	44	19									
04:00							108	88	20	119	91	28									
05:00							310	281	29	317	282	35									
06:00							570	493	77	603	508	95									
07:00							656	478	178	678	494	184									
08:00							539	376	163	543	384	159									
09:00							469	289	180	545	346	199									
10:00							533	320	213												
11:00				627	317	310	552	305	247												
12:00				687	351	336	615	335	280												
13:00				678	366	312	704	356	348												
14:00				672	298	374	701	316	385												
15:00				847	362	485	836	328	508												
16:00				916	296	620	949	295	654												
17:00				887	282	605	868	314	554												
18:00				671	289	382	728	273	455												
19:00				544	201	343	546	196	350												
20:00				379	134	245	395	155	240												
21:00				300	128	172	332	124	208												
22:00				191	78	113	195	77	118												
23:00				118	39	79	146	55	91												
Total				7,517	3,141	4,376	10,982	5,535	5,447	3,050	2,202	848									
AM Peak Vol							657	500	247												
AM Peak Fct							.923	.796	.823												
AM Peak Hr				:	:	:	7: 15	6: 30	11: 00												
PM Peak Vol				991	380	678	949	362	654												
PM Peak Fct				.935	.913	.897	.906	.933	.879												
PM Peak Hr				16: 30	12: 45	16: 30	16: 00	12: 30	16: 00												
Seasonal Fct				.950	.950	.950	.950	.950	.950	.950	.950	.950									
Daily Fct				1.008	1.008	1.008	.985	.985	.985	.998	.998	.998									
Axle Fct				.500	.500	.500	.500	.500	.500	.500	.500	.500									
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000									

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Short-term Hourly Traffic Volume for 11/28/2022 through 12/01/2022

Site names:	069778,	Seasonal Factor Grp:	2
County:	Lincoln	Daily Factor Grp:	2
Funct Class:	Principal Arterial - Other	Axle Factor Grp:	02
Location:	069-US-0127 -000 @ 9.600 From: BOWENS	Growth Factor Grp:	02

	Sun, Nov 27, 2022			Mon, Nov 28, 2022			Tue, Nov 29, 2022			Wed, Nov 30, 2022			Thu, Dec 1, 2022			Fri, Dec 2, 2022			Sat, Dec 3, 2022		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							46	11	35	42	10	32	58	18	40						
01:00							55	9	46	62	10	52	76	15	61						
02:00							33	14	19	28	13	15	21	9	12						
03:00							53	35	18	59	42	17	62	47	15						
04:00							117	106	11	124	104	20	114	96	18						
05:00							330	292	38	328	298	30	331	298	33						
06:00							598	506	92	626	536	90	606	520	86						
07:00							749	558	191	751	547	204	708	520	188						
08:00							567	379	188	566	370	196	550	364	186						
09:00							506	322	184	520	312	208	532	344	188						
10:00							510	278	232	527	292	235	546	328	218						
11:00							576	304	272	532	271	261	574	298	276						
12:00							615	317	298	577	295	282									
13:00							586	281	305	600	309	291									
14:00							704	330	374	666	307	359									
15:00				874	320	554	834	303	531	856	328	528									
16:00				920	304	616	963	332	631	926	283	643									
17:00				890	287	603	887	297	590	853	292	561									
18:00				588	197	391	566	209	357	647	246	401									
19:00				411	126	285	393	129	264	424	115	309									
20:00				234	63	171	270	86	184	309	109	200									
21:00				187	81	106	196	53	143	197	55	142									
22:00				148	57	91	127	44	83	152	61	91									
23:00				90	27	63	88	15	73	95	25	70									
Total				4,342	1,462	2,880	10,369	5,210	5,159	10,467	5,230	5,237	4,178	2,857	1,321						
AM Peak Vol							749	567	272	751	560	268	708	559	269						
AM Peak Fct							.918	.892	.883	.853	.828	.779	.898	.822	.885						
AM Peak Hr							7: 00	6: 45	11: 00	7: 00	6: 15	10: 30	6: 30	6: 30	10: 45						
PM Peak Vol							963	333	631	954	348	666									
PM Peak Fct							.944	.841	.962	.87	.861	.841									
PM Peak Hr							16: 00	16: 15	16: 00	16: 45	15: 15	16: 15									
Seasonal Fct				.996	.996	.996	.996	.996	.996	.996	.996	.996	1.044	1.044	1.044						
Daily Fct				.966	.966	.966	.945	.945	.945	.916	.916	.916	.918	.918	.918						
Axle Fct				.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500						
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						



Appendix B

Intersection Turning Movement Counts

Cummins Consulting Services, LLC

138 Mahin Trail, Versailles, KY 40383

859-361-2589

"simplifying Data Collection since 2004"

File Name : 1_US127_at_KY1552_Short_Town_Road_02082023

Site Code : Wed

Start Date : 2/8/2023

Page No : 1

Sunny
Schools in Session
9XN

Groups Printed- Cars - Buses - Trucks

Start Time	US127 From North					KY1552 - Short Town Road From East					US127 From South					Private Road From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	5	27	0	0	32	3	0	17	0	20	0	41	2	0	43	0	0	0	0	0	95
07:15 AM	6	50	0	0	56	8	0	10	0	18	0	50	2	0	52	0	0	0	0	0	126
07:30 AM	9	50	0	0	59	8	0	15	0	23	0	43	1	0	44	0	0	0	0	0	126
07:45 AM	1	27	0	0	28	16	0	11	0	27	0	56	2	0	58	0	0	0	0	0	113
Total	21	154	0	0	175	35	0	53	0	88	0	190	7	0	197	0	0	0	0	0	460
08:00 AM	5	31	0	0	36	6	0	8	0	14	0	55	2	0	57	0	0	0	0	0	107
08:15 AM	3	25	0	0	28	5	0	7	0	12	0	34	4	0	38	0	0	0	0	0	78
08:30 AM	6	29	0	0	35	8	0	5	0	13	0	33	3	0	36	0	0	0	0	0	84
08:45 AM	4	28	0	0	32	6	0	5	0	11	0	31	2	0	33	0	0	0	0	0	76
Total	18	113	0	0	131	25	0	25	0	50	0	153	11	0	164	0	0	0	0	0	345
04:00 PM	7	58	0	0	65	6	0	2	0	8	0	45	19	0	64	1	0	0	0	1	138
04:15 PM	6	61	0	0	67	7	0	8	0	15	0	40	6	0	46	0	0	0	0	0	128
04:30 PM	8	71	0	0	79	1	0	5	0	6	0	40	6	0	46	0	0	0	0	0	131
04:45 PM	13	56	0	0	69	6	0	5	0	11	0	41	7	0	48	0	0	0	0	0	128
Total	34	246	0	0	280	20	0	20	0	40	0	166	38	0	204	1	0	0	0	1	525
05:00 PM	12	47	0	0	59	3	0	7	0	10	0	58	15	0	73	0	0	0	0	0	142
05:15 PM	16	66	0	0	82	4	0	2	0	6	1	40	5	0	46	0	0	0	0	0	134
05:30 PM	17	39	0	0	56	4	0	1	0	5	0	29	8	0	37	0	0	0	0	0	98
05:45 PM	9	45	0	0	54	7	0	4	0	11	0	25	4	0	29	0	0	0	0	0	94
Total	54	197	0	0	251	18	0	14	0	32	1	152	32	0	185	0	0	0	0	0	468
Grand Total	127	710	0	0	837	98	0	112	0	210	1	661	88	0	750	1	0	0	0	1	1798
Apprch %	15.2	84.8	0	0		46.7	0	53.3	0		0.1	88.1	11.7	0		100	0	0	0		
Total %	7.1	39.5	0	0	46.6	5.5	0	6.2	0	11.7	0.1	36.8	4.9	0	41.7	0.1	0	0	0	0.1	
Cars	122	677	0	0	799	93	0	107	0	200	1	632	84	0	717	1	0	0	0	1	1717
% Cars	96.1	95.4	0	0	95.5	94.9	0	95.5	0	95.2	100	95.6	95.5	0	95.6	100	0	0	0	100	95.5
Buses	5	3	0	0	8	5	0	1	0	6	0	0	3	0	3	0	0	0	0	0	17
% Buses	3.9	0.4	0	0	1	5.1	0	0.9	0	2.9	0	0	3.4	0	0.4	0	0	0	0	0	0.9
Trucks	0	30	0	0	30	0	0	4	0	4	0	29	1	0	30	0	0	0	0	0	64
% Trucks	0	4.2	0	0	3.6	0	0	3.6	0	1.9	0	4.4	1.1	0	4	0	0	0	0	0	3.6

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138 Mahin Trail, Versailles, KY 40383

859-361-2589

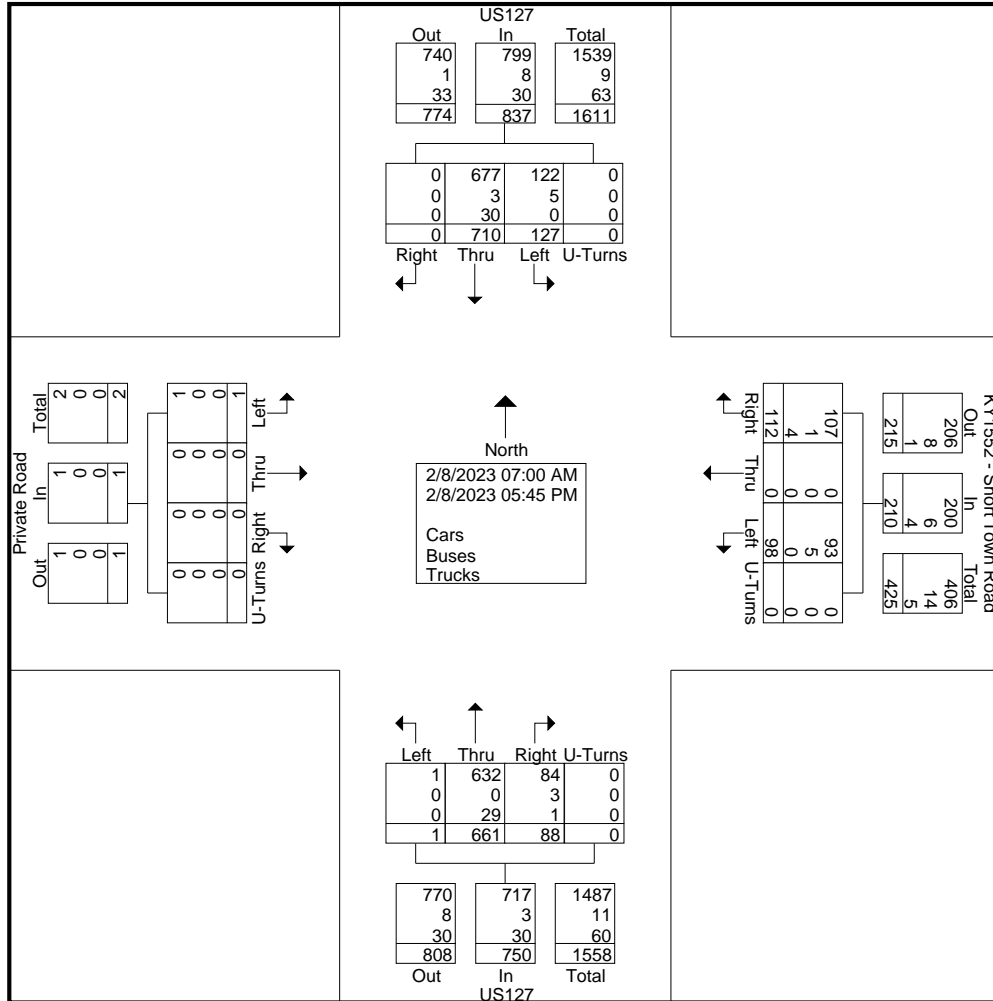
"simplifying Data Collection since 2004"

File Name : 1_US127_at_KY1552_Short_Town_Road_02082023

Site Code : Wed

Start Date : 2/8/2023

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138 Mahin Trail, Versailles, KY 40383

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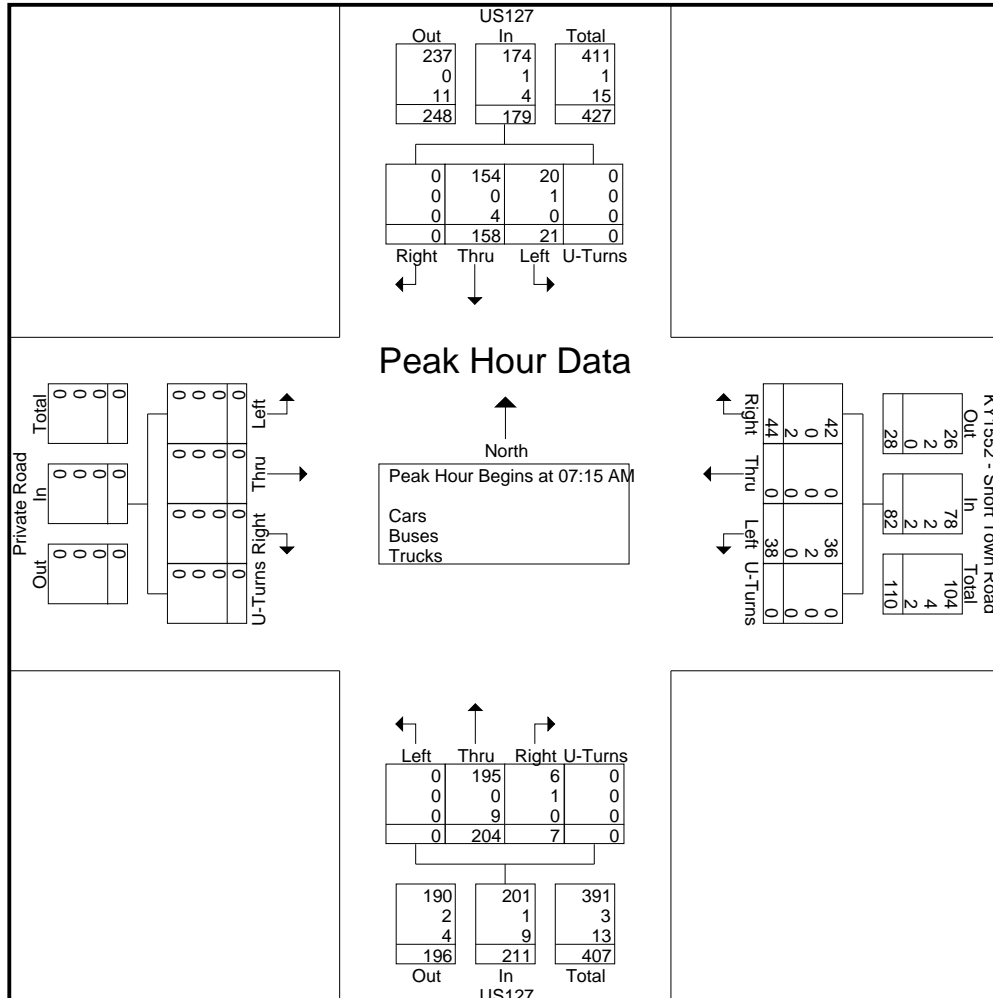
File Name : 1_US127_at_KY1552_Short_Town_Road_02082023

