

# Appendix G

*Interactive Highway Safety Design Model*

**Crash Prediction Evaluation Report**

October 1, 2024



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## Report Overview

**Report Generated:** Oct 1, 2024 2:50 PM

**Report Template:** System: Multi-Page [System] (sscpm2, Jul 23, 2021 5:16 PM)

**Evaluation Date:** Tue Oct 01 11:05:22 EDT 2024

**IHSDM Version:** v17.0.0 (Sep 22, 2021)

**Site Set Crash Prediction Module:** v|ModuleInfo.moduleVersion| (|ModuleInfo.moduleDate|)

**User Name:** mckeel

**Organization Name:** Burgess & Niple

**Phone:**

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**Project Title:** KY 1865(Copy 1)

**Project Comment:** Created Thu May 12 13:33:50 EDT 2022

**Project Unit System:** U.S. Customary

**Site Set:** KY 1865 from Old Cut Road to Palatka

**Site Set Comment:** Created Mon Sep 30 17:45:38 EDT 2024

**Site Set Version:** v1

**Evaluation Title:** Existing Conditions

**Evaluation Comment:** Created Tue Oct 01 11:04:56 EDT 2024

**Policy for Superelevation:** AASHTO 2011 U.S. Customary

**Calibration:** HSM Configuration

**Crash Distribution:** HSM Configuration

**Model/CMF:** HSM Configuration

**First Year of Analysis:** 2022

**Last Year of Analysis:** 2022

**Empirical-Bayes Analysis:** Site-Specific

**Crash History Siteset:** KY 1865 from Old Cut Road to Palatka

**Crash History Siteset Comment:** Created Mon Sep 30 17:45:38 EDT 2024

**Crash History Siteset Version:** 1

**First Year of Observed Crashes:** 2017

**Last Year of Observed Crashes:** 2021

## 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, 17-58, AND 17-68

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.
- Intersection crash prediction methods for some intersection configurations and traffic control types not currently addressed in the HSM (e.g., all-way stop; rural 3-leg signalized; 3-leg stop-controlled where the major leg turns; urban 5-leg signalized; urban high-speed intersections): completed in 2021 under NCHRP Project 17-68.

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, 17-68, 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

### Urban Arterial Site Set CPM Evaluation

Site Type

Type: 3T

Calibration Factor: 1

**Table 1. Observed Crashes Used in the Evaluation (3T)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	15	15	4	0	11
2018	8	8	0	0	8
2019	8	8	3	0	5
2020	4	4	2	0	2
2021	6	5	1	0	4
All Years	41 &nbsp; <sup>[1]</sup>	40	10	0	30

#### Footnotes

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 2. Evaluation and Crash Data (CSD) (if applicable) Segment - Homogeneous Sites**

Site No.	Type	Highway	Site Description	Length (mi)	AADT	Number of Major Commercial Driveways	Number of Minor Commercial Driveways	Number of Major Industrial/Institutional Driveways	Number of Minor Industrial/Institutional Driveways	Number of Major Residential Driveways	Number of Minor Residential Driveways	Number of Other Driveways	Lighting	Automated Speed Enforcement	Offset to Fixed Objects (ft)	Fixed-Object Density (fixed objects /mi)	Type of Parking/Land Use - Right Side	Proportion of Right Side Curb Length with Parking	Type of Parking/Land Use - Left Side	Proportion of Left Side Curb Length with Parking	Speed Category
1	3T	CSD:KY1865	Old New Cut Rd - EB Ramp	0.1600	2017-2019: 10050; 2020: 10075; 2021: 10101	0	0	0	0	0	0	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
1	3T	KY1865	Old New Cut Rd - EB Ramp	0.1600	2022: 10127	0	0	0	0	0	0	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
2	3T	CSD:KY1865	EB Ramp - WB Ramp	0.1800	2017-2020: 18860; 2021: 18908	0	0	0	0	0	0	0	yes	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
2	3T	KY1865	EB Ramp - WB Ramp	0.1800	2022: 18957	0	0	0	0	0	0	0	yes	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
3	3T	CSD:KY1865	WB Ramp - Brown Austin	0.1800	2017-2020: 18860; 2021: 18908	0	0	1	0	0	5	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
3	3T	KY1865	WB Ramp - Brown Austin	0.1800	2022: 18957	0	0	1	0	0	5	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High

**Table 3. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Length (mi)	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Crash Rate (crashes/mi/yr)	Expected Travel Crash Rate (crashes/million veh-mi)
1	3T	KY1865	Old New Cut Rd - EB Ramp	0.1600	1.557	0.375	1.5574	0.2774	1.2800	0.3750	0.0977	0.2773	1.1824	0.1797	1.0027	9.7340	2.63
2	3T	KY1865	EB Ramp - WB Ramp	0.1800	0.725	0.872	0.7249	0.1576	0.5672	0.8722	0.2546	0.6176	-0.1473	-0.0970	-0.0504	4.0270	0.58
3	3T	KY 1865	WB Ramp - Brown Austin	0.1800	3.585	1.140	3.5852	0.7491	2.8361	1.1401	0.3258	0.8143	2.4451	0.4233	2.0218	19.9178	2.88
		Total	Total	0.5200	5.867	2.387	5.8675	1.1842	4.6833	2.3873	0.6781	1.7093	3.4802	0.5061	2.9741	11.2837	1.90

**Table 4. Predicted Crash Frequencies by Year (3T)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	2.39	0.68	28.403	1.71	71.597
Total	2.39	0.68	28.403	1.71	71.597
Average	2.39	0.68	28.403	1.71	71.597

**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 5. Expected Crash Frequencies by Year (3T)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	5.87	1.18	20.182	4.68	79.818
Total	5.87	1.18	20.182	4.68	79.818
Average	5.87	1.18	20.182	4.68	79.818

**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 6. Comparing Predicted and Expected Crashes for the Evaluation Period (3T)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	2.39	0.68	28.403	1.71	71.597
Expected	5.87	1.18	20.182	4.68	79.818
Expected - Predicted	3.48	0.51		2.97	
Percent Difference	59.31	42.74		63.50	

**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. Expected 3T Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Collision with Bicycle	0.02	0.3	0.00	0.0	0.02	0.3
Highway Segment	Collision with Fixed Object	0.10	1.8	0.35	5.9	0.45	7.7
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Single-vehicle Collision	0.05	0.8	0.01	0.2	0.06	1.0
Highway Segment	Collision with Pedestrian	0.03	0.5	0.00	0.0	0.03	0.5
Highway Segment	Total Segment Single Vehicle Crashes	0.20	3.4	0.36	6.2	0.56	9.6
Highway Segment	Angle Collision	0.07	1.1	0.09	1.5	0.15	2.6
Highway Segment	Driveway-related Collision	0.03	0.5	0.07	1.1	0.10	1.6
Highway Segment	Head-on Collision	0.03	0.6	0.09	1.5	0.12	2.0
Highway Segment	Other Multi-vehicle Collision	0.03	0.6	0.09	1.5	0.12	2.0
Highway Segment	Rear-end Collision	0.81	13.7	3.58	61.1	4.39	74.8
Highway Segment	Sideswipe, Opposite Direction Collision	0.02	0.3	0.09	1.5	0.10	1.7
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.0	0.33	5.7	0.33	5.7
Highway Segment	Total Segment Multiple Vehicle Crashes	0.98	16.8	4.32	73.6	5.31	90.4
Highway Segment	Total Highway Segment Crashes	1.18	20.2	4.68	79.8	5.87	100.0
	Total Crashes	1.18	20.2	4.68	79.8	5.87	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.

### Site Type

**Type:** 5T

**Calibration Factor:** 1

**Table 8. Observed Crashes Used in the Evaluation (5T)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	83	81	17	0	64
2018	60	59	9	0	50
2019	71	70	17	0	53
2020	35	31	10	0	21
2021	35	35	15	0	20
All Years	284 &nbsp; <sup>[1]</sup>	276	68	0	208

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 9. Evaluation and Crash Data (CSD) (if applicable) Segment - Homogeneous Sites**

Site No.	Type	Highway	Site Description	Length (mi)	AADT	Number of Major Commercial Driveways	Number of Minor Commercial Driveways	Number of Major Industrial/Institutional Driveways	Number of Minor Industrial/Institutional Driveways	Number of Major Residential Driveways	Number of Minor Residential Driveways	Number of Other Driveways	Lighting	Automated Speed Enforcement	Offset to Fixed Objects (ft)	Fixed-Object Density (fixed object/s/mi)	Type of Parking/Land Use - Right Side	Proportion of Right Side Curb Length with Parking	Type of Parking/Land Use - Left Side	Proportion of Left Side Curb Length with Parking	Speed Category
1	ST	CSD-KY1865	Brown Austin Road - 1065/Outer Loop	0.160	2017-2020: 18860; 2021: 18908	0	0	0	0	0	2	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
1	ST	KY1865	Brown Austin Road - 1065/Outer Loop	0.160	2022: 18957	0	0	0	0	0	2	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
2	ST	CSD-KY1865	1065/Outer Loop - Star Lane	0.190	2017-2020: 17801; 2021: 17846	1	4	0	1	0	2	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
2	ST	KY1865	1065/Outer Loop - Star Lane	0.190	2022: 17892	1	4	0	1	0	2	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
3	ST	CSD-KY1865	Star Lane - Candlelight Lane	0.090	2017-2020: 17801; 2021: 17846	0	0	0	0	0	6	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
3	ST	KY1865	Star Lane - Candlelight Lane	0.090	2022: 17892	0	0	0	0	0	6	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
4	ST	CSD-KY1865	Candlelight Lane - Harpers Ferry Road	0.180	2017-2020: 17801; 2021: 17846	0	0	0	0	0	10	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
4	ST	KY1865	Candlelight Lane - Harpers Ferry Road	0.180	2022: 17892	0	0	0	0	0	10	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
5	ST	CSD-KY1865	Harpers Ferry Road - Angeletta Way	0.110	2017-2020: 17801; 2021: 17846	0	0	0	0	0	8	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
5	ST	KY1865	Harpers Ferry Road - Angeletta Way	0.110	2022: 17892	0	0	0	0	0	8	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
6	ST	CSD-KY1865	Angeletta Way - Mary Ellen Drive/School Driveway	0.080	2017-2020: 17801; 2021: 17846	0	0	0	0	0	4	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
6	ST	KY1865	Angeletta Way - Mary Ellen Drive/School Driveway	0.080	2022: 17892	0	0	0	0	0	4	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
7	ST	CSD-KY1865	Mary Ellen Drive/School Driveway - Indian Trail	0.130	2017-2020: 17801; 2021: 17846	0	0	0	0	0	10	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
7	ST	KY1865	Mary Ellen Drive/School Driveway - Indian Trail	0.130	2022: 17892	0	0	0	0	0	10	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
8	ST	CSD-KY1865	Indian Trail - Scottsdale Blvd.	0.200	2017-2020: 17801; 2021: 17846	0	0	0	0	0	13	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
8	ST	KY1865	Indian Trail - Scottsdale Blvd.	0.200	2022: 17892	0	0	0	0	0	13	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
9	ST	CSD-KY1865	Scottsdale Blvd. - Auburn Oaks Drive	0.050	2017-2020: 17801; 2021: 17846	0	0	0	0	0	2	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
9	ST	KY1865	Scottsdale Blvd. - Auburn Oaks Drive	0.050	2022: 17892	0	0	0	0	0	2	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
10	ST	CSD-KY1865	Auburn Oaks Drive - Bakers Lane	0.080	2017-2020: 17801; 2021: 17846	0	0	2	0	0	0	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
10	ST	KY1865	Auburn Oaks Drive - Bakers Lane	0.080	2022: 17892	0	0	2	0	0	0	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
11	ST	CSD-KY1865	Bakers Lane - Cogan Blvd.	0.090	2017-2020: 17801; 2021: 17846	0	0	0	0	0	3	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
11	ST	KY1865	Bakers Lane - Cogan Blvd.	0.090	2022: 17892	0	0	0	0	0	3	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
12	ST	CSD-KY1865	Cogan Blvd. - Southside Dr.	0.260	2017-2020: 17801; 2021: 17846	3	4	0	0	0	0	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
12	ST	KY1865	Cogan Blvd. - Southside Dr.	0.260	2022: 17892	3	4	0	0	0	0	0	no	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High

Site No.	Type	Highway	Site Description	Length (mi)	AADT	Number of Major Commercial Driveways	Number of Minor Commercial Driveways	Number of Major Industrial/Institutional Driveways	Number of Minor Industrial/Institutional Driveways	Number of Major Residential Driveways	Number of Minor Residential Driveways	Number of Other Driveways	Lighting	Automated Speed Enforcement	Offset to Fixed Objects (ft)	Fixed-Object Density (fixed objects/mi)	Type of Parking/Land Use - Right Side	Proportion of Right Side Curb Length with Parking	Type of Parking/Land Use - Left Side	Proportion of Left Side Curb Length with Parking	Speed Category
13	5T	CSD:KY1865	Southside Dr. - Jones Drive	0.1900	2017-2018: 21354; 2019: 21409; 2020: 21464; 2021: 21519	0	16	0	0	0	0	0	yes	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
13	5T	KY1865	Southside Dr. - Jones Drive	0.1900	2022: 21574	0	16	0	0	0	0	0	yes	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
14	5T	CSD:KY1865	Jones Drive - Westview Drive/Glen Hollow Drive	0.0800	2017-2018: 21354; 2019: 21409; 2020: 21464; 2021: 21519	0	9	0	0	0	0	0	yes	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
14	5T	KY1865	Jones Drive - Westview Drive/Glen Hollow Drive	0.0800	2022: 21574	0	9	0	0	0	0	0	yes	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
15	5T	CSD:KY1865	Westview Drive/Glen Hollow Drive - Palatka Ave	0.0900	2017-2018: 21354; 2019: 21409; 2020: 21464; 2021: 21519	0	4	0	0	0	0	0	yes	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High
15	5T	KY1865	Westview Drive/Glen Hollow Drive - Palatka Ave	0.0900	2022: 21574	0	4	0	0	0	0	0	yes	no	0.00	0.0	No Parking	0.000	No Parking	0.000	Intermediate/High

**Table 10. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Length (mi)	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Crash Rate (crashes/mi/yr)	Expected Travel Crash Rate (crashes/mi million veh-mi)
1	5T	KY1865	Brown Austin Road - 1065/Outer Loop	0.1600	4.623	1.343	4.6233	1.1129	3.5104	1.3429	0.3878	0.9551	3.2804	0.7251	2.5553	28.8958	4.18
2	5T	KY1865	1065/Outer Loop - Star Lane	0.1900	7.588	2.004	7.5882	1.5046	6.0836	2.0043	0.5825	1.4218	5.5839	0.9221	4.6618	39.9378	6.12
3	5T	KY1865	Star Lane - Candlelight Lane	0.0900	1.828	0.810	1.8284	0.4205	1.4079	0.8105	0.2351	0.5754	1.0179	0.1854	0.8325	20.3157	3.11
4	5T	KY1865	Candlelight Lane - Harpers Ferry Road	0.1800	1.333	1.580	1.3331	0.3950	0.9381	1.5804	0.4583	1.1221	-0.2473	-0.0633	-0.1840	7.4060	1.13
5	5T	KY1865	Harpers Ferry Road - Angeletta Way	0.1100	0.769	1.004	0.7686	0.2906	0.4781	1.0042	0.2914	0.7129	-0.2356	-0.0008	-0.2348	6.9877	1.07
6	5T	KY1865	Angeletta Way - Mary Ellen Drive/School Driveway	0.0800	0.899	0.693	0.8993	0.2027	0.6965	0.6933	0.2010	0.4923	0.2059	0.0017	0.2042	11.2407	1.72
7	5T	KY1865	Mary Ellen Drive/School Driveway - Indian Trail	0.1300	1.519	1.198	1.5189	0.6751	0.8438	1.1979	0.3476	0.8503	0.3209	0.3275	-0.0065	11.6836	1.79
8	5T	KY1865	Indian Trail - Scottsdale Blvd.	0.2000	2.413	1.794	2.4135	0.6723	1.7412	1.7944	0.5205	1.2739	0.6190	0.1518	0.4673	12.0674	1.85
9	5T	KY1865	Scottsdale Blvd. - Auburn Oaks Drive	0.0500	0.578	0.423	0.5776	0.1581	0.4195	0.4232	0.1226	0.3005	0.1544	0.0354	0.1190	11.5513	1.77
10	5T	KY1865	Auburn Oaks Drive - Bakers Lane	0.0800	0.920	1.073	0.9202	0.3217	0.5984	1.0726	0.3124	0.7602	-0.1524	0.0093	-0.1617	11.5022	1.76
11	5T	KY1865	Bakers Lane - Cogan Blvd.	0.0900	1.718	0.750	1.7178	0.2406	1.4772	0.7495	0.2172	0.5323	0.9683	0.0234	0.9449	19.0863	2.92
12	5T	KY1865	Cogan Blvd. - Southside Dr.	0.2600	11.407	2.888	11.4066	2.1513	9.2554	2.8884	0.8398	2.0485	8.5183	1.3114	7.2068	43.8717	6.72
13	5T	KY1865	Southside Dr. - Jones Drive	0.1900	10.290	2.924	10.2902	1.8851	8.4051	2.9240	0.8475	2.0765	7.3663	1.0376	6.3287	54.1591	6.88
14	5T	KY1865	Jones Drive - Westview Drive/Glen Hollow Drive	0.0800	2.678	1.410	2.6781	0.5810	2.0970	1.4099	0.4093	1.0006	1.2682	0.1717	1.0965	33.4757	4.25
15	5T	KY1865	Westview Drive/Glen Hollow Drive - Palatka Ave	0.0900	3.938	1.102	3.9377	0.5746	3.3631	1.1024	0.3184	0.7840	2.8354	0.2562	2.5792	43.7526	5.56
	Total	Total		1.9800	52.501	20.998	52.5014	11.1861	41.3154	20.9978	6.0914	14.9064	31.5036	5.0946	26.4090	26.5159	3.90

