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Hummingbird Solar Noise Assessment

Hummingbird Solar Facility

September 23, 2022

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Introduction

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

The Hummingbird Solar Project (Project) is a proposed 200-megawatt (MW) photovoltaic (PV) solar power energy generating facility located in Fleming County, Kentucky. The project site is located within approximately 3,900 acres 2.5 miles northeast of Flemingsburg (Figure 1). The solar project consists of solar panels, a panel tracking system, inverters and electrical equipment associated with a solar facility and substation. The power generated by the proposed solar facility will be connected to the existing power grid using the existing transmission line connecting to the proposed Substation located on Carpenter Road. The generating facility will sell power on the wholesale market as a merchant power plant or independent power producer. The solar facility will be enclosed by a six (6)-foot chain link fence with three strand barbed wire. At the end of the project's life the equipment and electrical infrastructure will be decommissioned, and land may return to farming or other development.

A desktop noise assessment was completed to evaluate potential noise impacts to noise sensitive receptors within 1,000 feet from the project boundary (Noise Assessment Area). Background noise as well as noise generated during construction and operation of the Project were considered in the analysis.

1.2 EXISTING LAND USE AND SITE CONDITIONS

The Project is located in a rural area with gently sloping topography. Existing land use within the project site is cultivated cropland with small areas of deciduous forest. (MLRC 2016 and USDA-FSA 2018). Land use adjacent to the Project is comprised of scattered homes and cultivated cropland. The community of Mt. Carmel is located in the north central portion of the Project while Flemingsburg is located to the southeast. KY-57 transects the project site northeast to southwest while forested land is present to the southeast (Figure 2). There are two 138-kV transmission lines that intersects the Project.

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2.0 NOISE STUDY

2.1 EXISTING NOISE CONDITIONS

2.1.1 Noise Sensitive Receptors

A noise sensitive receptor is generally defined as locations where people reside or where the presence of unwanted sound may adversely affect the use of the land. Receptors may include but are not limited to schools, homes, churches, hospitals, and certain types of recreation or outdoor land uses such as outdoor restaurant seating.

Potential noise sensitive receptors were evaluated within a 1,000 foot buffer from the project boundary. High resolution aerial photography, topographic quadrangles and proposed site layouts were analyzed using ESRI ArcMap 10.8 and Google Earth Pro to determine the presence of potential noise sensitive receptors. These receptors include residential dwellings and are shown on Figure 2. Two churches are present within the study area: Mt. Carmel Christian Church and Mt. Carmel Bible Fellowship. Mt. Carmel Christian Church is located within the Mt. Carmel community near the north portion of the site while Mt. Carmel Bible Fellowship is located along Carpenter Road near the center of the site. The Fleming County Cemetery is located in the Mt. Carmel community and will not be analyzed further for this study. No schools, nursing homes, childcare centers, outdoor recreation, medical centers or other types of noise sensitive receptors were observed within the noise assessment area.

136 residences consisting of single family homes are located within the Noise Assessment Area. These dwellings are referred to as noise sensitive receptors within this report (R1-R139). Forty three (43) of these dwellings are located within areas that meet the definition of "residential neighborhood" according to KRS 278.700. These 43 dwellings are in one of five neighborhoods, which include populated areas of five or more acres containing at least one residential structure per acre. The five residential neighborhoods include an area along Beech Springs Drive, Maddox Road, Poplar Grove Road, Foxport Road and the community of Mt. Carmel. The nearest residence is approximately 260 feet from the nearest solar panel (Table 1). Proposed inverters are located even further away with the nearest being approximately 624 feet from a residence. Three adjacent residences along Botkins Lane are currently under a purchase option and will be removed prior to construction (R4, R5 and R6); therefore, they have not been considered as noise sensitive receptors in this study. These are labeled as Participating Structures on Figure 2.