Site Code : Wed

Start Date : 2/8/2023

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Start Time	US127 From North					KY1552 - Short Town Road From East					US127 From South					Private Road From West					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:15 AM																						
07:15 AM	6	50	0	0	56	8	0	10	0	18	0	50	2	0	52	0	0	0	0	0	126	
07:30 AM	9	50	0	0	59	8	0	15	0	23	0	43	1	0	44	0	0	0	0	0	126	
07:45 AM	1	27	0	0	28	16	0	11	0	27	0	56	2	0	58	0	0	0	0	0	113	
08:00 AM	5	31	0	0	36	6	0	8	0	14	0	55	2	0	57	0	0	0	0	0	107	
Total Volume	21	158	0	0	179	38	0	44	0	82	0	204	7	0	211	0	0	0	0	0	472	
% App. Total	11.7	88.3	0	0		46.3	0	53.7	0		0	96.7	3.3	0		0	0	0	0			
PHF	.583	.790	.000	.000	.758	.594	.000	.733	.000	.759	.000	.911	.875	.000	.909	.000	.000	.000	.000	.000	.937	
Cars	20	154	0	0	174	36	0	42	0	78	0	195	6	0	201	0	0	0	0	0	453	
% Cars	95.2	97.5	0	0	97.2	94.7	0	95.5	0	95.1	0	95.6	85.7	0	95.3	0	0	0	0	0	0	96.0
Buses	1	0	0	0	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	4	
% Buses	4.8	0	0	0	0.6	5.3	0	0	0	2.4	0	0	14.3	0	0.5	0	0	0	0	0	0.8	
Trucks	0	4	0	0	4	0	0	2	0	2	0	9	0	0	9	0	0	0	0	0	15	
% Trucks	0	2.5	0	0	2.2	0	0	4.5	0	2.4	0	4.4	0	0	4.3	0	0	0	0	0	3.2	



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138 Mahin Trail, Versailles, KY 40383

859-361-2589

"simplifying Data Collection since 2004"

File Name : 1_US127_at_KY1552_Short_Town_Road_02082023

Site Code : Wed

Start Date : 2/8/2023

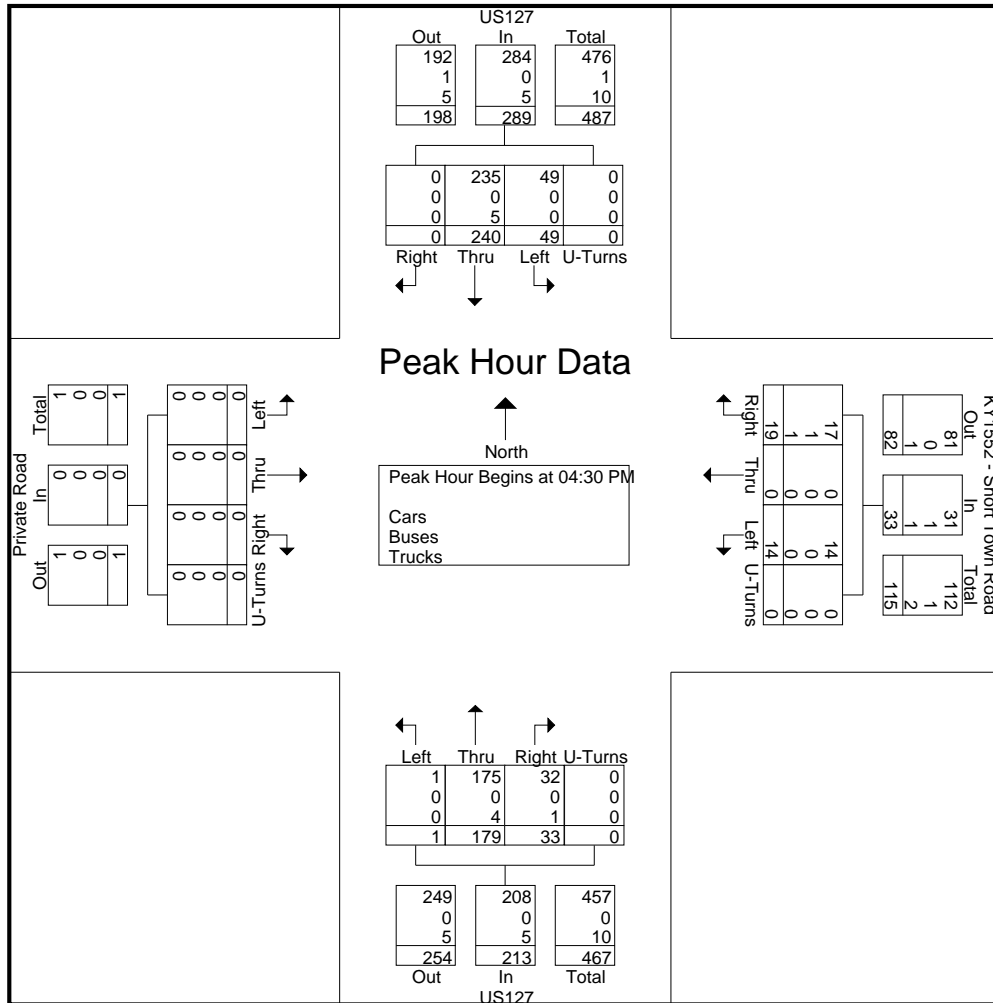
Page No : 4

Start Time	US127 From North					KY1552 - Short Town Road From East					US127 From South					Private Road From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	8	71	0	0	79	1	0	5	0	6	0	40	6	0	46	0	0	0	0	0	131
04:45 PM	13	56	0	0	69	6	0	5	0	11	0	41	7	0	48	0	0	0	0	0	128
05:00 PM	12	47	0	0	59	3	0	7	0	10	0	58	15	0	73	0	0	0	0	0	142
05:15 PM	16	66	0	0	82	4	0	2	0	6	1	40	5	0	46	0	0	0	0	0	134
Total Volume	49	240	0	0	289	14	0	19	0	33	1	179	33	0	213	0	0	0	0	0	535
% App. Total	17	83	0	0		42.4	0	57.6	0		0.5	84	15.5	0		0	0	0	0		
PHF	.766	.845	.000	.000	.881	.583	.000	.679	.000	.750	.250	.772	.550	.000	.729	.000	.000	.000	.000	.000	.942
Cars	49	235	0	0	284	14	0	17	0	31	1	175	32	0	208	0	0	0	0	0	523
% Cars	100	97.9	0	0	98.3	100	0	89.5	0	93.9	100	97.8	97.0	0	97.7	0	0	0	0	0	97.8
Buses	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% Buses	0	0	0	0	0	0	0	5.3	0	3.0	0	0	0	0	0	0	0	0	0	0	0.2
Trucks	0	5	0	0	5	0	0	1	0	1	0	4	1	0	5	0	0	0	0	0	11
% Trucks	0	2.1	0	0	1.7	0	0	5.3	0	3.0	0	2.2	3.0	0	2.3	0	0	0	0	0	2.1



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138 Mahin Trail, Versailles, KY 40383

859-361-2589

"simplifying Data Collection since 2004"

File Name : 2_US127_at_KY906_02082023

Site Code : Wed

Start Date : 2/8/2023

Page No : 1

Sunny
Schools in Session
5QW

Groups Printed- Cars - Buses - Trucks

Start Time	US127 From North					Loop 2 From East					US127 From South					KY906 From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	21	0	0	21	0	0	0	0	0	1	47	0	0	48	1	0	6	0	7	76
07:15 AM	0	45	1	0	46	0	0	0	0	0	1	56	0	0	57	0	0	11	0	11	114
07:30 AM	0	31	0	0	31	0	0	0	0	0	5	63	0	0	68	0	0	7	0	7	106
07:45 AM	0	28	0	0	28	0	0	0	0	0	2	50	0	0	52	0	0	1	0	1	81
Total	0	125	1	0	126	0	0	0	0	0	9	216	0	0	225	1	0	25	0	26	377
08:00 AM	0	28	0	0	28	0	0	0	0	0	3	62	0	0	65	1	0	5	0	6	99
08:15 AM	0	25	0	0	25	0	0	0	0	0	1	45	0	0	46	1	0	1	0	2	73
08:30 AM	0	37	0	0	37	0	0	0	0	0	1	43	0	0	44	0	0	1	0	1	82
08:45 AM	0	23	1	0	24	0	0	0	0	0	2	41	0	0	43	0	0	2	0	2	69
Total	0	113	1	0	114	0	0	0	0	0	7	191	0	0	198	2	0	9	0	11	323
04:00 PM	0	60	1	0	61	0	0	0	0	0	1	54	0	0	55	0	0	0	0	0	116
04:15 PM	0	71	1	0	72	0	0	0	0	0	2	36	0	0	38	1	0	4	0	5	115
04:30 PM	0	71	3	0	74	0	0	0	0	0	6	44	0	0	50	2	0	3	0	5	129
04:45 PM	0	66	1	0	67	0	0	0	0	0	1	44	0	0	45	0	0	0	0	0	112
Total	0	268	6	0	274	0	0	0	0	0	10	178	0	0	188	3	0	7	0	10	472
05:00 PM	0	68	0	0	68	0	0	0	0	0	4	45	0	0	49	0	0	2	0	2	119
05:15 PM	0	85	0	0	85	0	0	0	0	0	5	41	1	0	47	0	0	1	0	1	133
05:30 PM	0	57	1	0	58	0	0	0	0	0	3	28	0	0	31	0	0	2	0	2	91
05:45 PM	0	60	0	0	60	0	0	0	0	0	2	25	0	0	27	0	0	1	0	1	88
Total	0	270	1	0	271	0	0	0	0	0	14	139	1	0	154	0	0	6	0	6	431
Grand Total	0	776	9	0	785	0	0	0	0	0	40	724	1	0	765	6	0	47	0	53	1603
Apprch %	0	98.9	1.1	0		0	0	0	0		5.2	94.6	0.1	0		11.3	0	88.7	0		
Total %	0	48.4	0.6	0	49	0	0	0	0	0	2.5	45.2	0.1	0	47.7	0.4	0	2.9	0	3.3	
Cars	0	743	9	0	752	0	0	0	0	0	38	690	1	0	729	6	0	42	0	48	1529
% Cars	0	95.7	100	0	95.8	0	0	0	0	0	95	95.3	100	0	95.3	100	0	89.4	0	90.6	95.4
Buses	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	3
% Buses	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0	0	2.1	0	1.9	0.2
Trucks	0	32	0	0	32	0	0	0	0	0	2	33	0	0	35	0	0	4	0	4	71
% Trucks	0	4.1	0	0	4.1	0	0	0	0	0	5	4.6	0	0	4.6	0	0	8.5	0	7.5	4.4

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138 Mahin Trail, Versailles, KY 40383

