

KY 54 Safety Analysis Supporting Materials

Data

For the safety analysis, the previous five years of crash data (2015 – 2019) was obtained for the project area from the Kentucky State Police Collision database (<http://crashinformationky.org/>). The database was queried to obtain crash data for the project study area limits based on the roadway and milepost attributes. These attributes were also used in categorizing the data for analysis and segmentation as the roadway was separated in the analysis by counties, segments, intersections, and a spot location to provide more detailed analysis.

In addition to the crash data, historic traffic count data was obtained from the KYTC project 02-8300.00 Design Executive Summary. This document has project specific current and opening year traffic counts.

Analysis Methodology

A predictive safety analysis was conducted following the Highway Safety Manual (HSM) methods via the implementation of the Interactive Highway Safety Design Model (IHSDM) software. IHSDM provides a user interface to import roadway data (via XML files) for the horizontal and vertical alignments and to input roadway feature information (number of lanes, shoulder information, median information, etc.) to create an accurate representation of the study roadway. Once the roadway features are entered, the software can perform the predictive safety analysis using the input features with the HSM factors and equations.

For the KY54 analysis, a No-Build (existing configuration) and Build (proposed widening) was developed for an anticipated 20-year project lifecycle. The roadway and intersection geometries through the project segments were programmed based on the existing conditions and provided roadway plan sheet details.

The results of the analysis were post-processed in excel to examine the severity breakdown of the crashes. For segment 1 of the Build condition (six-lane divided [6D]) the software provides a breakdown of the anticipated severity, but for segment 2 (five-lane [5T]) the software only provides the breakdown between fatal and injury crashes (FI) and property-damage-only crashes (PDO). For both segments in the No-Build condition the output is only the FI and PDO breakdown as both segments are 5T. To obtain the severity breakdown for the 5T segments, the historic severity distribution was applied as it is assumed the crash experience will be similar as the typical section of the roadway is remaining unchanged for the 5T segments.

The magnitude and severity of crashes between the Build and No-Build were compared to examine the safety impacts of the proposed project. The severities were applied against comprehensive crash costs to determine the overall societal cost of crashes associated with both the No-Build and Build.

Results

The results of the safety analysis were tabulated for the opening (2025) and design (2045) year conditions for No-Build and Build conditions. The predicted crashes were tabulated by severity.

The predicted number of crashes were reduced by 13% and 30% in the opening and design years. However, the changes to roadway configuration resulted in a higher average crash severity. Therefore the predicted crash costs were increased by 19% in the opening year and 8% in the design year.

	K	A	B	C
NoBuild	1	3	41	69
	1%	3%	36%	61%

114 NoBuild Percentages based on Existing Crash Analysis

IHSMD Predicted Crashes

	NoBuild							Build						
	Total	K	A	B	C	O	Total	K	A	B	C	O		
2025	68.83	0.20	0.59	8.04	13.53	46.48	2025	60.8	0.26	1.66	7.60	16.41	34.86	
2026	70.99	0.20	0.61	8.29	13.96	47.94	2026	62.2	0.27	1.70	7.78	16.77	35.68	
2027	73.17	0.21	0.63	8.55	14.39	49.4	2027	63.59	0.28	1.73	7.95	17.13	36.50	
2028	75.36	0.21	0.64	8.80	14.82	50.88	2028	64.99	0.28	1.77	8.13	17.50	37.31	
2029	77.56	0.22	0.66	9.06	15.25	52.36	2029	66.39	0.29	1.81	8.31	17.86	38.13	
2030	79.78	0.23	0.68	9.33	15.69	53.85	2030	67.78	0.30	1.84	8.48	18.22	38.95	
2031	82.01	0.23	0.70	9.59	16.14	55.35	2031	69.18	0.30	1.88	8.66	18.58	39.77	
2032	84.25	0.24	0.72	9.85	16.58	56.86	2032	70.58	0.31	1.91	8.84	18.94	40.58	
2033	86.51	0.25	0.74	10.12	17.03	58.38	2033	71.97	0.32	1.95	9.01	19.30	41.40	
2034	88.78	0.25	0.76	10.38	17.47	59.91	2034	73.37	0.32	1.98	9.19	19.66	42.22	
2035	91.06	0.26	0.78	10.65	17.93	61.44	2035	74.77	0.33	2.02	9.36	20.02	43.04	
2036	93.35	0.27	0.80	10.92	18.38	62.98	2036	76.17	0.33	2.05	9.54	20.37	43.86	
2037	95.66	0.27	0.82	11.19	18.84	64.54	2037	77.56	0.34	2.09	9.72	20.73	44.69	
2038	97.98	0.28	0.84	11.47	19.30	66.1	2038	78.96	0.35	2.12	9.89	21.09	45.51	
2039	100.31	0.29	0.86	11.74	19.76	67.67	2039	80.36	0.35	2.16	10.07	21.45	46.33	
2040	102.66	0.29	0.88	12.02	20.23	69.24	2040	81.76	0.36	2.19	10.24	21.80	47.16	
2041	105.02	0.30	0.90	12.30	20.69	70.83	2041	83.16	0.37	2.23	10.42	22.16	47.98	
2042	107.38	0.31	0.92	12.58	21.17	72.42	2042	84.56	0.37	2.26	10.60	22.52	48.81	
2043	109.77	0.31	0.94	12.86	21.64	74.02	2043	85.96	0.38	2.30	10.77	22.88	49.63	
2044	112.16	0.32	0.96	13.14	22.11	75.63	2044	87.36	0.39	2.33	10.95	23.23	50.46	
2045	114.56	0.33	0.98	13.42	22.59	77.24	2045	88.77	0.39	2.37	11.13	23.59	51.29	

Crash Rates (per 100MVM)

Length	AADT
1.88	29300
	43700

NoBuild		Build	
2025	342.3414	2025	302.4024
2045	569.7898	2045	441.5175

NoBuild

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2025	68.83	22.35	32.472	46.48	67.528
2026	70.99	23.06	32.477	47.94	67.523
2027	73.17	23.77	32.483	49.4	67.517
2028	75.36	24.48	32.488	50.88	67.512
2029	77.56	25.2	32.493	52.36	67.507
2030	79.78	25.93	32.498	53.85	67.502
2031	82.01	26.66	32.503	55.35	67.497
2032	84.25	27.39	32.509	56.86	67.491
2033	86.51	28.13	32.514	58.38	67.486
2034	88.78	28.87	32.519	59.91	67.481
2035	91.06	29.62	32.525	61.44	67.475
2036	93.35	30.37	32.53	62.98	67.47
2037	95.66	31.12	32.535	64.54	67.465
2038	97.98	31.88	32.54	66.1	67.46
2039	100.31	32.65	32.545	67.67	67.454
2040	102.66	33.42	32.551	69.24	67.449
2041	105.02	34.19	32.556	70.83	67.444
2042	107.38	34.97	32.561	72.42	67.439
2043	109.77	35.75	32.566	74.02	67.434
2044	112.16	36.53	32.571	75.63	67.429
2045	114.56	37.32	32.576	77.24	67.424
Total	1,917.14	623.63	32.529	1,293.51	67.471
Average	91.29	29.7	32.529	61.6	67.471

Build

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2025	60.8	25.94	42.66	34.86	57.34
2026	62.2	26.52	42.636	35.68	57.364
2027	63.59	27.1	42.613	36.49	57.387
2028	64.99	27.68	42.59	37.31	57.41
2029	66.39	28.26	42.567	38.13	57.433
2030	67.78	28.84	42.544	38.95	57.456
2031	69.18	29.42	42.521	39.77	57.479
2032	70.58	29.99	42.498	40.58	57.502
2033	71.97	30.57	42.475	41.4	57.525
2034	73.37	31.15	42.453	42.22	57.547
2035	74.77	31.73	42.431	43.04	57.569
2036	76.17	32.3	42.409	43.86	57.591
2037	77.56	32.88	42.387	44.69	57.613
2038	78.96	33.45	42.365	45.51	57.635
2039	80.36	34.03	42.344	46.33	57.656
2040	81.76	34.6	42.323	47.16	57.677
2041	83.16	35.18	42.302	47.98	57.698
2042	84.56	35.75	42.281	48.81	57.719
2043	85.96	36.33	42.26	49.63	57.74
2044	87.36	36.9	42.24	50.46	57.76
2045	88.77	37.48	42.219	51.29	57.781
Total	1,570.24	666.08	42.419	904.16	57.581
Average	74.77	31.72	42.419	43.05	57.581

	6D Section				
	K	A	B	C	O
2025	0.10	0.40	1.46	2.77	7.05
2026	0.10	0.41	1.50	2.86	7.24
2027	0.10	0.42	1.54	2.94	7.43
2028	0.10	0.43	1.59	3.02	7.62
2029	0.11	0.44	1.63	3.10	7.81
2030	0.11	0.46	1.67	3.19	8.01
2031	0.11	0.47	1.72	3.27	8.20
2032	0.12	0.48	1.76	3.36	8.39
2033	0.12	0.49	1.81	3.44	8.59
2034	0.12	0.51	1.85	3.53	8.78
2035	0.12	0.52	1.90	3.61	8.98
2036	0.13	0.53	1.94	3.70	9.18
2037	0.13	0.54	1.99	3.79	9.38
2038	0.13	0.56	2.04	3.87	9.57
2039	0.14	0.57	2.08	3.96	9.77
2040	0.14	0.58	2.13	4.05	9.97
2041	0.14	0.59	2.18	4.14	10.18
2042	0.15	0.61	2.22	4.23	10.38
2043	0.15	0.62	2.27	4.32	10.58
2044	0.15	0.63	2.32	4.41	10.78
2045	0.16	0.65	2.37	4.50	10.99

	Intersections				
	K	A	B	C	O
2025	0.11	1.10	3.93	9.90	13.52
2026	0.12	1.12	4.00	10.08	13.73
2027	0.12	1.14	4.07	10.25	13.93
2028	0.12	1.16	4.13	10.42	14.13
2029	0.12	1.18	4.20	10.58	14.33
2030	0.12	1.20	4.27	10.75	14.53
2031	0.13	1.22	4.33	10.91	14.72
2032	0.13	1.24	4.40	11.08	14.91
2033	0.13	1.25	4.46	11.24	15.10
2034	0.13	1.27	4.52	11.40	15.29
2035	0.13	1.29	4.59	11.56	15.48
2036	0.14	1.31	4.65	11.72	15.66
2037	0.14	1.32	4.71	11.87	15.84
2038	0.14	1.34	4.77	12.03	16.03
2039	0.14	1.36	4.83	12.18	16.20
2040	0.14	1.38	4.89	12.33	16.38
2041	0.14	1.39	4.95	12.48	16.56
2042	0.15	1.41	5.01	12.63	16.73
2043	0.15	1.43	5.07	12.78	16.90
2044	0.15	1.44	5.13	12.93	17.07
2045	0.15	1.46	5.19	13.08	17.24

	ST Section	
	FI	PDO
2025	4.42	11.05
2026	4.54	11.37
2027	4.66	11.68
2028	4.78	12.00
2029	4.90	12.32
2030	5.02	12.64
2031	5.14	12.96
2032	5.26	13.28
2033	5.38	13.60
2034	5.50	13.93
2035	5.62	14.25
2036	5.74	14.58
2037	5.86	14.91
2038	5.98	15.24
2039	6.11	15.57
2040	6.23	15.90
2041	6.35	16.24
2042	6.48	16.57
2043	6.60	16.91
2044	6.72	17.25
2045	6.85	17.58

	1456 Intersecti	
	FI	PDO
2025	1.74	3.24
2026	1.80	3.35
2027	1.87	3.45
2028	1.93	3.56
2029	1.99	3.67
2030	2.06	3.78
2031	2.12	3.89
2032	2.19	4.00
2033	2.25	4.11
2034	2.32	4.22
2035	2.39	4.33
2036	2.45	4.44
2037	2.52	4.56
2038	2.59	4.67
2039	2.66	4.78
2040	2.73	4.90
2041	2.80	5.01
2042	2.87	5.13
2043	2.94	5.24
2044	3.01	5.36
2045	3.08	5.48

Existing Breakdown

	ST + KY1456 Intersection				
	K	A	B	C	O
2025	0.05	0.16	2.22	3.73	14.29
2026	0.06	0.17	2.28	3.84	14.71
2027	0.06	0.17	2.35	3.95	15.13
2028	0.06	0.18	2.41	4.06	15.56
2029	0.06	0.18	2.48	4.17	15.99
2030	0.06	0.19	2.54	4.28	16.41
2031	0.06	0.19	2.61	4.39	16.84
2032	0.07	0.20	2.68	4.51	17.28
2033	0.07	0.20	2.74	4.62	17.71
2034	0.07	0.21	2.81	4.73	18.15
2035	0.07	0.21	2.88	4.85	18.58
2036	0.07	0.22	2.95	4.96	19.02
2037	0.07	0.22	3.02	5.07	19.47
2038	0.08	0.23	3.08	5.19	19.91
2039	0.08	0.23	3.15	5.31	20.35
2040	0.08	0.24	3.22	5.42	20.80
2041	0.08	0.24	3.29	5.54	21.25
2042	0.08	0.25	3.36	5.66	21.70
2043	0.08	0.25	3.43	5.77	22.15
2044	0.09	0.26	3.50	5.89	22.61
2045	0.09	0.26	3.57	6.01	23.06

	Total Build Crashes				
	K	A	B	C	O
2025	0.26	1.66	7.60	16.41	34.86
2026	0.27	1.70	7.78	16.77	35.68
2027	0.28	1.73	7.95	17.13	36.50
2028	0.28	1.77	8.13	17.50	37.31
2029	0.29	1.81	8.31	17.86	38.13
2030	0.30	1.84	8.48	18.22	38.95
2031	0.30	1.88	8.66	18.58	39.77
2032	0.31	1.91	8.84	18.94	40.58
2033	0.32	1.95	9.01	19.30	41.40
2034	0.32	1.98	9.19	19.66	42.22
2035	0.33	2.02	9.36	20.02	43.04
2036	0.33	2.05	9.54	20.37	43.86
2037	0.34	2.09	9.72	20.73	44.69
2038	0.35	2.12	9.89	21.09	45.51
2039	0.35	2.16	10.07	21.45	46.33
2040	0.36	2.19	10.24	21.80	47.16
2041	0.37	2.23	10.42	22.16	47.98
2042	0.37	2.26	10.60	22.52	48.81
2043	0.38	2.30	10.77	22.88	49.63
2044	0.39	2.33	10.95	23.23	50.46
2045	0.39	2.37	11.13	23.59	51.29

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

July 7, 2021

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Report Overview

Report Generated: Jul 7, 2021 9:27 AM

Report Template: System: Multi-Page, 508 Compliant [System] (mlcpm4, Jun 10, 2021 3:20 PM)

Evaluation Date: Wed Jun 23 17:15:42 EDT 2021

IHSDM Version: v16.0.0 (Sep 30, 2020)

Crash Prediction Module: v11.0.0 (Sep 30, 2020)

User Name: ahedges

Organization Name: HDR

Phone: 859.629.4872

E-Mail: adam.hedges@hdrinc.com

Project Title: KY 54_No Build

Project Comment: Created Tue Jun 15 00:40:18 EDT 2021

Project Unit System: U.S. Customary

Highway Title: Alignment KY 54

Highway Comment: Imported from KY 54.xml

Highway Version: 3

Evaluation Title: Evaluation 8

Evaluation Comment: Created Wed Jun 23 17:14:49 EDT 2021

Minimum Location: 1167+00.000

Maximum Location: 1288+07.657(1)

Policy for Superelevation: AASHTO 2011 U.S. Customary

Calibration: HSM Configuration

Crash Distribution: HSM Configuration

Model/CMF: HSM Configuration

First Year of Analysis: 2025

Last Year of Analysis: 2045

Empirical-Bayes Analysis: None

First Year of Observed Crashes:

Last Year of Observed Crashes:

Disclaimer Regarding Crash Prediction Method

IMPORTANT NOTICE ABOUT COMPARING RESULTS FROM HIGHWAY SAFETY MANUAL FIRST EDITION (2010) MODELS TO RESULTS FROM NEW MODELS DEVELOPED UNDER NCHRP PROJECTS 17-70 AND 17-58

Since the publication of the Highway Safety Manual - First Edition (HSM-1), in 2010 by the American Association of State Highway and Transportation Officials (AASHTO), multiple research efforts have been undertaken through the National Cooperative Highway Research Program (NCHRP) to develop safety performance models for road segment and intersection facility types that were not initially reflected in the HSM-1, in order to expand the breadth and depth of the HSM in the future.