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Туре	Nearest to	Direction from Project Site	Distance from Fence	Distance from Nearest Solar Panel	Distance from Nearest Inverter or Transformer*
Residences – Beech Springs Drive Neighborhood (R17-R32)		West	Within 305 ft	Within 351 ft	Within 1,252 ft
Residences – Maddox Road Neighborhood (R40-R44)		West	Within 309 ft	Within 381 ft	Within 1,053 ft
Residence (R46)	Fence	West	Within 180 ft	Within 316 ft	Within 755 ft
Residences – Poplar Grove Road Neighborhood (R63-R73)		Northwest	Within 317 ft	Within 372 ft	Within 1,010 ft
Residences – Mount Carmel Neighborhood (R80-R85)		North Central	Within 320 ft	Within 394 ft	Within 1,529 ft
Residence (R91)	Substation	Central	Within 324 ft	Within 575 ft	Within 792 ft*
Residence (R105)	Solar Panel / Tracking Motors	East	Within 208 ft	Within 260 ft	Within 788 ft
Residence (R109)	Inverter	East	Within 355 ft	Within 469 ft	Within 624 ft
Residences – Foxport Road Neighborhood (R126-R130)		Northeast	Within 243 ft	Within 305 ft	Within 1,287 ft

Table 1. Nearest Sensitive Receptor to the Site

*All values reflect distance to inverters except for R91 which is the distance to the substation/transformer area.

2.1.2 Noise Ordinances

The unincorporated portions of Fleming and Lewis Counties do not appear to have a specific noise ordinance.



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2.1.3 Existing Noise from Surrounding Areas

Noise is typically measured in decibels (dB_A - A-weighted sound levels) to describe the relative loudness of specific sounds. Unless otherwise noted, sound is presented as equivalent continuous sound level [L_{eq} (dB_A)]. This is defined as the steady sound pressure level which, over a given period of time, has the same total energy as the actual fluctuating noise. This can be generally thought of as average sound levels. L_{min} (dB_A) and L_{max} (dB_A) are the minimum and maximum sound levels at a given period in time. See Table 2 for example sound levels from the Centers for Disease Control and Prevention (CDC 2020) and the Federal Railroad Administration (FRA 2010).

Table 2. Common Sources of Noise and Decibel Levels

Noise Source	Average Noise Level (dB _A)*
Loud Entertainment Venues (Nightclubs, Bars and	105 – 110
Rock Concerts)	
Car horn at 16 ft / Sporting Events	100
Motorcycle	95
Locomotives and Rail Cars at 100 feet**	80-90
Gas powered lawnmowers and leaf blowers	80-85
Heavy Traffic	80-85
Washing Machine / Dishwasher	70
Normal Conversation / Air Conditioner	60
Soft Whisper	30

*CDC 2020 **FRA 2010

The primary source of noise from the surrounding area is similar to the Project site with sparse automotive traffic on rural roads and adjacent farms producing agricultural sounds related to tractors, farm machinery, trucks, and ATVs. Additionally, wildlife also contributes to the local noise including insects, birds and frogs.

2.1.4 Existing On-Site Noise

Existing noise on the Project site consists of noises typically produced by agricultural activities. These noises include tractors, trucks, and all-terrain vehicles. Rural wildlife noises contribute to the existing noise conditions including birds, frogs and insects.

2.2 PROPOSED CONSTRUCTION NOISE CONDITIONS

2.2.1 Equipment and Machinery

The Project's construction will require earthmoving and tree removal activities as well as typical solar panel and electrical equipment installation. Typical construction equipment is expected to be used for site preparation and infrastructure installation and may include dump trucks, pile drivers, backhoes, dozers,



Noise Study

and excavators. The Federal Transit Administration outlines typical construction equipment noise levels and is presented in Table 3 (FTA 2018). The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was used to evaluate noise during construction (FHWA 2006). Pile drivers are expected to be the loudest machinery and will only be used during installation of the solar panel supports. Since pile drivers will only be used during pole installation, nearest receptor model results have been presented both with and without pile drivers in use.