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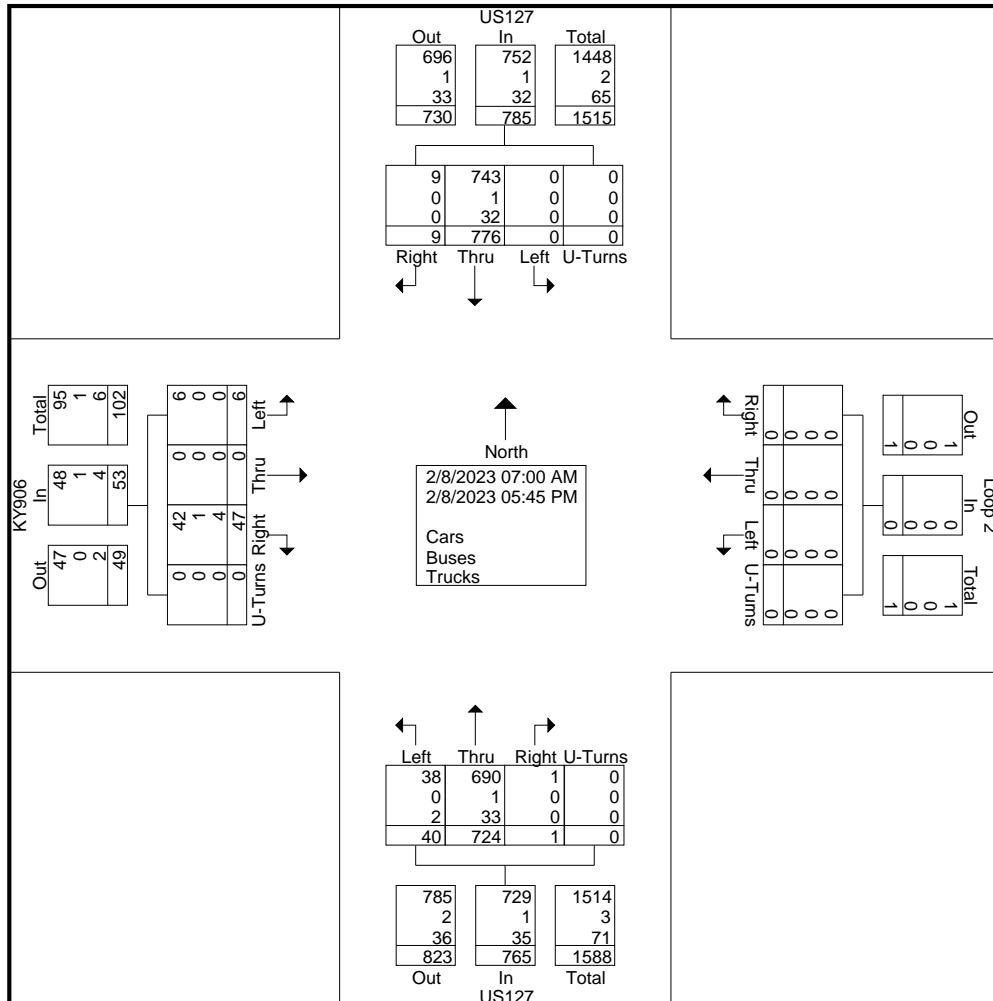
"simplifying Data Collection since 2004"

File Name : 2_US127_at_KY906_02082023

Site Code : Wed

Start Date : 2/8/2023

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138 Mahin Trail, Versailles, KY 40383

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"simplifying Data Collection since 2004"

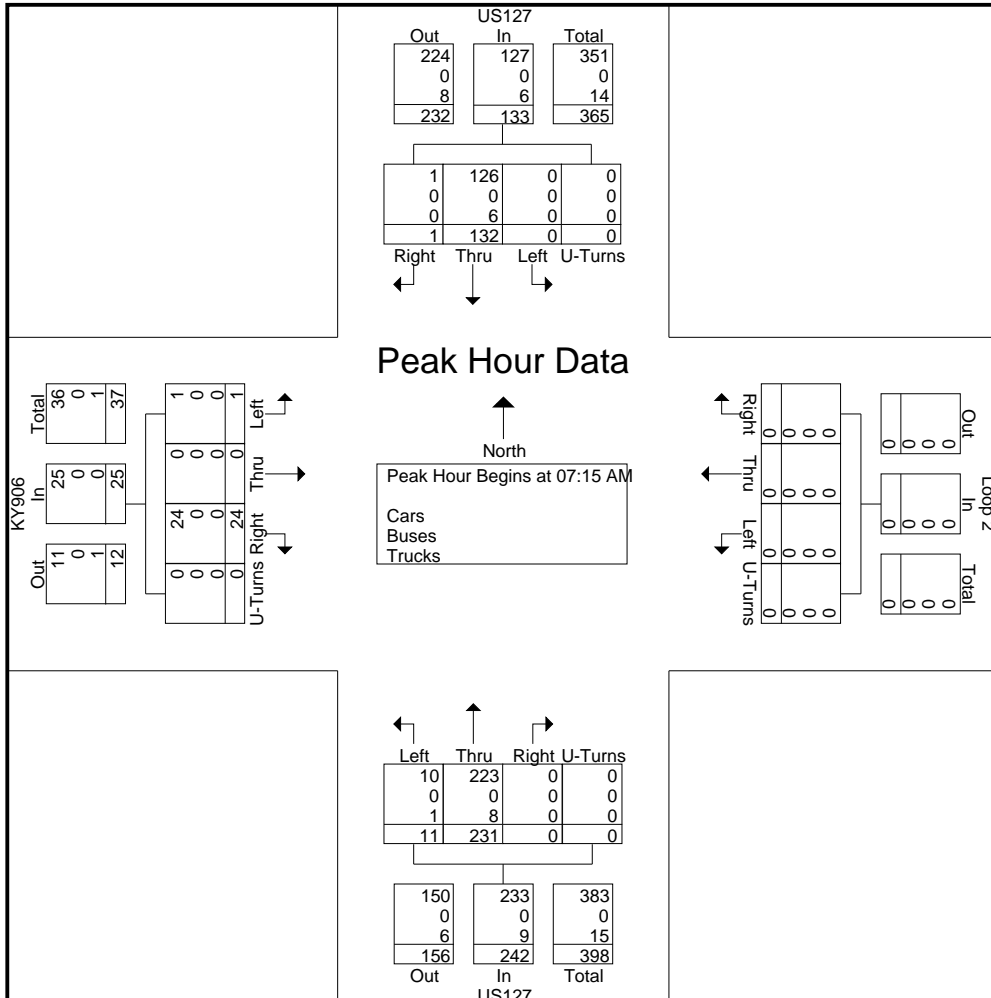
File Name : 2_US127_at_KY906_02082023

Site Code : Wed

Start Date : 2/8/2023

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Start Time	US127 From North					Loop 2 From East					US127 From South					KY906 From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	45	1	0	46	0	0	0	0	0	1	56	0	0	57	0	0	11	0	11	114
07:30 AM	0	31	0	0	31	0	0	0	0	0	5	63	0	0	68	0	0	7	0	7	106
07:45 AM	0	28	0	0	28	0	0	0	0	0	2	50	0	0	52	0	0	1	0	1	81
08:00 AM	0	28	0	0	28	0	0	0	0	0	3	62	0	0	65	1	0	5	0	6	99
Total Volume	0	132	1	0	133	0	0	0	0	0	11	231	0	0	242	1	0	24	0	25	400
% App. Total	0	99.2	0.8	0		0	0	0	0	0	4.5	95.5	0	0		4	0	96	0		
PHF	.000	.733	.250	.000	.723	.000	.000	.000	.000	.000	.550	.917	.000	.000	.890	.250	.000	.545	.000	.568	.877
Cars	0	126	1	0	127	0	0	0	0	0	10	223	0	0	233	1	0	24	0	25	385
% Cars	0	95.5	100	0	95.5	0	0	0	0	0	90.9	96.5	0	0	96.3	100	0	100	0	100	96.3
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	6	0	0	6	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	15
% Trucks	0	4.5	0	0	4.5	0	0	0	0	0	9.1	3.5	0	0	3.7	0	0	0	0	0	3.8



Cummins Consulting Services, LLC

138 Mahin Trail, Versailles, KY 40383

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Start Date : 2/8/2023

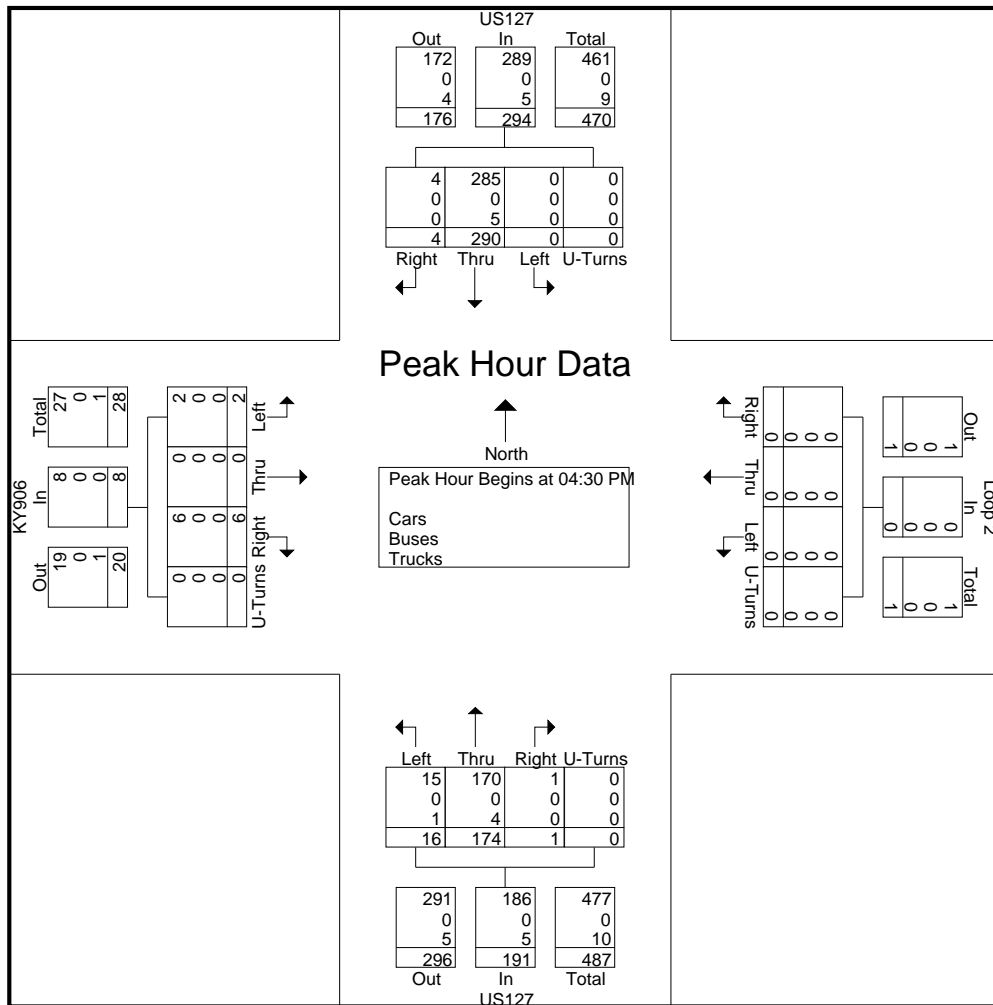
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Start Time	US127 From North					Loop 2 From East					US127 From South					KY906 From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	0	71	3	0	74	0	0	0	0	0	6	44	0	0	50	2	0	3	0	5	129
04:45 PM	0	66	1	0	67	0	0	0	0	0	1	44	0	0	45	0	0	0	0	0	112
05:00 PM	0	68	0	0	68	0	0	0	0	0	4	45	0	0	49	0	0	2	0	2	119
05:15 PM	0	85	0	0	85	0	0	0	0	0	5	41	1	0	47	0	0	1	0	1	133
Total Volume	0	290	4	0	294	0	0	0	0	0	16	174	1	0	191	2	0	6	0	8	493
% App. Total	0	98.6	1.4	0		0	0	0	0		8.4	91.1	0.5	0		25	0	75	0		
PHF	.000	.853	.333	.000	.865	.000	.000	.000	.000	.000	.667	.967	.250	.000	.955	.250	.000	.500	.000	.400	.927
Cars	0	285	4	0	289	0	0	0	0	0	15	170	1	0	186	2	0	6	0	8	483
% Cars	0	98.3	100	0	98.3	0	0	0	0	0	93.8	97.7	100	0	97.4	100	0	100	0	100	98.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	5	0	0	5	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	10
% Trucks	0	1.7	0	0	1.7	0	0	0	0	0	6.3	2.3	0	0	2.6	0	0	0	0	0	2.0



Cummins Consulting Services, LLC

138 Mahin Trail, Versailles, KY 40383

859-361-2589

"simplifying Data Collection since 2004"

File Name : 3_US127_at_KY78_02082023

Site Code : Wed

Start Date : 2/8/2023

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Sunny
Schools in Session
8GZ

Groups Printed- Cars - Buses - Trucks

Start Time	US127 From North					KY78 - W Main Street From East					US127 From South					KY78 - W Main Street From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	2	15	2	0	19	1	2	5	0	8	0	38	1	0	39	11	7	7	0	25	91
07:15 AM	9	34	3	0	46	1	2	8	0	11	1	51	2	0	54	7	15	2	0	24	135
07:30 AM	4	27	3	0	34	1	11	23	0	35	6	56	4	0	66	8	11	2	0	21	156
07:45 AM	6	18	5	0	29	2	8	13	0	23	1	48	2	0	51	13	6	3	0	22	125
Total	21	94	13	0	128	5	23	49	0	77	8	193	9	0	210	39	39	14	0	92	507
08:00 AM	4	25	6	0	35	2	12	28	0	42	5	44	1	0	50	7	10	2	0	19	146
08:15 AM	2	21	9	0	32	1	4	2	0	7	3	46	2	0	51	11	6	3	0	20	110
08:30 AM	1	24	8	0	33	6	4	3	0	13	5	32	2	0	39	8	6	3	0	17	102
08:45 AM	3	24	8	0	35	1	4	2	0	7	1	34	2	0	37	8	9	2	0	19	98
Total	10	94	31	0	135	10	24	35	0	69	14	156	7	0	177	34	31	10	0	75	456
04:00 PM	3	60	16	0	79	2	11	6	0	19	2	41	4	0	47	5	11	1	0	17	162
04:15 PM	4	72	17	0	93	5	6	3	0	14	1	40	5	0	46	3	9	4	0	16	169
04:30 PM	1	39	24	0	64	1	8	8	0	17	4	35	1	0	40	3	6	3	0	12	133
04:45 PM	4	73	39	0	116	1	13	5	0	19	8	34	3	0	45	6	5	9	0	20	200
Total	12	244	96	0	352	9	38	22	0	69	15	150	13	0	178	17	31	17	0	65	664
05:00 PM	3	61	13	0	77	1	9	2	0	12	2	38	4	0	44	16	13	5	0	34	167
05:15 PM	5	69	22	0	96	4	14	3	0	21	3	38	2	0	43	22	7	5	0	34	194
05:30 PM	1	51	16	0	68	2	8	4	0	14	4	27	2	0	33	10	8	2	0	20	135
05:45 PM	3	59	16	0	78	3	6	1	0	10	3	12	1	0	16	7	10	2	0	19	123
Total	12	240	67	0	319	10	37	10	0	57	12	115	9	0	136	55	38	14	0	107	619
Grand Total	55	672	207	0	934	34	122	116	0	272	49	614	38	0	701	145	139	55	0	339	2246
Apprch %	5.9	71.9	22.2	0		12.5	44.9	42.6	0		7	87.6	5.4	0		42.8	41	16.2	0		
Total %	2.4	29.9	9.2	0	41.6	1.5	5.4	5.2	0	12.1	2.2	27.3	1.7	0	31.2	6.5	6.2	2.4	0	15.1	
Cars	48	640	205	0	893	34	121	114	0	269	47	583	34	0	664	145	134	54	0	333	2159
% Cars	87.3	95.2	99	0	95.6	100	99.2	98.3	0	98.9	95.9	95	89.5	0	94.7	100	96.4	98.2	0	98.2	96.1
Buses	4	2	0	0	6	0	0	0	0	0	0	1	1	0	2	0	2	0	0	2	10
% Buses	7.3	0.3	0	0	0.6	0	0	0	0	0	0	0.2	2.6	0	0.3	0	1.4	0	0	0.6	0.4
Trucks	3	30	2	0	35	0	1	2	0	3	2	30	3	0	35	0	3	1	0	4	77
% Trucks	5.5	4.5	1	0	3.7	0	0.8	1.7	0	1.1	4.1	4.9	7.9	0	5	0	2.2	1.8	0	1.2	3.4