**Table 11. Predicted Crash Frequencies by Year (5T)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	21.00	6.09	29.010	14.91	70.990
Total	21.00	6.09	29.010	14.91	70.990
Average	21.00	6.09	29.010	14.91	70.990

**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 12. Expected Crash Frequencies by Year (5T)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	52.50	11.19	21.306	41.31	78.694
Total	52.50	11.19	21.306	41.31	78.694
Average	52.50	11.19	21.306	41.31	78.694

**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 13. Comparing Predicted and Expected Crashes for the Evaluation Period (5T)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	21.00	6.09	29.010	14.91	70.990
Expected	52.50	11.19	21.306	41.31	78.694
Expected - Predicted	31.50	5.09		26.41	
Percent Difference	60.01	45.54		63.92	

**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 14. Expected 5T Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.0	0.10	0.2	0.11	0.2
Highway Segment	Collision with Bicycle	0.24	0.5	0.00	0.0	0.24	0.5
Highway Segment	Collision with Fixed Object	0.29	0.6	1.53	2.9	1.82	3.5
Highway Segment	Collision with Other Object	0.00	0.0	0.12	0.2	0.12	0.2
Highway Segment	Other Single-vehicle Collision	0.42	0.8	0.24	0.5	0.67	1.3
Highway Segment	Collision with Pedestrian	0.47	0.9	0.00	0.0	0.47	0.9
Highway Segment	Total Segment Single Vehicle Crashes	1.44	2.7	1.99	3.8	3.43	6.5
Highway Segment	Angle Collision	0.43	0.8	2.15	4.1	2.58	4.9
Highway Segment	Driveway-related Collision	1.17	2.2	2.82	5.4	3.99	7.6
Highway Segment	Head-on Collision	0.18	0.3	0.15	0.3	0.33	0.6
Highway Segment	Other Multi-vehicle Collision	0.15	0.3	1.06	2.0	1.21	2.3
Highway Segment	Rear-end Collision	7.26	13.8	23.77	45.3	31.02	59.1
Highway Segment	Sideswipe, Opposite Direction Collision	0.03	0.1	0.33	0.6	0.36	0.7
Highway Segment	Sideswipe, Same Direction Collision	0.52	1.0	9.05	17.2	9.58	18.2
Highway Segment	Total Segment Multiple Vehicle Crashes	9.74	18.6	39.33	74.9	49.07	93.5
Highway Segment	Total Highway Segment Crashes	11.19	21.3	41.31	78.7	52.50	100.0
	Total Crashes	11.19	21.3	41.31	78.7	52.50	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.

### Site Type

**Type:** 3ST

**Calibration Factor:** 1

**Table 15. Observed Crashes Used in the Evaluation (3ST)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	16	16	4	0	12
2018	22	21	4	0	17
2019	19	19	7	0	12
2020	17	16	6	0	10
2021	14	14	4	0	10
All Years	88 &nbsp; <sup>[1]</sup>	86	25	0	61

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 16. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites**

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting
1	3ST2x2le5	CSD:KY1865	Brown Austin Road	2017-2020: 18860; 2021: 18908	2017-2021: 50	1	0	no
1	3ST2x2le5	KY1865	Brown Austin Road	2022: 18957	2022: 50	1	0	no
2	3ST2x2le5	CSD:KY1865	Star Lane	2017-2020: 17801; 2021: 17846	2017-2021: 44	1	0	no
2	3ST2x2le5	KY1865	Star Lane	2022: 17892	2022: 44	1	0	no
3	3ST2x2le5	CSD:KY1865	Candlelight Lane	2017-2020: 17801; 2021: 17846	2017-2020: 1300; 2021: 1303	1	0	no
3	3ST2x2le5	KY1865	Candlelight Lane	2022: 17892	2022: 1306	1	0	no
4	3ST2x2le5	CSD:KY1865	Harpers Ferry Road	2017-2020: 17801; 2021: 17846	2017-2020: 1284; 2021: 1287	1	0	no
4	3ST2x2le5	KY1865	Harpers Ferry Road	2022: 17892	2022: 1290	1	0	no
5	3ST2x2le5	CSD:KY1865	Angeletta Way	2017-2020: 17801; 2021: 17846	2017-2021: 20	1	0	no
5	3ST2x2le5	KY1865	Angeletta Way	2022: 17892	2022: 20	1	0	no
6	3ST2x2le5	CSD:KY1865	Mary Ellen Drive/School Driveway	2017-2020: 17801; 2021: 17846	2017-2021: 342	1	0	no
6	3ST2x2le5	KY1865	Mary Ellen Drive/School Driveway	2022: 17892	2022: 343	1	0	no
7	3ST2x2le5	CSD:KY1865	Indian Trail	2017-2020: 17801; 2021: 17846	2017-2021: 9	1	0	no
7	3ST2x2le5	KY1865	Indian Trail	2022: 17892	2022: 9	1	0	no
8	3ST2x2le5	CSD:KY1865	Scottsdale Blvd.	2017-2020: 17801; 2021: 17846	2017-2020: 2465; 2021: 2471	1	1	no
8	3ST2x2le5	KY1865	Scottsdale Blvd.	2022: 17892	2022: 2477	1	1	no
9	3ST2x2le5	CSD:KY1865	Auburn Oaks Drive	2017-2020: 17801; 2021: 17846	2017-2020: 594; 2021: 595	1	0	no
9	3ST2x2le5	KY1865	Auburn Oaks Drive	2022: 17892	2022: 597	1	0	no
10	3ST2x2le5	CSD:KY1865	Bakers Lane	2017-2020: 17801; 2021: 17846	2017-2020: 488; 2021: 489	1	0	no
10	3ST2x2le5	KY1865	Bakers Lane	2022: 17892	2022: 490	1	0	no
11	3ST2x2le5	CSD:KY1865	Cogan Blvd.	2017-2020: 17801; 2021: 17846	2017-2020: 412; 2021: 413	1	0	no
11	3ST2x2le5	KY1865	Cogan Blvd.	2022: 17892	2022: 414	1	0	no
12	3ST2x2le5	CSD:KY1865	Jones Drive	2017-2020: 17801; 2021: 17846	2017-2021: 50	1	0	yes
12	3ST2x2le5	KY1865	Jones Drive	2022: 17892	2022: 50	1	0	yes

**Table 17. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	3ST	KY1865	Brown Austin Road	1.038	0.332	1.0378	0.2540	0.7838	0.3324	0.1793	0.1532	0.7053	0.0747	0.6306	0.15	1.0378
2	3ST	KY1865	Star Lane	0.160	0.297	0.1602	0.0876	0.0726	0.2969	0.1619	0.1350	-0.1366	-0.0742	-0.0624	0.02	0.1602
3	3ST	KY1865	Candlelight Lane	2.362	1.233	2.3619	0.6658	1.6961	1.2331	0.4770	0.7561	1.1288	0.1889	0.9400	0.35	2.3619
4	3ST	KY1865	Harpers Ferry Road	2.947	1.227	2.9467	1.2262	1.7204	1.2267	0.4752	0.7516	1.7199	0.7511	0.9689	0.44	2.9467
5	3ST	KY1865	Angeletta Way	0.234	0.213	0.2341	0.1540	0.0800	0.2135	0.1245	0.0890	0.0206	0.0295	-0.0090	0.04	0.2341
6	3ST	KY1865	Mary Ellen Drive/School Driveway	0.253	0.702	0.2528	0.1305	0.1223	0.7024	0.3141	0.3884	-0.4496	-0.1836	-0.2660	0.04	0.2528
7	3ST	KY1865	Indian Trail	0.187	0.153	0.1867	0.0842	0.1024	0.1530	0.0949	0.0580	0.0337	-0.0107	0.0444	0.03	0.1867
8	3ST	KY1865	Scottsdale Blvd.	2.595	1.389	2.5948	0.9535	1.6413	1.3893	0.4998	0.8895	1.2055	0.4537	0.7518	0.37	2.5948
9	3ST	KY1865	Auburn Oaks Drive	0.722	0.887	0.7223	0.2917	0.4306	0.8868	0.3739	0.5129	-0.1645	-0.0822	-0.0824	0.11	0.7223
10	3ST	KY1865	Bakers Lane	1.457	0.816	1.4573	0.2077	1.2496	0.8161	0.3514	0.4647	0.6413	-0.1437	0.7849	0.22	1.4573
11	3ST	KY1865	Cogan Blvd.	0.699	0.760	0.6991	0.1836	0.5156	0.7603	0.3333	0.4270	-0.0611	-0.1497	0.0886	0.11	0.6991
12	3ST	KY1865	Jones Drive	1.563	0.285	1.5631	0.3415	1.2216	0.2849	0.1536	0.1313	1.2782	0.1879	1.0903	0.24	1.5631
		Total	Total	14.217	8.295	14.2168	4.5804	9.6364	8.2954	3.5387	4.7567	5.9215	1.0417	4.8798	0.18	14.2168

**Table 18. Predicted Crash Frequencies by Year (3ST)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	8.29	3.54	42.659	4.76	57.341
Total	8.29	3.54	42.659	4.76	57.341
Average	8.29	3.54	42.659	4.76	57.341

**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 19. Expected Crash Frequencies by Year (3ST)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	14.22	4.58	32.218	9.64	67.782
Total	14.22	4.58	32.218	9.64	67.782
Average	14.22	4.58	32.218	9.64	67.782

**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 20. Comparing Predicted and Expected Crashes for the Evaluation Period (3ST)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	8.29	3.54	42.659	4.76	57.341
Expected	14.22	4.58	32.218	9.64	67.782
Expected - Predicted	5.92	1.04		4.88	
Percent Difference	41.65	22.74		50.64	

**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 21. Expected 3ST Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.02	0.1	0.02	0.1
Intersection	Collision with Bicycle	0.13	0.9	0.00	0.0	0.13	0.9
Intersection	Collision with Fixed Object	0.27	1.9	0.75	5.3	1.02	7.2
Intersection	Non-Collision	0.04	0.3	0.03	0.2	0.06	0.5
Intersection	Collision with Other Object	0.03	0.2	0.08	0.6	0.11	0.8
Intersection	Other Single-vehicle Collision	0.01	0.1	0.02	0.1	0.03	0.2
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.17	1.2	0.00	0.0	0.17	1.2
Intersection	Total Intersection Single Vehicle Crashes	0.65	4.6	0.90	6.3	1.55	10.9
Intersection	Angle Collision	1.35	9.5	2.29	16.1	3.64	25.6
Intersection	Head-on Collision	0.18	1.2	0.20	1.4	0.38	2.7
Intersection	Other Multi-vehicle Collision	0.26	1.8	2.05	14.4	2.31	16.2
Intersection	Rear-end Collision	1.66	11.6	3.85	27.0	5.50	38.7
Intersection	Sideswipe	0.49	3.5	0.35	2.5	0.84	5.9
Intersection	Total Intersection Multiple Vehicle Crashes	3.93	27.7	8.74	61.5	12.67	89.1
Intersection	Total Intersection Crashes	4.58	32.2	9.64	67.8	14.22	100.0
	Total Crashes	4.58	32.2	9.64	67.8	14.22	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.

### Site Type

**Type:** 4ST

**Calibration Factor:** 1

**Table 22. Observed Crashes Used in the Evaluation (4ST)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	1	1	0	0	1
2018	0	0	0	0	0
2019	0	0	0	0	0
2020	0	0	0	0	0
2021	1	1	1	0	0
All Years	2 &nbsp; <sup>[1]</sup>	2	1	0	1

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 23. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites**

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting
1	4ST2x2le5	CSD:KY1865	Westview Drive/Glen Hollow Drive	2017-2018: 21345; 2019: 21400; 2020: 21456; 2021: 21511	2017-2021: 110	2	0	yes
1	4ST2x2le5	KY1865	Westview Drive/Glen Hollow Drive	2022: 21567	2022: 110	2	0	yes

**Table 24. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	4ST	KY1865	Westview Drive/Glen Hollow Drive	0.663	0.911	0.6628	0.2973	0.3655	0.9108	0.3560	0.5548	-0.2480	-0.0587	-0.1893	0.08	0.6628
		Total	Total	0.663	0.911	0.6628	0.2973	0.3655	0.9108	0.3560	0.5548	-0.2480	-0.0587	-0.1893	0.08	0.6628

**Table 25. Predicted Crash Frequencies by Year (4ST)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	0.91	0.36	39.082	0.56	60.918
Total	0.91	0.36	39.082	0.56	60.918
Average	0.91	0.36	39.082	0.56	60.918

**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 26. Expected Crash Frequencies by Year (4ST)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	0.66	0.30	44.854	0.37	55.146
Total	0.66	0.30	44.854	0.37	55.146
Average	0.66	0.30	44.854	0.37	55.146

**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 27. Comparing Predicted and Expected Crashes for the Evaluation Period (4ST)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	0.91	0.36	39.082	0.56	60.918
Expected	0.66	0.30	44.854	0.37	55.146
Expected - Predicted	-0.25	-0.06		-0.19	
Percent Difference	-37.42	-19.73		-51.80	

**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 28. Expected 4ST Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.00	0.2	0.00	0.2
Intersection	Collision with Bicycle	0.02	2.4	0.00	0.0	0.02	2.4
Intersection	Collision with Fixed Object	0.02	3.5	0.04	6.0	0.06	9.5
Intersection	Non-Collision	0.01	0.9	0.00	0.3	0.01	1.3
Intersection	Collision with Other Object	0.00	0.5	0.00	0.5	0.01	1.0
Intersection	Other Single-vehicle Collision	0.00	0.3	0.00	0.1	0.00	0.3
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.02	2.9	0.00	0.0	0.02	2.9
Intersection	Total Intersection Single Vehicle Crashes	0.07	10.5	0.05	7.1	0.12	17.6
Intersection	Angle Collision	0.10	15.1	0.11	16.1	0.21	31.2
Intersection	Head-on Collision	0.01	1.4	0.01	1.4	0.02	2.9
Intersection	Other Multi-vehicle Collision	0.01	2.1	0.07	10.4	0.08	12.5
Intersection	Rear-end Collision	0.08	11.6	0.12	18.0	0.20	29.6
Intersection	Sideswipe	0.03	4.2	0.01	2.1	0.04	6.3
Intersection	Total Intersection Multiple Vehicle Crashes	0.23	34.3	0.32	48.1	0.55	82.4
Intersection	Total Intersection Crashes	0.30	44.9	0.37	55.1	0.66	100.0
	Total Crashes	0.30	44.9	0.37	55.1	0.66	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.