The IHSDM Crash Prediction Module (CPM) is intended as a faithful implementation of HSM Part C predictive methods. As NCHRP projects to develop new predictive methods for the HSM are completed, FHWA works to incorporate the new methods into IHSDM, sometimes in advance of publication in the HSM. The following new crash predictive methods have been accepted by NCHRP project panels and incorporated into IHSDM, while pending AASHTO's approval for incorporation into a future edition of the HSM:

- Roundabouts: completed in 2018 under NCHRP Project 17-70, the new methods will provide improved outcomes for the safety analysis of roundabouts.
- 6+ lane and one-way urban/suburban arterials (including models for segments and intersections): completed under NCHRP Project 17-58.

However, in the absence of local calibration factors (see HSM-1 Part C, Appendix A for guidance on calibration of the predictive models), it is neither appropriate nor advisable to directly compare the results from new models (from NCHRP Projects 17-58 and 17-70) to results from HSM-1 models, as the models were not calibrated to the same base state data sets, and consequently can produce unexpected results. If local calibration factors are available and applied to both new models and HSM-1 models, then it may be appropriate to directly compare the results. [Note: Work being performed under NCHRP Project 17-72 (Update of Crash Modification Factors for the Highway Safety Manual) is expected to re-calibrate many of the old (HSM-1) and new (e.g., NCHRP 17-70) models to data from a single (or small number of) states, that would allow results from all models to be directly compared.]

The models produced for NCHRP Project 17-70 have independent value in terms of informing the design of a roundabout and assessing the effects of different design characteristics on the expected safety performance of a roundabout.

The HSM-1 interim method previously included in IHSDM for evaluating roundabouts on urban/suburban arterials (i.e., evaluating an existing intersection and then applying a Crash Modification Factor for replacing the existing intersection with a roundabout) has been deactivated in IHSDM, to minimize any confusion with the new roundabout methodology.

Section Types

Section 1 Evaluation

Section: Section 1

Evaluation Start Location: 1167+00.000

Evaluation End Location: 1288+07.657(1)

Area Type: Suburban

Functional Class: Arterial

Type of Alignment: Undivided, Multilane

Model Category: Urban/Suburban Arterial

Calibration Factor: 3ST=1.0; 4SG=1.0; 4U=1.0; 5T=1.0;

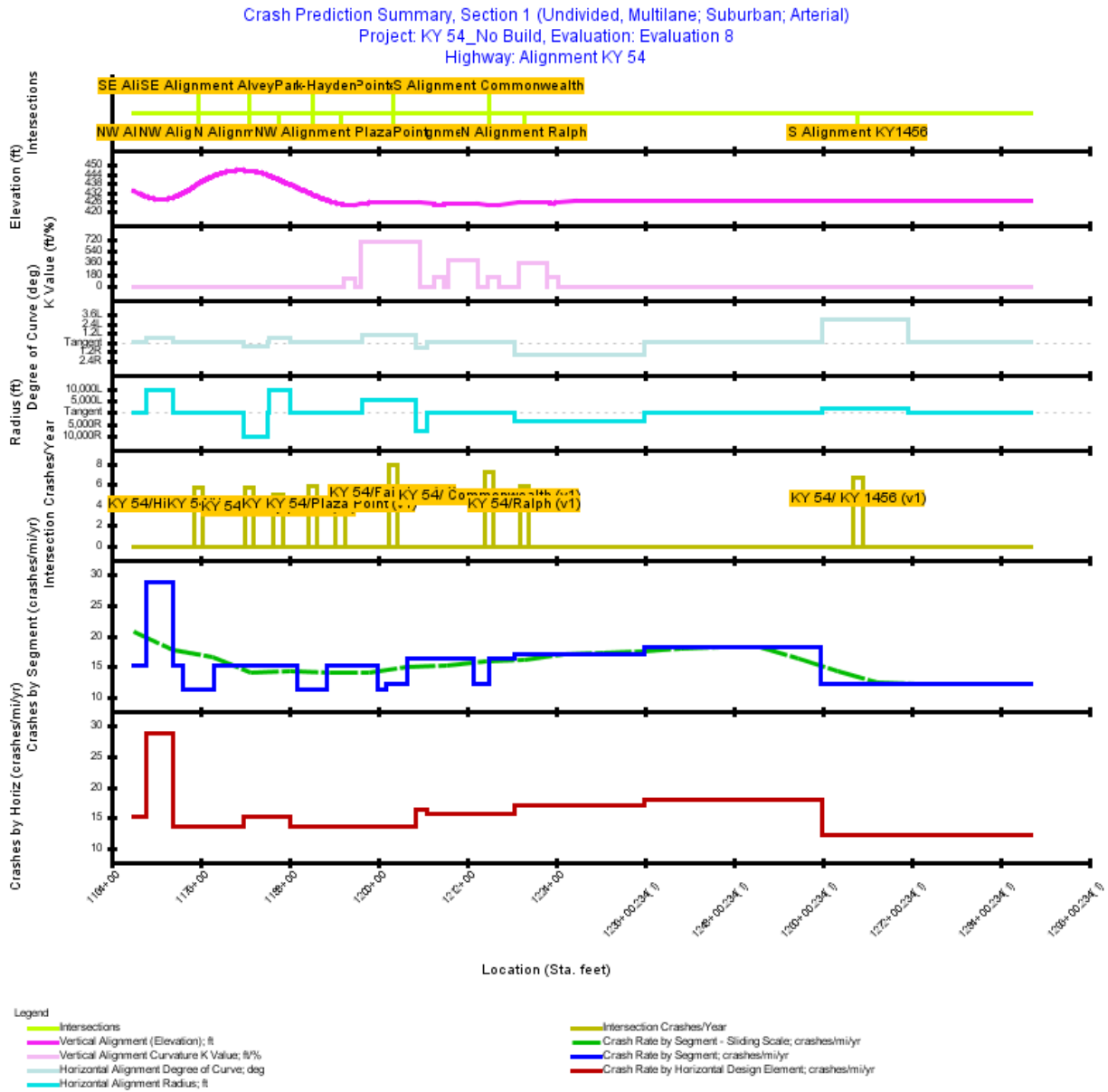


Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location (Sta. ft)	End Location (Sta. ft)	Length (ft)	Length (mi)	AADT	Number Major Commercial Driveways	Number Minor Commercial Driveways	Number Major Industrial/Institutional	Number Minor Industrial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Offset (ft)	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1167+0.000	1168+7.2689	172.69	0.0327	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
2	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1168+7.2689	1172+3.3418	360.73	0.0683	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
3	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1172+3.3418	1173+7.0000	136.58	0.0259	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
4	Urban/Suburban Arterial Segment Four-lane Undivided	1173+7.0000	1175+7.2000	202.00	0.0383	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
5	Urban/Suburban Arterial Segment Four-lane Undivided	1175+7.2000	1177+7.2000	200.00	0.0379	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
6	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1177+7.2000	1181+7.9876	407.88	0.0772	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
7	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1181+7.9876	1185+1.3753	333.88	0.0632	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
8	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1185+1.3753	1185+2.7152	134.00	0.0025	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
9	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1185+2.7152	1188+0.0649	273.50	0.0518	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
10	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1188+0.0649	1189+0.6000	105.35	0.0200	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
11	Urban/Suburban Arterial Segment Four-lane Undivided	1189+0.6000	1191+0.6000	200.00	0.0379	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	13.70	10.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00

Seg. No.	Type	Start Location (Station ft)	End Location (Station ft)	Length (ft)	Length (mi)	AADT	Number Major Commercial Driveways	Number Minor Commercial Driveways	Number Major Industrial/ Institutional	Number Minor Industrial/ Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Offset (ft)	Density (Fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Railway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
12	Urban/Suburban Arterial Segment Four-lane Undivided	1191+0 6.000	1193+0 6.000	200.00	0.0379	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	true	false	13.70	10.00	None	0.00	Intermediate/High	0	2.50	12.00
13	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1193+0 6.000	1197+8 7.701	481.70	0.0912	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	true	false	13.70	10.00	None	0.00	Intermediate/High	0	2.50	12.00
14	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1197+8 7.701	1199+9 4.000	206.30	0.0391	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	true	false	13.70	10.00	None	0.00	Intermediate/High	0	2.50	12.00
15	Urban/Suburban Arterial Segment Four-lane Undivided	1199+9 4.000	1201+0 0.000	106.00	0.0201	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	true	false	13.70	10.00	None	0.00	Intermediate/High	0	2.50	12.00
16	Urban/Suburban Arterial Segment Four-lane Undivided	1201+0 0.000	1201+9 4.000	94.00	0.0178	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	false	false	0.00	0.00	None	0.00	Intermediate/High	0	2.50	12.00
17	Urban/Suburban Arterial Segment Four-lane Undivided	1201+9 4.000	1203+9 4.000	200.00	0.0379	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	false	false	0.00	0.00	None	0.00	Intermediate/High	0	2.50	12.00
18	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1203+9 4.000	1205+0 9.236	115.24	0.0218	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	false	false	0.00	0.00	None	0.00	Intermediate/High	0	2.50	12.00
19	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1205+0 9.236	1206+4 8.914	139.68	0.0265	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	false	false	0.00	0.00	None	0.00	Intermediate/High	0	2.50	12.00
20	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1206+4 8.914	1212+9 4.000	645.09	0.1222	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	false	false	0.00	0.00	None	0.00	Intermediate/High	0	2.50	12.00
21	Urban/Suburban Arterial Segment Four-lane Undivided	1212+9 4.000	1214+9 2.000	198.00	0.0375	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	false	false	0.00	0.00	None	0.00	Intermediate/High	0	2.50	12.00
22	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1214+9 2.000	1218+4 0.606	348.61	0.0660	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	0	false	false	0.00	0.00	None	0.00	Intermediate/High	0	2.50	12.00
23	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1218+4 0.606	1235+9 2.860(1)	1,752.02	0.3318	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	1	0	0	0	false	false	0.00	0.00	None	0.00	Intermediate/High	0	2.50	12.00

Seg. No.	Type	Start Location (Sta. ft)	End Location (Sta. ft)	Length (ft)	Length (mi)	AADT	Number Major Commercial Driveways	Number Minor Commercial Driveways	Number Major Industrial/Institutional	Number Minor Industrial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Offset (ft)	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
24	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1235+9 2.860(1)	1259+7 4.234(1)	2.38 1.37	0.45 10	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	3	1	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
25	Urban/Suburban Arterial Segment Four-lane Undivided	1259+7 4.234(1)	1259+9 3.592(1)	19.3 6	0.00 37	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
26	Urban/Suburban Arterial Segment Four-lane Undivided	1259+9 3.592(1)	1264+7 4.234(1)	480. 64	0.09 10	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
27	Urban/Suburban Arterial Segment Four-lane Undivided	1264+7 4.234(1)	1271+5 0.904(1)	676. 67	0.12 82	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
28	Urban/Suburban Arterial Segment Four-lane Undivided	1271+5 0.904(1)	1288+0 7.657(1)	1.65 6.75	0.31 38	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Type	Location (Sta. ft)	Major AADT	Minor AADT	Legs	Traffic Control	Approach es w/Left Turn Lanes	Approach es w/Right Turn Lanes	Approach es w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Near by	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed
1	KY 54/ KY 1456 (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1264+74.234(1)	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 5,900; 2026: 6,105; 2027: 6,310; 2028: 6,515; 2029: 6,720; 2030: 6,925; 2031: 7,130; 2032: 7,335; 2033: 7,540; 2034: 7,745; 2035: 7,950; 2036: 8,155; 2037: 8,360; 2038: 8,565; 2039: 8,770; 2040: 8,975; 2041: 9,180; 2042: 9,385; 2043: 9,590; 2044: 9,795; 2045: 10,000	4	Signalized	3	1	0	20	false	false	false	0	0	6
2	KY 54/Highland Pointe (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1175+72.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 4,100; 2026: 4,250; 2027: 4,400; 2028: 4,550; 2029: 4,700; 2030: 4,850; 2031: 5,000; 2032: 5,150; 2033: 5,300; 2034: 5,450; 2035: 5,600; 2036: 5,750; 2037: 5,900; 2038: 6,050; 2039: 6,200; 2040: 6,350; 2041: 6,500; 2042: 6,650; 2043: 6,800; 2044: 6,950; 2045: 7,100	4	Signalized	4	1	0	20	true	false	false	0	0	6
3	KY 54/Hayden-Alvey (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1182+54.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 5,000; 2026: 5,175; 2027: 5,350; 2028: 5,525; 2029: 5,700; 2030: 5,875; 2031: 6,050; 2032: 6,225; 2033: 6,400; 2034: 6,575; 2035: 6,750; 2036: 6,925; 2037: 7,100; 2038: 7,275; 2039: 7,450; 2040: 7,625; 2041: 7,800; 2042: 7,975; 2043: 8,150; 2044: 8,325; 2045: 8,500	4	Signalized	2	1	0	20	true	false	false	0	0	5
4	KY 54/Alvey park E (v1)	Urban/Suburban Arterial Intersection Three-Legged w/STOP control	1186+48.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 2,000; 2026: 2,050; 2027: 2,100; 2028: 2,150; 2029: 2,200; 2030: 2,250; 2031: 2,300; 2032: 2,350; 2033: 2,400; 2034: 2,450; 2035: 2,500; 2036: 2,550; 2037: 2,600; 2038: 2,650; 2039: 2,700; 2040: 2,750; 2041: 2,800; 2042: 2,850; 2043: 2,900; 2044: 2,950; 2045: 3,000	3	Stop-Controlled	0	0		false						
5	KY 54/Villa point (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1191+12.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 5,400; 2026: 5,600; 2027: 5,800; 2028: 6,000; 2029: 6,200; 2030: 6,400; 2031: 6,600; 2032: 6,800; 2033: 7,000; 2034: 7,200; 2035: 7,400; 2036: 7,600; 2037: 7,800; 2038: 8,000; 2039: 8,200; 2040: 8,400; 2041: 8,600; 2042: 8,800; 2043: 9,000; 2044: 9,200; 2045: 9,400	4	Signalized	4	2	0	20	true	false	false	0	0	6
6	KY 54/Plaza Point (v1)	Urban/Suburban Arterial Intersection Three-Legged w/STOP control	1194+86.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 3,000; 2026: 3,050; 2027: 3,100; 2028: 3,150; 2029: 3,200; 2030: 3,250; 2031: 3,300; 2032: 3,350; 2033: 3,400; 2034: 3,450; 2035: 3,500; 2036: 3,550; 2037: 3,600; 2038: 3,650; 2039: 3,700; 2040: 3,750; 2041: 3,800; 2042: 3,850; 2043: 3,900; 2044: 3,950; 2045: 4,000	3	Stop-Controlled	0	0		false						
7	KY 54/Fairview (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1201+94.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 10,200; 2026: 10,565; 2027: 10,930; 2028: 11,295; 2029: 11,660; 2030: 12,025; 2031: 12,390; 2032: 12,755; 2033: 13,120; 2034: 13,485; 2035: 13,850; 2036: 14,215; 2037: 14,580; 2038: 14,945; 2039: 15,310; 2040: 15,675; 2041: 16,040; 2042: 16,405; 2043: 16,770; 2044: 17,135; 2045: 17,500	4	Signalized	3	2	0	20	false	false	false	0	0	6
8	KY 54/Commonwealth (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1214+92.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 3,300; 2026: 3,415; 2027: 3,530; 2028: 3,645; 2029: 3,760; 2030: 3,875; 2031: 3,990; 2032: 4,105; 2033: 4,220; 2034: 4,335; 2035: 4,450; 2036: 4,565; 2037: 4,680; 2038: 4,795; 2039: 4,910; 2040: 5,025; 2041: 5,140; 2042: 5,255; 2043: 5,370; 2044: 5,485; 2045: 5,600	4	Signalized	1	1	0	20	false	false	false	0	0	5
9	KY 54/Ralph (v1)	Urban/Suburban Arterial Intersection Three-Legged w/STOP control	1219+69.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 3,000; 2026: 3,050; 2027: 3,100; 2028: 3,150; 2029: 3,200; 2030: 3,250; 2031: 3,300; 2032: 3,350; 2033: 3,400; 2034: 3,450; 2035: 3,500; 2036: 3,550; 2037: 3,600; 2038: 3,650; 2039: 3,700; 2040: 3,750; 2041: 3,800; 2042: 3,850; 2043: 3,900; 2044: 3,950; 2045: 4,000	3	Stop-Controlled	0	0		false						