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138 Mahin Trail, Versailles, KY 40383

859-361-2589

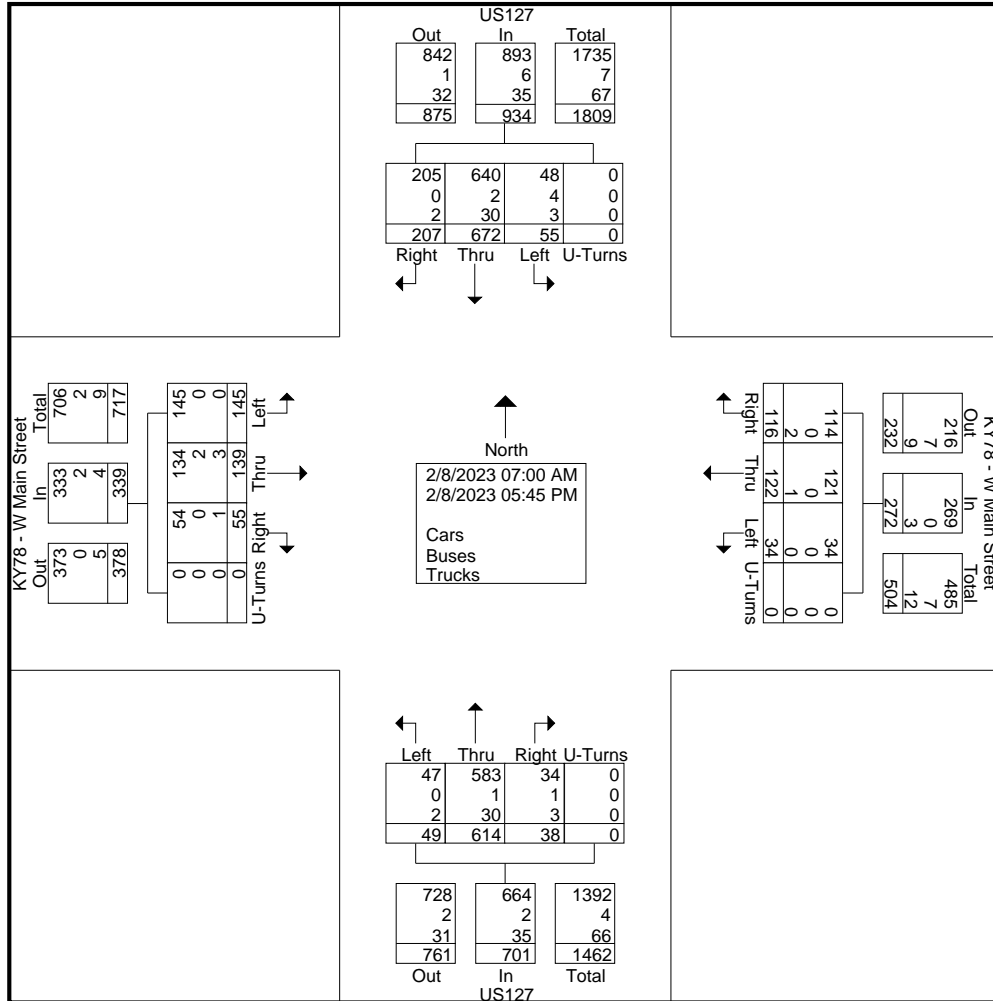
"simplifying Data Collection since 2004"

File Name : 3_US127_at_KY78_02082023

Site Code : Wed

Start Date : 2/8/2023

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138 Mahin Trail, Versailles, KY 40383

859-361-2589

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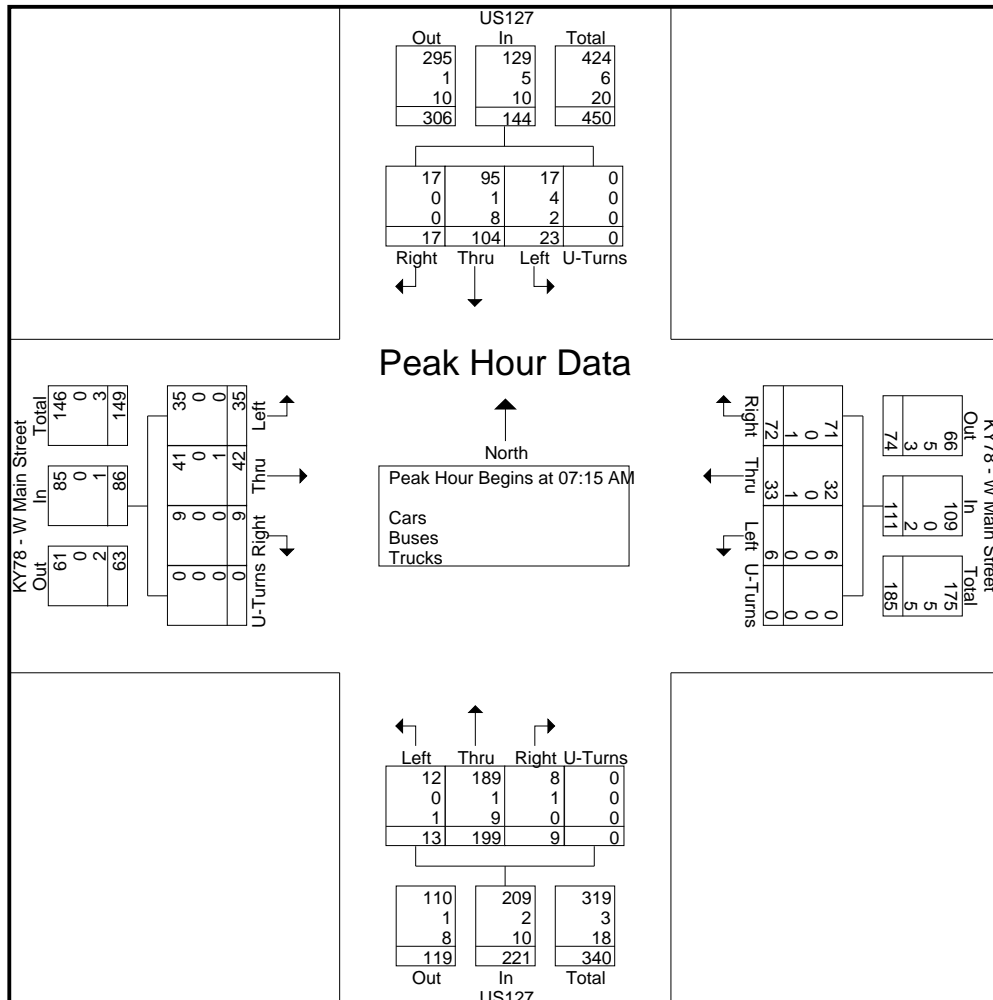
File Name : 3_US127_at_KY78_02082023

Site Code : Wed

Start Date : 2/8/2023

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Start Time	US127 From North					KY78 - W Main Street From East					US127 From South					KY78 - W Main Street From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	9	34	3	0	46	1	2	8	0	11	1	51	2	0	54	7	15	2	0	24	135
07:30 AM	4	27	3	0	34	1	11	23	0	35	6	56	4	0	66	8	11	2	0	21	156
07:45 AM	6	18	5	0	29	2	8	13	0	23	1	48	2	0	51	13	6	3	0	22	125
08:00 AM	4	25	6	0	35	2	12	28	0	42	5	44	1	0	50	7	10	2	0	19	146
Total Volume	23	104	17	0	144	6	33	72	0	111	13	199	9	0	221	35	42	9	0	86	562
% App. Total	16	72.2	11.8	0		5.4	29.7	64.9	0		5.9	90	4.1	0		40.7	48.8	10.5	0		
PHF	.639	.765	.708	.000	.783	.750	.688	.643	.000	.661	.542	.888	.563	.000	.837	.673	.700	.750	.000	.896	.901
Cars	17	95	17	0	129	6	32	71	0	109	12	189	8	0	209	35	41	9	0	85	532
% Cars	73.9	91.3	100	0	89.6	100	97.0	98.6	0	98.2	92.3	95.0	88.9	0	94.6	100	97.6	100	0	98.8	94.7
Buses	4	1	0	0	5	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	7
% Buses	17.4	1.0	0	0	3.5	0	0	0	0	0	0	0.5	11.1	0	0.9	0	0	0	0	0	1.2
Trucks	2	8	0	0	10	0	1	1	0	2	1	9	0	0	10	0	1	0	0	1	23
% Trucks	8.7	7.7	0	0	6.9	0	3.0	1.4	0	1.8	7.7	4.5	0	0	4.5	0	2.4	0	0	1.2	4.1



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138 Mahin Trail, Versailles, KY 40383

859-361-2589

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File Name : 3_US127_at_KY78_02082023

Site Code : Wed

Start Date : 2/8/2023

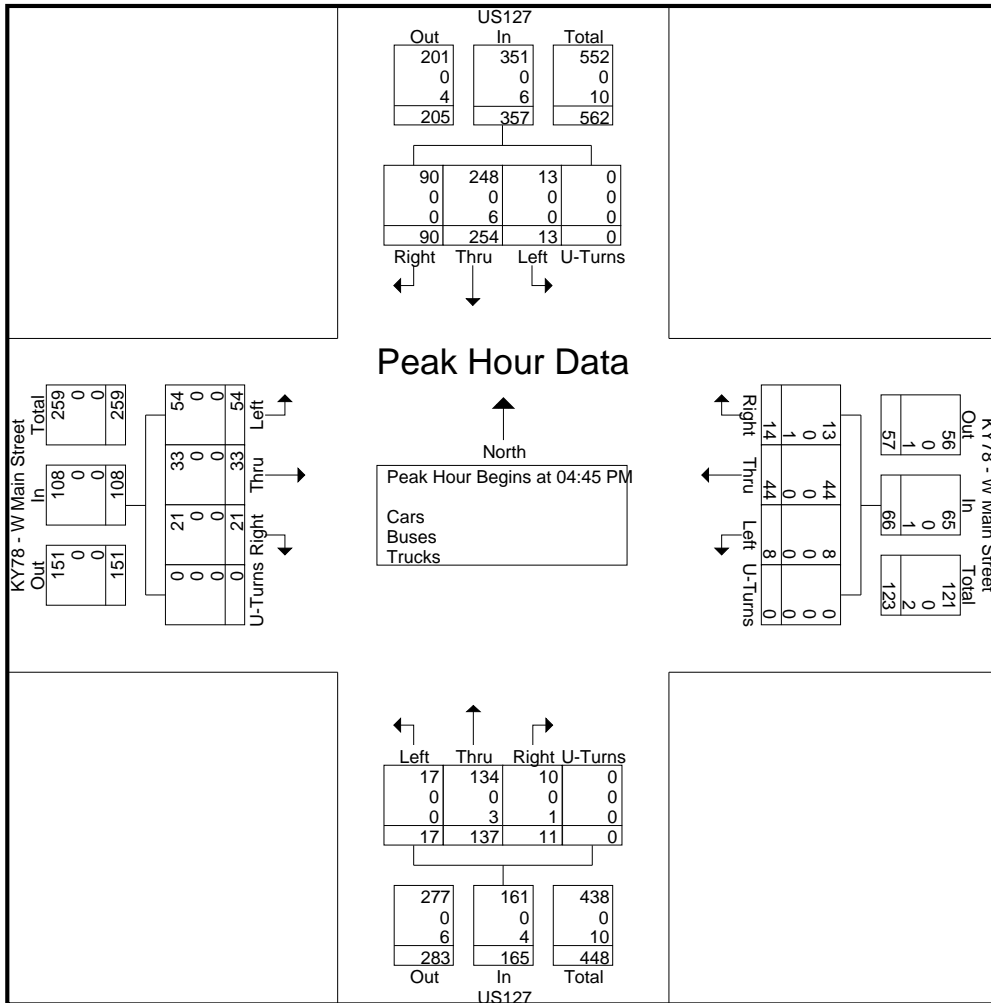
Page No : 4

Start Time	US127 From North					KY78 - W Main Street From East					US127 From South					KY78 - W Main Street From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	4	73	39	0	116	1	13	5	0	19	8	34	3	0	45	6	5	9	0	20	200
05:00 PM	3	61	13	0	77	1	9	2	0	12	2	38	4	0	44	16	13	5	0	34	167
05:15 PM	5	69	22	0	96	4	14	3	0	21	3	38	2	0	43	22	7	5	0	34	194
05:30 PM	1	51	16	0	68	2	8	4	0	14	4	27	2	0	33	10	8	2	0	20	135
Total Volume	13	254	90	0	357	8	44	14	0	66	17	137	11	0	165	54	33	21	0	108	696
% App. Total	3.6	71.1	25.2	0		12.1	66.7	21.2	0		10.3	83	6.7	0		50	30.6	19.4	0		
PHF	.650	.870	.577	.000	.769	.500	.786	.700	.000	.786	.531	.901	.688	.000	.917	.614	.635	.583	.000	.794	.870
Cars	13	248	90	0	351	8	44	13	0	65	17	134	10	0	161	54	33	21	0	108	685
% Cars	100	97.6	100	0	98.3	100	100	92.9	0	98.5	100	97.8	90.9	0	97.6	100	100	100	0	100	98.4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	6	0	0	6	0	0	1	0	1	0	3	1	0	4	0	0	0	0	0	0
% Trucks	0	2.4	0	0	1.7	0	0	7.1	0	1.5	0	2.2	9.1	0	2.4	0	0	0	0	0	1.6