### Site Type

**Type:** 4SG

**Calibration Factor:** 1

**Table 29. Observed Crashes Used in the Evaluation (4SG)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	45	44	7	0	37
2018	45	45	11	0	34
2019	63	62	10	0	52
2020	39	39	17	0	22
2021	33	33	9	0	24
All Years	225 &nbsp; <sup>[1]</sup>	223	54	0	169

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 30. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites**

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting	Number of Approaches with Permissive Left-Turn Phasing	Number of Approaches with Permissive/Protected or Protected/Permissive Left-Turn Phasing	Number of Approaches with Protected Left-Turn Phasing	Number of Approaches on which Right Turn on Red is Prohibited	Presence of Red-Light Cameras	Pedestrian Volumes Crossing all Intersection Legs (crossings/day)	Max. Number of Lanes Crossed by Pedestrians	Number of Bus Stops within 1000 ft of Intersection	Number of Schools within 1000 ft of Intersection	Number of Alcohol Sales Establishments within 1000 ft of Intersection
1	4SG2x2le5	CSD:KY1865	Old New Cut Road	2017-2019: 10050; 2020: 10075; 2021: 10101	2017-2019: 5192; 2020: 5205; 2021: 5218	3	0	no	4	0	0	0	no	0	3	0	0	0
1	4SG2x2le5	KY1865	Old New Cut Road	2022: 10127	2022: 5232	3	0	no	4	0	0	0	no	0	3	0	0	0
2	4SG2x2le5	CSD:KY1865	1065/Outer Loop	2017-2020: 18870; 2021: 18918	2017-2020: 15793; 2021: 15833	4	4	no	0	4	0	0	no	0	5	0	0	3
2	4SG2x2le5	KY1865	1065/Outer Loop	2022: 18966	2022: 15874	4	4	no	0	4	0	0	no	0	5	0	0	3
3	4SG2x2le5	CSD:KY1865	Kroger	2017-2020: 17801; 2021: 17846	2017-2021: 1000	3	1	no	4	0	0	0	no	0	5	2	1	3
3	4SG2x2le5	KY1865	Kroger	2022: 17892	2022: 1000	3	1	no	4	0	0	0	no	0	5	2	1	3
4	4SG2x2le5	CSD:KY1865	Southside Dr.	2017-2020: 17801; 2021: 17846	2017-2020: 12096; 2021: 12127	4	0	yes	0	4	0	0	no	0	5	2	1	3
4	4SG2x2le5	KY1865	Southside Dr.	2022: 17892	2022: 12158	4	0	yes	0	4	0	0	no	0	5	2	1	3

**Table 31. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	4SG	KY1865	Old New Cut Road	2.591	1.876	2.5906	1.1216	1.4689	1.8757	0.5951	1.2806	0.7149	0.5265	0.1884	0.46	2.5906
2	4SG	KY1865	1065/Outer Loop	20.961	3.448	20.9611	4.0700	16.8911	3.4484	1.1396	2.3088	17.5127	2.9304	14.5823	1.65	20.9611
3	4SG	KY1865	Kroger	4.407	2.219	4.4071	1.0852	3.3219	2.2187	0.7523	1.4664	2.1884	0.3328	1.8556	0.64	4.4071
4	4SG	KY1865	Southside Dr.	12.032	3.267	12.0317	2.4906	9.5411	3.2672	1.0774	2.1898	8.7645	1.4132	7.3513	1.10	12.0317
	Total	Total	Total	39.990	10.810	39.9905	8.7674	31.2231	10.8100	3.5644	7.2456	29.1805	5.2030	23.9775	1.11	39.9905

**Table 32. Predicted Crash Frequencies by Year (4SG)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	10.81	3.56	32.973	7.25	67.027
Total	10.81	3.56	32.973	7.25	67.027
Average	10.81	3.56	32.973	7.25	67.027

**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 33. Expected Crash Frequencies by Year (4SG)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	39.99	8.77	21.924	31.22	78.076
Total	39.99	8.77	21.924	31.22	78.076
Average	39.99	8.77	21.924	31.22	78.076

**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 34. Comparing Predicted and Expected Crashes for the Evaluation Period (4SG)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	10.81	3.56	32.973	7.25	67.027
Expected	39.99	8.77	21.924	31.22	78.076
Expected - Predicted	29.18	5.20		23.98	
Percent Difference	72.97	59.34		76.79	

**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 35. Expected 4SG Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.16	0.4	0.00	0.0	0.16	0.4
Intersection	Collision with Fixed Object	0.14	0.3	0.44	1.1	0.57	1.4
Intersection	Non-Collision	0.03	0.1	0.02	0.0	0.04	0.1
Intersection	Collision with Other Object	0.01	0.0	0.04	0.1	0.05	0.1
Intersection	Other Single-vehicle Collision	0.01	0.0	0.01	0.0	0.02	0.0
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Total Intersection Single Vehicle Crashes	0.34	0.9	0.50	1.3	0.84	2.1
Intersection	Angle Collision	2.92	7.3	7.50	18.7	10.42	26.1
Intersection	Head-on Collision	0.41	1.0	0.92	2.3	1.33	3.3
Intersection	Other Multi-vehicle Collision	0.46	1.2	6.48	16.2	6.95	17.4
Intersection	Rear-end Collision	3.79	9.5	14.84	37.1	18.63	46.6
Intersection	Sideswipe	0.83	2.1	0.98	2.5	1.82	4.5
Intersection	Total Intersection Multiple Vehicle Crashes	8.43	21.1	30.72	76.8	39.15	97.9
Intersection	Total Intersection Crashes	8.77	21.9	31.22	78.1	39.99	100.0
	Total Crashes	8.77	21.9	31.22	78.1	39.99	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.

## Freeway Ramp Terminal Site Set CPM Evaluation

### Site Type

**Type:** Ramp Terminal

**Calibration Factor:** RT\_ST\_FI=1.0, RT\_ST\_PDO=1.0, RT\_SG\_FI=1.0, RT\_SG\_PDO=1.0

**Table 36. Observed Crashes Used in the Evaluation (Ramp Terminal)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	9	9	2	0	7
2018	12	12	2	0	10
2019	4	4	1	0	3
2020	5	5	1	0	4
2021	3	3	2	0	1
All Years	33 &nbsp;&nbsp;&nbsp; <sup>[1]</sup>	33	8	0	25

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 37. Evaluation and Crash Data (CSD) (if applicable) Ramp Terminal - Homogeneous Sites**

Site No.	Type	Ramp Terminal	Site Description	Area Type	Traffic Control	AADT
1	D4 - Four-Leg with Diagonal Ramps	CSD:KY 1865	EB Ramp Terminal	Rural	Signalized	Inside: 2017-2020: 18860; 2021: 18908; Outside: 2017-2020: 9567; 2021: 9591 :: Entrance: 2017-2020: 7742; 2021: 7761; Exit: 2017-2020: 3289; 2021: 3297
1	D4 - Four-Leg with Diagonal Ramps	KY 1865	EB Ramp Terminal	Rural	Signalized	Inside: 2022: 18957; Outside: 2022: 9616 :: Entrance: 2022: 7781; Exit: 2022: 3305
2	D4 - Four-Leg with Diagonal Ramps	CSD:KY 1865	WB Ramp Terminal	Rural	Stop-Controlled	Inside: 2017-2020: 18860; 2021: 18908; Outside: 2017-2020: 18860; 2021: 18908 :: Entrance: 2017-2020: 4236; 2021: 4246; Exit: 2017-2020: 7036; 2021: 7054
2	D4 - Four-Leg with Diagonal Ramps	KY 1865	WB Ramp Terminal	Rural	Stop-Controlled	Inside: 2022: 18957; Outside: 2022: 18957 :: Entrance: 2022: 4257; Exit: 2022: 7072

**Table 38. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Ramp Terminal	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	D4 - Four-Leg with Diagonal Ramps	KY 1865	EB Ramp Terminal	4.732	5.060	4.7318	1.6524	3.0795	5.0597	1.8462	3.2135	-0.3278	-0.1938	-0.1340	0.65	4.7318
2	D4 - Four-Leg with Diagonal Ramps	KY 1865	WB Ramp Terminal	2.852	5.245	2.8518	0.5654	2.2863	5.2453	1.8933	3.3520	-2.3935	-1.3279	-1.0657	0.32	2.8518
		Total	Total	7.584	10.305	7.5836	2.2178	5.3658	10.3050	3.7395	6.5655	-2.7214	-1.5217	-1.1996	0.47	7.5836

**Table 39. Predicted Crash Frequencies by Year (Ramp Terminal)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	10.30	3.74	36.288	6.57	63.712
Total	10.30	3.74	36.288	6.57	63.712
Average	10.30	3.74	36.288	6.57	63.712

**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 40. Expected Crash Frequencies by Year (Ramp Terminal)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	7.58	2.22	29.244	5.37	70.756
Total	7.58	2.22	29.244	5.37	70.756
Average	7.58	2.22	29.244	5.37	70.756

**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 41. Comparing Predicted and Expected Crashes for the Evaluation Period (Ramp Terminal)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	10.30	3.74	36.288	6.57	63.712
Expected	7.58	2.22	29.244	5.37	70.756
Expected - Predicted	-2.72	-1.52		-1.20	
Percent Difference	-35.88	-68.61		-22.36	

**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 42. Expected Ramp Terminal Crash Severity**

Site No.	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	0.0032	0.0808	0.3931	1.1752	3.0795
2	0.0067	0.0351	0.1162	0.4075	2.2863
Total	0.0099	0.1159	0.5093	1.5826	5.3658

**Table 43. Expected Ramp Terminal Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Ramp Terminal	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Ramp Terminal	Collision with Fixed Object	0.12	1.5	0.60	7.9	0.71	9.4
Ramp Terminal	Collision with Other Object	0.00	0.0	0.01	0.2	0.01	0.2
Ramp Terminal	Other Single-vehicle Collision	0.13	1.7	0.12	1.6	0.25	3.3
Ramp Terminal	Collision with Parked Vehicle	0.00	0.1	0.07	1.0	0.08	1.0
Ramp Terminal	Total Single Vehicle Crashes	0.25	3.3	0.80	10.6	1.05	13.9
Ramp Terminal	Right-Angle Collision	0.84	11.1	1.43	18.8	2.27	30.0
Ramp Terminal	Head-on Collision	0.01	0.1	0.05	0.7	0.06	0.8
Ramp Terminal	Other Multi-vehicle Collision	0.03	0.4	0.10	1.3	0.13	1.7
Ramp Terminal	Rear-end Collision	1.07	14.1	2.07	27.2	3.13	41.3
Ramp Terminal	Sideswipe, Same Direction Collision	0.01	0.1	0.92	12.1	0.93	12.3
Ramp Terminal	Total Multiple Vehicle Crashes	1.97	25.9	4.56	60.2	6.53	86.1
Ramp Terminal	Total Ramp Terminal Crashes	2.22	29.2	5.37	70.8	7.58	100.0
	Total Crashes	2.22	29.2	5.37	70.8	7.58	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 44. Evaluation Message**

Message
Warning: SiteFRE_RAMP_TERMINAL :Site number 2 - The value for the inside crossroad traffic volume (18860.0) for year 2020 is not within the model limit (18000) for reliable results.
Warning: SiteFRE_RAMP_TERMINAL :Site number 2 - The value for the outside crossroad traffic volume (18860.0) for year 2020 is not within the model limit (18000) for reliable results.
Warning: SiteFRE_RAMP_TERMINAL :Site number 2 - The value for the inside crossroad traffic volume (20075.0) for year 2045 is not within the model limit (18000) for reliable results.
Warning: SiteFRE_RAMP_TERMINAL :Site number 2 - The value for the outside crossroad traffic volume (20075.0) for year 2045 is not within the model limit (18000) for reliable results.
Warning: SiteFRE_RAMP_TERMINAL :Site number 2 - The value for the inside crossroad traffic volume (18860.0) for year 2020 is not within the model limit (18000) for reliable results.
Warning: SiteFRE_RAMP_TERMINAL :Site number 2 - The value for the outside crossroad traffic volume (18860.0) for year 2020 is not within the model limit (18000) for reliable results.
Warning: SiteFRE_RAMP_TERMINAL :Site number 2 - The value for the inside crossroad traffic volume (20075.0) for year 2045 is not within the model limit (18000) for reliable results.
Warning: SiteFRE_RAMP_TERMINAL :Site number 2 - The value for the outside crossroad traffic volume (20075.0) for year 2045 is not within the model limit (18000) for reliable results.

*Interactive Highway Safety Design Model*

**Crash Prediction Evaluation Report**

October 1, 2024



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## Report Overview

**Report Generated:** Oct 1, 2024 2:49 PM

**Report Template:** System: Multi-Page [System] (sscpm2, Jul 23, 2021 5:16 PM)

**Evaluation Date:** Wed Jun 22 14:02:56 EDT 2022

**IHSDM Version:** v17.0.0 (Sep 22, 2021)

**Site Set Crash Prediction Module:** v|ModuleInfo.moduleVersion| (|ModuleInfo.moduleDate|)

**User Name:** schenk

**Organization Name:**

**Phone:**

**E-Mail:**

**Project Title:** KY 1865

**Project Comment:** Created Thu May 12 13:33:50 EDT 2022

**Project Unit System:** U.S. Customary

**Site Set:** KY 1865 from Palatka Rd to I-264/Ashland

**Site Set Comment:** Created Thu May 12 13:35:22 EDT 2022

**Site Set Version:** v1

**Evaluation Title:** Existing Conditions - FINAL

**Evaluation Comment:** Created Wed Jun 22 14:02:46 EDT 2022

**Policy for Superelevation:** AASHTO 2011 U.S. Customary

**Calibration:** HSM Configuration

**Crash Distribution:** HSM Configuration

**Model/CMF:** HSM Configuration

**First Year of Analysis:** 2022

**Last Year of Analysis:** 2022

**Empirical-Bayes Analysis:** Site-Specific

**Crash History Siteset:** KY 1865 from Palatka Rd to I-264/Ashland

**Crash History Siteset Comment:** Created Thu May 12 13:35:22 EDT 2022

**Crash History Siteset Version:** 1

**First Year of Observed Crashes:** 2017

**Last Year of Observed Crashes:** 2021

## 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, 17-58, AND 17-68

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.
- Intersection crash prediction methods for some intersection configurations and traffic control types not currently addressed in the HSM (e.g., all-way stop; rural 3-leg signalized; 3-leg stop-controlled where the major leg turns; urban 5-leg signalized; urban high-speed intersections): completed in 2021 under NCHRP Project 17-68.

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, 17-68, 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

### Urban Arterial Site Set CPM Evaluation

Site Type

Type: 4U

Calibration Factor: 1

**Table 1. Observed Crashes Used in the Evaluation (4U)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	50	48	11	0	37
2018	35	34	5	0	29
2019	44	42	13	0	29
2020	27	26	8	0	18
2021	20	20	9	0	11
All Years	176 &nbsp; <sup>[1]</sup>	170	46	0	124

#### Footnotes

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 2. Evaluation and Crash Data (CSD) (if applicable) Segment - Homogeneous Sites**

Site No.	Type	Highway	Site Description	Length (mi)	AADT	Number of Major Commercial Driveways	Number of Minor Commercial Driveways	Number of Major Industrial/Institutional Driveways	Number of Minor Industrial/Institutional Driveways	Number of Major Residential Driveways	Number of Minor Residential Driveways	Number of Other Driveways	Lighting	Automated Speed Enforcement	Offset to Fixed Objects (ft)	Fixed-Object Density (fixed objects/mi)	Type of Parking /Land Use - Right Side	Proportion of Right Side Curb Length with Parking	Type of Parking /Land Use - Left Side	Proportion of Left Side Curb Length with Parking	Speed Category
1	4U	CSD:KY 1865	Palatka Rd to Woodmore Ave	0.0600	2017-2021: 23400	2	2	0	0	0	0	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
1	4U	KY 1865	Palatka Rd to Woodmore Ave	0.0600	2022: 23400	2	2	0	0	0	0	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
2	4U	CSD:KY 1865	Woodmore Ave to Wilderness Rd	0.1700	2017-2021: 23400	0	1	0	0	0	20	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
2	4U	KY 1865	Woodmore Ave to Wilderness Rd	0.1700	2022: 23400	0	1	0	0	0	20	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
3	4U	CSD:KY 1865	Wilderness Rd to Iroquois Garden Dr	0.0300	2017-2021: 23400	0	0	0	0	1	0	0	yes	no	7.00	50.0	No Parking	0.000	No Parking	0.000	Intermediate/High
3	4U	KY 1865	Wilderness Rd to Iroquois Garden Dr	0.0300	2022: 23400	0	0	0	0	1	0	0	yes	no	7.00	50.0	No Parking	0.000	No Parking	0.000	Intermediate/High
4	4U	CSD:KY 1865	Iroquois Garden Dr to Park Rd	0.1200	2017-2021: 23400	0	0	0	0	0	8	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
4	4U	KY 1865	Iroquois Garden Dr to Park Rd	0.1200	2022: 23400	0	0	0	0	0	8	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
5	4U	CSD:KY 1865	Park Rd to Frisbee Way	0.2300	2017-2021: 24900	0	0	0	0	0	15	0	yes	no	7.00	40.0	No Parking	0.000	No Parking	0.000	Intermediate/High
5	4U	KY 1865	Park Rd to Frisbee Way	0.2300	2022: 24900	0	0	0	0	0	15	0	yes	no	7.00	40.0	No Parking	0.000	No Parking	0.000	Intermediate/High
6	4U	CSD:KY 1865	Frisbee Way to Orchard Hill Dr	0.0200	2017-2021: 24900	0	0	0	0	0	0	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
6	4U	KY 1865	Frisbee Way to Orchard Hill Dr	0.0200	2022: 24900	0	0	0	0	0	0	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
7	4U	CSD:KY 1865	Orchard Hill Dr to Driveway - Colonial Gardens	0.0800	2017-2021: 24900	2	1	0	0	0	0	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
7	4U	KY 1865	Orchard Hill Dr to Driveway - Colonial Gardens	0.0800	2022: 24900	2	1	0	0	0	0	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
8	4U	CSD:KY 1865	Driveway - Colonial Gardens to Kenwood Dr/Knoll Gate Rd	0.0600	2017-2021: 24900	0	0	0	0	0	0	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
8	4U	KY 1865	Driveway - Colonial Gardens to Kenwood Dr/Knoll Gate Rd	0.0600	2022: 24900	0	0	0	0	0	0	0	yes	no	7.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
9	4U	CSD:KY 1865	Norton Children's Medical Group to Inverness Ave	0.0800	2017-2021: 24300	0	1	0	0	0	1	0	yes	no	5.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
9	4U	KY 1865	Norton Children's Medical Group to Inverness Ave	0.0800	2022: 24300	0	1	0	0	0	1	0	yes	no	5.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
10	4U	CSD:KY 1865	Inverness Ave to Gheens Ave	0.0800	2017-2021: 24300	0	0	0	0	0	1	0	yes	no	5.00	50.0	No Parking	0.000	No Parking	0.000	Intermediate/High
10	4U	KY 1865	Inverness Ave to Gheens Ave	0.0800	2022: 24300	0	0	0	0	0	1	0	yes	no	5.00	50.0	No Parking	0.000	No Parking	0.000	Intermediate/High
11	4U	CSD:KY 1865	Gheens Ave to Iroquois Ave	0.0800	2017-2021: 24300	0	0	0	0	0	4	0	yes	no	5.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
11	4U	KY 1865	Gheens Ave to Iroquois Ave	0.0800	2022: 24300	0	0	0	0	0	4	0	yes	no	5.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
12	4U	CSD:KY 1865	Iroquois Ave to Southland Terrace	0.1000	2017-2021: 24300	0	0	0	0	0	6	0	yes	no	5.00	50.0	No Parking	0.000	No Parking	0.000	Intermediate/High
12	4U	KY 1865	Iroquois Ave to Southland Terrace	0.1000	2022: 24300	0	0	0	0	0	6	0	yes	no	5.00	50.0	No Parking	0.000	No Parking	0.000	Intermediate/High