Table 3. Predicted Highway Crash Rates and Frequencies Summary (Section 1)

First Year of Analysis	2025
Last Year of Analysis	2045
Evaluated Length (mi)	2.2931
Average Future Road AADT (vpd)	36,500
Predicted Crashes	
Total Crashes	1,917.14
Fatal and Injury Crashes	623.63
Property-Damage-Only Crashes	1,293.51
Percent of Total Predicted Crashes	
Percent Fatal and Injury Crashes (%)	33
Percent Property-Damage-Only Crashes (%)	67
Predicted Crash Rate	
Crash Rate (crashes/mi/yr)	39.8122
FI Crash Rate (crashes/mi/yr)	12.9506
PDO Crash Rate (crashes/mi/yr)	26.8616
Predicted Travel Crash Rate	
Total Travel (million veh-mi)	641.54
Travel Crash Rate (crashes/million veh-mi)	2.99
Travel FI Crash Rate (crashes/million veh-mi)	0.97
Travel PDO Crash Rate (crashes/million veh-mi)	2.02

Table 4. Predicted Crash Frequencies and Rates by Highway Segment/Intersection (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location (Sta. ft)	End Location (Sta. ft)	Length (mi)	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Crash Rate (crashes/mi/yr)	Predicted Travel Crash Rate (crashes/million veh-mi)	Predicted Intersection Travel Crash Rate (crashes/million veh)
1	1167+00.000	1168+72.689	0.0327	10.498	0.4999	0.1404	0.3595	15.2840	1.15	
2	1168+72.689	1172+33.418	0.0683	41.081	1.9563	0.5612	1.3951	28.6337	2.15	
3	1172+33.418	1173+70.000	0.0259	8.303	0.3954	0.1111	0.2843	15.2840	1.15	
4	1173+70.000	1175+72.000	0.0383	9.022	0.4296	0.1219	0.3077	11.2300	0.84	
KY 54/Highland Pointe (v1)	1175+72.000			119.144	5.6735	2.0268	3.6467			0.37
5	1175+72.000	1177+72.000	0.0379	8.933	0.4254	0.1207	0.3046	11.2300	0.84	
6	1177+72.000	1181+79.876	0.0772	24.794	1.1807	0.3316	0.8490	15.2840	1.15	
7	1181+79.876	1185+13.753	0.0632	20.296	0.9665	0.2715	0.6950	15.2840	1.15	
KY 54/Hayden-Alvey (v1)	1182+54.000			121.638	5.7923	2.0647	3.7276			0.37
8	1185+13.753	1185+27.152	0.0025	0.815	0.0388	0.0109	0.0279	15.2840	1.15	
9	1185+27.152	1188+00.649	0.0518	16.625	0.7917	0.2224	0.5693	15.2840	1.15	
KY 54/Alvey park E (v1)	1186+48.000			105.950	5.0452	1.7853	3.2600			0.37
10	1188+00.649	1189+06.000	0.0200	6.404	0.3050	0.0857	0.2193	15.2840	1.15	
11	1189+06.000	1191+06.000	0.0379	8.933	0.4254	0.1207	0.3046	11.2300	0.84	
12	1191+06.000	1193+06.000	0.0379	8.933	0.4254	0.1207	0.3046	11.2300	0.84	
KY 54/Villa point (v1)	1191+12.000			121.828	5.8014	2.0665	3.7349			0.36
13	1193+06.000	1197+87.701	0.0912	29.282	1.3944	0.3917	1.0027	15.2840	1.15	
KY 54/Plaza Point (v1)	1194+86.000			121.786	5.7993	1.9708	3.8286			0.42
14	1197+87.701	1199+94.000	0.0391	12.541	0.5972	0.1677	0.4294	15.2840	1.15	
15	1199+94.000	1201+00.000	0.0201	4.734	0.2254	0.0640	0.1615	11.2300	0.84	
16	1201+00.000	1201+94.000	0.0178	4.577	0.2180	0.0619	0.1561	12.2438	0.92	
KY 54/Fairview (v1)	1201+94.000			167.668	7.9842	2.8219	5.1623			0.43
17	1201+94.000	1203+94.000	0.0379	9.739	0.4638	0.1316	0.3321	12.2438	0.92	
18	1203+94.000	1205+09.236	0.0218	7.449	0.3547	0.0996	0.2551	16.2526	1.22	
19	1205+09.236	1206+48.914	0.0265	9.029	0.4299	0.1208	0.3092	16.2526	1.22	
20	1206+48.914	1212+94.000	0.1222	41.699	1.9857	0.5578	1.4279	16.2526	1.22	
21	1212+94.000	1214+92.000	0.0375	9.642	0.4591	0.1303	0.3288	12.2438	0.92	

Segment Number/Intersection Name/Cross Road	Start Location (Sta. ft)	End Location (Sta. ft)	Length (mi)	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Crash Rate (crashes/mi/yr)	Predicted Travel Crash Rate (crashes/million veh-mi)	Predicted Intersection Travel Crash Rate (crashes/million veh)
KY 54/ Commonwealth (v1)	1214+92.000			152.361	7.2553	2.5950	4.6602			0.49
22	1214+92.000	1218+40.606	0.0660	22.534	1.0731	0.3014	0.7717	16.2526	1.22	
23	1218+40.606	1235+92.860(1)	0.3318	118.622	5.6487	1.5899	4.0587	17.0232	1.28	
KY 54/Ralph (v1)	1219+69.000			121.786	5.7993	1.9708	3.8286			0.42
24	1235+92.860(1)	1259+74.234(1)	0.4510	171.031	8.1443	2.2981	5.8462	18.0576	1.35	
25	1259+74.234(1)	1259+93.592(1)	0.0037	0.943	0.0449	0.0127	0.0321	12.2438	0.92	
26	1259+93.592(1)	1264+74.234(1)	0.0910	23.406	1.1146	0.3163	0.7982	12.2438	0.92	
KY 54/ KY 1456 (v1)	1264+74.234(1)			141.479	6.7371	2.3963	4.3408			0.42
27	1264+74.234(1)	1271+50.904(1)	0.1282	32.952	1.5691	0.4454	1.1238	12.2438	0.92	
28	1271+50.904(1)	1288+07.657(1)	0.3138	80.679	3.8419	1.0904	2.7514	12.2438	0.92	
All Segments			2.2931	743.496	35.4046	9.9985	25.4061	15.4398	1.16	
All Intersections				1,173.641	55.8877	19.6981	36.1896			0.40
Total			2.2931	1,917.137	91.2922	29.6966	61.5956	39.8122		

Table 5. Predicted Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location (Sta. ft)	End Location (Sta. ft)	Length (mi)	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Crash Rate (crashes/mi/yr)	Predicted Travel Crash Rate (crashes/million veh-mi)
Tangent	1167+00.000	1168+72.689	0.0327	10.498	0.4999	0.1404	0.3595	15.2840	1.15
Simple Curve 1	1168+72.689	1172+33.418	0.0683	41.081	1.9563	0.5612	1.3951	28.6337	2.15
Tangent	1172+33.418	1181+79.876	0.1793	51.052	2.4310	0.6854	1.7457	13.5621	1.02
Simple Curve 2	1181+79.876	1185+13.753	0.0632	20.296	0.9665	0.2715	0.6950	15.2840	1.15
Tangent	1185+13.753	1185+27.152	0.0025	0.815	0.0388	0.0109	0.0279	15.2840	1.15
Simple Curve 3	1185+27.152	1188+00.649	0.0518	16.625	0.7917	0.2224	0.5693	15.2840	1.15
Tangent	1188+00.649	1197+87.701	0.1869	53.552	2.5501	0.7188	1.8313	13.6411	1.02
Simple Curve 4	1197+87.701	1205+09.236	0.1367	39.041	1.8591	0.5249	1.3342	13.6044	1.02
Simple Curve 5	1205+09.236	1206+48.914	0.0265	9.029	0.4299	0.1208	0.3092	16.2526	1.22
Tangent	1206+48.914	1218+40.606	0.2257	73.876	3.5179	0.9895	2.5284	15.5866	1.17
Simple Curve 6	1218+40.606	1235+92.860(1)	0.3318	118.622	5.6487	1.5899	4.0587	17.0232	1.28
Tangent	1235+92.860(1)	1259+93.592(1)	0.4547	171.973	8.1892	2.3108	5.8784	18.0108	1.35
Simple Curve 7	1259+93.592(1)	1271+50.904(1)	0.2192	56.358	2.6837	0.7617	1.9220	12.2438	0.92
Tangent	1271+50.904(1)	1288+07.657(1)	0.3138	80.679	3.8419	1.0904	2.7514	12.2438	0.92

Table 6. Predicted Crash Frequencies by Year (Section 1)

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2025	68.83	22.35	32.472	46.48	67.528
2026	70.99	23.06	32.477	47.94	67.523
2027	73.17	23.77	32.483	49.40	67.517
2028	75.36	24.48	32.488	50.88	67.512
2029	77.56	25.20	32.493	52.36	67.507
2030	79.78	25.93	32.498	53.85	67.502
2031	82.01	26.66	32.503	55.35	67.497
2032	84.25	27.39	32.509	56.86	67.491
2033	86.51	28.13	32.514	58.38	67.486
2034	88.78	28.87	32.519	59.91	67.481
2035	91.06	29.62	32.525	61.44	67.475
2036	93.35	30.37	32.530	62.98	67.470
2037	95.66	31.12	32.535	64.54	67.465
2038	97.98	31.88	32.540	66.10	67.460
2039	100.31	32.65	32.545	67.67	67.454
2040	102.66	33.42	32.551	69.24	67.449
2041	105.02	34.19	32.556	70.83	67.444
2042	107.38	34.97	32.561	72.42	67.439
2043	109.77	35.75	32.566	74.02	67.434
2044	112.16	36.53	32.571	75.63	67.429
2045	114.56	37.32	32.576	77.24	67.424
Total	1,917.14	623.63	32.529	1,293.51	67.471
Average	91.29	29.70	32.529	61.60	67.471

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Predicted Five Lane or Fewer Crash Type Distribution (Section 1)

Element Type	Crash Type	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)	Total Crashes	Percent Total (%)
Highway Segment	Collision with Animal	0.25	0.0	2.81	0.1	3.06	0.2
Highway Segment	Collision with Bicycle	6.67	0.3	0.00	0.0	6.67	0.3
Highway Segment	Collision with Fixed Object	9.66	0.5	61.31	3.2	70.98	3.7
Highway Segment	Collision with Other Object	0.20	0.0	4.10	0.2	4.30	0.2
Highway Segment	Other Single-vehicle Collision	10.94	0.6	10.45	0.5	21.39	1.1
Highway Segment	Collision with Pedestrian	13.82	0.7	0.00	0.0	13.82	0.7
Highway Segment	Total Single Vehicle Crashes	41.54	2.2	78.68	4.1	120.22	6.3
Highway Segment	Angle Collision	14.33	0.7	33.85	1.8	48.19	2.5
Highway Segment	Driveway-related Collision	10.82	0.6	29.39	1.5	40.21	2.1
Highway Segment	Head-on Collision	6.07	0.3	1.70	0.1	7.77	0.4
Highway Segment	Other Multi-vehicle Collision	4.71	0.2	18.62	1.0	23.33	1.2
Highway Segment	Rear-end Collision	116.83	6.1	259.10	13.5	375.93	19.6
Highway Segment	Sideswipe, Opposite Direction Collision	4.47	0.2	6.54	0.3	11.01	0.6
Highway Segment	Sideswipe, Same Direction Collision	11.19	0.6	105.64	5.5	116.83	6.1
Highway Segment	Total Multiple Vehicle Crashes	168.43	8.8	454.85	23.7	623.28	32.5
Highway Segment	Total Highway Segment Crashes	209.97	11.0	533.53	27.8	743.50	38.8
Intersection	Collision with Animal	0.04	0.0	0.35	0.0	0.39	0.0
Intersection	Collision with Bicycle	17.54	0.9	0.00	0.0	17.54	0.9
Intersection	Collision with Fixed Object	11.70	0.6	40.16	2.1	51.86	2.7
Intersection	Non-Collision	1.96	0.1	1.53	0.1	3.48	0.2
Intersection	Collision with Other Object	1.24	0.1	3.63	0.2	4.87	0.3
Intersection	Other Single-vehicle Collision	0.62	0.0	1.08	0.1	1.69	0.1
Intersection	Collision with Parked Vehicle	0.02	0.0	0.08	0.0	0.10	0.0
Intersection	Collision with Pedestrian	9.18	0.5	0.00	0.0	9.18	0.5
Intersection	Total Intersection Single Vehicle Crashes	42.29	2.2	46.82	2.4	89.11	4.6