Cummins Consulting Services, LLC

138 Mahin Trail, Versailles, KY 40383

859-361-2589

"simplifying Data Collection since 2004"

File Name : 4_US127_at_KY2141_02082023

Site Code : Wed

Start Date : 2/8/2023

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Sunny
Schools in Session
9XZ

Groups Printed- Cars - Buses - Trucks

Start Time	US127 From North					KY2141 - Danville Pike From East					US127 From South					KY2141 - Danville Pike From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	10	23	0	0	33	0	0	9	0	9	1	54	0	0	55	0	2	3	0	5	102
07:15 AM	23	39	0	0	62	0	0	12	0	12	2	64	0	0	66	0	1	0	0	1	141
07:30 AM	22	28	0	0	50	0	1	14	0	15	6	79	0	0	85	0	4	4	0	8	158
07:45 AM	22	32	0	0	54	0	3	14	0	17	0	70	0	0	70	0	4	2	0	6	147
Total	77	122	0	0	199	0	4	49	0	53	9	267	0	0	276	0	11	9	0	20	548
08:00 AM	27	33	0	0	60	0	3	17	0	20	4	76	0	0	80	0	4	0	0	4	164
08:15 AM	4	31	0	0	35	0	1	16	0	17	0	61	0	0	61	0	0	3	0	3	116
08:30 AM	8	32	0	0	40	0	1	8	0	9	1	43	0	0	44	0	0	2	0	2	95
08:45 AM	9	33	0	0	42	0	0	5	0	5	0	44	0	0	44	0	2	1	0	3	94
Total	48	129	0	0	177	0	5	46	0	51	5	224	0	0	229	0	6	6	0	12	469
04:00 PM	17	78	0	0	95	0	3	11	0	14	2	50	0	0	52	0	2	1	0	3	164
04:15 PM	21	92	0	0	113	0	1	7	0	8	3	42	0	0	45	1	0	3	0	4	170
04:30 PM	16	86	0	0	102	0	2	8	0	10	1	44	0	0	45	0	3	2	0	5	162
04:45 PM	19	83	0	0	102	0	1	9	0	10	2	42	0	0	44	0	2	1	0	3	159
Total	73	339	0	0	412	0	7	35	0	42	8	178	0	0	186	1	7	7	0	15	655
05:00 PM	21	76	0	0	97	0	1	10	0	11	2	54	0	0	56	0	0	4	0	4	168
05:15 PM	16	91	0	0	107	0	2	8	0	10	2	61	1	0	64	0	3	2	0	5	186
05:30 PM	12	66	0	0	78	0	2	11	0	13	2	37	0	0	39	0	0	1	0	1	131
05:45 PM	17	78	0	0	95	0	0	9	0	9	0	23	0	0	23	0	1	1	0	2	129
Total	66	311	0	0	377	0	5	38	0	43	6	175	1	0	182	0	4	8	0	12	614
Grand Total	264	901	0	0	1165	0	21	168	0	189	28	844	1	0	873	1	28	30	0	59	2286
Apprch %	22.7	77.3	0	0		0	11.1	88.9	0		3.2	96.7	0.1	0		1.7	47.5	50.8	0		
Total %	11.5	39.4	0	0	51	0	0.9	7.3	0	8.3	1.2	36.9	0	0	38.2	0	1.2	1.3	0	2.6	
Cars	262	856	0	0	1118	0	21	167	0	188	28	811	1	0	840	1	26	28	0	55	2201
% Cars	99.2	95	0	0	96	0	100	99.4	0	99.5	100	96.1	100	0	96.2	100	92.9	93.3	0	93.2	96.3
Buses	1	6	0	0	7	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	9
% Buses	0.4	0.7	0	0	0.6	0	0	0	0	0	0	0	0	0	0	0	3.6	3.3	0	3.4	0.4
Trucks	1	39	0	0	40	0	0	1	0	1	0	33	0	0	33	0	1	1	0	2	76
% Trucks	0.4	4.3	0	0	3.4	0	0	0.6	0	0.5	0	3.9	0	0	3.8	0	3.6	3.3	0	3.4	3.3

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138 Mahin Trail, Versailles, KY 40383

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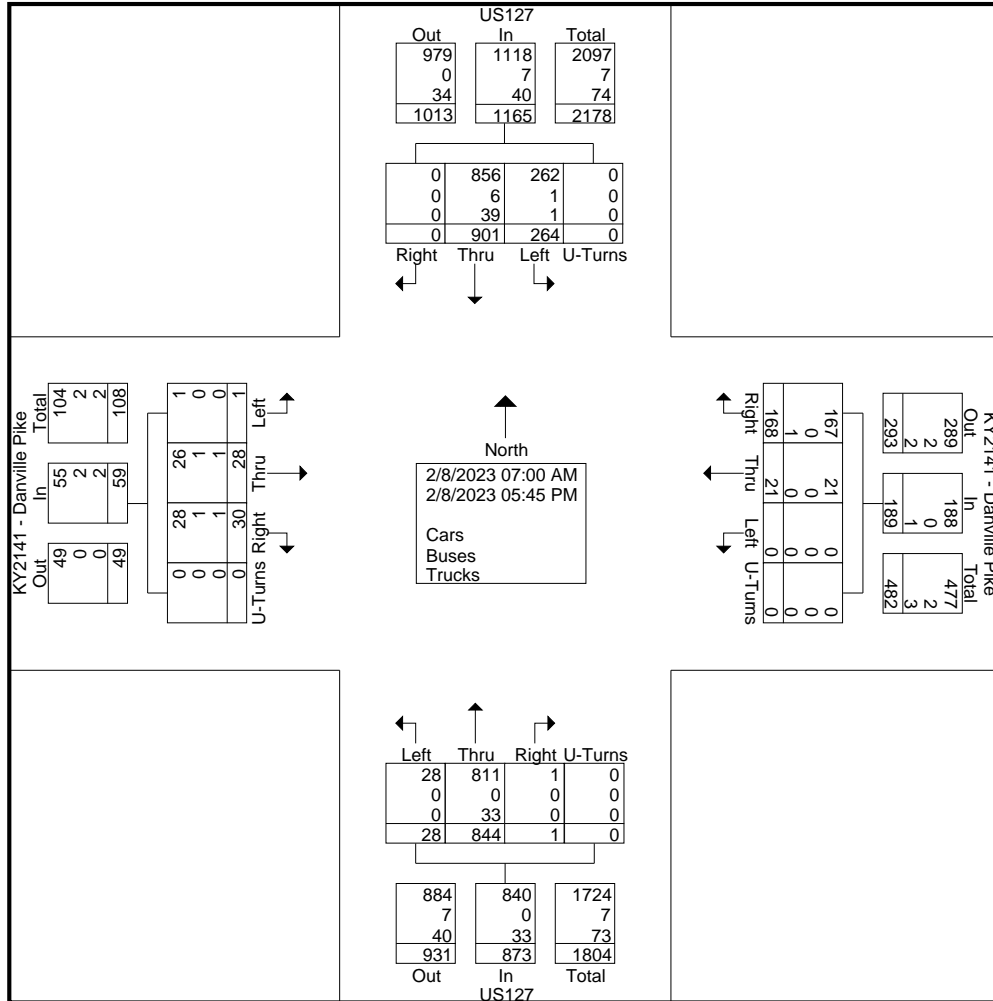
"simplifying Data Collection since 2004"

File Name : 4_US127_at_KY2141_02082023

Site Code : Wed

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138 Mahin Trail, Versailles, KY 40383

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"simplifying Data Collection since 2004"

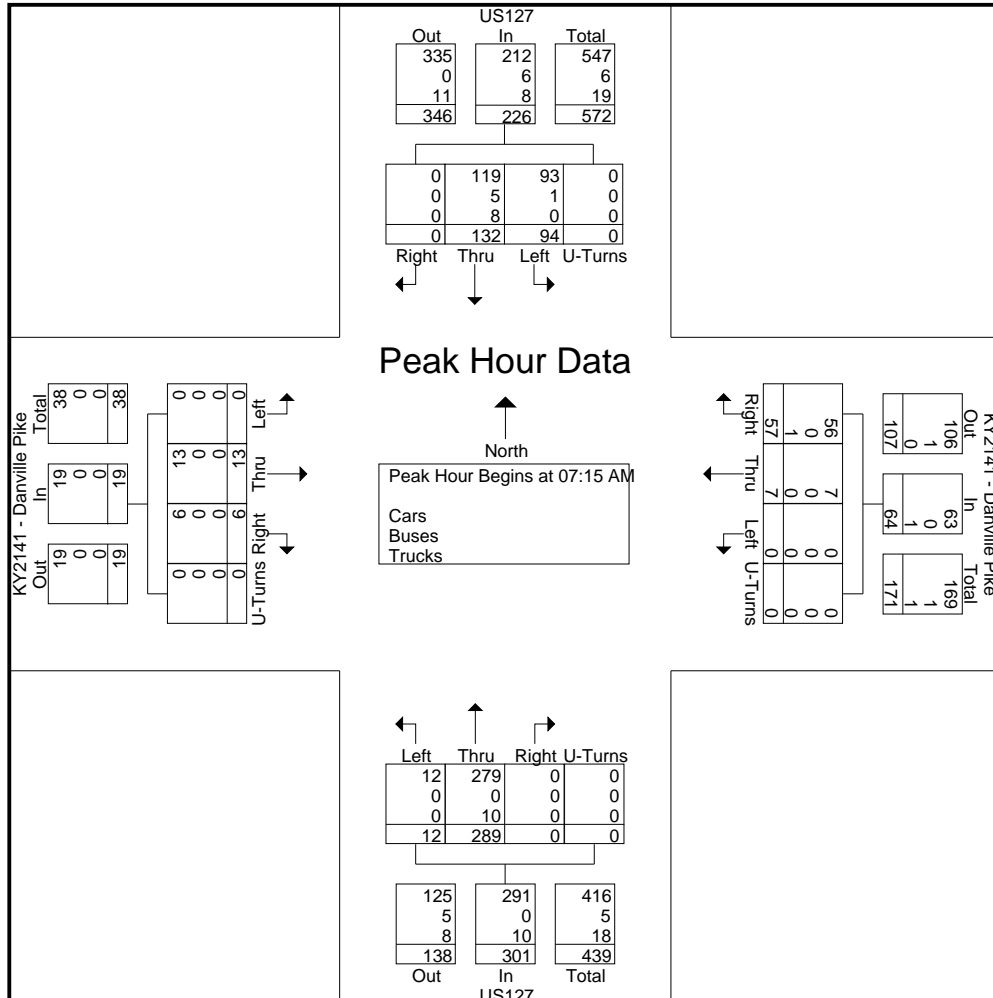
File Name : 4_US127_at_KY2141_02082023

Site Code : Wed

Start Date : 2/8/2023

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Start Time	US127 From North					KY2141 - Danville Pike From East					US127 From South					KY2141 - Danville Pike From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	23	39	0	0	62	0	0	12	0	12	2	64	0	0	66	0	1	0	0	1	141
07:30 AM	22	28	0	0	50	0	1	14	0	15	6	79	0	0	85	0	4	4	0	8	158
07:45 AM	22	32	0	0	54	0	3	14	0	17	0	70	0	0	70	0	4	2	0	6	147
08:00 AM	27	33	0	0	60	0	3	17	0	20	4	76	0	0	80	0	4	0	0	4	164
Total Volume	94	132	0	0	226	0	7	57	0	64	12	289	0	0	301	0	13	6	0	19	610
% App. Total	41.6	58.4	0	0		0	10.9	89.1	0		4	96	0	0		0	68.4	31.6	0		
PHF	.870	.846	.000	.000	.911	.000	.583	.838	.000	.800	.500	.915	.000	.000	.885	.000	.813	.375	.000	.594	.930
Cars	93	119	0	0	212	0	7	56	0	63	12	279	0	0	291	0	13	6	0	19	585
% Cars	98.9	90.2	0	0	93.8	0	100	98.2	0	98.4	100	96.5	0	0	96.7	0	100	100	0	100	95.9
Buses	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
% Buses	1.1	3.8	0	0	2.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0
Trucks	0	8	0	0	8	0	0	1	0	1	0	10	0	0	10	0	0	0	0	0	19
% Trucks	0	6.1	0	0	3.5	0	0	1.8	0	1.6	0	3.5	0	0	3.3	0	0	0	0	0	3.1



Cummins Consulting Services, LLC

138 Mahin Trail, Versailles, KY 40383

859-361-2589

"simplifying Data Collection since 2004"