Equipment	Typical Noise Levels at 50 ft from Source (dB _A)*
Air Compressor	80
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pile Driver (Impact)	101
Pile Driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Rail Saw	90
Rock Drill	95
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	84

Table 3. Construction Equipment Noise Emission Levels

*Taken from FTA 2018

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2.2.2 Roadway Noise During Construction

Traffic noise is expected to increase temporarily during construction due to the mobilization of labor and materials, equipment and staff moving between sections of the project and construction and equipment vehicles entering and leaving the site. Construction related activity is expected to occur mainly between 7 a.m. and 7 p.m. (sunrise and sunset) and will be of limited duration at any given location within the project.

2.2.3 Assembly of Solar Array and Construction of Facilities

The solar facility consists of solar panels, a panel tracking system, inverters and electrical equipment associated with the solar facility and substation. All solar module equipment is expected to be assembled using handheld equipment and power tools. Assembly will occur within the Project site several hundred to thousands of feet from the nearest receptors. Assembly will take place during daytime hours and will be of limited duration at any given location within the project.

2.3 PROPOSED OPERATIONAL NOISE CONDITIONS

2.3.1 Solar Array and Tracking System

The solar array associated with this project includes single-axis tracking panels distributed evenly across the site (Figure 2). Tracking systems involve the panels being driven by small, 24-volt brushless DC motors to track the arc of the sun to maximize each panel's potential for solar absorption. Panels would turn no more than five (5) degrees every 15 minutes and would operate no more than one (1) minute out of every 15-minute period during daylight hours. These tracking motors are a potential source of mechanical noise and are included in this assessment. Tracking motors will not be installed closer than 100 feet from the project boundary. The sound typically produced by panel tracking motors (NexTracker or equivalent) is approximately 78 dB_A. Comparing similar noise values and distances from the RCNM, at the nearest receptor (R105) the tracking system will be approximately 49.7 dB_A as a worst-case maximum noise [L_{max} (dB_A)] which is similar to a refrigerator hum. The equivalent continuous sound level [L_{eq} (dB_A)] from the tracking motors is 37.5 dB_A which is around a soft whisper. Model results are presented in Table 5.

2.3.2 Inverters

Approximately 53 inverters are expected to be installed across the Project site. Inverters installed onsite are expected to be SMA Energy PCS or General Electric (GE) LV5 PCS or similar. Manufacturer's specifications for the equipment include a range of noise emission for SMA Energy PCS from 49 dB_A at 50 meters (164 feet) distance to 67 dB_A at 10 meters (32.8 feet) from the source which roughly translates to 31.1 dB_A at the nearest receptor (R109), comparable to a computer. The GE LV5 PCS ranges from 73.6 dB_A at lowest cooling level to 91.3 dB_A at highest cooling levels at 10 meters (32.8 feet) from the source which is approximately 48 dBA at the nearest receptor (R109), comparable to a refrigerator. Since the GE approximate sound levels are higher, those were used for this assessment and results are shown in Table 5.



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The noise produced by the inverters can be characterized as a hum and during average operation is similar in noise level to a household air conditioner at the unit. Proposed inverter locations are shown on Figure 2.

2.3.3 Transformers

The proposed substation and battery storage area covers approximately 14.0 acres and is located on the central portion of the Project. Transformers associated with the project will include a SBG-SMIT 3 phase 127 kVA transformer or similar. According to manufacturer specifications the loudest the transformer is expected to be is just over 60 dB_A measured 1 meter (3.2 feet) from the source, or the level of a normal conversation. The nearest sensitive receptor (R91) is approximately 792 feet away which equates to a sound level of 12.2 dBA and is barely audible, comparable to normal breathing. Remaining model results can be found in Table 5.