Site No.	Type	Highway	Site Description	Length (mi)	AADT	Number of Major Commercial Driveways	Number of Minor Commercial Driveways	Number of Major Industrial/Institutional Driveways	Number of Minor Industrial/Institutional Driveways	Number of Major Residential Driveways	Number of Minor Residential Driveways	Number of Other Driveways	Lighting	Automated Speed Enforcement	Offset to Fixed Objects (ft)	Fixed-Object Density (fixed objects/mi)	Type of Parking /Land Use - Right Side	Proportion of Right Side Curb Length with Parking	Type of Parking /Land Use - Left Side	Proportion of Left Side Curb Length with Parking	Speed Category
13	4U	CSD:KY 1865	Southland Terrace to Southern Pkwy	0.160	2017-2021: 24300	0	0	0	0	0	9	0	yes	no	5.00	50.0	No Parking	0.000	No Parking	0.000	Intermediate/High
13	4U	KY 1865	Southland Terrace to Southern Pkwy	0.160	2022: 24300	0	0	0	0	0	9	0	yes	no	5.00	50.0	No Parking	0.000	No Parking	0.000	Intermediate/High
14	4U	CSD:KY 1865	Carol Jean Ct to Iroquois H.S. S. Entrance/Huntoon Ave	0.060	2017-2021: 20800	0	0	0	0	0	3	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
14	4U	KY 1865	Carol Jean Ct to Iroquois H.S. S. Entrance/Huntoon Ave	0.060	2022: 20800	0	0	0	0	0	3	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
15	4U	CSD:KY 1865	Iroquois H.S. S. Entrance/Huntoon Ave to Haskin Ave	0.060	2017-2021: 20800	0	0	0	0	0	2	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
15	4U	KY 1865	Iroquois H.S. S. Entrance/Huntoon Ave to Haskin Ave	0.060	2022: 20800	0	0	0	0	0	2	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
16	4U	CSD:KY 1865	Haskin Ave to Iroquois H.S. Middle Entrance	0.020	2017-2021: 20800	0	0	0	0	0	1	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
16	4U	KY 1865	Haskin Ave to Iroquois H.S. Middle Entrance	0.020	2022: 20800	0	0	0	0	0	1	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
17	4U	CSD:KY 1865	Iroquois H.S. Middle Entrance to Arling Ave	0.040	2017-2021: 20800	0	0	0	0	0	5	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
17	4U	KY 1865	Iroquois H.S. Middle Entrance to Arling Ave	0.040	2022: 20800	0	0	0	0	0	5	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
18	4U	CSD:KY 1865	Arling Ave to Iroquois H.S. N. Entrance	0.020	2017-2021: 20800	0	0	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
18	4U	KY 1865	Arling Ave to Iroquois H.S. N. Entrance	0.020	2022: 20800	0	0	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
19	4U	CSD:KY 1865	Iroquois H.S. N. Entrant to Shingo Ave	0.040	2017-2021: 20800	0	0	0	0	0	2	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
19	4U	KY 1865	Iroquois H.S. N. Entrant to Shingo Ave	0.040	2022: 20800	0	0	0	0	0	2	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
20	4U	CSD:KY 1865	Shingo Ave to Unnamed Alley near Brookline Ave	0.030	2017-2021: 20800	0	0	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
20	4U	KY 1865	Shingo Ave to Unnamed Alley near Brookline Ave	0.030	2022: 20800	0	0	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
21	4U	CSD:KY 1865	Unnamed Allwy near Brookline Ave to Brookline Ave	0.020	2017-2021: 20800	0	0	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
21	4U	KY 1865	Unnamed Allwy near Brookline Ave to Brookline Ave	0.020	2022: 20800	0	0	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
22	4U	CSD:KY 1865	Brookline Ave to Walter Ave	0.050	2017-2021: 18320	2	0	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
22	4U	KY 1865	Brookline Ave to Walter Ave	0.050	2022: 18320	2	0	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
23	4U	CSD:KY 1865	Walter Ave to Oakwood Ave	0.070	2017-2021: 18320	0	6	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
23	4U	KY 1865	Walter Ave to Oakwood Ave	0.070	2022: 18320	0	6	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
24	4U	CSD:KY 1865	Oakwood Ave to Oakwood Ave	0.020	2017-2021: 18320	0	1	0	0	0	1	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
24	4U	KY 1865	Oakwood Ave to Oakwood Ave	0.020	2022: 18320	0	1	0	0	0	1	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
25	4U	CSD:KY 1865	Oakwood Ave to Lynhurst Ave	0.090	2017-2021: 18320	0	3	0	0	0	5	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
25	4U	KY 1865	Oakwood Ave to Lynhurst Ave	0.090	2022: 18320	0	3	0	0	0	5	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High

Site No.	Type	Highway	Site Description	Length (mi)	AADT	Number of Major Commercial Driveways	Number of Minor Commercial Driveways	Number of Major Industrial/Institutional Driveways	Number of Minor Industrial/Institutional Driveways	Number of Major Residential Driveways	Number of Minor Residential Driveways	Number of Other Driveways	Lighting	Automated Speed Enforcement	Offset to Fixed Objects (ft)	Fixed-Object Density (fixed objects/mi)	Type of Parking /Land Use - Right Side	Proportion of Right Side Curb Length with Parking	Type of Parking /Land Use - Left Side	Proportion of Left Side Curb Length with Parking	Speed Category	
26	4U	CSD:KY 1865	Lynhurst Ave to Lynhurst Ave	0.020	2017-2021: 18320	0	1	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
26	4U	KY 1865	Lynhurst Ave to Lynhurst Ave	0.020	2022: 18320	0	1	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
27	4U	CSD:KY 1865	Lynhurst Ave to Alley - Hazelwood Baptist	0.020	2017-2021: 18320	0	1	0	0	0	0	1	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
27	4U	KY 1865	Lynhurst Ave to Alley - Hazelwood Baptist	0.020	2022: 18320	0	1	0	0	0	0	1	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
28	4U	CSD:KY 1865	Alley - Hazelwood Baptist to Bluegrass Ave	0.050	2017-2021: 18320	0	1	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
28	4U	KY 1865	Alley - Hazelwood Baptist to Bluegrass Ave	0.050	2022: 18320	0	1	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
29	4U	CSD:KY 1865	Bluegrass Ave to Lehigh Ave	0.062	2017-2021: 24200	0	1	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
29	4U	KY 1865	Bluegrass Ave to Lehigh Ave	0.062	2022: 24200	0	1	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
30	4U	CSD:KY 1865	Lehigh Ave to Woodlawn Ave	0.060	2017-2021: 24200	1	3	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
30	4U	KY 1865	Lehigh Ave to Woodlawn Ave	0.060	2022: 24200	1	3	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
31	4U	CSD:KY 1865	Woodlawn Ave to Matha Ave	0.070	2017-2021: 24200	2	2	0	0	0	0	2	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
31	4U	KY 1865	Woodlawn Ave to Matha Ave	0.070	2022: 24200	2	2	0	0	0	0	2	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
32	4U	CSD:KY 1865	Matha Ave to Bicknell Ave	0.050	2017-2021: 24200	1	3	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
32	4U	KY 1865	Matha Ave to Bicknell Ave	0.050	2022: 24200	1	3	0	0	0	0	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High	
33	4U	CSD:KY 1865	Bicknell Ave to Carrico Ave	0.070	2017-2021: 27800	0	0	0	0	0	0	7	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
33	4U	KY 1865	Bicknell Ave to Carrico Ave	0.070	2022: 27800	0	0	0	0	0	0	7	0	yes	no	2.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
34	4U	CSD:KY 1865	Carrico Ave to Carrico Ave/Manitou Ave	0.050	2017-2021: 27800	0	0	0	0	0	0	5	0	yes	no	10.00	45.0	No Parking	0.000	No Parking	0.000	Intermediate/High
34	4U	KY 1865	Carrico Ave to Carrico Ave/Manitou Ave	0.050	2022: 27800	0	0	0	0	0	0	5	0	yes	no	10.00	45.0	No Parking	0.000	No Parking	0.000	Intermediate/High

**Table 3. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Length (mi)	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Crash Rate (crashes/mi/yr)	Expected Travel Crash Rate (crashes/mi llion veh-mi)
1	4U	KY 1865	Palatka Rd to Woodmore Ave	0.0600	0.728	1.454	0.7284	0.1917	0.5368	1.4541	0.4809	0.9732	-0.7256	-0.2892	-0.4364	12.1404	1.42
2	4U	KY 1865	Woodmore Ave to Wilderness Rd	0.1700	1.112	2.236	1.1118	0.5237	0.5881	2.2355	0.7045	1.5310	-1.1237	-0.1808	-0.9429	6.5400	0.77
3	4U	KY 1865	Wilderness Rd to Iroquois Garden Dr	0.0300	0.429	0.403	0.4286	0.1534	0.2752	0.4026	0.1283	0.2744	0.0260	0.0251	0.0008	14.2873	1.67
4	4U	KY 1865	Iroquois Garden Dr to Park Rd	0.1200	1.204	1.276	1.2036	0.2009	1.0027	1.2758	0.3918	0.8840	-0.0722	-0.1909	0.1186	10.0298	1.17
5	4U	KY 1865	Park Rd to Frisbee Way	0.2300	3.017	2.322	3.0169	1.0194	1.9975	2.3219	0.7097	1.6122	0.6950	0.3097	0.3853	13.1171	1.44
6	4U	KY 1865	Frisbee Way to Orchard Hill Dr	0.0200	0.112	0.178	0.1119	0.0378	0.0741	0.1778	0.0522	0.1257	-0.0660	-0.0143	-0.0516	5.5940	0.62
7	4U	KY 1865	Orchard Hill Dr to Driveway - Colonial Gardens	0.0800	1.632	1.619	1.6321	0.4279	1.2042	1.6193	0.5256	1.0937	0.0128	-0.0977	0.1105	20.4009	2.25
8	4U	KY 1865	Driveway - Colonial Gardens to Kenwood Dr/Knoll Gate Rd	0.0600	0.205	0.533	0.2047	0.0784	0.1263	0.5335	0.1565	0.3771	-0.3288	-0.0781	-0.2507	3.4121	0.38
9	4U	KY 1865	Norton Children's Medical Group to Inverness Ave	0.0800	0.333	0.883	0.3332	0.1318	0.2014	0.8829	0.2686	0.6143	-0.5497	-0.1368	-0.4129	4.1644	0.47
10	4U	KY 1865	Inverness Ave to Gheens Ave	0.0800	0.986	0.687	0.9856	0.1270	0.8586	0.6869	0.2038	0.4831	0.2987	-0.0769	0.3756	12.3198	1.39
11	4U	KY 1865	Gheens Ave to Iroquois Ave	0.0800	0.849	0.874	0.8493	0.2593	0.5900	0.8742	0.2656	0.6086	-0.0248	-0.0062	-0.0186	10.6169	1.20
12	4U	KY 1865	Iroquois Ave to Southland Terrace	0.1000	0.979	1.027	0.9788	0.2811	0.6977	1.0273	0.3137	0.7136	-0.0485	-0.0326	-0.0159	9.7884	1.10
13	4U	KY 1865	Southland Terrace to Southern Pkwy	0.1600	1.107	1.622	1.1075	0.7865	0.3210	1.6224	0.4945	1.1279	-0.5149	0.2921	-0.8070	6.9219	0.78
14	4U	KY 1865	Carol Jean Ct to Iroquois H.S. S. Entrance/Huntoon Ave	0.0600	0.563	0.653	0.5634	0.1289	0.4344	0.6533	0.2006	0.4527	-0.0900	-0.0717	-0.0183	9.3892	1.24
15	4U	KY 1865	Iroquois H.S. S. Entrance/Huntoon Ave to Haskin Ave	0.0600	0.818	0.614	0.8178	0.2148	0.6030	0.6140	0.1869	0.4271	0.2038	0.0279	0.1758	13.6293	1.79
16	4U	KY 1865	Haskin Ave to Iroquois H.S. Middle Entrance	0.0200	0.147	0.218	0.1472	0.0509	0.0963	0.2178	0.0669	0.1509	-0.0706	-0.0160	-0.0546	7.3601	0.97
17	4U	KY 1865	Iroquois H.S. Middle Entrance to Arling Ave	0.0400	0.965	0.554	0.9647	0.1270	0.8377	0.5536	0.1749	0.3786	0.4111	-0.0479	0.4590	24.1174	3.18
18	4U	KY 1865	Arling Ave to Iroquois H.S. N. Entrance	0.0200	0.198	0.178	0.1977	0.0441	0.1537	0.1784	0.0531	0.1253	0.0193	-0.0091	0.0283	9.8866	1.30
19	4U	KY 1865	Iroquois H.S. N. Entrancet to Shingo Ave	0.0400	0.587	0.436	0.5871	0.2644	0.3227	0.4356	0.1337	0.3018	0.1515	0.1307	0.0209	14.6775	1.93
20	4U	KY 1865	Shingo Ave to Unnamed Alley near Brookline Ave	0.0300	0.145	0.268	0.1454	0.0517	0.0937	0.2677	0.0797	0.1880	-0.1223	-0.0280	-0.0943	4.8464	0.64
21	4U	KY 1865	Unnamed Allwy near Brookline Ave to Brookline Ave	0.0200	0.367	0.178	0.3669	0.0955	0.2713	0.1784	0.0531	0.1253	0.1884	0.0424	0.1460	18.3439	2.42
22	4U	KY 1865	Brookline Ave to Walter Ave	0.0500	0.658	1.067	0.6582	0.1677	0.4905	1.0669	0.3541	0.7128	-0.4087	-0.1864	-0.2223	13.1638	1.97
23	4U	KY 1865	Walter Ave to Oakwood Ave	0.0700	1.067	1.189	1.0673	0.3833	0.6839	1.1893	0.3895	0.7998	-0.1221	-0.0062	-0.1159	15.2468	2.28
24	4U	KY 1865	Oakwood Ave to Oakwood Ave	0.0200	0.271	0.296	0.2705	0.1222	0.1482	0.2957	0.0959	0.1998	-0.0252	0.0263	-0.0516	13.5230	2.02
25	4U	KY 1865	Oakwood Ave to Lynhurst Ave	0.0900	1.139	1.184	1.1392	0.2285	0.9107	1.1837	0.3802	0.8035	-0.0445	-0.1517	0.1072	12.6575	1.89
26	4U	KY 1865	Lynhurst Ave to Lynhurst Ave	0.0200	0.377	0.262	0.3774	0.1159	0.2615	0.2618	0.0840	0.1777	0.1156	0.0318	0.0838	18.8705	2.82
27	4U	KY 1865	Lynhurst Ave to Alley - Hazelwood Baptist	0.0200	0.316	0.296	0.3161	0.0835	0.2327	0.2957	0.0959	0.1998	0.0205	-0.0124	0.0329	15.8074	2.36
28	4U	KY 1865	Alley - Hazelwood Baptist to Bluegrass Ave	0.0500	0.497	0.491	0.4973	0.1865	0.3108	0.4906	0.1529	0.3377	0.0067	0.0336	-0.0269	9.9463	1.49
29	4U	KY 1865	Bluegrass Ave to Lehigh Ave	0.0625	0.911	0.824	0.9113	0.1530	0.7583	0.8242	0.2507	0.5735	0.0871	-0.0976	0.1847	14.5812	1.65
30	4U	KY 1865	Lehigh Ave to Woodlawn Ave	0.0600	2.615	1.575	2.6145	0.5176	2.0969	1.5750	0.5143	1.0607	1.0394	0.0033	1.0362	43.5747	4.93
31	4U	KY 1865	Woodlawn Ave to Matha Ave	0.0700	3.335	2.100	3.3349	0.4824	2.8524	2.1003	0.6918	1.4085	1.2346	-0.2093	1.4439	47.6410	5.39
32	4U	KY 1865	Matha Ave to Bicknell Ave	0.0500	3.038	1.467	3.0380	0.7840	2.2540	1.4674	0.4827	0.9847	1.5706	0.3013	1.2693	60.7602	6.88
33	4U	KY 1865	Bicknell Ave to Carrico Ave	0.0700	1.906	1.283	1.9060	0.5948	1.3112	1.2826	0.3954	0.8872	0.6234	0.1995	0.4240	27.2287	2.68
34	4U	KY 1865	Carrico Ave to Carrico Ave/Manitau Ave	0.0500	0.602	0.632	0.6022	0.3394	0.2629	0.6316	0.1947	0.4369	-0.0294	0.1446	-0.1741	12.0445	1.19
		Total	Total	2.2425	33.215	30.878	33.2155	9.3551	23.8603	30.8778	9.7264	21.1515	2.3376	-0.3712	2.7089	14.8118	1.75