Element Type	Crash Type	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)	Total Crashes	Percent Total (%)
Intersection	Angle Collision	128.46	6.7	177.85	9.3	306.31	16.0
Intersection	Head-on Collision	17.79	0.9	19.90	1.0	37.70	2.0
Intersection	Other Multi-vehicle Collision	21.44	1.1	155.59	8.1	177.03	9.2
Intersection	Rear-end Collision	164.18	8.6	335.29	17.5	499.47	26.1
Intersection	Sideswipe	39.50	2.1	24.53	1.3	64.03	3.3
Intersection	Total Intersection Multiple Vehicle Crashes	371.37	19.4	713.16	37.2	1,084.53	56.6
Intersection	Total Intersection Crashes	413.66	21.6	759.98	39.6	1,173.64	61.2
	Total Crashes	623.63	32.5	1,293.51	67.5	1,917.14	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

July 7, 2021

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Report Overview

Report Generated: Jul 7, 2021 9:25 AM

Report Template: System: Multi-Page, 508 Compliant [System] (mlcpm4, Jun 10, 2021 3:20 PM)

Evaluation Date: Wed Jun 23 13:35:19 EDT 2021

IHSDM Version: v16.0.0 (Sep 30, 2020)

Crash Prediction Module: v11.0.0 (Sep 30, 2020)

User Name: ahedges

Organization Name: HDR

Phone: 859.629.4872

E-Mail: adam.hedges@hdrinc.com

Project Title: KY 54_Build

Project Comment: Created Tue Jun 15 00:40:18 EDT 2021

Project Unit System: U.S. Customary

Highway Title: Alignment KY 54

Highway Comment: Imported from KY 54.xml

Highway Version: 3

Evaluation Title: Evaluation 4

Evaluation Comment: Created Wed Jun 23 13:33:20 EDT 2021

Minimum Location: 1167+00.000

Maximum Location: 1288+07.657(1)

Policy for Superelevation: AASHTO 2011 U.S. Customary

Calibration: HSM Configuration

Crash Distribution: HSM Configuration

Model/CMF: HSM Configuration

First Year of Analysis: 2025

Last Year of Analysis: 2045

Empirical-Bayes Analysis: None

First Year of Observed Crashes:

Last Year of Observed Crashes:

Disclaimer Regarding Crash Prediction Method

IMPORTANT NOTICE ABOUT COMPARING RESULTS FROM HIGHWAY SAFETY MANUAL FIRST EDITION (2010) MODELS TO RESULTS FROM NEW MODELS DEVELOPED UNDER NCHRP PROJECTS 17-70 AND 17-58

Since the publication of the Highway Safety Manual - First Edition (HSM-1), in 2010 by the American Association of State Highway and Transportation Officials (AASHTO), multiple research efforts have been undertaken through the National Cooperative Highway Research Program (NCHRP) to develop safety performance models for road segment and intersection facility types that were not initially reflected in the HSM-1, in order to expand the breadth and depth of the HSM in the future.

The IHSDM Crash Prediction Module (CPM) is intended as a faithful implementation of HSM Part C predictive methods. As NCHRP projects to develop new predictive methods for the HSM are completed, FHWA works to incorporate the new methods into IHSDM, sometimes in advance of publication in the HSM. The following new crash predictive methods have been accepted by NCHRP project panels and incorporated into IHSDM, while pending AASHTO's approval for incorporation into a future edition of the HSM:

- Roundabouts: completed in 2018 under NCHRP Project 17-70, the new methods will provide improved outcomes for the safety analysis of roundabouts.
- 6+ lane and one-way urban/suburban arterials (including models for segments and intersections): completed under NCHRP Project 17-58.

However, in the absence of local calibration factors (see HSM-1 Part C, Appendix A for guidance on calibration of the predictive models), it is neither appropriate nor advisable to directly compare the results from new models (from NCHRP Projects 17-58 and 17-70) to results from HSM-1 models, as the models were not calibrated to the same base state data sets, and consequently can produce unexpected results. If local calibration factors are available and applied to both new models and HSM-1 models, then it may be appropriate to directly compare the results. [Note: Work being performed under NCHRP Project 17-72 (Update of Crash Modification Factors for the Highway Safety Manual) is expected to re-calibrate many of the old (HSM-1) and new (e.g., NCHRP 17-70) models to data from a single (or small number of) states, that would allow results from all models to be directly compared.]

The models produced for NCHRP Project 17-70 have independent value in terms of informing the design of a roundabout and assessing the effects of different design characteristics on the expected safety performance of a roundabout.

The HSM-1 interim method previously included in IHSDM for evaluating roundabouts on urban/suburban arterials (i.e., evaluating an existing intersection and then applying a Crash Modification Factor for replacing the existing intersection with a roundabout) has been deactivated in IHSDM, to minimize any confusion with the new roundabout methodology.

Section Types

Section 1 Evaluation

Section: Section 1

Evaluation Start Location: 1167+00.000

Evaluation End Location: 1288+07.657(1)

Area Type: Suburban

Functional Class: Arterial

Type of Alignment: Undivided, Multilane

Model Category: Urban/Suburban Arterial

Calibration Factor: 4D=1.0; 4SG=1.0; 4U=1.0; 5T=1.0; 6D=1.0; 6U=1.0; 7T=1.0;

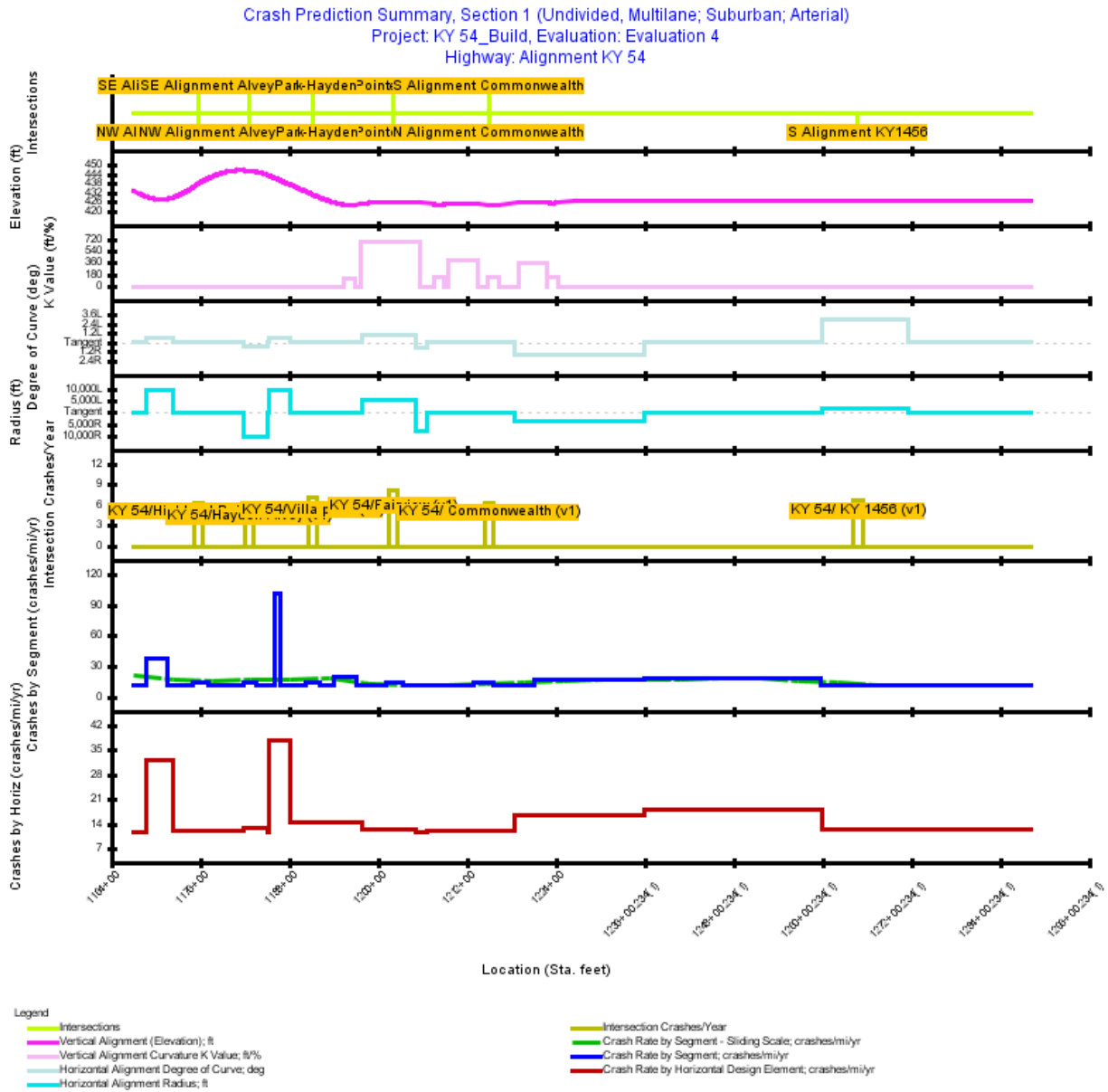


Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location (Sta. ft)	End Location (Sta. ft)	Length (ft)	Length (mi)	AAADT	Number Major Commercial Driveways	Number Minor Commercial Driveways	Number Major Industrial/Institutional	Number Minor Industrial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Offset (ft)	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	Urban/Suburban Arterial Segment Six-lane Divided	1167+00.000	1168+72.689	172.69	0.0327	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	17.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
2	Urban/Suburban Arterial Segment Six-lane Divided	1168+72.689	1171+60.000	287.31	0.0544	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2	0	0	0	0	0	0	true	false	15.00	10.0	17.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
3	Urban/Suburban Arterial Segment Six-lane Divided	1171+60.000	1171+79.000	19.00	0.0036	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	15.96	Non-Traversable Median	15.96	Intermediate/High	0	2.50	11.00
4	Urban/Suburban Arterial Segment Six-lane Divided	1171+79.000	1172+33.418	54.42	0.0103	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	11.92	Non-Traversable Median	11.92	Intermediate/High	0	2.50	11.00
5	Urban/Suburban Arterial Segment Six-lane Divided	1172+33.418	1172+60.000	26.58	0.0050	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	7.46	Non-Traversable Median	7.46	Intermediate/High	0	2.50	11.00
6	Urban/Suburban Arterial Segment Six-lane Divided	1172+60.000	1172+80.000	20.00	0.0038	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	6.00	Non-Traversable Median	6.00	Intermediate/High	0	2.50	11.00
7	Urban/Suburban Arterial Segment Six-lane Divided	1172+80.000	1175+00.000	220.00	0.0417	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
8	Urban/Suburban Arterial Segment Six-lane Undivided	1175+00.000	1175+72.000	72.00	0.0136	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
9	Urban/Suburban Arterial Segment Six-lane Undivided	1175+72.000	1177+00.000	128.00	0.0242	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
10	Urban/Suburban Arterial Segment Six-lane Divided	1177+00.000	1178+20.000	120.00	0.0227	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
11	Urban/Suburban Arterial Segment Six-lane Divided	1178+20.000	1181+80.000	360.00	0.0682	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	6.00	Non-Traversable Median	6.00	Intermediate/High	0	2.50	11.00

Seq. No.	Type	Start Location (Sta. ft)	End Location (Sta. ft)	Length (ft)	Length (mi)	AADT	Number Major Commercial Driveways	Number Minor Commercial Driveways	Number Major Industrial/Institutional	Number Minor Industrial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Offset (ft)	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
12	Urban/Suburban Arterial Segment Six-lane Undivided	1181+80.000	1182+60.000	80.00	0.0152	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00
13	Urban/Suburban Arterial Segment Six-lane Undivided	1182+60.000	1183+45.000	85.00	0.0161	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00
14	Urban/Suburban Arterial Segment Six-lane Divided	1183+45.000	1185+13.753	168.75	0.0320	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
15	Urban/Suburban Arterial Segment Six-lane Divided	1185+13.753	1185+27.152	13.40	0.0025	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
16	Urban/Suburban Arterial Segment Six-lane Divided	1185+27.152	1186+00.000	72.85	0.0138	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
17	Urban/Suburban Arterial Segment Six-lane Divided	1186+00.000	1186+80.000	80.00	0.0152	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	1	0	0	0	0	0	0	true	false	15.00	10.00	6.00	Non-Traversable Median	6.00	Intermediate/High	0	2.50	11.00
18	Urban/Suburban Arterial Segment Six-lane Divided	1186+80.000	1188+00.649	120.65	0.0229	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	6.00	Non-Traversable Median	28.00	Intermediate/High	0	2.50	11.00
19	Urban/Suburban Arterial Segment Six-lane Divided	1188+00.649	1190+20.000	219.35	0.0415	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	6.00	Non-Traversable Median	28.00	Intermediate/High	0	2.50	11.00
20	Urban/Suburban Arterial Segment Six-lane Undivided	1190+20.000	1191+00.000	80.00	0.0152	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00
21	Urban/Suburban Arterial Segment Six-lane Undivided	1191+00.000	1191+06.000	6.00	0.0011	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00
22	Urban/Suburban Arterial Segment Six-lane Undivided	1191+06.000	1192+00.000	94.00	0.0178	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00
23	Urban/Suburban Arterial Segment Six-lane Divided	1192+00.000	1194+00.000	200.00	0.0379	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.00	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00