2.3.4 Site Operation and Maintenance

2.3.4.1 Vehicular Traffic

During operation, the solar facility is expected to have a maximum of one technician visiting the site daily for inspection and two to three technicians up to 70 days per year. Operation and maintenance work may be expected at night for up to 30 days per year. Weekend work is not anticipated but may be required upon any component outages that may impact energy production from the site. Other than the scenarios mentioned, vehicular traffic onsite will be limited to typical weekday business hours. Technicians will drive mid- or full-sized trucks and will not contribute noticeably to the existing traffic noise levels.

2.3.4.2 Maintenance Activities

Typical maintenance activities may include inspection, minor repair and maintenance on the solar panels, the tracking system, wiring, and/or inverters. Grounds maintenance will include periodic inspection of the boundary fencing and vegetation control through mowing and herbicide applications.

2.4 NOISE SUMMARY AND CONCLUSIONS

Noise is expected to increase temporarily and intermittently during the construction phase of the project due to increases in vehicular traffic, construction equipment and assembly of the solar facility components. This increase in noise is expected to be within accepted ranges and of short duration at any given location within the project with the majority of the noise producing activities to occur many hundreds to thousands of feet from the nearest noise sensitive receptors. With the exception of the pile driving activities, the typical noise levels of construction equipment are not unlike the existing noise levels related to cultivation within and surrounding the Project.

The noisiest portion of the construction will be the use of pile drivers to install the solar panel supports. These will only be used very briefly for each pile. The pile driver's worst-case intermittent maximum noise



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 $[L_{max} (dB_A)]$ level (86.5 dB_A) is expected to occur at the nearest receptor (R105) and is similar to a motorcyle. The equivalent continuous sound level $[L_{eq} (dB_A)]$ from construction including the pile driver is 79.6 dB_A which is similar to the sound level of a leaf blower. The noise model was also evaluated without the inputs of the pile driver since that is more typical of ongoing construction sound levels. The sound levels for typical construction (without pile driving) onsite are approximately 64.2 dB_A which around the sound level of a dishwasher (Table 4). Construction activities at the Project site would move around the site and are not anticipated to be performed near a sensitive receptor for more than a few weeks.

	Panel Distance (ft)	Calculated L _{max} (dB _A)	Calculated L _{eq} (dB _A)
Noise Level at Nearest Residential Receptor (R105) (including pile driver)	260	86.5	79.6
Noise Level at Nearest Residential Receptor (R105) (minus pile driver)	260	66.2	64.2

Table 4. Calculated Noise Levels at Nearest Receptor Due to Construction (Sunrise to Sunset)

During site operation, intermittent noise related to the panel tracking system and the constant noise of the inverters is expected. The increase in noise is negligible due to the distance between the panels / inverters and the nearest noise sensitive receptors. The nearest receptor (R105) is approximately 260 feet from the closest solar panels (and approximately 788 feet from an inverter). Maximum sound levels from the tracking system can be expected to be the levels of a refrigerator hum at the nearest receptor (R105, 49.7 dB_A), while the sounds will be much quieter at most receptors.

It should be noted that the trackers and the inverters for the panels themselves will not operate at night when residential receptors are most sensitive. During average daytime operation, the inverters will be similar in noise level (~48 dB_{A max}) to a quiet library at the nearest receptor (R109). According to manufacturer specifications the loudest the substation transformer is expected to be is just over 60 dB_A at 1m from the source, or the level of a normal conversation. Since the nearest receptor (R91) is approximately 792 ft from the substation, transformers are not expected to add additional noise above background noise as the noise levels are barely audible (12.2 dB_A). Site visits and maintenance activities including single vehicular traffic and mowing will be negligible as they are similar to the background agricultural noise characteristics. All site visits, outside of emergency maintenance, will occur during daylight hours.

At the nearest receptors, besides intermittent and infrequent pile driver activity, no elevated and prolonged noise levels above background levels are expected either during construction or operation of the Project site. Construction (pile driving) is not expected to remain in any area beyond a week.