**Table 4. Predicted Crash Frequencies by Year (4U)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	30.88	9.73	31.500	21.15	68.500
Total	30.88	9.73	31.500	21.15	68.500
Average	30.88	9.73	31.500	21.15	68.500

**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 5. Expected Crash Frequencies by Year (4U)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	33.22	9.36	28.165	23.86	71.835
Total	33.22	9.36	28.165	23.86	71.835
Average	33.22	9.36	28.165	23.86	71.835

**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 6. Comparing Predicted and Expected Crashes for the Evaluation Period (4U)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	30.88	9.73	31.500	21.15	68.500
Expected	33.22	9.36	28.165	23.86	71.835
Expected - Predicted	2.34	-0.37		2.71	
Percent Difference	7.04	-3.97		11.35	

**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. Expected 4U Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Collision with Bicycle	0.06	0.2	0.00	0.0	0.06	0.2
Highway Segment	Collision with Fixed Object	0.48	1.4	2.07	6.2	2.55	7.7
Highway Segment	Collision with Other Object	0.02	0.0	0.07	0.2	0.09	0.3
Highway Segment	Other Single-vehicle Collision	0.29	0.9	0.41	1.2	0.70	2.1
Highway Segment	Collision with Pedestrian	0.28	0.8	0.00	0.0	0.28	0.8
Highway Segment	Total Segment Single Vehicle Crashes	1.12	3.4	2.56	7.7	3.68	11.1
Highway Segment	Angle Collision	1.23	3.7	2.49	7.5	3.72	11.2
Highway Segment	Driveway-related Collision	1.47	4.4	2.13	6.4	3.60	10.8
Highway Segment	Head-on Collision	0.52	1.6	0.08	0.2	0.60	1.8
Highway Segment	Other Multi-vehicle Collision	0.38	1.1	1.53	4.6	1.91	5.8
Highway Segment	Rear-end Collision	3.46	10.4	9.70	29.2	13.16	39.6
Highway Segment	Sideswipe, Opposite Direction Collision	0.56	1.7	0.59	1.8	1.15	3.5
Highway Segment	Sideswipe, Same Direction Collision	0.63	1.9	4.77	14.4	5.40	16.3
Highway Segment	Total Segment Multiple Vehicle Crashes	8.24	24.8	21.30	64.1	29.54	88.9
Highway Segment	Total Highway Segment Crashes	9.36	28.2	23.86	71.8	33.22	100.0
	Total Crashes	9.36	28.2	23.86	71.8	33.22	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.

### Site Type

**Type:** 4D

Calibration Factor: 1

**Table 8. Observed Crashes Used in the Evaluation (4D)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	3	3	0	0	3
2018	3	3	1	0	2
2019	5	4	0	0	4
2020	4	4	1	0	3
2021	1	1	0	0	1
All Years	16 &nbsp; <sup>[1]</sup>	15	2	0	13

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 9. Evaluation and Crash Data (CSD) (if applicable) Segment - Homogeneous Sites**

Site No.	Type	Highway	Site Description	Length (mi)	AADT	Number of Major Commercial Driveways	Number of Minor Commercial Driveways	Number of Major Industrial/Institutional Driveways	Number of Minor Industrial/Institutional Driveways	Number of Major Residential Driveways	Number of Minor Residential Driveways	Number of Other Driveways	Lighting	Automated Speed Enforcement	Offset to Fixed Objects (ft)	Fixed-Object Density (fixed objects/mi)	Effective Median Width (ft)	Median Type	Type of Parking/Land Use - Right Side	Proportion of Right Side Curb Length with Parking	Type of Parking/Land Use - Left Side	Proportion of Left Side Curb Length with Parking	Speed Category
1	4D	CSD:KY 1865	Kenwood Dr/Knoll Gate Rd to Norton's Children's Medical Group	0.0800	2017-2021: 24300	0	4	0	0	0	0	0	yes	no	5.00	75.0	9.00	Non-Traversable Median	No Parking	0.000	No Parking	0.000	Intermediate/High
1	4D	KY 1865	Kenwood Dr/Knoll Gate Rd to Norton's Children's Medical Group	0.0800	2022: 24300	0	4	0	0	0	0	0	yes	no	5.00	75.0	9.00	Non-Traversable Median	No Parking	0.000	No Parking	0.000	Intermediate/High
2	4D	CSD:KY 1865	Southern Pkwy to Carol Jean Ct	0.0700	2017-2021: 20800	0	0	0	0	0	2	0	yes	no	2.00	75.0	10.00	Non-Traversable Median	No Parking	0.000	No Parking	0.000	Intermediate/High
2	4D	KY 1865	Southern Pkwy to Carol Jean Ct	0.0700	2022: 20800	0	0	0	0	0	2	0	yes	no	2.00	75.0	10.00	Non-Traversable Median	No Parking	0.000	No Parking	0.000	Intermediate/High

**Table 10. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Length (mi)	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Crash Rate (crashes/mi/yr)	Expected Travel Crash Rate (crashes/million veh-mi)
1	4D	KY 1865	Kenwood Dr/Knoll Gate Rd to Norton's Children's Medical Group	0.0800	1.529	0.565	1.5287	0.2024	1.3264	0.5651	0.1594	0.4057	0.9636	0.0429	0.9207	19.1094	2.15
2	4D	KY 1865	Southern Pkwy to Carol Jean Ct	0.0700	1.003	0.424	1.0030	0.1718	0.8312	0.4240	0.1183	0.3057	0.5789	0.0535	0.5255	14.3280	1.89
		Total	Total	0.1500	2.532	0.989	2.5317	0.3742	2.1576	0.9892	0.2778	0.7114	1.5426	0.0964	1.4462	16.8780	2.04

**Table 11. Predicted Crash Frequencies by Year (4D)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	0.99	0.28	28.080	0.71	71.920
Total	0.99	0.28	28.080	0.71	71.920
Average	0.99	0.28	28.080	0.71	71.920

**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 12. Expected Crash Frequencies by Year (4D)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	2.53	0.37	14.779	2.16	85.221
Total	2.53	0.37	14.779	2.16	85.221
Average	2.53	0.37	14.779	2.16	85.221

**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 13. Comparing Predicted and Expected Crashes for the Evaluation Period (4D)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	0.99	0.28	28.080	0.71	71.920
Expected	2.53	0.37	14.779	2.16	85.221
Expected - Predicted	1.54	0.10		1.45	
Percent Difference	60.93	25.77		67.03	

**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 14. Expected 4D Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.01	0.2	0.01	0.2
Highway Segment	Collision with Bicycle	0.01	0.2	0.00	0.0	0.01	0.2
Highway Segment	Collision with Fixed Object	0.01	0.5	0.07	2.7	0.08	3.2
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.1	0.00	0.1
Highway Segment	Other Single-vehicle Collision	0.01	0.4	0.01	0.4	0.02	0.8
Highway Segment	Collision with Pedestrian	0.02	0.7	0.00	0.0	0.02	0.7
Highway Segment	Total Segment Single Vehicle Crashes	0.05	1.8	0.09	3.4	0.13	5.2
Highway Segment	Angle Collision	0.01	0.5	0.07	2.9	0.09	3.4
Highway Segment	Driveway-related Collision	0.02	0.9	0.05	1.8	0.07	2.7
Highway Segment	Head-on Collision	0.01	0.2	0.01	0.6	0.02	0.8
Highway Segment	Other Multi-vehicle Collision	0.01	0.6	0.14	5.7	0.16	6.3
Highway Segment	Rear-end Collision	0.26	10.1	1.34	53.0	1.60	63.1
Highway Segment	Sideswipe, Opposite Direction Collision	0.00	0.1	0.00	0.1	0.01	0.2
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.6	0.45	17.9	0.47	18.5
Highway Segment	Total Segment Multiple Vehicle Crashes	0.33	13.0	2.07	81.8	2.40	94.8
Highway Segment	Total Highway Segment Crashes	0.37	14.8	2.16	85.2	2.53	100.0
	Total Crashes	0.37	14.8	2.16	85.2	2.53	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.

### Site Type

**Type:** 5T

**Calibration Factor:** 1

**Table 15. Observed Crashes Used in the Evaluation (5T)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	6	6	0	0	6
2018	4	4	0	0	4
2019	3	3	0	0	3
2020	1	1	0	0	1
2021	0	0	0	0	0
All Years	14 &nbsp; <sup>[1]</sup>	14	0	0	14

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 16. Evaluation and Crash Data (CSD) (if applicable) Segment - Homogeneous Sites**

Site No.	Type	Highway	Site Description	Length (mi)	AADT	Number of Major Commercial Driveways	Number of Minor Commercial Driveways	Number of Major Industrial/Institutional Driveways	Number of Minor Industrial/Institutional Driveways	Number of Major Residential Driveways	Number of Minor Residential Driveways	Number of Other Driveways	Lighting	Automated Speed Enforcement	Offset to Fixed Objects (ft)	Fixed-Object Density (fixed objects/mi)	Type of Parking/Land Use - Right Side	Proportion of Right Side Curb Length with Parking	Type of Parking/Land Use - Left Side	Proportion of Left Side Curb Length with Parking	Speed Category
1	5T	CSD:KY 1865	Carrico Ave/Manitou Ave to EB I-264/Ashland Ave	0.1200	2017-2021: 27800	0	1	0	3	0	10	0	yes	no	10.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High
1	5T	KY 1865	Carrico Ave/Manitou Ave to EB I-264/Ashland Ave	0.1200	2022: 27800	0	1	0	3	0	10	0	yes	no	10.00	75.0	No Parking	0.000	No Parking	0.000	Intermediate/High

**Table 17. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Length (mi)	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Crash Rate (crashes/mi/yr)	Expected Travel Crash Rate (crashes/million veh-mi)
1	5T	KY 1865	Carrico Ave/Manitou Ave to EB I-264/Ashland Ave	0.1200	3.209	2.113	3.2087	0.4076	2.8011	2.1130	0.6059	1.5072	1.0956	-0.1983	1.2940	26.7391	2.63
		Total	Total	0.1200	3.209	2.113	3.2087	0.4076	2.8011	2.1130	0.6059	1.5072	1.0956	-0.1983	1.2940	26.7391	2.63

**Table 18. Predicted Crash Frequencies by Year (5T)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	2.11	0.61	28.674	1.51	71.326
Total	2.11	0.61	28.674	1.51	71.326
Average	2.11	0.61	28.674	1.51	71.326

**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 19. Expected Crash Frequencies by Year (5T)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	3.21	0.41	12.702	2.80	87.298
Total	3.21	0.41	12.702	2.80	87.298
Average	3.21	0.41	12.702	2.80	87.298

**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 20. Comparing Predicted and Expected Crashes for the Evaluation Period (5T)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	2.11	0.61	28.674	1.51	71.326
Expected	3.21	0.41	12.702	2.80	87.298
Expected - Predicted	1.10	-0.20		1.29	
Percent Difference	34.15	-48.66		46.20	

**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 21. Expected 5T Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.01	0.2	0.01	0.2
Highway Segment	Collision with Bicycle	0.02	0.8	0.00	0.0	0.02	0.8
Highway Segment	Collision with Fixed Object	0.02	0.5	0.08	2.6	0.10	3.1
Highway Segment	Collision with Other Object	0.00	0.0	0.01	0.2	0.01	0.2
Highway Segment	Other Single-vehicle Collision	0.03	0.8	0.01	0.4	0.04	1.2
Highway Segment	Collision with Pedestrian	0.05	1.5	0.00	0.0	0.05	1.5
Highway Segment	Total Segment Single Vehicle Crashes	0.11	3.6	0.11	3.4	0.22	6.9
Highway Segment	Angle Collision	0.01	0.2	0.14	4.4	0.15	4.6
Highway Segment	Driveway-related Collision	0.14	4.2	0.33	10.2	0.46	14.4
Highway Segment	Head-on Collision	0.00	0.1	0.01	0.3	0.01	0.4
Highway Segment	Other Multi-vehicle Collision	0.00	0.1	0.07	2.1	0.07	2.2
Highway Segment	Rear-end Collision	0.13	4.2	1.54	48.0	1.67	52.2
Highway Segment	Sideswipe, Opposite Direction Collision	0.00	0.0	0.02	0.7	0.02	0.7
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.3	0.59	18.3	0.60	18.6
Highway Segment	Total Segment Multiple Vehicle Crashes	0.29	9.1	2.69	83.9	2.99	93.1
Highway Segment	Total Highway Segment Crashes	0.41	12.7	2.80	87.3	3.21	100.0
	Total Crashes	0.41	12.7	2.80	87.3	3.21	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.

### Site Type

**Type:** 3ST

**Calibration Factor:** 1

**Table 22. Observed Crashes Used in the Evaluation (3ST)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	58	57	9	0	48
2018	48	47	9	0	38
2019	62	61	18	0	43
2020	37	37	10	0	27
2021	33	32	13	0	19
All Years	238 &nbsp; <sup>[1]</sup>	234	59	0	175

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 23. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites**

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting
1	3ST2x2le5	CSD:KY 1865	Woodmoore Ave	2017-2021: 23400	2017-2021: 800	0	0	yes
1	3ST2x2le5	KY 1865	Woodmoore Ave	2022: 23400	2022: 800	0	0	yes
2	3ST2x2le5	CSD:KY 1865	Wilderness Rd	2017-2021: 23400	2017-2021: 500	0	0	yes
2	3ST2x2le5	KY 1865	Wilderness Rd	2022: 23400	2022: 500	0	0	yes
3	3ST2x2le5	CSD:KY 1865	Iroquois Garden Dr	2017-2021: 23400	2017-2021: 500	0	0	yes
3	3ST2x2le5	KY 1865	Iroquois Garden Dr	2022: 23400	2022: 500	0	0	yes
4	3ST2x2le5	CSD:KY 1865	Frisbee Way	2017-2021: 24900	2017-2021: 700	0	0	no
4	3ST2x2le5	KY 1865	Frisbee Way	2022: 24900	2022: 700	0	0	no
5	3ST2x2le5	CSD:KY 1865	Orchard Hill Dr	2017-2021: 24900	2017-2021: 500	0	0	yes
5	3ST2x2le5	KY 1865	Orchard Hill Dr	2022: 24900	2022: 500	0	0	yes
6	3ST2x2le5	CSD:KY 1865	Driveway - Colonial Gardens	2017-2021: 24900	2017-2021: 500	1	0	yes
6	3ST2x2le5	KY 1865	Driveway - Colonial Gardens	2022: 24900	2022: 500	1	0	yes
7	3ST2x2le5	CSD:KY 1865	Inverness Ave	2017-2021: 24300	2017-2021: 1000	0	0	yes
7	3ST2x2le5	KY 1865	Inverness Ave	2022: 24300	2022: 1000	0	0	yes
8	3ST2x2le5	CSD:KY 1865	Gheens Ave	2017-2021: 24300	2017-2021: 500	0	0	yes
8	3ST2x2le5	KY 1865	Gheens Ave	2022: 24300	2022: 500	0	0	yes
9	3ST2x2le5	CSD:KY 1865	Iroquois Ave	2017-2021: 24300	2017-2021: 300	0	0	yes
9	3ST2x2le5	KY 1865	Iroquois Ave	2022: 24300	2022: 300	0	0	yes
10	3ST2x2le5	CSD:KY 1865	Southland Terrace	2017-2021: 24300	2017-2021: 300	0	0	yes
10	3ST2x2le5	KY 1865	Southland Terrace	2022: 24300	2022: 300	0	0	yes
11	3ST2x2le5	CSD:KY 1865	Carol Jean Ct	2017-2021: 20800	2017-2021: 100	0	0	yes
11	3ST2x2le5	KY 1865	Carol Jean Ct	2022: 20800	2022: 100	0	0	yes
14	3ST2x2le5	CSD:KY 1865	Haskin Ave	2017-2021: 20800	2017-2021: 600	0	0	yes
14	3ST2x2le5	KY 1865	Haskin Ave	2022: 20800	2022: 600	0	0	yes
15	3ST2x2le5	CSD:KY 1865	Iroquois H.S. Middle Entrance	2017-2021: 20800	2017-2021: 600	0	0	yes