Segment No.	Type	Start Location (Station)	End Location (Station)	Length (ft)	Length (mi)	AADT	Number Major Commercial Driveways	Number Minor Commercial Driveways	Number Major Industrial/Institutional	Number Minor Industrial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Offset (ft)	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
24	Urban/Suburban Arterial Segment Six-lane Divided	1194+00.000	1197+00.000	300.00	0.0568	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	1	0	0	0	0	0	0	true	false	15.00	10.0	6.00	Non-Traversable Median	6.00	Intermediate/High	0	2.50	11.00
25	Urban/Suburban Arterial Segment Six-lane Divided	1197+00.000	1197+87.701	87.70	0.0166	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
26	Urban/Suburban Arterial Segment Six-lane Divided	1197+87.701	1201+00.000	312.30	0.0591	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	true	false	15.00	10.0	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
27	Urban/Suburban Arterial Segment Six-lane Undivided	1201+00.000	1201+94.000	94.00	0.0178	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false	0.0	0.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00
28	Urban/Suburban Arterial Segment Six-lane Undivided	1201+94.000	1203+30.000	136.00	0.0258	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false	0.0	0.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00
29	Urban/Suburban Arterial Segment Six-lane Divided	1203+30.000	1205+09.236	179.24	0.0339	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false	0.0	6.00	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
30	Urban/Suburban Arterial Segment Six-lane Divided	1205+09.236	1205+40.000	30.76	0.0058	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false	0.0	6.00	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
31	Urban/Suburban Arterial Segment Six-lane Divided	1205+40.000	1206+48.914	108.91	0.0206	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false	0.0	6.00	6.00	Non-Traversable Median	6.00	Intermediate/High	0	2.50	11.00
32	Urban/Suburban Arterial Segment Six-lane Divided	1206+48.914	1206+80.000	31.09	0.0059	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false	0.0	6.00	6.00	Non-Traversable Median	6.00	Intermediate/High	0	2.50	11.00
33	Urban/Suburban Arterial Segment Seven-lane including center TWLTL	1206+80.000	1212+00.000	520.00	0.0985	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false	0.0	0.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00
34	Urban/Suburban Arterial Segment Seven-lane including center TWLTL	1212+00.000	1212+94.000	94.00	0.0178	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	1	0	0	0	0	0	0	false	false	0.0	0.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00
35	Urban/Suburban Arterial Segment Six-lane Undivided	1212+94.000	1214+92.000	198.00	0.0375	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false	0.0	0.00	0.00	None	0.00	Intermediate/High	0	2.50	11.00

Seq. No.	Type	Start Location (Sta. ft)	End Location (Sta. ft)	Length (ft)	Length (mi)	AADT	Number Major Commercial Driveways	Number Minor Commercial Driveways	Number Major Industrial/Institutional	Number Minor Industrial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Offset (ft)	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
36	Urban/Suburban Arterial Segment Six-lane Undivided	1214+92.000	1215+60.000	68.00	0.0129	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
37	Urban/Suburban Arterial Segment Six-lane Divided	1215+60.000	1217+00.000	140.00	0.0265	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	6.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
38	Urban/Suburban Arterial Segment Six-lane Divided	1217+00.000	1217+82.000	82.00	0.0155	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	10.50	Non-Traversable Median	10.51	Intermediate/High	0	2.50	11.00
39	Urban/Suburban Arterial Segment Six-lane Divided	1217+82.000	1218+00.000	18.00	0.0034	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	16.00	Non-Traversable Median	16.01	Intermediate/High	0	2.50	11.00
40	Urban/Suburban Arterial Segment Six-lane Divided	1218+00.000	1218+40.606	40.61	0.0077	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	17.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
41	Urban/Suburban Arterial Segment Six-lane Divided	1218+40.606	1219+40.000	99.39	0.0188	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	17.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
42	Urban/Suburban Arterial Segment Four-lane Divided	1219+40.000	1221+00.000	160.00	0.0303	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	1	0	0	0	0	0	0	false	false		0.0	17.00	Non-Traversable Median	17.00	Intermediate/High	0	2.50	11.00
43	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1221+00.000	1235+92.860(1)	1492.63	0.2827	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	1	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
44	Urban/Suburban Arterial Segment Five-lane including center TWLTL	1235+92.860(1)	1259+74.234(1)	2381.37	0.4510	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	3	1	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
45	Urban/Suburban Arterial Segment Four-lane Undivided	1259+74.234(1)	1259+93.592(1)	19.36	0.0037	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
46	Urban/Suburban Arterial Segment Four-lane Undivided	1259+93.592(1)	1264+74.234(1)	480.64	0.0910	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
47	Urban/Suburban Arterial Segment Four-lane Undivided	1264+74.234(1)	1271+50.904(1)	676.67	0.1282	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00

Seg. No.	Type	Start Location (Sta. ft)	End Location (Sta. ft)	Length (ft)	Length (mi)	AADT	Number Major Commercial Driveways	Number Minor Commercial Driveways	Number Major Industrial/Institutional	Number Minor Industrial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Offset (ft)	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
48	Urban/Suburban Arterial Segment Four-lane Undivided	1271+50.904 (1)	1288+07.657 (1)	1,656.75	0.3138	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	0	0	0	0	0	0	0	false	false		0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Type	Location (Sta. ft)	Major AADT	Minor AADT	Legs	Traffic Control	Approach es w/Left Turn Lanes	Approach es w/Right Turn Lanes	Approach es w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Near by	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed
1	KY 54/ KY 1456 (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1264+74.234(1)	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 5,900; 2026: 6,105; 2027: 6,310; 2028: 6,515; 2029: 6,720; 2030: 6,925; 2031: 7,130; 2032: 7,335; 2033: 7,540; 2034: 7,745; 2035: 7,950; 2036: 8,155; 2037: 8,360; 2038: 8,565; 2039: 8,770; 2040: 8,975; 2041: 9,180; 2042: 9,385; 2043: 9,590; 2044: 9,795; 2045: 10,000	4	Signalized	3	1	0	20	false	false	false	0	0	6
2	KY 54/Highland Pointe (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1175+72.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 4,100; 2026: 4,250; 2027: 4,400; 2028: 4,550; 2029: 4,700; 2030: 4,850; 2031: 5,000; 2032: 5,150; 2033: 5,300; 2034: 5,450; 2035: 5,600; 2036: 5,750; 2037: 5,900; 2038: 6,050; 2039: 6,200; 2040: 6,350; 2041: 6,500; 2042: 6,650; 2043: 6,800; 2044: 6,950; 2045: 7,100	4	Signalized	4	2	0	20	false	false	false	0	0	8
3	KY 54/Hayden-Alvey (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1182+54.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 5,500; 2026: 5,675; 2027: 5,850; 2028: 6,025; 2029: 6,200; 2030: 6,375; 2031: 6,550; 2032: 6,725; 2033: 6,900; 2034: 7,075; 2035: 7,250; 2036: 7,425; 2037: 7,600; 2038: 7,775; 2039: 7,950; 2040: 8,125; 2041: 8,300; 2042: 8,475; 2043: 8,650; 2044: 8,825; 2045: 9,000	4	Signalized	3	2	0	20	false	false	false	0	0	8
4	KY 54/Villa point (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1191+12.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 6,400; 2026: 6,600; 2027: 6,800; 2028: 7,000; 2029: 7,200; 2030: 7,400; 2031: 7,600; 2032: 7,800; 2033: 8,000; 2034: 8,200; 2035: 8,400; 2036: 8,600; 2037: 8,800; 2038: 9,000; 2039: 9,200; 2040: 9,400; 2041: 9,600; 2042: 9,800; 2043: 10,000; 2044: 10,200; 2045: 10,400	4	Signalized	4	2	0	20	false	false	false	0	0	8
5	KY 54/Fairview (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1201+94.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 10,200; 2026: 10,565; 2027: 10,930; 2028: 11,295; 2029: 11,660; 2030: 12,025; 2031: 12,390; 2032: 12,755; 2033: 13,120; 2034: 13,485; 2035: 13,850; 2036: 14,215; 2037: 14,580; 2038: 14,945; 2039: 15,310; 2040: 15,675; 2041: 16,040; 2042: 16,405; 2043: 16,770; 2044: 17,135; 2045: 17,500	4	Signalized	3	3	0	20	false	false	false	0	0	8
6	KY 54/Commonwealth (v1)	Urban/Suburban Arterial Intersection Four-Legged Signalized	1214+92.000	2025: 29,300; 2026: 30,020; 2027: 30,740; 2028: 31,460; 2029: 32,180; 2030: 32,900; 2031: 33,620; 2032: 34,340; 2033: 35,060; 2034: 35,780; 2035: 36,500; 2036: 37,220; 2037: 37,940; 2038: 38,660; 2039: 39,380; 2040: 40,100; 2041: 40,820; 2042: 41,540; 2043: 42,260; 2044: 42,980; 2045: 43,700	2025: 4,300; 2026: 4,415; 2027: 4,530; 2028: 4,645; 2029: 4,760; 2030: 4,875; 2031: 4,990; 2032: 5,105; 2033: 5,220; 2034: 5,335; 2035: 5,450; 2036: 5,565; 2037: 5,680; 2038: 5,795; 2039: 5,910; 2040: 6,025; 2041: 6,140; 2042: 6,255; 2043: 6,370; 2044: 6,485; 2045: 6,600	4	Signalized	3	1	0	20	false	false	false	0	0	8

Table 3. Predicted Highway Crash Rates and Frequencies Summary (Section 1)

First Year of Analysis	2025
Last Year of Analysis	2045
Evaluated Length (mi)	2.2931
Average Future Road AADT (vpd)	36,500
Predicted Crashes	
Total Crashes	1,570.24
Fatal and Injury Crashes	666.08
Property-Damage-Only Crashes	904.16
Percent of Total Predicted Crashes	
Percent Fatal and Injury Crashes (%)	42
Percent Property-Damage-Only Crashes (%)	58
Predicted Crash Rate	
Crash Rate (crashes/mi/yr)	32.6084
FI Crash Rate (crashes/mi/yr)	13.8322
PDO Crash Rate (crashes/mi/yr)	18.7762
Predicted Travel Crash Rate	
Total Travel (million veh-mi)	641.54
Travel Crash Rate (crashes/million veh-mi)	2.45
Travel FI Crash Rate (crashes/million veh-mi)	1.04
Travel PDO Crash Rate (crashes/million veh-mi)	1.41

Table 4. Predicted Crash Frequencies and Rates by Highway Segment/Intersection (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location (Sta. ft)	End Location (Sta. ft)	Length (mi)	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Crash Rate (crashes/mi/yr)	Predicted Travel Crash Rate (crashes/million veh-mi)	Predicted Intersection Travel Crash Rate (crashes/million veh)
1	1167+00.000	1168+72.689	0.0327	7.878	0.3751	0.1532	0.2219	11.4696	0.86	
2	1168+72.689	1171+60.000	0.0544	42.895	2.0426	0.8242	1.2184	37.5380	2.82	
3	1171+60.000	1171+79.000	0.0036	0.867	0.0413	0.0169	0.0244	11.4696	0.86	
4	1171+79.000	1172+33.418	0.0103	2.482	0.1182	0.0483	0.0699	11.4696	0.86	
5	1172+33.418	1172+60.000	0.0050	1.213	0.0577	0.0236	0.0342	11.4696	0.86	
6	1172+60.000	1172+80.000	0.0038	0.912	0.0434	0.0177	0.0257	11.4696	0.86	
7	1172+80.000	1175+00.000	0.0417	10.036	0.4779	0.1952	0.2827	11.4696	0.86	
8	1175+00.000	1175+72.000	0.0136	4.011	0.1910	0.0764	0.1146	14.0048	1.05	
KY 54/Highland Pointe (v1)	1175+72.000			133.649	6.3643	3.3830	2.9812			0.41
9	1175+72.000	1177+00.000	0.0242	7.130	0.3395	0.1358	0.2037	14.0048	1.05	
10	1177+00.000	1178+20.000	0.0227	5.474	0.2607	0.1064	0.1542	11.4696	0.86	
11	1178+20.000	1181+80.000	0.0682	16.422	0.7820	0.3193	0.4627	11.4696	0.86	
12	1181+80.000	1182+60.000	0.0152	4.456	0.2122	0.0849	0.1273	14.0048	1.05	
KY 54/Hayden-Alvey (v1)	1182+54.000			106.123	5.0535	2.6885	2.3650			0.32
13	1182+60.000	1183+45.000	0.0161	4.735	0.2255	0.0902	0.1353	14.0048	1.05	
14	1183+45.000	1185+13.753	0.0320	7.698	0.3666	0.1497	0.2169	11.4696	0.86	
15	1185+13.753	1185+27.152	0.0025	0.611	0.0291	0.0119	0.0172	11.4696	0.86	
16	1185+27.152	1186+00.000	0.0138	3.323	0.1582	0.0646	0.0936	11.4696	0.86	
17	1186+00.000	1186+80.000	0.0152	32.380	1.5419	0.6201	0.9218	101.7657	7.64	
18	1186+80.000	1188+00.649	0.0229	5.504	0.2621	0.1070	0.1551	11.4696	0.86	
19	1188+00.649	1190+20.000	0.0415	10.006	0.4765	0.1946	0.2819	11.4696	0.86	
20	1190+20.000	1191+00.000	0.0152	4.456	0.2122	0.0849	0.1273	14.0048	1.05	
21	1191+00.000	1191+06.000	0.0011	0.334	0.0159	0.0064	0.0095	14.0048	1.05	
22	1191+06.000	1192+00.000	0.0178	5.236	0.2493	0.0997	0.1496	14.0048	1.05	
KY 54/Villa point (v1)	1191+12.000			149.176	7.1036	3.7761	3.3275			0.43
23	1192+00.000	1194+00.000	0.0379	9.124	0.4345	0.1774	0.2570	11.4696	0.86	
24	1194+00.000	1197+00.000	0.0568	23.795	1.1331	0.4593	0.6738	19.9426	1.50	

Segment Number/Intersection Name/Cross Road	Start Location (Sta. ft)	End Location (Sta. ft)	Length (mi)	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Crash Rate (crashes/mi/yr)	Predicted Travel Crash Rate (crashes/million veh-mi)	Predicted Intersection Travel Crash Rate (crashes/million veh)
25	1197+00.000	1197+87.701	0.0166	4.001	0.1905	0.0778	0.1127	11.4696	0.86	
26	1197+87.701	1201+00.000	0.0591	14.246	0.6784	0.2770	0.4014	11.4696	0.86	
27	1201+00.000	1201+94.000	0.0178	5.230	0.2490	0.0996	0.1494	13.9880	1.05	
KY 54/Fairview (v1)	1201+94.000			170.705	8.1288	4.3216	3.8072			0.44
28	1201+94.000	1203+30.000	0.0258	7.566	0.3603	0.1441	0.2162	13.9880	1.05	
29	1203+30.000	1205+09.236	0.0339	8.161	0.3886	0.1587	0.2300	11.4486	0.86	
30	1205+09.236	1205+40.000	0.0058	1.401	0.0667	0.0272	0.0395	11.4486	0.86	
31	1205+40.000	1206+48.914	0.0206	4.959	0.2362	0.0964	0.1397	11.4486	0.86	
32	1206+48.914	1206+80.000	0.0059	1.415	0.0674	0.0275	0.0399	11.4486	0.86	
33	1206+80.000	1212+00.000	0.0985	24.021	1.1439	0.4864	0.6575	11.6146	0.87	
34	1212+00.000	1212+94.000	0.0178	4.342	0.2068	0.0879	0.1189	11.6146	0.87	
35	1212+94.000	1214+92.000	0.0375	11.016	0.5246	0.2098	0.3148	13.9880	1.05	
KY 54/ Commonwealth (v1)	1214+92.000			132.759	6.3219	3.3603	2.9615			0.41
36	1214+92.000	1215+60.000	0.0129	3.783	0.1801	0.0720	0.1081	13.9880	1.05	
37	1215+60.000	1217+00.000	0.0265	6.375	0.3036	0.1239	0.1796	11.4486	0.86	
38	1217+00.000	1217+82.000	0.0155	3.734	0.1778	0.0726	0.1052	11.4486	0.86	
39	1217+82.000	1218+00.000	0.0034	0.820	0.0390	0.0159	0.0231	11.4486	0.86	
40	1218+00.000	1218+40.606	0.0077	1.849	0.0880	0.0359	0.0521	11.4486	0.86	
41	1218+40.606	1219+40.000	0.0188	4.526	0.2155	0.0880	0.1275	11.4486	0.86	
42	1219+40.000	1221+00.000	0.0303	7.062	0.3363	0.0953	0.2410	11.0977	0.83	
43	1221+00.000	1235+92.860(1)	0.2827	101.855	4.8502	1.3656	3.4846	17.1571	1.29	
44	1235+92.860(1)	1259+74.234(1)	0.4510	171.031	8.1443	2.2981	5.8462	18.0576	1.35	
45	1259+74.234(1)	1259+93.592(1)	0.0037	0.943	0.0449	0.0127	0.0321	12.2438	0.92	
46	1259+93.592(1)	1264+74.234(1)	0.0910	23.406	1.1146	0.3163	0.7982	12.2438	0.92	
KY 54/ KY 1456 (v1)	1264+74.234(1)			141.479	6.7371	2.3963	4.3408			0.42
47	1264+74.234(1)	1271+50.904(1)	0.1282	32.952	1.5691	0.4454	1.1238	12.2438	0.92	
48	1271+50.904(1)	1288+07.657(1)	0.3138	80.679	3.8419	1.0904	2.7514	12.2438	0.92	
All Segments			2.2931	736.350	35.0643	11.7922	23.2720	15.2914	1.15	
All Intersections				833.893	39.7092	19.9259	19.7833			0.41