File Name : 4_US127_at_KY2141_02082023

Site Code : Wed

Start Date : 2/8/2023

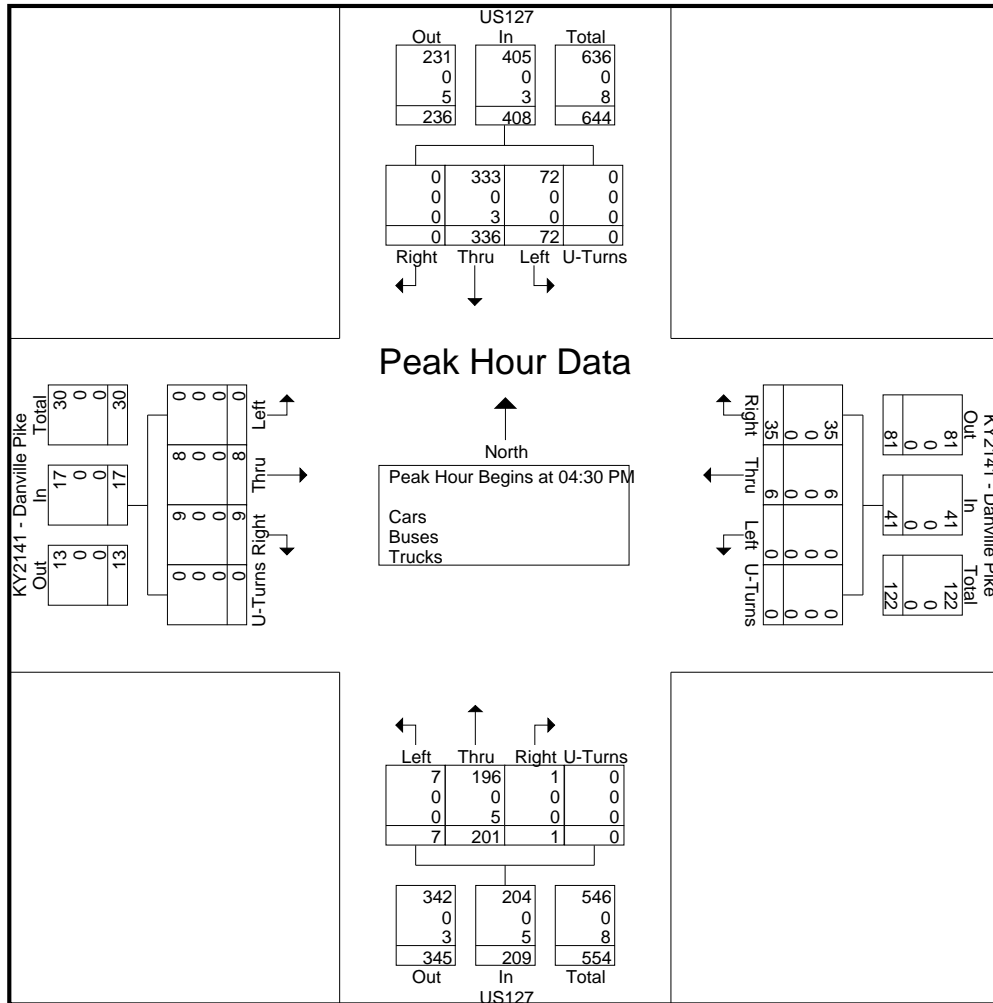
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Start Time	US127 From North					KY2141 - Danville Pike From East					US127 From South					KY2141 - Danville Pike From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	16	86	0	0	102	0	2	8	0	10	1	44	0	0	45	0	3	2	0	5	162
04:45 PM	19	83	0	0	102	0	1	9	0	10	2	42	0	0	44	0	2	1	0	3	159
05:00 PM	21	76	0	0	97	0	1	10	0	11	2	54	0	0	56	0	0	4	0	4	168
05:15 PM	16	91	0	0	107	0	2	8	0	10	2	61	1	0	64	0	3	2	0	5	186
Total Volume	72	336	0	0	408	0	6	35	0	41	7	201	1	0	209	0	8	9	0	17	675
% App. Total	17.6	82.4	0	0		0	14.6	85.4	0		3.3	96.2	0.5	0		0	47.1	52.9	0		
PHF	.857	.923	.000	.000	.953	.000	.750	.875	.000	.932	.875	.824	.250	.000	.816	.000	.667	.563	.000	.850	.907
Cars	72	333	0	0	405	0	6	35	0	41	7	196	1	0	204	0	8	9	0	17	667
% Cars	100	99.1	0	0	99.3	0	100	100	0	100	100	97.5	100	0	97.6	0	100	100	0	100	98.8
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	8
% Trucks	0	0.9	0	0	0.7	0	0	0	0	0	0	2.5	0	0	2.4	0	0	0	0	0	1.2



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138 Mahin Trail, Versailles, KY 40383

859-361-2589

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File Name : 5_US127_at_KY1194_02082023

Site Code : Wed

Start Date : 2/8/2023

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Sunny
Schools in Session
9XZ

Groups Printed- Cars - Buses - Trucks

Start Time	US127 From North					KY1194 From East					US127 From South					KY1194 From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	4	24	0	0	28	2	0	24	0	26	0	92	0	0	92	2	2	2	0	6	152
07:15 AM	7	49	0	0	56	5	0	18	0	23	2	98	7	0	107	1	3	4	0	8	194
07:30 AM	3	49	1	0	53	2	0	16	0	18	3	104	12	0	119	2	4	3	0	9	199
07:45 AM	8	46	0	0	54	9	1	21	0	31	5	104	8	0	117	1	3	5	0	9	211
Total	22	168	1	0	191	18	1	79	0	98	10	398	27	0	435	6	12	14	0	32	756
08:00 AM	6	42	1	0	49	12	4	10	0	26	3	75	10	0	88	0	1	4	0	5	168
08:15 AM	6	37	0	0	43	8	1	18	0	27	1	92	7	0	100	2	3	1	0	6	176
08:30 AM	4	44	1	0	49	5	2	12	0	19	0	59	6	0	65	1	6	1	0	8	141
08:45 AM	4	45	1	0	50	7	1	7	0	15	3	60	3	0	66	2	3	3	0	8	139
Total	20	168	3	0	191	32	8	47	0	87	7	286	26	0	319	5	13	9	0	27	624
04:00 PM	25	118	1	0	144	6	8	8	0	22	2	63	7	0	72	2	5	2	0	9	247
04:15 PM	17	122	2	0	141	5	5	11	0	21	0	60	4	0	64	3	5	1	0	9	235
04:30 PM	18	112	2	0	132	2	3	9	0	14	6	54	4	0	64	0	4	2	0	6	216
04:45 PM	23	108	1	0	132	4	9	5	0	18	3	57	10	0	70	3	3	3	0	9	229
Total	83	460	6	0	549	17	25	33	0	75	11	234	25	0	270	8	17	8	0	33	927
05:00 PM	22	118	1	0	141	11	8	9	0	28	3	69	7	0	79	0	3	4	0	7	255
05:15 PM	29	120	1	0	150	10	3	7	0	20	3	69	7	0	79	0	2	5	0	7	256
05:30 PM	19	88	1	0	108	4	5	11	0	20	4	50	20	0	74	1	7	5	0	13	215
05:45 PM	21	97	0	0	118	15	6	12	0	33	7	42	1	0	50	0	2	4	0	6	207
Total	91	423	3	0	517	40	22	39	0	101	17	230	35	0	282	1	14	18	0	33	933
Grand Total	216	1219	13	0	1448	107	56	198	0	361	45	1148	113	0	1306	20	56	49	0	125	3240
Apprch %	14.9	84.2	0.9	0		29.6	15.5	54.8	0		3.4	87.9	8.7	0		16	44.8	39.2	0		
Total %	6.7	37.6	0.4	0	44.7	3.3	1.7	6.1	0	11.1	1.4	35.4	3.5	0	40.3	0.6	1.7	1.5	0	3.9	
Cars	213	1176	13	0	1402	104	55	193	0	352	44	1112	111	0	1267	19	55	47	0	121	3142
% Cars	98.6	96.5	100	0	96.8	97.2	98.2	97.5	0	97.5	97.8	96.9	98.2	0	97	95	98.2	95.9	0	96.8	97
Buses	0	3	0	0	3	0	0	3	0	3	0	2	0	0	2	1	0	2	0	3	11
% Buses	0	0.2	0	0	0.2	0	0	1.5	0	0.8	0	0.2	0	0	0.2	5	0	4.1	0	2.4	0.3
Trucks	3	40	0	0	43	3	1	2	0	6	1	34	2	0	37	0	1	0	0	1	87
% Trucks	1.4	3.3	0	0	3	2.8	1.8	1	0	1.7	2.2	3	1.8	0	2.8	0	1.8	0	0	0.8	2.7

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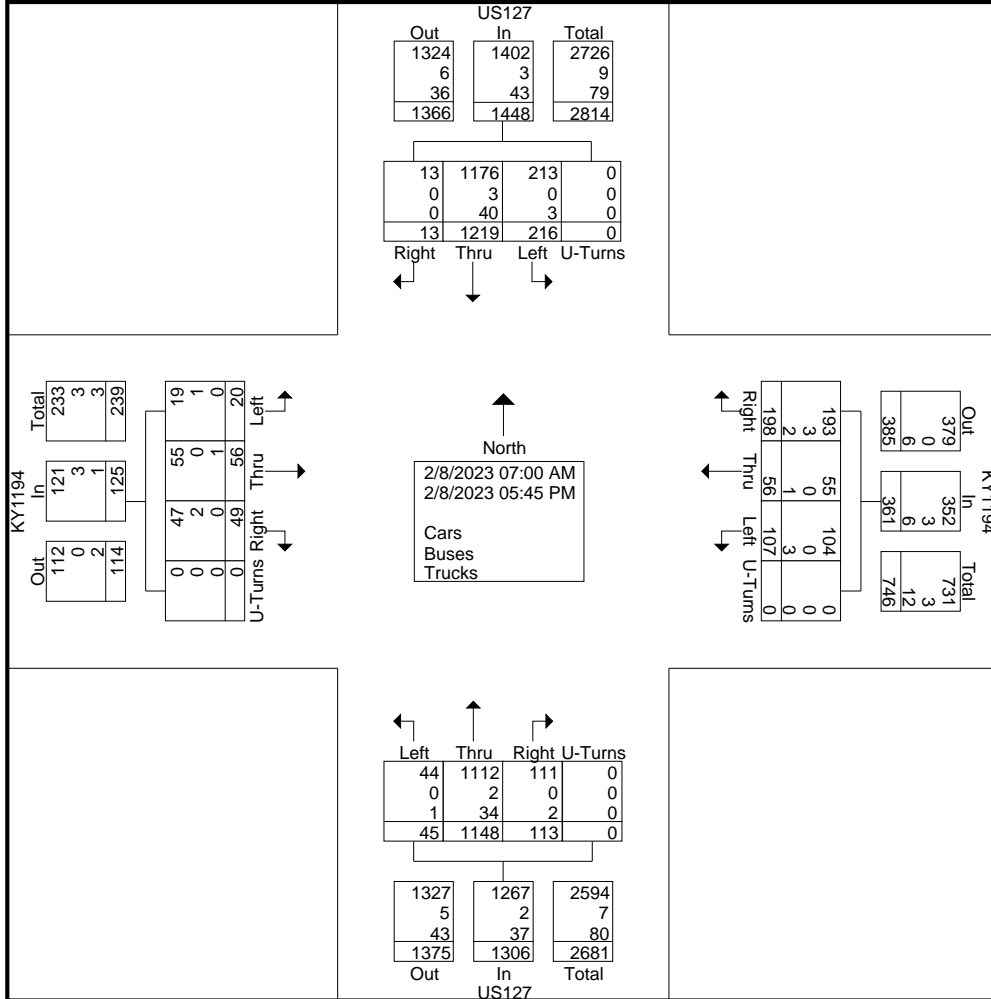
"simplifying Data Collection since 2004"

File Name : 5_US127_at_KY1194_02082023

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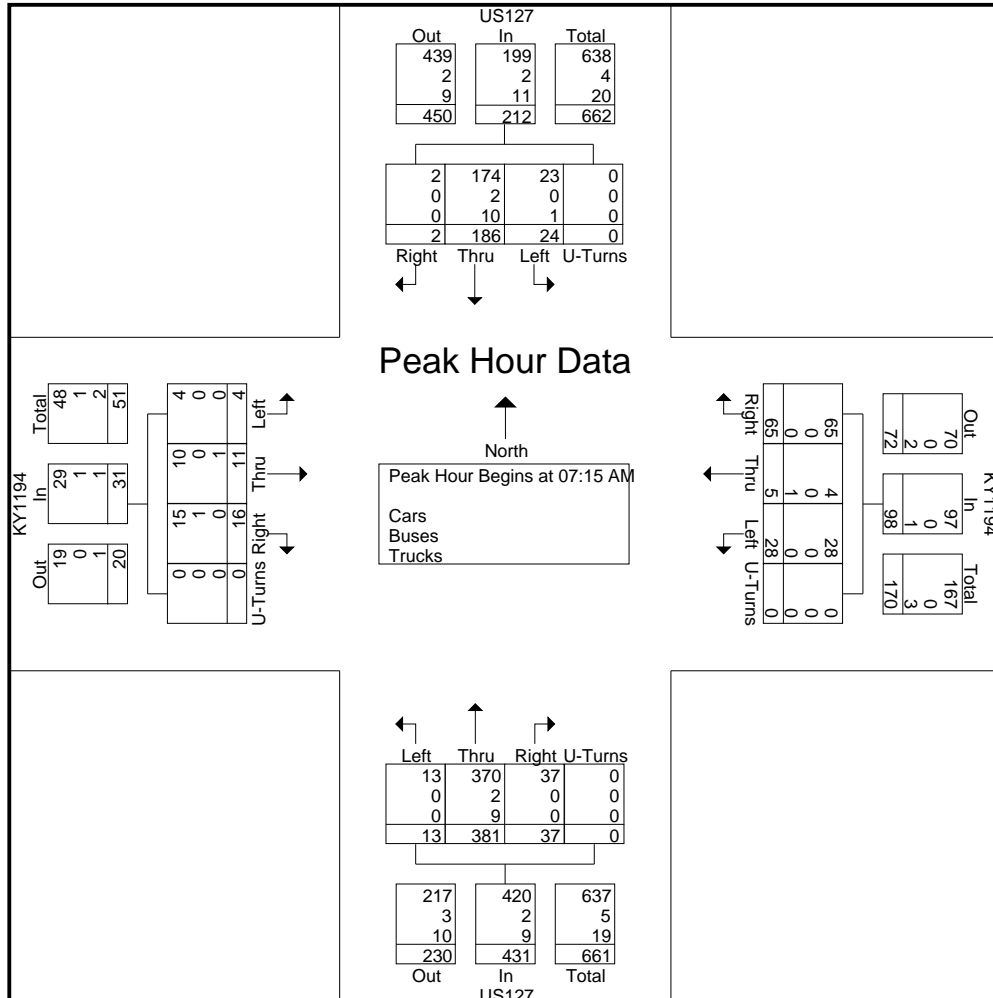
File Name : 5_US127_at_KY1194_02082023