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Receptor*	Nearest Pane		Nearest Inv	verter	Neare: Transformer/S	
	Tracking S Distance (ft)	dB _A	Distance (ft)	dB _A	Distance (ft)	
R1	542	43.3		40.8		<10
R2	913	<u>43.3</u> 38.8	1430		16205	<10
	477		1990	37.9	15231	
R3		44.4	989	44.0	13972	<10
R7	1027	37.7	1534	40.2	14700	<10
R8	903	38.9	1472	40.5	14960	<10
R9	668	41.5	1526	40.2	15850	<10
R10	386	46.2	1328	41.4	16538	<10
R11	823	39.7	1742	39.1	17479	<10
R12	441	45.1	1022	43.7	17351	<10
R13	733	40.7	1254	41.9	17802	<10
R14	1061	37.5	1522	40.2	18083	<10
R15	1003	38.0	1118	42.9	14049	<10
R16	988	38.1	1187	42.4	13587	<10
R17	880	39.1	1414	40.9	12999	<10
R18	1079	37.3	1706	39.2	12807	<10
R19	951	38.4	1605	39.8	12701	<10
R20	849	39.4	1550	40.1	12600	<10
R21	722	40.8	1460	40.6	12524	<10
R22	571	42.8	1410	40.9	12356	<10
R23	376	46.5	1349	41.3	12073	<10
R24	352	47.0	1333	41.4	11967	<10
R25	369	46.6	1412	40.9	11734	<10
R26	395	46.0	1252	41.9	11525	<10
R27	544	43.3	1475	40.5	11747	<10
R28	558	43.0	1538	40.1	11910	<10
R29	586	42.6	1552	40.1	12006	<10
R30	756	40.4	1627	39.6	12267	<10
R31	853	39.4	1668	39.4	12390	<10
R32	953	38.4	1725	39.1	12481	<10
R33	718	40.9	1657	39.5	10010	<10
R34	457	44.8	1402	40.9	9621	<10
R35	506	43.9	883	45.0	9441	<10
R36	1132	36.9	1400	40.9	8914	<10
R37	532	43.5	1291	41.7	11251	<10
R38	1077	37.3	1842	38.6	8626	<10
R39	350	47.1	1037	43.6	8220	<10

Table 5. Approximate Noise Levels During Operation (Sunrise to Sunset)



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Receptor*	Nearest Pan Tracking S		Nearest Inverter		Neare: Transformer/S	
	Distance (ft)	dB _A	Distance (ft)	dBA	Distance (ft)	dB _A
R40	398	46.0	1080	43.2	8581	<10
R41	439	45.1	1065	43.3	8702	<10
R42	440	45.1	1054	43.4	8800	<10
R43	381	46.4	1086	43.2	9072	<10
R44	462	44.7	1188	42.4	9344	<10
R45	474	44.5	893	44.9	9752	<10
R46	317	48.0	755	46.3	9712	<10
R47	902	38.9	1515	40.3	10854	<10
R48	1182	36.5	1901	38.3	11408	<10
R49	960	38.3	1653	39.5	11248	<10
R50	1047	37.6	1895	38.3	11288	<10
R51	1042	37.6	1939	38.1	11233	<10
R52	405	45.8	1320	41.5	7917	<10
R53	361	36.7	1157	42.6	7699	<10
R54	488	44.2	655	47.5	8026	<10
R55	682	41.3	901	44.8	8195	<10
R56	275	49.2	821	45.6	6181	<10
R57	348	47.1	757	46.3	3530	<10
R58	351	47.1	1246	42.0	3725	<10
R59	284	48.9	1306	41.6	4532	<10
R60	1035	37.7	1054	43.4	8084	<10
R61	829	39.6	2466	36.0	11207	<10
R62	405	45.8	1966	38.0	11006	<10
R63	914	38.8	2172	37.1	12787	<10
R64	613	42.1	1864	38.5	12484	<10
R65	615	42.2	1883	38.4	12481	<10
R66	445	45.0	1697	39.3	12257	<10
R67	385	46.3	1609	39.7	12148	<10
R68	373	46.5	1545	40.1	12054	<10
R69	408	45.8	1447	40.7	11903	<10
R70	485	44.3	1361	41.2	11762	<10
R71	381	46.4	1133	42.8	11603	<10
R72	526	43.6	1011	43.8	11317	<10
R73	672	41.4	1153	42.6	11380	<10
R74	920	38.7	2068	37.6	12463	<10
R75	807	39.8	1834	38.6	12159	<10
R76	787	40.1	1749	39.0	12046	<10