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting
15	3ST2x2le5	KY 1865	Iroquois H.S. Middle Entrance	2022: 20800	2022: 600	0	0	yes
16	3ST2x2le5	CSD:KY 1865	Arling Ave	2017-2021: 20800	2017-2021: 400	0	0	yes
16	3ST2x2le5	KY 1865	Arling Ave	2022: 20800	2022: 400	0	0	yes
17	3ST2x2le5	CSD:KY 1865	Iroquois H.S. North Entrance	2017-2021: 20800	2017-2021: 600	0	0	yes
17	3ST2x2le5	KY 1865	Iroquois H.S. North Entrance	2022: 20800	2022: 600	0	0	yes
18	3ST2x2le5	CSD:KY 1865	Shingo Ave	2017-2021: 20800	2017-2021: 500	0	0	yes
18	3ST2x2le5	KY 1865	Shingo Ave	2022: 20800	2022: 500	0	0	yes
19	3ST2x2le5	CSD:KY 1865	Unnammed Alley - Near Brookline	2017-2021: 20800	2017-2021: 100	0	0	yes
19	3ST2x2le5	KY 1865	Unnammed Alley - Near Brookline	2022: 20800	2022: 100	0	0	yes
22	3ST2x2le5	CSD:KY 1865	W Oakwood Ave	2017-2021: 18320	2017-2021: 300	0	0	no
22	3ST2x2le5	KY 1865	W Oakwood Ave	2022: 18320	2022: 300	0	0	no
23	3ST2x2le5	CSD:KY 1865	E Oakwood Ave	2017-2021: 18320	2017-2021: 200	0	0	no
23	3ST2x2le5	KY 1865	E Oakwood Ave	2022: 18320	2022: 200	0	0	no
24	3ST2x2le5	CSD:KY 1865	E Lynhurst Ave	2017-2021: 18320	2017-2021: 300	0	0	yes
24	3ST2x2le5	KY 1865	E Lynhurst Ave	2022: 18320	2022: 300	0	0	yes
25	3ST2x2le5	CSD:KY 1865	W Lynhurst Ave	2017-2021: 18320	2017-2021: 500	0	0	yes
25	3ST2x2le5	KY 1865	W Lynhurst Ave	2022: 18320	2022: 500	0	0	yes
26	3ST2x2le5	CSD:KY 1865	Unnamed Alley - South of Bluegrass	2017-2021: 18320	2017-2021: 100	0	0	yes
26	3ST2x2le5	KY 1865	Unnamed Alley - South of Bluegrass	2022: 18320	2022: 100	0	0	yes
27	3ST2x2le5	CSD:KY 1865	W Woodlawn Ave	2017-2021: 24200	2017-2021: 1800	0	0	yes
27	3ST2x2le5	KY 1865	W Woodlawn Ave	2022: 24200	2022: 1800	0	0	yes
28	3ST2x2le5	CSD:KY 1865	Matha Ave	2017-2021: 24200	2017-2021: 200	0	0	yes
28	3ST2x2le5	KY 1865	Matha Ave	2022: 24200	2022: 200	0	0	yes
29	3ST2x2le5	CSD:KY 1865	E Carrico Ave	2017-2021: 27800	2017-2021: 300	0	0	no
29	3ST2x2le5	KY 1865	E Carrico Ave	2022: 27800	2022: 300	0	0	no



**Table 24. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	3ST	KY 1865	Woodmoore Ave	1.742	1.789	1.7415	0.7046	1.0369	1.7886	0.7287	1.0599	-0.0471	-0.0241	-0.0230	0.20	1.7415
2	3ST	KY 1865	Wilderness Rd	2.345	1.469	2.3453	0.6908	1.6545	1.4691	0.6303	0.8388	0.8762	0.0605	0.8157	0.27	2.3453
3	3ST	KY 1865	Iroquois Garden Dr	1.507	1.469	1.5069	0.8089	0.6980	1.4691	0.6303	0.8388	0.0377	0.1786	-0.1409	0.17	1.5069
4	3ST	KY 1865	Frisbee Way	1.598	1.982	1.5979	0.5768	1.0211	1.9823	0.8192	1.1631	-0.3845	-0.2424	-0.1420	0.17	1.5979
5	3ST	KY 1865	Orchard Hill Dr	2.706	1.566	2.7058	0.4475	2.2583	1.5664	0.6717	0.8947	1.1394	-0.2243	1.3636	0.29	2.7058
6	3ST	KY 1865	Driveway - Colonial Gardens	1.551	1.050	1.5512	0.4749	1.0764	1.0495	0.4501	0.5994	0.5017	0.0248	0.4769	0.17	1.5512
7	3ST	KY 1865	Inverness Ave	2.782	2.041	2.7820	0.4686	2.3135	2.0414	0.8108	1.2306	0.7406	-0.3422	1.0829	0.31	2.7820
8	3ST	KY 1865	Gheens Ave	2.025	1.528	2.0249	0.4117	1.6132	1.5275	0.6551	0.8723	0.4974	-0.2435	0.7409	0.23	2.0249
9	3ST	KY 1865	Iroquois Ave	1.937	1.234	1.9371	0.6609	1.2762	1.2338	0.5589	0.6749	0.7033	0.1020	0.6013	0.22	1.9371
10	3ST	KY 1865	Southland Terrace	0.866	1.234	0.8659	0.2556	0.6104	1.2338	0.5589	0.6749	-0.3679	-0.3033	-0.0645	0.10	0.8659
11	3ST	KY 1865	Carol Jean Ct	0.660	0.664	0.6601	0.2856	0.3745	0.6637	0.3358	0.3279	-0.0036	-0.0502	0.0466	0.09	0.6601
14	3ST	KY 1865	Haskin Ave	1.746	1.405	1.7457	0.6691	1.0766	1.4054	0.5916	0.8138	0.3403	0.0775	0.2628	0.23	1.7457
15	3ST	KY 1865	Iroquois H.S. Middle Entrance	0.830	1.405	0.8304	0.2400	0.5904	1.4054	0.5916	0.8138	-0.5750	-0.3516	-0.2234	0.11	0.8304
16	3ST	KY 1865	Arling Ave	3.533	1.186	3.5334	0.9471	2.5863	1.1857	0.5214	0.6643	2.3477	0.4258	1.9220	0.46	3.5334
17	3ST	KY 1865	Iroquois H.S. North Entrance	0.583	1.405	0.5827	0.2197	0.3630	1.4054	0.5916	0.8138	-0.8227	-0.3719	-0.4508	0.08	0.5827
18	3ST	KY 1865	Shingo Ave	0.402	1.302	0.4017	0.1825	0.2192	1.3020	0.5590	0.7429	-0.9002	-0.3765	-0.5237	0.05	0.4017
19	3ST	KY 1865	Unnammed Alley - Near Brookline	0.425	0.664	0.4248	0.2443	0.1805	0.6637	0.3358	0.3279	-0.2389	-0.0915	-0.1474	0.06	0.4248
22	3ST	KY 1865	W Oakwood Ave	1.131	1.015	1.1308	0.2394	0.8914	1.0151	0.4602	0.5549	0.1157	-0.2208	0.3365	0.17	1.1308
23	3ST	KY 1865	E Oakwood Ave	0.634	0.856	0.6341	0.4000	0.2342	0.8562	0.4046	0.4516	-0.2221	-0.0046	-0.2175	0.09	0.6341
24	3ST	KY 1865	E Lynhurst Ave	2.484	0.923	2.4839	0.6198	1.8641	0.9233	0.4186	0.5047	1.5606	0.2013	1.3594	0.37	2.4839
25	3ST	KY 1865	W Lynhurst Ave	1.826	1.144	1.8256	0.9099	0.9157	1.1443	0.4917	0.6527	0.6812	0.4182	0.2630	0.27	1.8256
26	3ST	KY 1865	Unnamed Alley - South of Bluegrass	0.362	0.582	0.3622	0.2296	0.1326	0.5824	0.2945	0.2879	-0.2202	-0.0649	-0.1553	0.05	0.3622
27	3ST	KY 1865	W Woodlawn Ave	6.412	2.600	6.4117	1.6462	4.7654	2.6003	0.9656	1.6348	3.8113	0.6807	3.1307	0.70	6.4117
28	3ST	KY 1865	Matha Ave	1.546	1.037	1.5460	0.4950	1.0510	1.0371	0.4899	0.5472	0.5089	0.0050	0.5038	0.17	1.5460
29	3ST	KY 1865	E Carrico Ave	2.179	1.560	2.1790	0.5700	1.6090	1.5603	0.7063	0.8540	0.6187	-0.1362	0.7549	0.21	2.1790
		Total	Total	43.811	33.112	43.8106	13.3984	30.4122	33.1120	14.2723	18.8397	10.6986	-0.8738	11.5725	0.21	43.8106

**Table 25. Predicted Crash Frequencies by Year (3ST)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	33.11	14.27	43.103	18.84	56.897
Total	33.11	14.27	43.103	18.84	56.897
Average	33.11	14.27	43.103	18.84	56.897

**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 26. Expected Crash Frequencies by Year (3ST)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	43.81	13.40	30.583	30.41	69.417
Total	43.81	13.40	30.583	30.41	69.417
Average	43.81	13.40	30.583	30.41	69.417

**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 27. Comparing Predicted and Expected Crashes for the Evaluation Period (3ST)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	33.11	14.27	43.103	18.84	56.897
Expected	43.81	13.40	30.583	30.41	69.417
Expected - Predicted	10.70	-0.87		11.57	
Percent Difference	24.42	-6.52		38.05	

**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 28. Expected 3ST Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.04	0.1	0.05	0.1
Intersection	Collision with Bicycle	0.51	1.2	0.00	0.0	0.51	1.2
Intersection	Collision with Fixed Object	0.66	1.5	2.01	4.6	2.67	6.1
Intersection	Non-Collision	0.09	0.2	0.07	0.2	0.16	0.4
Intersection	Collision with Other Object	0.08	0.2	0.22	0.5	0.30	0.7
Intersection	Other Single-vehicle Collision	0.03	0.1	0.06	0.1	0.09	0.2
Intersection	Collision with Parked Vehicle	0.00	0.0	0.01	0.0	0.01	0.0
Intersection	Collision with Pedestrian	0.67	1.5	0.00	0.0	0.67	1.5
Intersection	Total Intersection Single Vehicle Crashes	2.04	4.7	2.41	5.5	4.46	10.2
Intersection	Angle Collision	3.90	8.9	7.34	16.7	11.23	25.6
Intersection	Head-on Collision	0.51	1.2	0.64	1.5	1.16	2.6
Intersection	Other Multi-vehicle Collision	0.74	1.7	6.58	15.0	7.32	16.7
Intersection	Rear-end Collision	4.78	10.9	12.32	28.1	17.10	39.0
Intersection	Sideswipe	1.43	3.3	1.12	2.6	2.55	5.8
Intersection	Total Intersection Multiple Vehicle Crashes	11.36	25.9	28.00	63.9	39.36	89.8
Intersection	Total Intersection Crashes	13.40	30.6	30.41	69.4	43.81	100.0
	Total Crashes	13.40	30.6	30.41	69.4	43.81	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.

### Site Type

**Type:** 3SG

**Calibration Factor:** 1

**Table 29. Observed Crashes Used in the Evaluation (3SG)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	7	7	0	0	7
2018	6	6	1	0	5
2019	6	6	0	0	6
2020	1	1	1	0	0
2021	1	1	1	0	0
All Years	21 &nbsp; <sup>[1]</sup>	21	3	0	18

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 30. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites**

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting	Number of Approaches with Permissive Left-Turn Phasing	Number of Approaches with Permissive/Protected or Protected/Permissive Left-Turn Phasing	Number of Approaches with Protected Left-Turn Phasing	Number of Approaches on which Right Turn on Red is Prohibited	Presence of Red-Light Cameras	Pedestrian Volumes Crossing all Intersection Legs (crossings/day)	Max. Number of Lanes Crossed by Pedestrians	Number of Bus Stops within 1000 ft of Intersection	Number of Schools within 1000 ft of Intersection	Number of Alcohol Sales Establishments within 1000 ft of Intersection
1	3SG2x2le5	CSD:KY 1865	Park Rd	2017-2021: 24000	2017-2021: 1900	0	0	yes	1	0	1	0	no	20	4	4	0	0
1	3SG2x2le5	KY 1865	Park Rd	2022: 24000	2022: 1900	0	0	yes	1	0	1	0	no	20	4	4	0	0

**Table 31. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	3SG	KY 1865	Park Rd	3.885	2.593	3.8846	0.8194	3.0652	2.5930	0.9747	1.6184	1.2916	-0.1552	1.4468	0.43	3.8846
		Total	Total	3.885	2.593	3.8846	0.8194	3.0652	2.5930	0.9747	1.6184	1.2916	-0.1552	1.4468	0.43	3.8846

**Table 32. Predicted Crash Frequencies by Year (3SG)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	2.59	0.97	37.588	1.62	62.412
Total	2.59	0.97	37.588	1.62	62.412
Average	2.59	0.97	37.588	1.62	62.412

**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 33. Expected Crash Frequencies by Year (3SG)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	3.88	0.82	21.094	3.06	78.906
Total	3.88	0.82	21.094	3.06	78.906
Average	3.88	0.82	21.094	3.06	78.906

**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 34. Comparing Predicted and Expected Crashes for the Evaluation Period (3SG)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	2.59	0.97	37.588	1.62	62.412
Expected	3.88	0.82	21.094	3.06	78.906
Expected - Predicted	1.29	-0.15		1.45	
Percent Difference	33.25	-18.95		47.20	

**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 35. Expected 3SG Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.03	0.7	0.00	0.0	0.03	0.7
Intersection	Collision with Fixed Object	0.02	0.6	0.11	2.9	0.13	3.4
Intersection	Non-Collision	0.01	0.2	0.00	0.0	0.01	0.2
Intersection	Collision with Other Object	0.00	0.1	0.01	0.2	0.01	0.3
Intersection	Other Single-vehicle Collision	0.00	0.0	0.00	0.1	0.00	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.02	0.6	0.00	0.0	0.02	0.6
Intersection	Total Intersection Single Vehicle Crashes	0.08	2.2	0.12	3.2	0.21	5.4
Intersection	Angle Collision	0.21	5.3	0.60	15.4	0.81	20.7
Intersection	Head-on Collision	0.03	0.7	0.06	1.5	0.09	2.2
Intersection	Other Multi-vehicle Collision	0.04	1.1	0.58	15.0	0.62	16.1
Intersection	Rear-end Collision	0.40	10.4	1.60	41.3	2.01	51.7
Intersection	Sideswipe	0.06	1.4	0.09	2.4	0.15	3.9
Intersection	Total Intersection Multiple Vehicle Crashes	0.73	18.9	2.94	75.7	3.67	94.6
Intersection	Total Intersection Crashes	0.82	21.1	3.06	78.9	3.88	100.0
	Total Crashes	0.82	21.1	3.06	78.9	3.88	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.