Site Code : Wed

Start Date : 2/8/2023

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Start Time	US127 From North					KY1194 From East					US127 From South					KY1194 From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	7	49	0	0	56	5	0	18	0	23	2	98	7	0	107	1	3	4	0	8	194
07:30 AM	3	49	1	0	53	2	0	16	0	18	3	104	12	0	119	2	4	3	0	9	199
07:45 AM	8	46	0	0	54	9	1	21	0	31	5	104	8	0	117	1	3	5	0	9	211
08:00 AM	6	42	1	0	49	12	4	10	0	26	3	75	10	0	88	0	1	4	0	5	168
Total Volume	24	186	2	0	212	28	5	65	0	98	13	381	37	0	431	4	11	16	0	31	772
% App. Total	11.3	87.7	0.9	0		28.6	5.1	66.3	0		3	88.4	8.6	0		12.9	35.5	51.6	0		
PHF	.750	.949	.500	.000	.946	.583	.313	.774	.000	.790	.650	.916	.771	.000	.905	.500	.688	.800	.000	.861	.915
Cars	23	174	2	0	199	28	4	65	0	97	13	370	37	0	420	4	10	15	0	29	745
% Cars	95.8	93.5	100	0	93.9	100	80.0	100	0	99.0	100	97.1	100	0	97.4	100	90.9	93.8	0	93.5	96.5
Buses	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	5
% Buses	0	1.1	0	0	0.9	0	0	0	0	0	0	0.5	0	0	0.5	0	0	6.3	0	3.2	0.6
Trucks	1	10	0	0	11	0	1	0	0	1	0	9	0	0	9	0	1	0	0	1	22
% Trucks	4.2	5.4	0	0	5.2	0	20.0	0	0	1.0	0	2.4	0	0	2.1	0	9.1	0	0	3.2	2.8



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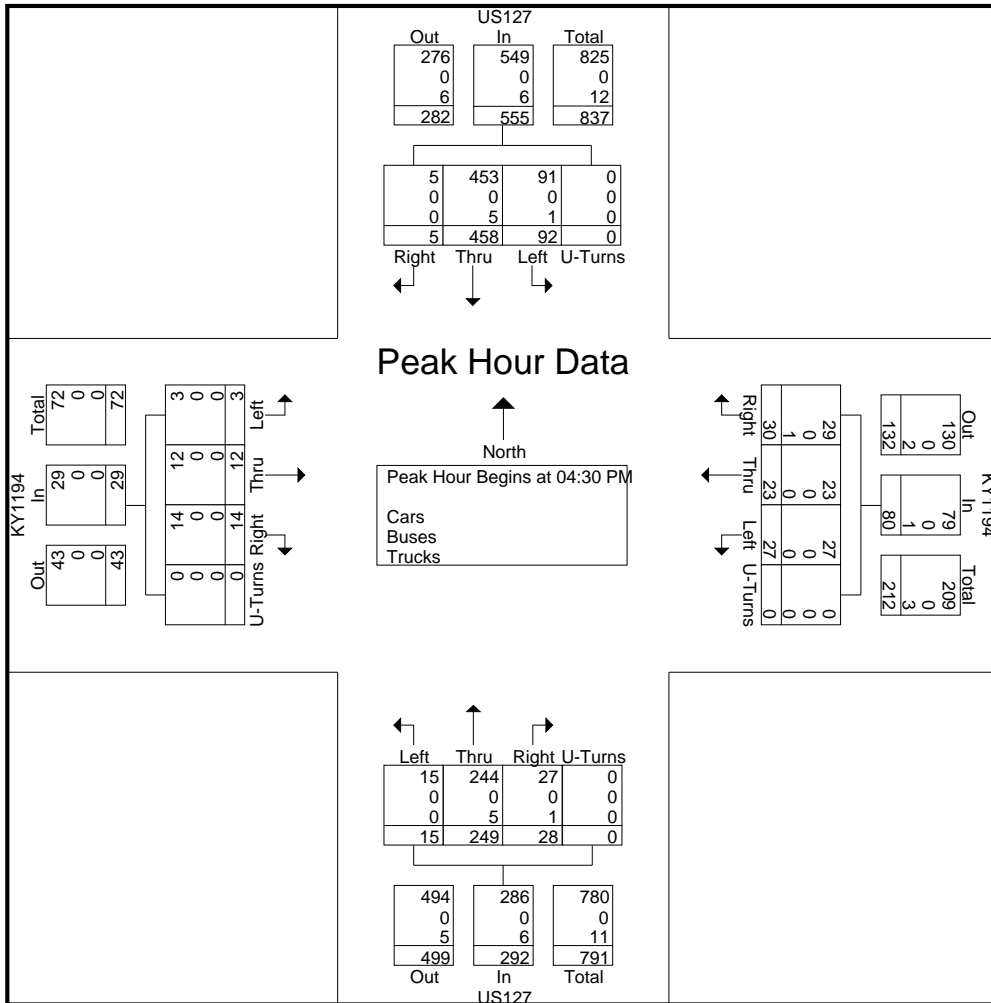
Page No : 4

Start Time	US127 From North					KY1194 From East					US127 From South					KY1194 From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	18	112	2	0	132	2	3	9	0	14	6	54	4	0	64	0	4	2	0	6	216
04:45 PM	23	108	1	0	132	4	9	5	0	18	3	57	10	0	70	3	3	3	0	9	229
05:00 PM	22	118	1	0	141	11	8	9	0	28	3	69	7	0	79	0	3	4	0	7	255
05:15 PM	29	120	1	0	150	10	3	7	0	20	3	69	7	0	79	0	2	5	0	7	256
Total Volume	92	458	5	0	555	27	23	30	0	80	15	249	28	0	292	3	12	14	0	29	956
% App. Total	16.6	82.5	0.9	0		33.8	28.8	37.5	0		5.1	85.3	9.6	0		10.3	41.4	48.3	0		
PHF	.793	.954	.625	.000	.925	.614	.639	.833	.000	.714	.625	.902	.700	.000	.924	.250	.750	.700	.000	.806	.934
Cars	91	453	5	0	549	27	23	29	0	79	15	244	27	0	286	3	12	14	0	29	943
% Cars	98.9	98.9	100	0	98.9	100	100	96.7	0	98.8	100	98.0	96.4	0	97.9	100	100	100	0	100	98.6
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	1	5	0	0	6	0	0	1	0	1	0	5	1	0	6	0	0	0	0	0	13
% Trucks	1.1	1.1	0	0	1.1	0	0	3.3	0	1.3	0	2.0	3.6	0	2.1	0	0	0	0	0	1.4



KYSTM Calibration Review

US 127 Corridor Planning Study

Casey and Lincoln Counties, Kentucky
March 10, 2023

Introduction

The Kentucky Transportation Cabinet (KYTC) initiated a corridor planning study that will evaluate an approximately 18.9-mile section of the US 127 corridor from MP 15.500 to MP 23.715 in Casey County and from MP 0.000 to MP 10.690 in Lincoln County, Kentucky. US 127 in the study area is located north of Liberty and south of Danville and is classified as a rural other principal arterial. This memorandum discusses the baseline calibration of the Kentucky Statewide Traffic Model (KYSTM) in the project area and whether or not additional calibration efforts are necessary for the project. Specifically, this document presents the preliminary percent Root Mean Square Error (%RMSE) results. The US 127 project area is shown in **Figure 1**.

RMSE

The KYSTM Version 6003 was utilized to estimate the %RMSE. **Table 1** displays the %RMSE by facility type for the 2019 No-Build Model. The %RMSE was calculated for any link with a count station within a one-mile radius of the study corridor. **Figure 2** illustrates the selected links for %RMSE estimation. The study corridor (US 127) has a %RMSE of 20.2%. The selected links for the %RMSE calculation are presented in **Table 2**.

Table 1: %RMSE Results for Base and Calibrated Models

Facility Type	Number of Counts	% RMSE	Validation Target	Meets Target
Other Principal Arterial	10	27.0%	36.7%	Yes
Major collector	12	58.7%	78.3%	Yes
Minor collector	4	44.4%	117.7%	Yes
Local	1	NA	149.5%	NA
Total	27	37.7%	-	
US 127_Study Corridor	6	20.2%	36.7%	Yes

NA: At-least two links are needed to calculate %RMSE for each facility type.

Land Use

Land use data was reviewed and checked for TAZs in the Casey and Lincoln Counties. **Figure 3** and **Figure 4** illustrate the TAZ population and total employment, respectively. It was found that the KYSTM land use information in the study area is sufficiently well calibrated.

Conclusions

Based on the %RMSE analysis it appears that the KYSTM in the project area is sufficiently well calibrated. It is proposed that no further calibration is needed for the project area. If KYTC agrees with this conclusion, then the team will proceed to develop the build model for the project.