Segment Number/Intersection Name/Cross Road	Start Location (Sta. ft)	End Location (Sta. ft)	Length (mi)	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Crash Rate (crashes/mi/yr)	Predicted Travel Crash Rate (crashes/million veh-mi)	Predicted Intersection Travel Crash Rate (crashes/million veh)
Total			2.2931	1,570.242	74.7734	31.7181	43.0553	32.6084		

Table 5. Predicted Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location (Sta. ft)	End Location (Sta. ft)	Length (mi)	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Crash Rate (crashes/mi/yr)	Predicted Travel Crash Rate (crashes/million veh-mi)
Tangent	1167+00.000	1168+72.689	0.0327	7.878	0.3751	0.1532	0.2219	11.4696	0.86
Simple Curve 1	1168+72.689	1172+33.418	0.0683	46.244	2.2021	0.8893	1.3128	32.2323	2.42
Tangent	1172+33.418	1181+79.876	0.1793	45.192	2.1520	0.8743	1.2777	12.0053	0.90
Simple Curve 2	1181+79.876	1185+13.753	0.0632	16.895	0.8045	0.3248	0.4797	12.7225	0.95
Tangent	1185+13.753	1185+27.152	0.0025	0.611	0.0291	0.0119	0.0172	11.4696	0.86
Simple Curve 3	1185+27.152	1188+00.649	0.0518	41.207	1.9622	0.7917	1.1705	37.8819	2.84
Tangent	1188+00.649	1197+87.701	0.1869	56.952	2.7120	1.1001	1.6119	14.5072	1.09
Simple Curve 4	1197+87.701	1205+09.236	0.1367	35.204	1.6764	0.6794	0.9970	12.2672	0.92
Simple Curve 5	1205+09.236	1206+48.914	0.0265	6.360	0.3029	0.1236	0.1792	11.4486	0.86
Tangent	1206+48.914	1218+40.606	0.2257	57.355	2.7312	1.1320	1.5992	12.1010	0.91
Simple Curve 6	1218+40.606	1235+92.860(1)	0.3318	113.442	5.4020	1.5489	3.8531	16.2799	1.22
Tangent	1235+92.860(1)	1259+93.592(1)	0.4547	171.973	8.1892	2.3108	5.8784	18.0108	1.35
Simple Curve 7	1259+93.592(1)	1271+50.904(1)	0.2192	56.358	2.6837	0.7617	1.9220	12.2438	0.92
Tangent	1271+50.904(1)	1288+07.657(1)	0.3138	80.679	3.8419	1.0904	2.7514	12.2438	0.92

Table 6. Predicted Crash Frequencies by Year (Section 1)

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2025	60.80	25.94	42.660	34.86	57.340
2026	62.20	26.52	42.636	35.68	57.364
2027	63.59	27.10	42.613	36.49	57.387
2028	64.99	27.68	42.590	37.31	57.410
2029	66.39	28.26	42.567	38.13	57.433
2030	67.78	28.84	42.544	38.95	57.456
2031	69.18	29.42	42.521	39.77	57.479
2032	70.58	29.99	42.498	40.58	57.502
2033	71.97	30.57	42.475	41.40	57.525
2034	73.37	31.15	42.453	42.22	57.547
2035	74.77	31.73	42.431	43.04	57.569
2036	76.17	32.30	42.409	43.86	57.591
2037	77.56	32.88	42.387	44.69	57.613
2038	78.96	33.45	42.365	45.51	57.635
2039	80.36	34.03	42.344	46.33	57.656
2040	81.76	34.60	42.323	47.16	57.677
2041	83.16	35.18	42.302	47.98	57.698
2042	84.56	35.75	42.281	48.81	57.719
2043	85.96	36.33	42.260	49.63	57.740
2044	87.36	36.90	42.240	50.46	57.760
2045	88.77	37.48	42.219	51.29	57.781
Total	1,570.24	666.08	42.419	904.16	57.581
Average	74.77	31.72	42.419	43.05	57.581

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Predicted Crash Severity by Urban Arterial (Section 1)

Seg. No.	Type	Fatal (K) Crashes (crashes)	Incapacitating Injury (A) Crashes (crashes)	Non-Incapacitating Injury (B) Crashes (crashes)	Possible Injury (C) Crashes (crashes)	No Injury (O) Crashes (crashes)
1	USASegment	0.0599	0.2530	0.9836	1.9203	4.6608
2	USASegment	0.3225	1.3611	5.2924	10.3323	25.5869
3	USASegment	0.0066	0.0278	0.1082	0.2113	0.5128
4	USASegment	0.0189	0.0797	0.3100	0.6051	1.4687
5	USASegment	0.0092	0.0389	0.1514	0.2956	0.7174
6	USASegment	0.0069	0.0293	0.1139	0.2224	0.5398
7	USASegment	0.0764	0.3223	1.2531	2.4464	5.9377
8	USASegment	0.0392	0.1587	0.5063	0.8998	2.4065
2	USAIntersection	0.5293	5.1015	18.3613	47.0515	62.6060
9	USASegment	0.0697	0.2822	0.9001	1.5996	4.2783
10	USASegment	0.0416	0.1758	0.6835	1.3344	3.2388
11	USASegment	0.1249	0.5274	2.0506	4.0033	9.7163
12	USASegment	0.0435	0.1764	0.5626	0.9997	2.6739
3	USAIntersection	0.4810	4.6358	15.5571	35.7846	49.6649
13	USASegment	0.0463	0.1874	0.5977	1.0622	2.8410
14	USASegment	0.0586	0.2472	0.9612	1.8766	4.5546
15	USASegment	0.0047	0.0196	0.0763	0.1490	0.3616
16	USASegment	0.0253	0.1067	0.4149	0.8101	1.9661
17	USASegment	0.2426	1.0240	3.9817	7.7734	19.3582
18	USASegment	0.0419	0.1767	0.6872	1.3416	3.2563
19	USASegment	0.0761	0.3213	1.2494	2.4392	5.9202
20	USASegment	0.0435	0.1764	0.5626	0.9997	2.6739
21	USASegment	0.0033	0.0132	0.0422	0.0750	0.2005
22	USASegment	0.0511	0.2072	0.6610	1.1747	3.1419
4	USAIntersection	0.5908	5.6943	20.4949	52.5190	69.8770
23	USASegment	0.0694	0.2930	1.1392	2.2240	5.3979
24	USASegment	0.1797	0.7586	2.9496	5.7584	14.1490
25	USASegment	0.0304	0.1285	0.4995	0.9753	2.3670
26	USASegment	0.1084	0.4575	1.7789	3.4728	8.4288
27	USASegment	0.0511	0.2069	0.6601	1.1731	3.1384
5	USAIntersection	0.6761	6.5168	23.4555	60.1058	79.9510
28	USASegment	0.0739	0.2994	0.9550	1.6972	4.5407
29	USASegment	0.0621	0.2620	1.0189	1.9891	4.8294
30	USASegment	0.0107	0.0450	0.1749	0.3414	0.8289
31	USASegment	0.0377	0.1592	0.6191	1.2087	2.9346
32	USASegment	0.0108	0.0454	0.1767	0.3450	0.8376
33	USASegment	0.2495	1.0107	3.2241	5.7296	13.8071
34	USASegment	0.0451	0.1827	0.5828	1.0357	2.4959
35	USASegment	0.1076	0.4359	1.3904	2.4710	6.6107
6	USAIntersection	0.5257	5.0672	18.2381	46.7359	62.1925
36	USASegment	0.0370	0.1497	0.4775	0.8486	2.2703
37	USASegment	0.0485	0.2047	0.7958	1.5537	3.7722
38	USASegment	0.0284	0.1199	0.4661	0.9100	2.2094
39	USASegment	0.0062	0.0263	0.1023	0.1998	0.4850
40	USASegment	0.0141	0.0594	0.2308	0.4506	1.0941
41	USASegment	0.0344	0.1453	0.5650	1.1030	2.6781
All Segments		2.6176	10.9022	39.9567	76.0588	188.8875
All Intersections		2.8029	27.0156	96.1068	242.1967	324.2914
Total		5.4205	37.9177	136.0636	318.2555	513.1788

Table 8. Predicted Five Lane or Fewer Crash Type Distribution (Section 1)

Element Type	Crash Type	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)	Total Crashes	Percent Total (%)
Highway Segment	Collision with Animal	0.12	0.0	1.44	0.3	1.57	0.3
Highway Segment	Collision with Bicycle	3.47	0.6	0.00	0.0	3.47	0.6
Highway Segment	Collision with Fixed Object	5.56	1.0	34.29	6.1	39.85	7.1
Highway Segment	Collision with Other Object	0.12	0.0	2.18	0.4	2.30	0.4
Highway Segment	Other Single-vehicle Collision	5.93	1.1	5.92	1.1	11.85	2.1
Highway Segment	Collision with Pedestrian	7.42	1.3	0.00	0.0	7.42	1.3
Highway Segment	Total Single Vehicle Crashes	22.64	4.0	43.83	7.8	66.46	11.9
Highway Segment	Angle Collision	8.84	1.6	19.98	3.6	28.82	5.2
Highway Segment	Driveway-related Collision	6.37	1.1	17.20	3.1	23.56	4.2
Highway Segment	Head-on Collision	3.75	0.7	0.96	0.2	4.71	0.8
Highway Segment	Other Multi-vehicle Collision	2.92	0.5	11.35	2.0	14.26	2.5
Highway Segment	Rear-end Collision	64.12	11.5	143.32	25.6	207.44	37.1
Highway Segment	Sideswipe, Opposite Direction Collision	2.98	0.5	3.97	0.7	6.95	1.2
Highway Segment	Sideswipe, Same Direction Collision	6.50	1.2	59.23	10.6	65.72	11.7
Highway Segment	Total Multiple Vehicle Crashes	95.47	17.1	256.00	45.8	351.46	62.8
Highway Segment	Total Highway Segment Crashes	118.10	21.1	299.82	53.6	417.93	74.7
Intersection	Collision with Animal	0.00	0.0	0.01	0.0	0.01	0.0
Intersection	Collision with Bicycle	2.08	0.4	0.00	0.0	2.08	0.4
Intersection	Collision with Fixed Object	1.15	0.2	4.61	0.8	5.76	1.0
Intersection	Non-Collision	0.22	0.0	0.18	0.0	0.40	0.1
Intersection	Collision with Other Object	0.11	0.0	0.37	0.1	0.48	0.1
Intersection	Other Single-vehicle Collision	0.06	0.0	0.12	0.0	0.18	0.0
Intersection	Collision with Parked Vehicle	0.00	0.0	0.01	0.0	0.01	0.0
Intersection	Collision with Pedestrian	0.36	0.1	0.00	0.0	0.36	0.1
Intersection	Total Intersection Single Vehicle Crashes	4.00	0.7	5.29	0.9	9.29	1.7
Intersection	Angle Collision	16.07	2.9	20.95	3.7	37.03	6.6
Intersection	Head-on Collision	2.27	0.4	2.58	0.5	4.85	0.9
Intersection	Other Multi-vehicle Collision	2.55	0.5	18.12	3.2	20.66	3.7
Intersection	Rear-end Collision	20.85	3.7	41.47	7.4	62.32	11.1
Intersection	Sideswipe	4.59	0.8	2.75	0.5	7.33	1.3
Intersection	Total Intersection Multiple Vehicle Crashes	46.33	8.3	85.86	15.3	132.19	23.6
Intersection	Total Intersection Crashes	50.32	9.0	91.16	16.3	141.48	25.3
	Total Crashes	168.42	30.1	390.98	69.9	559.41	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 9. Predicted Six Lane or Greater Crash Type Distribution (Section 1)

Element Type	Crash Type	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)	Total Crashes	Percent Total (%)
Highway Segment	Angle Collision	10.07	1.0	13.22	1.3	23.29	2.3
Highway Segment	Head-on Collision	2.05	0.2	1.95	0.2	3.99	0.4
Highway Segment	Other Multi-vehicle Collision	3.45	0.3	6.06	0.6	9.51	0.9
Highway Segment	Rear-end Collision	83.49	8.3	101.88	10.1	185.38	18.3
Highway Segment	Sideswipe, Opposite Direction Collision	1.64	0.2	3.03	0.3	4.67	0.5
Highway Segment	Sideswipe, Same Direction Collision	9.34	0.9	46.44	4.6	55.77	5.5
Highway Segment	Total Segment Multiple Vehicle Crashes	110.04	10.9	172.58	17.1	282.62	28.0
Highway Segment	Collision with Bicycle	2.24	0.2	0.00	0.0	2.24	0.2
Highway Segment	Collision with Fixed Object Left Side	3.17	0.3	5.04	0.5	8.21	0.8
Highway Segment	Collision with Fixed Object Right Side	4.47	0.4	6.59	0.7	11.06	1.1
Highway Segment	Collision with Other Object	0.42	0.0	1.28	0.1	1.70	0.2
Highway Segment	Other Single-vehicle Collision	4.66	0.5	3.24	0.3	7.90	0.8
Highway Segment	Collision with Pedestrian	4.53	0.4	0.00	0.0	4.53	0.4
Highway Segment	Total Segment Single Vehicle Six Lanes or More Crashes	19.50	1.9	16.15	1.6	35.65	3.5
Highway Segment	Total Highway Segment Crashes	129.54	12.8	188.73	18.7	318.27	31.5
Intersection	Angle Collision	263.56	26.1	179.01	17.7	442.56	43.8
Intersection	Collision with Bicycle	12.87	1.3	0.00	0.0	12.87	1.3
Intersection	Head-on Collision	32.86	3.2	14.92	1.5	47.77	4.7
Intersection	Other Multi-vehicle Collision	10.24	1.0	7.13	0.7	17.38	1.7
Intersection	Other Single-vehicle Collision	4.24	0.4	19.78	2.0	24.02	2.4
Intersection	Collision with Pedestrian	1.96	0.2	0.00	0.0	1.96	0.2
Intersection	Rear-end Collision	29.32	2.9	47.99	4.7	77.32	7.6
Intersection	Sideswipe	13.43	1.3	55.45	5.5	68.88	6.8
Intersection	Total Intersection Total Vehicle Crashes	368.48	36.4	324.29	32.1	692.77	68.5
Intersection	Total Intersection Crashes	368.48	36.4	324.29	32.1	692.77	68.5
	Total Crashes	498.01	49.3	513.02	50.7	1,011.03	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

KY 54 Travel Time Analysis Supporting Material

Data

KYTC Design Project 02-8300.00 Traffic Volume and Projections

Analysis Methodology

The travel time benefits analysis is based on the comparison between the before (No-Build) and the after (Build) scenarios. The travel time analysis was conducted using Synchro/Simtraffic version 10 to analyze the operational conditions for opening and design year peak hour (AM and PM) volumes. The Synchro networks were developed based on the existing/No-Build and Build geometries for the study area corridor. The signal timings for the signalized intersections were assumed to be coordinated and were optimized to benefit the corridor as well as the individual movements as possible. It was assumed that the signal timings would change between opening and design year and that they would differ between No-Build and Build. Additionally, it was assumed that for safety purposes that the Build signal timing would feature protected-only phasing along KY 54 as turning vehicles would have to cross 3 or travel lanes, which can create safety issues. Models were then developed for No-Build future conditions for the opening (2025) and design (2045) year scenarios.