### Site Type

**Type:** 4ST

**Calibration Factor:** 1

**Table 36. Observed Crashes Used in the Evaluation (4ST)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	10	10	3	0	7
2018	14	14	4	0	10
2019	17	17	4	0	13
2020	19	19	4	0	15
2021	9	9	5	0	4
All Years	69 &nbsp; <sup>[1]</sup>	69	20	0	49

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 37. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites**

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting
1	4ST2x2le5	CSD:KY 1865	Lehigh Ave	2017-2021: 24000	2017-2021: 1700	0	0	yes
1	4ST2x2le5	KY 1865	Lehigh Ave	2022: 24000	2022: 1700	0	0	yes
2	4ST2x2le5	CSD:KY 1865	Walter Ave	2017-2021: 18000	2017-2021: 1200	0	0	yes
2	4ST2x2le5	KY 1865	Walter Ave	2022: 18000	2022: 1200	0	0	yes
3	4ST2x2le5	CSD:KY 1865	Iroquois H.S. S Entrance/Huntoon	2017-2021: 21000	2017-2021: 1200	0	0	yes
3	4ST2x2le5	KY 1865	Iroquois H.S. S Entrance/Huntoon	2022: 21000	2022: 1200	0	0	yes
4	4ST2x2le5	CSD:KY 1865	Carrico Ave/Manitou Ave	2017-2021: 28000	2017-2021: 400	0	0	yes
4	4ST2x2le5	KY 1865	Carrico Ave/Manitou Ave	2022: 28000	2022: 400	0	0	yes

**Table 38. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	4ST	KY 1865	Lehigh Ave	4.858	3.562	4.8578	1.4439	3.4139	3.5615	1.4785	2.0831	1.2963	-0.0346	1.3309	0.52	4.8578
2	4ST	KY 1865	Walter Ave	4.583	2.625	4.5830	1.6076	2.9754	2.6249	1.0545	1.5704	1.9580	0.5531	1.4050	0.65	4.5830
3	4ST	KY 1865	Iroquois H.S. S Entrance/Huntoon	2.017	2.956	2.0168	0.7170	1.2998	2.9561	1.2037	1.7524	-0.9392	-0.4867	-0.4526	0.25	2.0168
4	4ST	KY 1865	Carrico Ave/Manitau Ave	2.756	2.844	2.7565	0.9135	1.8430	2.8442	1.1607	1.6835	-0.0877	-0.2472	0.1595	0.27	2.7565
		Total	Total	14.214	11.987	14.2141	4.6820	9.5321	11.9867	4.8974	7.0894	2.2274	-0.2154	2.4427	0.41	14.2141

**Table 39. Predicted Crash Frequencies by Year (4ST)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	11.99	4.90	40.857	7.09	59.143
Total	11.99	4.90	40.857	7.09	59.143
Average	11.99	4.90	40.857	7.09	59.143

**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 40. Expected Crash Frequencies by Year (4ST)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	14.21	4.68	32.939	9.53	67.061
Total	14.21	4.68	32.939	9.53	67.061
Average	14.21	4.68	32.939	9.53	67.061

**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 41. Comparing Predicted and Expected Crashes for the Evaluation Period (4ST)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	11.99	4.90	40.857	7.09	59.143
Expected	14.21	4.68	32.939	9.53	67.061
Expected - Predicted	2.23	-0.21		2.44	
Percent Difference	15.67	-4.60		25.63	

**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 42. Expected 4ST Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.01	0.1	0.01	0.1
Intersection	Collision with Bicycle	0.21	1.5	0.00	0.0	0.21	1.5
Intersection	Collision with Fixed Object	0.19	1.3	0.33	2.3	0.53	3.7
Intersection	Non-Collision	0.05	0.4	0.02	0.1	0.07	0.5
Intersection	Collision with Other Object	0.03	0.2	0.03	0.2	0.05	0.4
Intersection	Other Single-vehicle Collision	0.01	0.1	0.00	0.0	0.02	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.25	1.8	0.00	0.0	0.25	1.8
Intersection	Total Intersection Single Vehicle Crashes	0.74	5.2	0.39	2.8	1.14	8.0
Intersection	Angle Collision	1.73	12.2	3.06	21.5	4.79	33.7
Intersection	Head-on Collision	0.16	1.1	0.27	1.9	0.44	3.1
Intersection	Other Multi-vehicle Collision	0.24	1.7	1.98	14.0	2.22	15.6
Intersection	Rear-end Collision	1.33	9.4	3.42	24.0	4.75	33.4
Intersection	Sideswipe	0.48	3.4	0.40	2.8	0.88	6.2
Intersection	Total Intersection Multiple Vehicle Crashes	3.94	27.7	9.14	64.3	13.08	92.0
Intersection	Total Intersection Crashes	4.68	32.9	9.53	67.1	14.21	100.0
	Total Crashes	4.68	32.9	9.53	67.1	14.21	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.

### Site Type

**Type:** 4SG

**Calibration Factor:** 1

**Table 43. Observed Crashes Used in the Evaluation (4SG)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	103	103	25	0	78
2018	89	89	16	0	73
2019	84	81	13	0	68
2020	51	51	24	0	27
2021	40	40	13	0	27
All Years	367 &nbsp; <sup>[1]</sup>	364	91	0	273

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 44. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites**

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting	Number of Approaches with Permissive Left-Turn Phasing	Number of Approaches with Permissive/Protected or Protected/Permissive Left-Turn Phasing	Number of Approaches with Protected Left-Turn Phasing	Number of Approaches on which Right Turn on Red is Prohibited	Presence of Red-Light Cameras	Pedestrian Volumes Crossing all Intersection Legs (crossings/day)	Max. Number of Lanes Crossed by Pedestrians	Number of Bus Stops within 1000 ft of Intersection	Number of Schools within 1000 ft of Intersection	Number of Alcohol Sales Establishments within 1000 ft of Intersection
1	4SG2x2le5	CSD:KY 1865	Palatka Rd	2017-2021: 23400	2017-2021: 12000	4	0	yes	0	4	0	0	no	50	5	4	0	3
1	4SG2x2le5	KY 1865	Palatka Rd	2022: 23400	2022: 12000	4	0	yes	0	4	0	0	no	50	5	4	0	3
2	4SG2x2le5	CSD:KY 1865	Iroquois Park/Kenwood Dr	2017-2021: 24900	2017-2021: 8000	3	0	yes	2	2	0	0	no	240	5	7	0	4
2	4SG2x2le5	KY 1865	Iroquois Park/Kenwood Dr	2022: 24900	2022: 8000	3	0	yes	2	2	0	0	no	240	5	7	0	4
3	4SG2x2le5	CSD:KY 1865	Brookline Ave	2017-2021: 18400	2017-2021: 1300	0	0	yes	4	0	0	0	no	50	4	4	1	1
3	4SG2x2le5	KY 1865	Brookline Ave	2022: 18400	2022: 1300	0	0	yes	4	0	0	0	no	50	4	4	1	1
4	4SG2x2le5	CSD:KY 1865	Bluegrass Ave	2017-2021: 23400	2017-2021: 16000	1	0	yes	2	2	0	0	no	50	4	7	1	3
4	4SG2x2le5	KY 1865	Bluegrass Ave	2022: 23400	2022: 16000	1	0	yes	2	2	0	0	no	50	4	7	1	3
5	4SG2x2le5	CSD:KY 1865	Bicknell Ave	2017-2021: 27800	2017-2021: 3500	0	0	yes	4	0	0	0	no	50	4	7	0	3
5	4SG2x2le5	KY 1865	Bicknell Ave	2022: 27800	2022: 3500	0	0	yes	4	0	0	0	no	50	4	7	0	3

**Table 45. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	4SG	KY 1865	Palatka Rd	5.947	4.446	5.9465	1.1944	4.7521	4.4458	1.5898	2.8560	1.5007	-0.3954	1.8961	0.46	5.9465
2	4SG	KY 1865	Iroquois Park/Kenwood Dr	10.598	4.959	10.5978	3.7068	6.8910	4.9591	1.8450	3.1140	5.6387	1.8618	3.7770	0.88	10.5978
3	4SG	KY 1865	Brookline Ave	3.384	3.237	3.3835	0.9650	2.4185	3.2371	1.1511	2.0861	0.1464	-0.1860	0.3324	0.47	3.3835
4	4SG	KY 1865	Bluegrass Ave	22.218	6.609	22.2185	5.8468	16.3717	6.6094	2.3540	4.2554	15.6091	3.4928	12.1163	1.54	22.2185
5	4SG	KY 1865	Bicknell Ave	9.868	6.205	9.8684	2.0919	7.7766	6.2055	2.2150	3.9906	3.6629	-0.1231	3.7860	0.86	9.8684
		Total	Total	52.015	25.457	52.0148	13.8050	38.2098	25.4569	9.1549	16.3020	26.5579	4.6501	21.9078	0.90	52.0148

**Table 46. Predicted Crash Frequencies by Year (4SG)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	25.46	9.15	35.962	16.30	64.038
Total	25.46	9.15	35.962	16.30	64.038
Average	25.46	9.15	35.962	16.30	64.038

**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 47. Expected Crash Frequencies by Year (4SG)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	52.02	13.80	26.540	38.21	73.460
Total	52.02	13.80	26.540	38.21	73.460
Average	52.02	13.80	26.540	38.21	73.460

**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 48. Comparing Predicted and Expected Crashes for the Evaluation Period (4SG)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	25.46	9.15	35.962	16.30	64.038
Expected	52.02	13.80	26.540	38.21	73.460
Expected - Predicted	26.56	4.65		21.91	
Percent Difference	51.06	33.68		57.34	

**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 49. Expected 4SG Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.36	0.7	0.00	0.0	0.36	0.7
Intersection	Collision with Fixed Object	0.28	0.5	1.07	2.1	1.35	2.6
Intersection	Non-Collision	0.05	0.1	0.04	0.1	0.10	0.2
Intersection	Collision with Other Object	0.03	0.1	0.09	0.2	0.11	0.2
Intersection	Other Single-vehicle Collision	0.01	0.0	0.03	0.1	0.04	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.77	1.5	0.00	0.0	0.77	1.5
Intersection	Total Intersection Single Vehicle Crashes	1.51	2.9	1.23	2.4	2.74	5.3
Intersection	Angle Collision	4.27	8.2	9.02	17.3	13.29	25.5
Intersection	Head-on Collision	0.60	1.2	1.11	2.1	1.71	3.3
Intersection	Other Multi-vehicle Collision	0.68	1.3	7.80	15.0	8.48	16.3
Intersection	Rear-end Collision	5.53	10.6	17.86	34.3	23.39	45.0
Intersection	Sideswipe	1.22	2.3	1.18	2.3	2.40	4.6
Intersection	Total Intersection Multiple Vehicle Crashes	12.29	23.6	36.98	71.1	49.27	94.7
Intersection	Total Intersection Crashes	13.80	26.5	38.21	73.5	52.02	100.0
	Total Crashes	13.80	26.5	38.21	73.5	52.02	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.

### Site Type

**Type:** 5SG

**Calibration Factor:** 1

**Table 50. Observed Crashes Used in the Evaluation (5SG)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	14	14	2	0	12
2018	11	11	2	0	9
2019	17	16	0	0	16
2020	6	6	3	0	3
2021	4	4	0	0	4
All Years	52 &nbsp; <sup>[1]</sup>	51	7	0	44

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 51. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites**

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT
1	5SG2x2le5	CSD:KY 1865	Southern Parkway/Southland Blvd/Iroquois Park Rd	2017-2021: 23540	2017-2021: 10380
1	5SG2x2le5	KY 1865	Southern Parkway/Southland Blvd/Iroquois Park Rd	2022: 23540	2022: 10380

**Table 52. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Highway	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	SSG	KY 1865	Southern Parkway/Southland Blvd/Iroquois Park Rd	10.730	10.138	10.7305	2.2156	8.5149	10.1382	3.4004	6.7378	0.5923	-1.1847	1.7771	0.85	10.7305
		Total	Total	10.730	10.138	10.7305	2.2156	8.5149	10.1382	3.4004	6.7378	0.5923	-1.1847	1.7771	0.85	10.7305

**Table 53. Predicted Crash Frequencies by Year (5SG)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	10.14	3.40	33.540	6.74	66.460
Total	10.14	3.40	33.540	6.74	66.460
Average	10.14	3.40	33.540	6.74	66.460

**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 54. Expected Crash Frequencies by Year (5SG)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	10.73	2.22	20.648	8.52	79.352
Total	10.73	2.22	20.648	8.52	79.352
Average	10.73	2.22	20.648	8.52	79.352

**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 55. Comparing Predicted and Expected Crashes for the Evaluation Period (5SG)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	10.14	3.40	33.540	6.74	66.460
Expected	10.73	2.22	20.648	8.52	79.352
Expected - Predicted	0.59	-1.19		1.78	
Percent Difference	5.52	-53.47		20.87	

**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 56. Expected 5SG Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.30	2.8	0.00	0.0	0.30	2.8
Intersection	Collision with Fixed Object	0.03	0.3	0.06	0.5	0.09	0.8
Intersection	Non-Collision	0.01	0.1	0.00	0.0	0.01	0.1
Intersection	Collision with Other Object	0.00	0.0	0.01	0.1	0.01	0.1
Intersection	Other Single-vehicle Collision	0.06	0.5	0.19	1.8	0.25	2.3
Intersection	Collision with Parked Vehicle	0.00	0.0	0.01	0.1	0.01	0.1
Intersection	Collision with Pedestrian	0.30	2.8	0.00	0.0	0.30	2.8
Intersection	Total Intersection Single Vehicle Crashes	0.69	6.4	0.27	2.5	0.96	8.9
Intersection	Angle Collision	0.49	4.6	1.96	18.3	2.45	22.8
Intersection	Head-on Collision	0.10	0.9	0.20	1.8	0.30	2.8
Intersection	Other Multi-vehicle Collision	0.21	2.0	1.15	10.7	1.36	12.7
Intersection	Rear-end Collision	0.65	6.1	3.55	33.1	4.20	39.1
Intersection	Sideswipe	0.07	0.7	1.39	13.0	1.47	13.7
Intersection	Total Intersection Multiple Vehicle Crashes	1.53	14.2	8.25	76.9	9.78	91.1
Intersection	Total Intersection Crashes	2.21	20.6	8.52	79.4	10.74	100.0
	Total Crashes	2.21	20.6	8.52	79.4	10.74	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.

## Freeway Ramp Terminal Site Set CPM Evaluation

### Site Type

**Type:** Ramp Terminal

**Calibration Factor:** RT\_ST\_FI=1.0, RT\_ST\_PDO=1.0, RT\_SG\_FI=1.0, RT\_SG\_PDO=1.0

**Table 57. Observed Crashes Used in the Evaluation (Ramp Terminal)**

Year	Observed Crashes	Total Crashes Used	FI Crashes	FI no/C Crashes	PDO Crashes
2017	17	17	4	0	13
2018	7	7	1	0	6
2019	4	4	0	0	4
2020	6	6	3	0	3
2021	4	4	2	0	2
All Years	38 &nbsp; <sup>[1]</sup>	38	10	0	28

**Footnotes**

<sup>[1]</sup> Note: Observed crash data that does not comply with the associated CPM model requirements may not be used in EB processing.

**Table 58. Evaluation and Crash Data (CSD) (if applicable) Ramp Terminal - Homogeneous Sites**

Site No.	Type	Ramp Terminal	Site Description	Area Type	Traffic Control	AADT
1	A2 - Three-Leg at Two-Quadrant Parclo A	CSD:KY 1865	I-264 EB/Ashland Ave	Urban	Signalized	Inside: 2017-2021: 26310; Outside: 2017-2021: 27820 :: Entrance: 2017-2021: 12280; Exit: 2017-2021: 4430
1	A2 - Three-Leg at Two-Quadrant Parclo A	KY 1865	I-264 EB/Ashland Ave	Urban	Signalized	Inside: 2022: 26310; Outside: 2022: 27820 :: Entrance: 2022: 12280; Exit: 2022: 4430

**Table 59. Expected Crash Frequencies and Rates by Site**

Site No.	Type	Ramp Terminal	Site Description	Total Expected Crashes for Evaluation Period	Total Predicted Crashes for Evaluation Period	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)	Expected Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	A2 - Three-Leg at Two-Quadrant Parclo A	KY 1865	I-264 EB/Ashland Ave	8.279	17.672	8.2790	2.2792	5.9998	17.6723	6.3919	11.2804	-9.3933	-4.1126	-5.2807	0.64	8.2790
		Total	Total	8.279	17.672	8.2790	2.2792	5.9998	17.6723	6.3919	11.2804	-9.3933	-4.1126	-5.2807	0.64	8.2790

**Table 60. Predicted Crash Frequencies by Year (Ramp Terminal)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	17.67	6.39	36.169	11.28	63.831
Total	17.67	6.39	36.169	11.28	63.831
Average	17.67	6.39	36.169	11.28	63.831

**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 61. Expected Crash Frequencies by Year (Ramp Terminal)**

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2022	8.28	2.28	27.530	6.00	72.470
Total	8.28	2.28	27.530	6.00	72.470
Average	8.28	2.28	27.530	6.00	72.470

**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 62. Comparing Predicted and Expected Crashes for the Evaluation Period (Ramp Terminal)**

Scope	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
Predicted	17.67	6.39	36.169	11.28	63.831
Expected	8.28	2.28	27.530	6.00	72.470
Expected - Predicted	-9.39	-4.11		-5.28	
Percent Difference	-113.46	-180.44		-88.01	

**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 63. Expected Ramp Terminal Crash Severity**

Site No.	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	0.0069	0.1715	0.6649	1.4360	5.9998
Total	0.0069	0.1715	0.6649	1.4360	5.9998

**Table 64. Expected Ramp Terminal Crash Type Distribution**

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Ramp Terminal	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Ramp Terminal	Collision with Fixed Object	0.07	0.9	0.30	3.6	0.38	4.5
Ramp Terminal	Collision with Other Object	0.00	0.0	0.01	0.1	0.01	0.2
Ramp Terminal	Other Single-vehicle Collision	0.04	0.5	0.04	0.5	0.08	1.0
Ramp Terminal	Collision with Parked Vehicle	0.00	0.0	0.01	0.1	0.01	0.2
Ramp Terminal	Total Single Vehicle Crashes	0.12	1.5	0.37	4.4	0.49	5.9
Ramp Terminal	Right-Angle Collision	0.59	7.2	1.32	15.9	1.91	23.1
Ramp Terminal	Head-on Collision	0.03	0.3	0.04	0.5	0.07	0.8
Ramp Terminal	Other Multi-vehicle Collision	0.02	0.2	0.12	1.4	0.14	1.7
Ramp Terminal	Rear-end Collision	1.43	17.2	3.26	39.4	4.68	56.6
Ramp Terminal	Sideswipe, Same Direction Collision	0.10	1.2	0.89	10.8	0.99	12.0
Ramp Terminal	Total Multiple Vehicle Crashes	2.16	26.1	5.63	68.0	7.79	94.1
Ramp Terminal	Total Ramp Terminal Crashes	2.28	27.5	6.00	72.5	8.28	100.0
	Total Crashes	2.28	27.5	6.00	72.5	8.28	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.