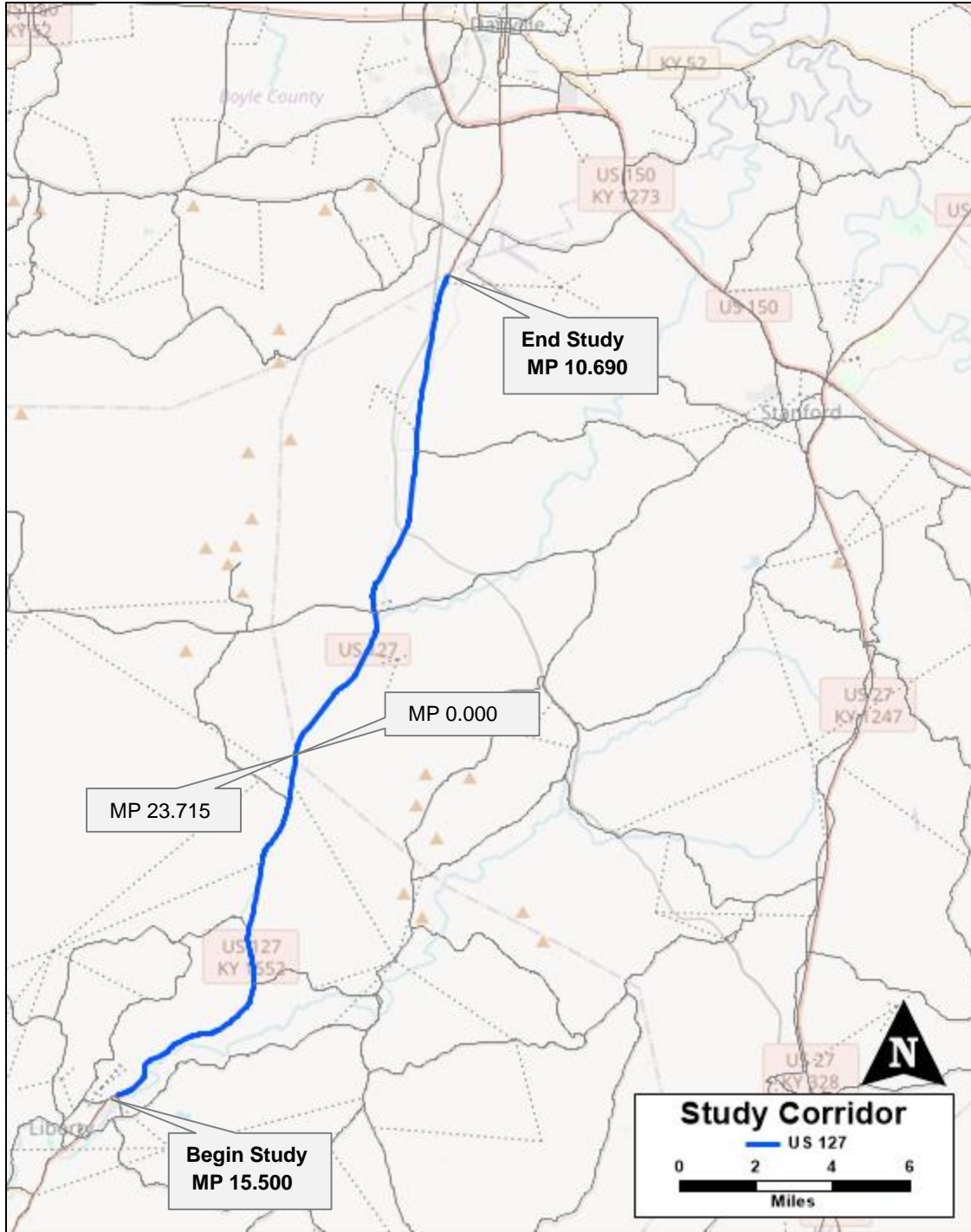


Figure 1 Study Area

Table 2: Selected Links for %RMSE Calculation

Link ID	ROUTE_ID	FC	Count Station ID	Latest Count Year	Count Volume*	Base Year Volume*
59352	023-US-0127-000	3	023A61	2017	5798	3543
60387	023-US-0127-000	3	023A08	2018	10784	5369
62084	023-KY-0817-000	5	023A63	2017	2928	1012
499046	023-KY-0070-000	5	023A58	2017	2996	774
392259	023-US-0127-000	3	023A25	2017	10344	5369
56793	023-KY-2314-000	5	023A07	2019	3198	1519
59338	023-US-0127-000	3	023A09	2017	7413	5758
60395	023-US-0127-000	6	23037	2018	5192	3532
246399	069-US-0127-000	3	069517	2017	5030	3629
417730	069-US-0127-000	3	069505	2019	6357	5168
246811	069-US-0127-000	3	069760	2018	9703	9460
23012	011-KY-0300-000	5	011D08	2018	5122	3047
246815	069-US-0127-000	3	069778	2019	10437	9460
26233	011-US-0127-000	3	011D05	2019	11850	12052
252342	069-KY-0300-000	5	069753	2018	716	1401
23089	011-KY-0300-000	5	011D13	2019	2547	1401
61729	023-KY-1552-000	6	023012	2019	1387	1840
632070	069-KY-0078-000	5	069504	2017	1618	1222
255764	069-KY-1194-000	6	069766	2018	2182	1169
26356	011-US-0127-000	3	011D11	2017	17775	18167
61672	023-KY-1552-000	6	023017	2018	347	26
22642	011-KY-0037-000	5	011D09	2017	2103	2368
254472	069-KY-0078-000	5	069515	2018	1373	1555
253235	069-KY-0078-000	5	069514	2018	1137	1222
449983	023-KY-0070-000	5	023010	2017	1263	566
433692	023-KY-3271-000	7	023776	2017	339	0
392272	023-KY-3271-000	5	023A03	2016	1197	0

*Vehicles per day

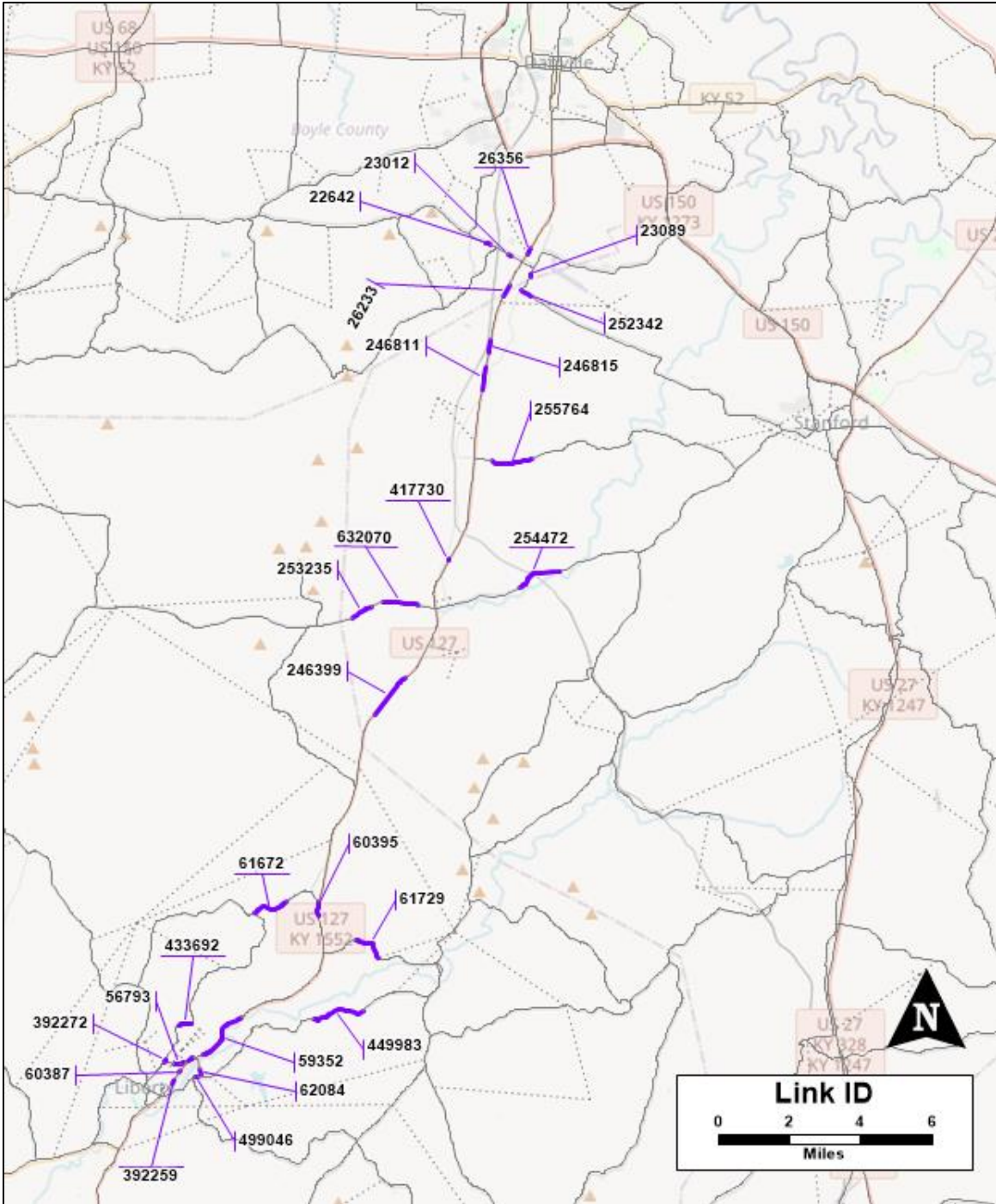


Figure 2: Selected Links for %RMSE Calculation (Links with Count Stations)

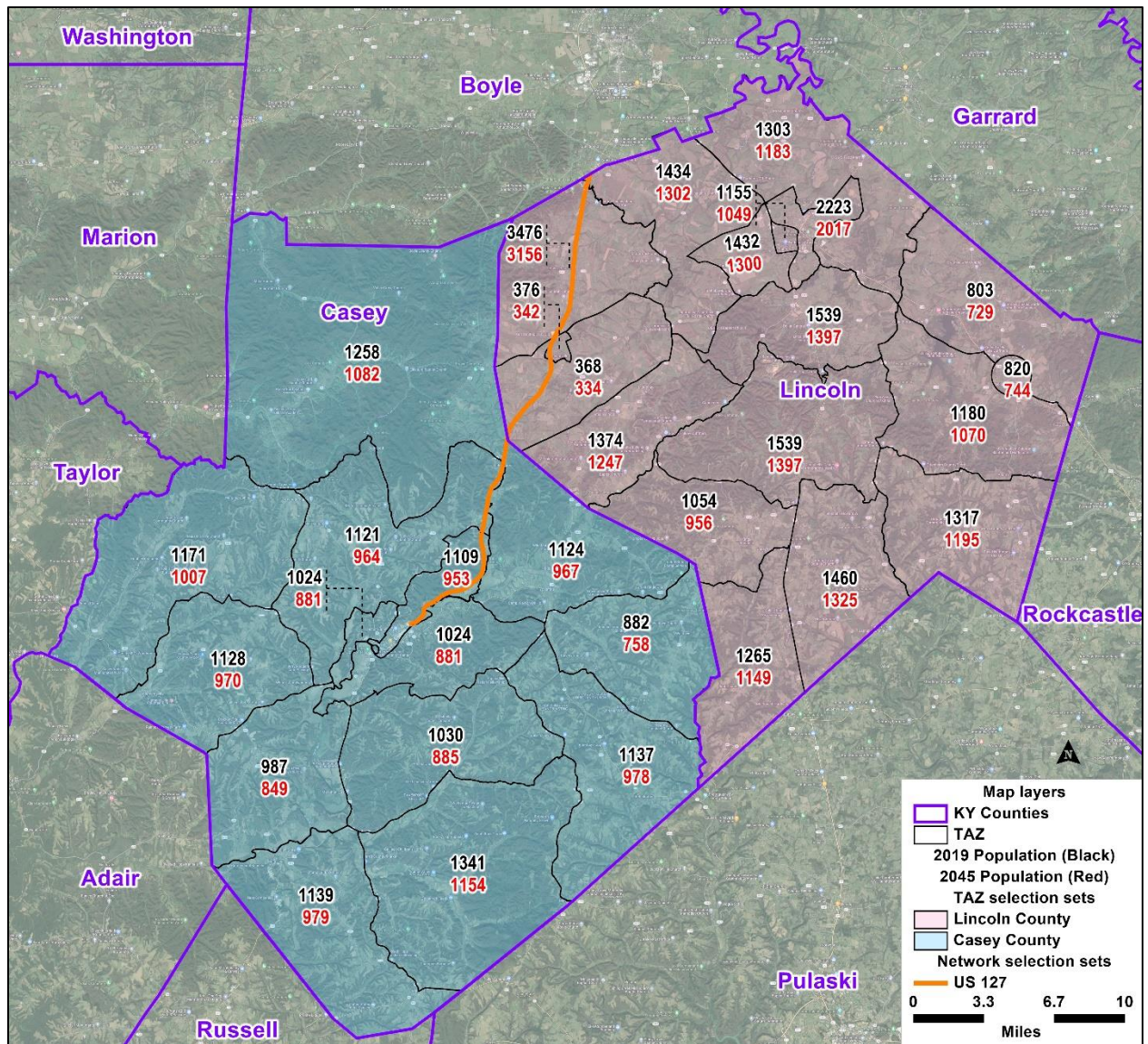


Figure 3: Base and Future Year Population

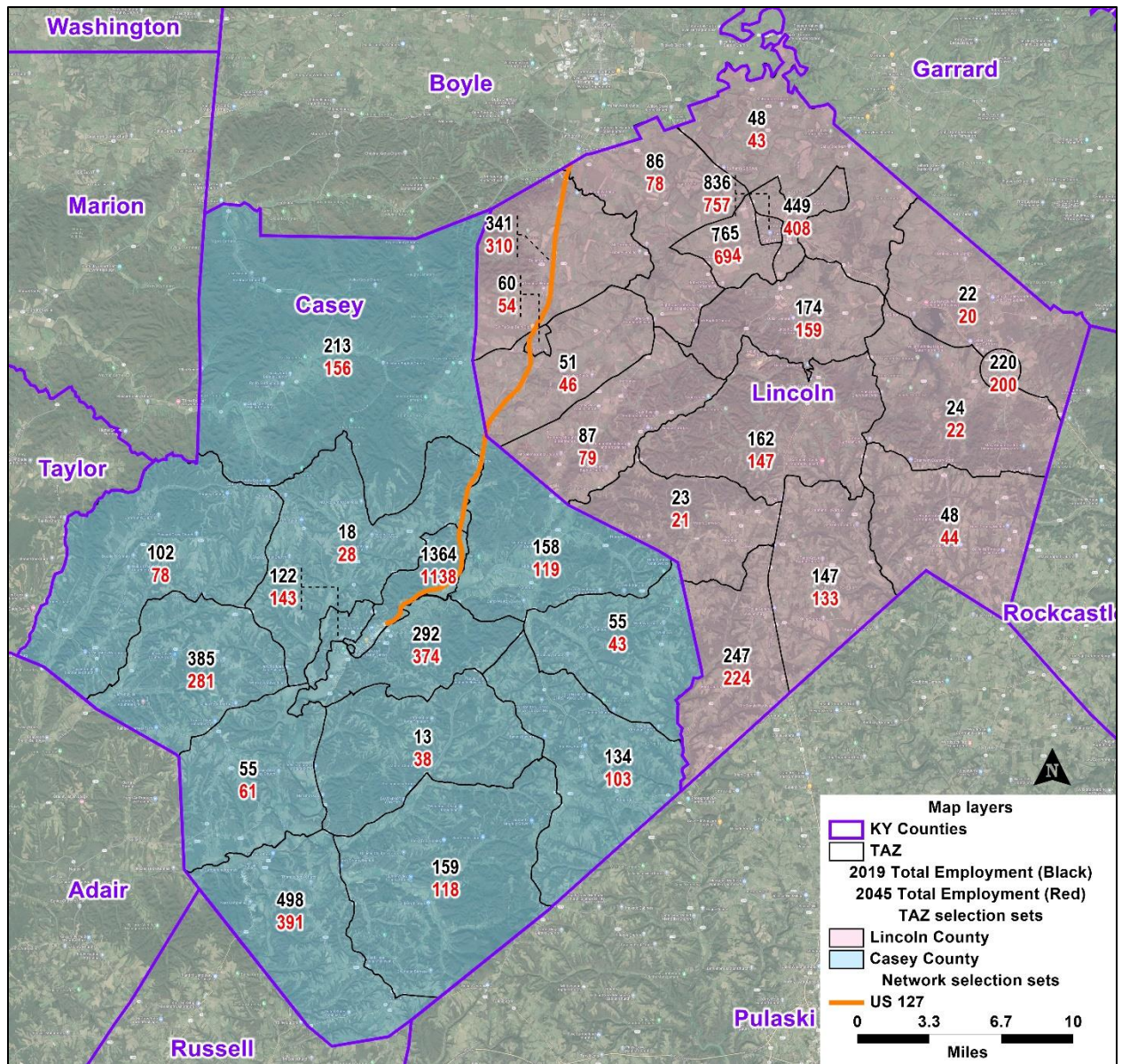


Figure 4: Base and Future Year Total Employment