Traffic volumes were derived from the previously developed traffic forecast for the corridor. The traffic forecasts were developed in 2013, but the volume projections proved to be accurate for the latest traffic count information (2019) along the corridor. Based on that, the same growth factors were utilized, and the volumes were interpolated for opening year (assumed 2025) and extrapolated beyond the original horizon year (2040) for the design year (2045). The previous traffic forecast included daily segment volumes and peak (AM and PM) turning movements for No-Build and Build scenarios.

Simtraffic simulations were used to determine the peak hour travel times for both build year scenarios. These were developed from averaging 5 simulation runs with random seedings. The segments of the corridor were broken based on directionality and project segment (segment 1 and segment 2). The travel times between No-Build and Build were compared for the applicable peak and direction.

To generate daily travel time estimates, the volume weighted peak travel time reduction benefit was used as the standard or normalized benefit value. The daily volume was applied against the opening and design year ADT – generating hourly volumes for each hour of the day. As travel time benefits are anticipated to be primarily effective during peak periods, an exponential equation was developed based on the relationship of the assumed peak volume with the subject hourly volume and applied against the standard peak benefit value. This allowed for a distribution of the peak travel time benefits on a curved scale which reflected exponentially more benefit for hours of higher volume (daytime hours) than those with lower volume (evening, overnight, early morning hours). This did not negate benefits during lower volume hours as it assumes that the operations of a better-timed signal system will show some benefits even if the volume is not in a congested condition.

Results

The project will have a total saving of approximately 75,000 hours of travel time for 2025 and approximately 360,000 hours of travel time for 2045.

Avg Peak Vol **2145** Peak TT Savings Weighted Avg **-0.88**
 AADT **29300**
2025

Avg Peak Vol **2950** Savings Weighted Avg **-3.07**
 AADT **40300**
2045

Hour	% of Daily Vol	NoBuild TT (min)		Build TT (min)	TT Diff	Speed			VHT Benefit	Hour	Volume	NoBuild TT (min)		Build TT (min)	TT Diff	Speed			VHT Benefit
		Volume Weighted	Volume Weighted			NoBuild Speed	Build Speed	Speed Diff				Volume Weighted	Volume Weighted			NoBuild Speed	Build Speed	Speed Diff	
0	0.5%	150			0.00				0.01	0	200				-0.01			0.05	
1	0.3%	90			0.00				0.00	1	120				-0.01			0.01	
2	0.2%	70			0.00				0.00	2	90				0.00			0.00	
3	0.3%	90			0.00				0.00	3	120				-0.01			0.01	
4	0.8%	230			-0.01				0.04	4	320				-0.04			0.19	
5	2.2%	650			-0.08				0.88	5	890				-0.28			4.15	
6	4.8%	1390			-0.37				8.60	6	1920				-1.30			41.66	
7	6.7%	1960	5.93	4.67	-1.25	-0.74	21.77	25.59	3.83	7	2700	18.38	15.94	-2.44	-2.57	14.58	14.72	0.14	115.86
8	5.1%	1480			-0.42				10.38	8	2040				-1.47			49.97	
9	5.3%	1560			-0.47				12.15	9	2140				-1.62			57.69	
10	5.8%	1710			-0.56				16.00	10	2350				-1.95			76.39	
11	6.4%	1870			-0.67				20.93	11	2570				-2.33			99.92	
12	6.6%	1920			-0.71				22.65	12	2640				-2.46			108.31	
13	6.5%	1900			-0.69				21.95	13	2610				-2.41			104.66	
14	6.8%	1990			-0.76				25.22	14	2730				-2.63			119.76	
15	7.4%	2160			-0.90				32.25	15	2980				-3.14			155.77	
16	8.0%	2330	5.02	4.51	-0.51	-1.04	25.35	26.48	1.12	16	3200	14.32	10.58	-3.73	-3.62	19.42	17.33	-2.09	192.88
17	7.7%	2270			-0.99				37.44	17	3120				-3.44			178.77	
18	5.7%	1660			-0.53				14.64	18	2290				-1.85			70.69	
19	4.8%	1400			-0.38				8.78	19	1930				-1.32			42.32	
20	3.6%	1070			-0.22				3.92	20	1470				-0.76			18.70	
21	2.3%	680			-0.09				1.01	21	930				-0.31			4.73	
22	1.4%	420			-0.03				0.24	22	580				-0.12			1.15	
23	0.9%	260			-0.01				0.06	23	360				-0.05			0.27	
Daily VHT Benefits									301.74	Daily VHT Benefits									1443.91
Weekday per year 250										Weekday per year 250									
Annual VHT Benefits									75434	Annual VHT Benefits									360979

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	6444	6569	6385	6460	6426	6455
Vehs Exited	6455	6503	6455	6431	6386	6447
Starting Vehs	353	298	387	309	301	325
Ending Vehs	342	364	317	338	341	337
Travel Distance (mi)	5155	5292	5211	5169	5129	5191
Travel Time (hr)	444.4	432.9	478.8	403.6	423.5	436.6
Total Delay (hr)	299.1	283.7	332.0	257.6	278.5	290.2
Total Stops	11716	11918	11454	11155	11014	11447
Fuel Used (gal)	257.1	258.0	266.7	248.9	251.5	256.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	6444	6569	6385	6460	6426	6455
Vehs Exited	6455	6503	6455	6431	6386	6447
Starting Vehs	353	298	387	309	301	325
Ending Vehs	342	364	317	338	341	337
Travel Distance (mi)	5155	5292	5211	5169	5129	5191
Travel Time (hr)	444.4	432.9	478.8	403.6	423.5	436.6
Total Delay (hr)	299.1	283.7	332.0	257.6	278.5	290.2
Total Stops	11716	11918	11454	11155	11014	11447
Fuel Used (gal)	257.1	258.0	266.7	248.9	251.5	256.4

Arterial Level of Service: EB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	100	5.2	13.1	0.1	28
	1	13.6	27.8	0.2	23
	2	5.4	15.1	0.1	29
Villa Pointe	3	49.9	254.2	0.2	10
	4	14.1	26.7	0.2	28
	5	8.4	27.1	0.2	32
Ralph	6	2.5	9.8	0.1	33
Total		99.0	373.7	1.1	22

Arterial Level of Service: WB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Commonwealth Ct	5	17.3	24.2	0.1	14
Fairview Dr	4	53.2	72.3	0.2	12
	3	27.2	43.3	0.2	17
Hayden Rd	2	9.8	23.0	0.2	26
Highland Pointe	1	16.2	26.1	0.1	17
	100	23.0	37.7	0.2	17
Total		146.8	226.6	1.0	16

Arterial Level of Service: EB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	27	0.8	22.1	0.2	29
KY1456	7	17.1	66.1	0.7	37
Total		17.9	88.1	0.9	35

Arterial Level of Service: WB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7	20.5	27.6	0.1	12
	27	7.2	86.1	0.7	28
	6	2.5	18.0	0.2	35
Total		30.2	131.7	0.9	26

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	6319	6247	6164	6200	6117	6207
Vehs Exited	6260	6230	6155	6156	6085	6177
Starting Vehs	321	299	308	325	295	308
Ending Vehs	380	316	317	369	327	341
Travel Distance (mi)	5489	5339	5375	5404	5323	5386
Travel Time (hr)	542.1	609.7	601.4	557.2	469.2	555.9
Total Delay (hr)	388.5	460.3	451.7	406.3	320.9	405.5
Total Stops	11191	10431	9563	10201	9928	10265
Fuel Used (gal)	286.8	299.3	297.7	287.4	265.7	287.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by PHF, Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	6319	6247	6164	6200	6117	6207
Vehs Exited	6260	6230	6155	6156	6085	6177
Starting Vehs	321	299	308	325	295	308
Ending Vehs	380	316	317	369	327	341
Travel Distance (mi)	5489	5339	5375	5404	5323	5386
Travel Time (hr)	542.1	609.7	601.4	557.2	469.2	555.9
Total Delay (hr)	388.5	460.3	451.7	406.3	320.9	405.5
Total Stops	11191	10431	9563	10201	9928	10265
Fuel Used (gal)	286.8	299.3	297.7	287.4	265.7	287.4

Arterial Level of Service
Baseline

06/14/2021

Arterial Level of Service: EB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	100	11.2	19.2	0.1	19
	1	17.0	31.3	0.2	21
	2	5.0	14.8	0.1	30
Villa Pointe	3	21.9	35.1	0.2	17
	4	45.7	62.2	0.2	12
	5	13.2	32.8	0.2	27
Ralph	6	2.7	10.0	0.1	32
Total		116.8	205.4	1.1	19

Arterial Level of Service: WB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Commonwealth Ct	5	5.5	12.7	0.1	26
Fairview Dr	4	40.6	60.3	0.2	15
	3	32.5	48.6	0.2	15
Hayden Rd	2	5.5	18.6	0.2	32
Highland Pointe	1	9.8	19.7	0.1	22
	100	21.4	36.0	0.2	18
Total		115.2	195.8	1.0	19

Arterial Level of Service: EB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	27	1.4	22.6	0.2	28
KY1456	7	18.6	65.2	0.7	37
Total		20.0	87.8	0.9	35

Arterial Level of Service: WB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7	12.5	19.5	0.1	17
	27	4.1	83.2	0.7	29
	6	1.0	15.2	0.2	42
Total		17.6	117.9	0.9	29

Arterial Level of Service
Baseline

06/18/2021

Arterial Level of Service: EB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	100	6.4	14.3	0.1	26
	1	15.1	29.4	0.2	22
	2	3.5	13.2	0.1	33
Villa Pointe	3	11.6	24.5	0.2	24
	4	8.2	24.6	0.2	30
	5	13.2	32.8	0.2	27
Ralph	6	4.5	11.9	0.1	27
Total		62.5	150.6	1.1	27

Arterial Level of Service: WB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Commonwealth Ct	5	15.8	23.0	0.1	14
Fairview Dr	4	19.1	38.3	0.2	23
	3	15.4	31.5	0.2	24
Hayden Rd	2	7.0	20.1	0.2	30
Highland Pointe	1	19.1	29.1	0.1	15
	100	12.4	27.1	0.2	24
Total		88.6	169.1	1.0	21

Arterial Level of Service: EB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	27	1.6	22.8	0.2	28
KY1456	7	22.3	71.1	0.7	34
Total		23.9	93.9	0.9	33

Arterial Level of Service: WB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7	20.3	27.5	0.1	12
	27	7.5	87.0	0.7	28
	6	2.3	16.2	0.2	40
Total		30.1	130.7	0.9	26

Queuing and Blocking Report
Baseline

06/18/2021

Intersection: 1: KY54 1 & Highland Pointe

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (ft)	71	212	183	157	65	209	425	495	489	175	265	127
Average Queue (ft)	25	141	93	84	22	94	160	212	245	30	146	55
95th Queue (ft)	57	205	162	139	53	166	325	390	414	125	248	109
Link Distance (ft)		891	891				557	557	557		268	268
Upstream Blk Time (%)								0				1
Queuing Penalty (veh)								0				0
Storage Bay Dist (ft)	250			250	250	200					150	
Storage Blk Time (%)			0			0	4		23	0		
Queuing Penalty (veh)			0			0	5		7	0		

Intersection: 1: KY54 1 & Highland Pointe

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (ft)	46	91
Average Queue (ft)	14	33
95th Queue (ft)	39	70
Link Distance (ft)	308	308
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
Baseline

06/18/2021

Intersection: 2: KY54 1 & Hayden Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	T	T	L	T	T	T	L	L	L
Maximum Queue (ft)	84	104	66	30	70	70	91	142	192	77	97	115
Average Queue (ft)	23	52	9	3	13	21	29	63	104	29	27	50
95th Queue (ft)	59	88	36	15	46	55	72	123	165	64	69	96
Link Distance (ft)			557	557	557		768	768	768	294		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				200					100	100
Storage Blk Time (%)											0	1
Queuing Penalty (veh)											0	0

Intersection: 2: KY54 1 & Hayden Rd

Movement	SB	SB
Directions Served	TR	R
Maximum Queue (ft)	80	72
Average Queue (ft)	30	25
95th Queue (ft)	68	57
Link Distance (ft)	334	334
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Queuing and Blocking Report
Baseline

06/18/2021

Intersection: 3: Villa Pointe & KY54 1

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	121	138	104	93	152	37	187	217	188	207	54	189
Average Queue (ft)	52	78	51	38	52	11	84	87	108	107	15	90
95th Queue (ft)	100	123	96	77	107	27	148	157	180	183	41	164
Link Distance (ft)			768	768	768			997	997	997		170
Upstream Blk Time (%)												2
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	250	250				250	250					200
Storage Blk Time (%)								0		1		
Queuing Penalty (veh)								0		0		

Intersection: 3: Villa Pointe & KY54 1

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	72	102	81	266
Average Queue (ft)	31	42	35	130
95th Queue (ft)	65	88	76	215
Link Distance (ft)	170	437	437	437
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Baseline