Type	Site Description	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)
4SG	Old New Cut Road	2.59	1.12	1.47	1.88	0.60	1.28	0.71	0.53	0.19
3T	Old New Cut Road - EB Ramp Terminal	1.56	0.28	1.28	0.38	0.10	0.28	1.18	0.18	1.00
D4	EB Ramp Terminal	4.73	1.65	3.08	5.06	1.85	3.21	-0.33	-0.19	-0.13
3T	EB Ramp Terminal - WB Ramp Terminal	0.72	0.16	0.57	0.87	0.25	0.62	-0.15	-0.10	-0.05
D4	WB Ramp Terminal	2.85	0.57	2.29	5.25	1.89	3.35	-2.39	-1.33	-1.07
3T	WB Ramp Terminal - Brown Austin Road	3.59	0.75	2.84	1.14	0.33	0.81	2.45	0.42	2.02
3ST	Brown Austin Road	1.04	0.25	0.78	0.33	0.18	0.15	0.71	0.07	0.63
5T	Brown Austin Road - 1065/Outer Loop	4.62	1.11	3.51	1.34	0.39	0.96	3.28	0.73	2.56
4SG	1065/Outer Loop	20.96	4.07	16.89	3.45	1.14	2.31	17.51	2.93	14.58
5T	1065/Outer Loop - Star Lane	7.59	1.50	6.08	2.00	0.58	1.42	5.58	0.92	4.66
3ST	Star Lane	0.16	0.09	0.07	0.30	0.16	0.14	-0.14	-0.07	-0.06
5T	Star Lane - Candlelight Lane	1.83	0.42	1.41	0.81	0.24	0.58	1.02	0.19	0.83
3ST	Candlelight Lane	2.36	0.67	1.70	1.23	0.48	0.76	1.13	0.19	0.94
5T	Candlelight Lane - Harpers Ferry Road	1.33	0.40	0.94	1.58	0.46	1.12	-0.25	-0.06	-0.18
3ST	Harpers Ferry Road	2.95	1.23	1.72	1.23	0.48	0.75	1.72	0.75	0.97
5T	Harpers Ferry Road - Angeletta Way	0.77	0.29	0.48	1.00	0.29	0.71	-0.24	0.00	-0.23
3ST	Angeletta Way	0.23	0.15	0.08	0.21	0.12	0.09	0.02	0.03	-0.01
5T	Angeletta Way - Mary Ellen Drive/School Driveway	0.90	0.20	0.70	0.69	0.20	0.49	0.21	0.00	0.20
3ST	Mary Ellen Drive/School Driveway	0.25	0.13	0.12	0.70	0.31	0.39	-0.45	-0.18	-0.27
5T	Mary Ellen Drive/School Driveway - Indian Trail	1.52	0.68	0.84	1.20	0.35	0.85	0.32	0.33	-0.01
3ST	Indian Trail	0.19	0.08	0.10	0.15	0.09	0.06	0.03	-0.01	0.04
5T	Indian Trail - Scottsdale Blvd.	2.41	0.67	1.74	1.79	0.52	1.27	0.62	0.15	0.47
3ST	Scottsdale Blvd.	2.59	0.95	1.64	1.39	0.50	0.89	1.21	0.45	0.75
5T	Scottsdale Blvd. - Auburn Oaks Drive	0.58	0.16	0.42	0.42	0.12	0.30	0.15	0.04	0.12
3ST	Auburn Oaks Drive	0.72	0.29	0.43	0.89	0.37	0.51	-0.16	-0.08	-0.08
5T	Auburn Oaks Drive - Bakers Lane	0.92	0.32	0.60	1.07	0.31	0.76	-0.15	0.01	-0.16
3ST	Bakers Lane	1.46	0.21	1.25	0.82	0.35	0.46	0.64	-0.14	0.78
5T	Bakers Lane - Cogan Blvd.	1.72	0.24	1.48	0.75	0.22	0.53	0.97	0.02	0.94
3ST	Cogan Blvd.	0.70	0.18	0.52	0.76	0.33	0.43	-0.06	-0.15	0.09
5T	Cogan Blvd. - Southside Dr.	11.41	2.15	9.26	2.89	0.84	2.05	8.52	1.31	7.21
4SG	Kroger	4.41	1.09	3.32	2.22	0.75	1.47	2.19	0.33	1.86
4SG	Southside Dr.	12.03	2.49	9.54	3.27	1.08	2.19	8.76	1.41	7.35
5T	Southside Dr. - Jones Drive	10.29	1.89	8.41	2.92	0.85	2.08	7.37	1.04	6.33
3ST	Jones Drive	1.56	0.34	1.22	0.28	0.15	0.13	1.28	0.19	1.09
5T	Jones Drive - Westview Drive/Glen Hollow Drive	2.68	0.58	2.10	1.41	0.41	1.00	1.27	0.17	1.10
4ST	Westview Drive/Glen Hollow Drive	0.66	0.30	0.37	0.91	0.36	0.55	-0.25	-0.06	-0.19
5T	Westview Drive/Glen Hollow Drive - Palatka Ave	3.94	0.57	3.36	1.10	0.32	0.78	2.84	0.26	2.58
3T	Palatka Rd to Woodmore Ave	1.56	0.28	1.28	0.38	0.10	0.28	-0.73	-0.29	-0.44
3T	Woodmore Ave	0.72	0.16	0.57	0.87	0.25	0.62	-0.05	-0.02	-0.02
3T	Woodmore Ave to Wilderness Rd	3.59	0.75	2.84	1.14	0.33	0.81	-1.12	-0.18	-0.94
3ST	Wilderness Rd	2.35	0.69	1.65	1.47	0.63	0.84	0.88	0.06	0.82
4U	Wilderness Rd to Iroquois Garden Dr	0.43	0.15	0.28	0.40	0.13	0.27	0.03	0.03	0.00
3ST	Iroquois Garden Dr	1.51	0.81	0.70	1.47	0.63	0.84	0.04	0.18	-0.14
4U	Iroquois Garden Dr to Park Rd	1.20	0.20	1.00	1.28	0.39	0.88	-0.07	-0.19	0.12
3SG	Park Rd	3.88	0.82	3.07	2.59	0.97	1.62	1.29	-0.16	1.45
4U	Park Rd to Frisbee Way	3.02	1.02	2.00	2.32	0.71	1.61	0.70	0.31	0.39
3ST	Frisbee Way	1.60	0.58	1.02	1.98	0.82	1.16	-0.38	-0.24	-0.14
4U	Frisbee Way to Orchard Hill Dr	0.11	0.04	0.07	0.18	0.05	0.13	-0.07	-0.01	-0.05
3ST	Orchard Hill Dr	2.71	0.45	2.26	1.57	0.67	0.89	1.14	-0.22	1.36
4U	Orchard Hill Dr to Driveway - Colonial Gardens	1.63	0.43	1.20	1.62	0.53	1.09	0.01	-0.10	0.11
3ST	Driveway - Colonial Gardens	1.55	0.47	1.08	1.05	0.45	0.60	0.50	0.02	0.48
4U	Driveway - Colonial Gardens to Kenwood Dr/Knoll Gate Rd	0.20	0.08	0.13	0.53	0.16	0.38	-0.33	-0.08	-0.25
4SG	Iroquois Park/Kenwood Dr	10.60	3.71	6.89	4.96	1.85	3.11	5.64	1.86	3.78
4D	Kenwood Dr/Knoll Gate Rd to Norton's Children's Medical Group	1.53	0.20	1.33	0.57	0.16	0.41	0.96	0.04	0.92
4U	Norton Children's Medical Group to Inverness Ave	0.33	0.13	0.20	0.88	0.27	0.61	-0.55	-0.14	-0.41
3ST	Inverness Ave	2.78	0.47	2.31	2.04	0.81	1.23	0.74	-0.34	1.08
4U	Inverness Ave to Gheens Ave	0.99	0.13	0.86	0.69	0.20	0.48	0.30	-0.08	0.38
3ST	Gheens Ave	2.02	0.41	1.61	1.53	0.66	0.87	0.50	-0.24	0.74

Type	Site Description	Expected Total Crash Frequency (crashes/yr)	Expected FI Crash Frequency (crashes/yr)	Expected PDO Crash Frequency (crashes/yr)	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	(Expected - Predicted) Total Crash Frequency (crashes/yr)	(Expected - Predicted) FI Crash Frequency (crashes/yr)	(Expected - Predicted) PDO Crash Frequency (crashes/yr)
4U	Gheens Ave to Iroquois Ave	0.85	0.26	0.59	0.87	0.27	0.61	-0.02	-0.01	-0.02
3ST	Iroquis Ave	1.94	0.66	1.28	1.23	0.56	0.67	0.70	0.10	0.60
4U	Iriquois Ave to Southland Terrace	0.98	0.28	0.70	1.03	0.31	0.71	-0.05	-0.03	-0.02
3ST	Southland Terrace	0.87	0.26	0.61	1.23	0.56	0.67	-0.37	-0.30	-0.06
4U	Southland Terrace to Southern Pkwy	1.11	0.79	0.32	1.62	0.49	1.13	-0.51	0.29	-0.81
5SG	Southern Parkway/Southland Blvd/Iroquois Park Rd	10.73	2.22	8.51	10.14	3.40	6.74	0.59	-1.18	1.78
4D	Southern Pkwy to Carol Jean Ct	1.00	0.17	0.83	0.42	0.12	0.31	0.58	0.05	0.53
3ST	Carol Jean Ct	0.66	0.29	0.37	0.66	0.34	0.33	0.00	-0.05	0.05
4U	Carol Jean Ct to Iroquois H.S. S. Entrance/Huntoon Ave	0.56	0.13	0.43	0.65	0.20	0.45	-0.09	-0.07	-0.02
4ST	Iroquois H.S. S. Entrance/Huntoon Ave	2.02	0.72	1.30	2.96	1.20	1.75	-0.94	-0.49	-0.45
4U	Iroquois H.S. S. Entrance/Huntoon Ave to Haskin Ave	0.82	0.21	0.60	0.61	0.19	0.43	0.20	0.03	0.18
3ST	Haskin Ave	1.75	0.67	1.08	1.41	0.59	0.81	0.34	0.08	0.26
4U	Haskin Ave to Iroquois H.S. Middle Entrance	0.15	0.05	0.10	0.22	0.07	0.15	-0.07	-0.02	-0.05
3ST	Iroquois H.S. Middle Entrance	0.83	0.24	0.59	1.41	0.59	0.81	-0.58	-0.35	-0.22
4U	Iroquois H.S. Middle Entrance to Arling Ave	0.96	0.13	0.84	0.55	0.17	0.38	0.41	-0.05	0.46
3ST	Arling Ave	3.53	0.95	2.59	1.19	0.52	0.66	2.35	0.43	1.92
4U	Arling Ave to Iroquois H.S. N. Entrance	0.20	0.04	0.15	0.18	0.05	0.13	0.02	-0.01	0.03
3ST	Iroquois H.S. N. Entrance	0.58	0.22	0.36	1.41	0.59	0.81	-0.82	-0.37	-0.45
4U	Iroquois H.S. N. Entrance to Shingo Ave	0.59	0.26	0.32	0.44	0.13	0.30	0.15	0.13	0.02
3ST	Shingo Ave	0.40	0.18	0.22	1.30	0.56	0.74	-0.90	-0.38	-0.52
4U	Shingo Ave to Unnamed Alley near Brookline Ave	0.15	0.05	0.09	0.27	0.08	0.19	-0.12	-0.03	-0.09
3ST	Unnamed Allwy near Brookline Ave	0.42	0.24	0.18	0.66	0.34	0.33	-0.24	-0.09	-0.15
4U	Unnamed Allwy near Brookline Ave to Brookline Ave	0.37	0.10	0.27	0.18	0.05	0.13	0.19	0.04	0.15
4SG	Brookline Ave	3.38	0.97	2.42	3.24	1.15	2.09	0.15	-0.19	0.33
4U	Brookline Ave to Walter Ave	0.66	0.17	0.49	1.07	0.35	0.71	-0.41	-0.19	-0.22
4ST	Walter Ave	4.58	1.61	2.98	2.62	1.05	1.57	1.96	0.55	1.41
4U	Walter Ave to Oakwood Ave	1.07	0.38	0.68	1.19	0.39	0.80	-0.12	-0.01	-0.12
3ST	W Oakwood Ave	1.13	0.24	0.89	1.02	0.46	0.55	0.12	-0.22	0.34
4U	Oakwood Ave to Oakwood Ave	0.27	0.12	0.15	0.30	0.10	0.20	-0.03	0.03	-0.05
3ST	E Oakwood Ave	0.63	0.40	0.23	0.86	0.40	0.45	-0.22	0.00	-0.22
4U	Oakwood Ave to Lynhurst Ave	1.14	0.23	0.91	1.18	0.38	0.80	-0.04	-0.15	0.11
3ST	E Lynhurst Ave	2.48	0.62	1.86	0.92	0.42	0.50	1.56	0.20	1.36
4U	Lynhurst Ave to Lynhurst Ave	0.38	0.12	0.26	0.26	0.08	0.18	0.12	0.03	0.08
3ST	W Lynhurst Ave	1.83	0.91	0.92	1.14	0.49	0.65	0.68	0.42	0.26
4U	Lynhurst Ave to Alley - Hazelwood Baptist	0.32	0.08	0.23	0.30	0.10	0.20	0.02	-0.01	0.03
3ST	Unnamed Alley - South of Bluegrass	0.36	0.23	0.13	0.58	0.29	0.29	-0.22	-0.06	-0.16
4U	Alley - Hazelwood Baptist to Bluegrass Ave	0.50	0.19	0.31	0.49	0.15	0.34	0.01	0.03	-0.03
4SG	Bluegrass Ave	22.22	5.85	16.37	6.61	2.35	4.26	15.61	3.49	12.12
4U	Bluegrass Ave to Lehigh Ave	0.91	0.15	0.76	0.82	0.25	0.57	0.09	-0.10	0.18
4ST	Lehigh Ave	4.86	1.44	3.41	3.56	1.48	2.08	1.30	-0.03	1.33
4U	Lehigh Ave to Woodlawn Ave	2.61	0.52	2.10	1.58	0.51	1.06	1.04	0.00	1.04
3ST	Woodlawn Ave	6.41	1.65	4.77	2.60	0.97	1.63	3.81	0.68	3.13
4U	Woodlawn Ave to Matha Ave	3.33	0.48	2.85	2.10	0.69	1.41	1.23	-0.21	1.44
3ST	Matha Ave	1.55	0.50	1.05	1.04	0.49	0.55	0.51	0.01	0.50
4U	Matha Ave to Bicknell Ave	3.04	0.78	2.25	1.47	0.48	0.98	1.57	0.30	1.27
4SG	Bicknell Ave	9.87	2.09	7.78	6.21	2.22	3.99	3.66	-0.12	3.79
4U	Bicknell Ave to Carrico Ave	1.91	0.59	1.31	1.28	0.40	0.89	0.62	0.20	0.42
3ST	E Carrico Ave	2.18	0.57	1.61	1.56	0.71	0.85	0.62	-0.14	0.75
4U	Carrico Ave to Carrico Ave/Manitou Ave	0.60	0.34	0.26	0.63	0.19	0.44	-0.03	0.14	-0.17
4ST	Carrico Ave/Manitou Ave	0.76	0.91	1.84	2.84	1.16	1.68	-0.09	-0.25	0.16
5T	Carrico Ave/Manitou Ave to EB I-264/Ashland Ave	0.21	0.41	2.80	2.11	0.61	1.51	1.10	-0.20	1.29
A2	I-264 EB/Ashland Ave	8.28	2.28	6.00	17.67	6.39	11.28	-9.39	-4.11	-5.28
	<b>Total</b>	<b>284.05</b>	<b>74.14</b>	<b>214.91</b>	<b>181.11</b>	<b>64.84</b>	<b>116.26</b>	<b>102.57</b>	<b>8.30</b>	<b>94.27</b>