06/18/2021

Intersection: 4: KY54 1 & Fairview Dr

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	LT
Maximum Queue (ft)	196	91	96	66	84	206	273	268	279	97	212	272
Average Queue (ft)	87	27	36	14	28	89	125	140	153	28	93	167
95th Queue (ft)	156	64	78	44	63	171	223	233	256	64	176	274
Link Distance (ft)		997	997	997			1206	1206	1206		257	257
Upstream Blk Time (%)											0	3
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	300				450	200				400		
Storage Blk Time (%)						0	1					
Queuing Penalty (veh)						0	2					

Intersection: 4: KY54 1 & Fairview Dr

Movement	NB	SB	SB	SB
Directions Served	R	L	LT	R
Maximum Queue (ft)	141	113	265	141
Average Queue (ft)	37	46	145	66
95th Queue (ft)	86	91	244	118
Link Distance (ft)	257	344	344	344
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Baseline

06/18/2021

Intersection: 5: KY54 1 & Commonwealth Ct

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (ft)	102	161	197	130	44	125	275	225	242	37	287	59
Average Queue (ft)	37	94	111	12	21	97	147	116	124	8	166	24
95th Queue (ft)	82	153	174	64	43	145	251	206	204	29	263	51
Link Distance (ft)		1206	1206	1206			409	409	409		284	284
Upstream Blk Time (%)												1
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	200				250	100				250		
Storage Blk Time (%)						11	11		0			
Queuing Penalty (veh)						40	20		0			

Intersection: 5: KY54 1 & Commonwealth Ct

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (ft)	46	55
Average Queue (ft)	12	20
95th Queue (ft)	35	44
Link Distance (ft)	380	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Ralph & KY54 1/KY54 2

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

Queuing and Blocking Report
Baseline

06/18/2021

Intersection: 7: KY1456 & KY54 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	125	335	30	124	355	291	162	237	99	262
Average Queue (ft)	72	138	2	69	194	153	84	94	27	135
95th Queue (ft)	145	310	14	143	326	277	148	173	69	240
Link Distance (ft)		3475	3475		442	442	263	263	247	247
Upstream Blk Time (%)								0		1
Queuing Penalty (veh)								0		0
Storage Bay Dist (ft)	100			100						
Storage Blk Time (%)	4	13		1	21					
Queuing Penalty (veh)	14	22		5	27					

Intersection: 100: KY54 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	T	T	TR	L	L	R	R
Maximum Queue (ft)	196	140	108	142	396	471	213	166	254	215
Average Queue (ft)	84	62	41	62	84	84	138	69	118	63
95th Queue (ft)	160	125	92	125	240	266	195	162	234	179
Link Distance (ft)	494	494	494	891	891	891	351	351	351	351
Upstream Blk Time (%)					0	0				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)										
Storage Blk Time (%)										
Queuing Penalty (veh)										

Network Summary

Network wide Queuing Penalty: 145

Summary of All Intervals

Run Number	4	5	6	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	6740	6569	6734	6680
Vehs Exited	6666	6539	6697	6634
Starting Vehs	311	292	292	289
Ending Vehs	385	322	329	341
Travel Distance (mi)	5538	5391	5514	5481
Travel Time (hr)	468.9	451.1	511.4	477.1
Total Delay (hr)	313.6	299.6	355.9	323.1
Total Stops	10066	9417	10092	9862
Fuel Used (gal)	278.0	269.0	287.6	278.2

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by PHF, Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF, Growth Factors.	

Run Number	4	5	6	Avg
Vehs Entered	6740	6569	6734	6680
Vehs Exited	6666	6539	6697	6634
Starting Vehs	311	292	292	289
Ending Vehs	385	322	329	341
Travel Distance (mi)	5538	5391	5514	5481
Travel Time (hr)	468.9	451.1	511.4	477.1
Total Delay (hr)	313.6	299.6	355.9	323.1
Total Stops	10066	9417	10092	9862
Fuel Used (gal)	278.0	269.0	287.6	278.2

Arterial Level of Service: EB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	100	11.5	19.5	0.1	19
	1	16.0	30.3	0.2	22
	2	3.5	13.3	0.1	33
Villa Pointe	3	10.5	23.6	0.2	25
	4	16.3	32.1	0.2	23
	5	15.7	35.4	0.2	25
Ralph	6	3.6	10.9	0.1	30
Total		77.0	165.0	1.1	24

Arterial Level of Service: WB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Commonwealth Ct	5	7.5	14.6	0.1	22
Fairview Dr	4	15.1	34.4	0.2	26
	3	27.0	42.9	0.2	17
Hayden Rd	2	6.0	19.1	0.2	31
Highland Pointe	1	7.7	17.7	0.1	25
	100	19.7	34.4	0.2	19
Total		82.9	163.1	1.0	22

Arterial Level of Service: EB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	27	2.0	23.1	0.2	28
KY1456	7	27.5	75.8	0.7	32
Total		29.5	98.9	0.9	31

Arterial Level of Service: WB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7	13.7	20.8	0.1	16
	27	4.1	83.1	0.7	29
	6	1.0	14.6	0.2	44
Total		18.8	118.5	0.9	29

Summary of All Intervals

Run Number	10	11	12	13	14	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	7588	7504	7600	7453	7542	7538
Vehs Exited	7181	7111	7114	7052	7295	7150
Starting Vehs	569	503	540	553	572	549
Ending Vehs	976	896	1026	954	819	930
Travel Distance (mi)	6676	6543	6550	6653	6702	6625
Travel Time (hr)	2880.4	3088.5	2699.9	2828.3	2877.6	2874.9
Total Delay (hr)	2691.0	2902.2	2513.5	2639.4	2687.0	2686.6
Total Stops	21246	20947	22365	22253	21145	21591
Fuel Used (gal)	841.5	886.0	797.2	829.0	845.4	839.8

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF, Growth Factors.	

Run Number	10	11	12	13	14	Avg
Vehs Entered	7588	7504	7600	7453	7542	7538
Vehs Exited	7181	7111	7114	7052	7295	7150
Starting Vehs	569	503	540	553	572	549
Ending Vehs	976	896	1026	954	819	930
Travel Distance (mi)	6676	6543	6550	6653	6702	6625
Travel Time (hr)	2880.4	3088.5	2699.9	2828.3	2877.6	2874.9
Total Delay (hr)	2691.0	2902.2	2513.5	2639.4	2687.0	2686.6
Total Stops	21246	20947	22365	22253	21145	21591
Fuel Used (gal)	841.5	886.0	797.2	829.0	845.4	839.8

Arterial Level of Service: EB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	100	24.4	479.9	0.1	11
	1	23.4	37.5	0.2	17
	2	16.7	26.4	0.1	17
Villa Pointe	3	27.0	40.0	0.2	15
	4	31.8	48.0	0.2	16
	5	10.3	29.3	0.2	30
Ralph	6	2.6	9.9	0.1	33
Total		136.3	671.1	1.1	18

Arterial Level of Service: WB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Commonwealth Ct	5	59.3	66.3	0.1	5
Fairview Dr	4	124.9	143.4	0.2	6
	3	56.6	72.7	0.2	10
Hayden Rd	2	42.0	55.0	0.2	11
Highland Pointe	1	31.9	41.8	0.1	11
	100	38.8	52.7	0.2	12
Total		353.5	431.9	1.0	8

Arterial Level of Service: EB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	27	1.1	22.3	0.2	29
KY1456	7	21.9	69.9	0.7	35
Total		23.0	92.3	0.9	33

Arterial Level of Service: WB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7	41.1	53.2	0.1	7
	27	93.4	169.6	0.7	14
	6	120.7	632.4	0.2	5
Total		255.3	855.2	0.9	10

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	7751	7668	7908	7813	7872	7799
Vehs Exited	7352	7300	7536	7436	7610	7448
Starting Vehs	576	571	559	589	562	571
Ending Vehs	975	939	931	966	824	925
Travel Distance (mi)	6570	6556	6661	6577	6746	6622
Travel Time (hr)	3059.5	3174.8	2900.5	3101.4	2982.6	3043.7
Total Delay (hr)	2876.2	2992.2	2714.8	2918.4	2794.6	2859.2
Total Stops	24051	22237	21177	20607	21810	21975
Fuel Used (gal)	878.2	905.3	847.8	890.5	867.4	877.9

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by PHF, Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	7751	7668	7908	7813	7872	7799
Vehs Exited	7352	7300	7536	7436	7610	7448
Starting Vehs	576	571	559	589	562	571
Ending Vehs	975	939	931	966	824	925
Travel Distance (mi)	6570	6556	6661	6577	6746	6622
Travel Time (hr)	3059.5	3174.8	2900.5	3101.4	2982.6	3043.7
Total Delay (hr)	2876.2	2992.2	2714.8	2918.4	2794.6	2859.2
Total Stops	24051	22237	21177	20607	21810	21975
Fuel Used (gal)	878.2	905.3	847.8	890.5	867.4	877.9

Arterial Level of Service
Baseline

06/25/2021

Arterial Level of Service: EB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	100	37.3	429.4	0.1	8
	1	62.8	129.3	0.2	9
	2	21.2	30.9	0.1	14
Villa Pointe	3	47.4	60.5	0.2	10
	4	104.0	132.2	0.2	6
	5	10.3	29.6	0.2	30
Ralph	6	2.5	9.8	0.1	33
Total		285.4	821.7	1.1	11

Arterial Level of Service: WB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Commonwealth Ct	5	33.9	41.0	0.1	8
Fairview Dr	4	173.0	208.7	0.2	5
	3	135.7	156.3	0.2	5
Hayden Rd	2	86.6	99.5	0.2	6
Highland Pointe	1	53.4	63.3	0.1	7
	100	50.8	65.2	0.2	10
Total		533.5	634.0	1.0	6

Arterial Level of Service: EB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	27	1.8	23.1	0.2	28
KY1456	7	15.3	62.0	0.7	39
Total		17.1	85.1	0.9	36

Arterial Level of Service: WB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7	10.6	17.8	0.1	19
	27	5.4	85.0	0.7	29
	6	27.8	47.0	0.2	15
Total		43.8	149.7	0.9	24

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	9266	9038	9033	8944	9074	9070
Vehs Exited	8880	8810	8937	8830	8682	8828
Starting Vehs	577	619	666	639	582	615
Ending Vehs	963	847	762	753	974	862
Travel Distance (mi)	7617	7545	7654	7602	7517	7587
Travel Time (hr)	2117.4	2315.6	2239.2	2184.7	2141.9	2199.8
Total Delay (hr)	1899.5	2099.3	2020.1	1967.1	1926.5	1982.5
Total Stops	23169	23327	19889	18331	23057	21559
Fuel Used (gal)	708.6	750.8	740.8	727.9	710.3	727.7

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	9266	9038	9033	8944	9074	9070
Vehs Exited	8880	8810	8937	8830	8682	8828
Starting Vehs	577	619	666	639	582	615
Ending Vehs	963	847	762	753	974	862
Travel Distance (mi)	7617	7545	7654	7602	7517	7587
Travel Time (hr)	2117.4	2315.6	2239.2	2184.7	2141.9	2199.8
Total Delay (hr)	1899.5	2099.3	2020.1	1967.1	1926.5	1982.5
Total Stops	23169	23327	19889	18331	23057	21559
Fuel Used (gal)	708.6	750.8	740.8	727.9	710.3	727.7

Arterial Level of Service: EB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	100	5.9	20.7	0.1	27
	1	27.6	41.7	0.2	16
	2	6.3	16.1	0.1	27
Villa Pointe	3	12.4	25.5	0.2	23
	4	21.3	37.8	0.2	20
	5	66.0	84.8	0.2	10
Ralph	6	6.3	13.6	0.1	24
Total		145.8	240.2	1.1	17

Arterial Level of Service: WB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Commonwealth Ct	5	49.7	56.7	0.1	6
Fairview Dr	4	55.8	74.6	0.2	12
	3	43.8	60.6	0.2	13
Hayden Rd	2	36.8	49.8	0.2	12
Highland Pointe	1	28.7	38.7	0.1	11
	100	47.0	61.7	0.2	11
Total		261.7	342.3	1.0	11

Arterial Level of Service: EB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	27	3.0	24.3	0.2	26
KY1456	7	48.2	97.8	0.7	25
Total		51.2	122.1	0.9	25

Arterial Level of Service: WB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7	66.1	376.5	0.1	5
	27	22.0	100.6	0.7	24
	6	86.6	460.0	0.2	6
Total		174.6	937.1	0.9	12

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	9118	8978	8939	9129	9010	9037
Vehs Exited	8897	8871	8873	8991	8859	8898
Starting Vehs	550	566	570	562	546	556
Ending Vehs	771	673	636	700	697	689
Travel Distance (mi)	7559	7504	7338	7464	7472	7467
Travel Time (hr)	2438.4	2486.6	2503.0	2516.0	2478.6	2484.5
Total Delay (hr)	2226.4	2275.5	2296.5	2306.8	2268.9	2274.8
Total Stops	18597	18926	16429	18158	16543	17731
Fuel Used (gal)	788.8	795.7	797.9	802.9	794.1	795.9

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by PHF, Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	9118	8978	8939	9129	9010	9037
Vehs Exited	8897	8871	8873	8991	8859	8898
Starting Vehs	550	566	570	562	546	556
Ending Vehs	771	673	636	700	697	689
Travel Distance (mi)	7559	7504	7338	7464	7472	7467
Travel Time (hr)	2438.4	2486.6	2503.0	2516.0	2478.6	2484.5
Total Delay (hr)	2226.4	2275.5	2296.5	2306.8	2268.9	2274.8
Total Stops	18597	18926	16429	18158	16543	17731
Fuel Used (gal)	788.8	795.7	797.9	802.9	794.1	795.9

Arterial Level of Service: EB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	100	18.4	323.8	0.1	14
	1	39.0	53.2	0.2	12
	2	6.9	16.6	0.1	27
Villa Pointe	3	7.4	20.5	0.2	29
	4	63.6	79.6	0.2	9
	5	32.4	51.9	0.2	17
Ralph	6	6.9	14.2	0.1	23
Total		174.5	559.8	1.1	15

Arterial Level of Service: WB KY54 1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Commonwealth Ct	5	29.4	36.4	0.1	9
Fairview Dr	4	69.3	93.0	0.2	10
	3	14.6	30.9	0.2	24
Hayden Rd	2	11.3	24.4	0.2	24
Highland Pointe	1	12.0	22.0	0.1	20
	100	16.3	31.3	0.2	21
Total		152.9	237.9	1.0	16

Arterial Level of Service: EB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	27	4.3	25.5	0.2	25
KY1456	7	95.5	142.2	0.7	17
Total		99.7	167.7	0.9	18

Arterial Level of Service: WB KY54 2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7	39.6	138.9	0.1	7
	27	5.8	84.4	0.7	29
	6	11.9	28.6	0.2	26
Total		57.3	251.9	0.9	22