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Receptor*	Nearest Pan Tracking S		Nearest Inv	verter	Nearest Transformer/Substatior	
	Distance (ft)	dB _A	Distance (ft)	dB _A	Distance (ft)	dB _A
R77	1063	37.4	1526	40.2	11483	<10
R78	995	38.0	1272	41.8	9538	<10
R79	740	40.6	2193	37.0	6130	<10
R80	534	43.4	1529	40.2	3941	<10
R81	394	46.1	1740	39.1	3719	<10
R82	675	41.4	2006	37.8	3857	<10
R83	955	38.4	2309	36.6	3932	<10
R84	1046	37.6	2375	36.4	4011	<10
R85	463	44.7	2030	37.7	3162	<10
R86	1113	37.0	3056	34.2	3393	<10
R87	859	39.3	2916	34.6	2690	<10
R88	1708	33.3	1960	38.0	926	10.9
R89	1554	34.2	2018	37.8	895	11.3
R90	598	42.4	1571	39.9	1399	<10
R91	575	42.8	1624	39.7	792	12.2
R92	428	45.4	1386	41.0	906	11.2
R93	371	46.6	844	45.3	1514	<10
R94	727	40.7	1259	41.9	1220	<10
R95	631	42.0	1710	39.2	866	11.6
R96	369	46.6	2225	36.9	1251	<10
R97	590	42.6	1679	39.4	1882	<10
R98	412	45.7	1118	42.9	1974	<10
R99	371	46.6	1904	38.3	3043	<10
R100	750	40.5	1938	38.1	3549	<10
R101	406	45.8	1580	39.9	3819	<10
R102	469	44.6	862	45.2	5483	<10
R103	268	49.4	3100	34.0	4147	<10
R104	314	48.0	1584	39.9	5635	<10
R105	260	49.7	788	45.9	6267	<10
R106	286	48.9	650	47.6	6406	<10
R107	328	47.7	916	44.6	6652	<10
R108	941	38.5	975	44.1	8346	<10
R109	469	44.6	624	48.0	7851	<10
R110	374	46.5	1469	40.5	8326	<10
R111	564	43.0	2207	37.0	8969	<10
R112	371	46.6	2393	36.3	8792	<10
R113	906	38.8	2885	34.7	9291	<10

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Receptor*	Nearest Pan	el / Panel	Nearest Inv	verter	Neare	st
	Tracking S	System			Transformer/Substatio	
	Distance (ft)	dB _A	Distance (ft)	dB _A	Distance (ft)	dB _A
R114	983	38.1	3203	33.8	9253	<10
R115	1053	37.5	3527	32.9	9359	<10
R116	1094	37.2	3664	32.6	9399	<10
R117	370	46.6	745	46.4	7302	<10
R118	542	43.3	967	44.2	7418	<10
R119	733	40.7	1357	41.2	8090	<10
R120	443	45.1	837	45.4	8189	<10
R121	648	41.7	770	46.1	8462	<10
R122	867	39.2	1325	41.4	9076	<10
R123	956	38.4	1801	38.8	9802	<10
R124	774	40.2	1351	41.3	11791	<10
R125	420	45.5	1328	41.4	12165	<10
R126	452	44.9	1435	40.7	9498	<10
R127	533	43.4	1427	40.8	9675	<10
R128	454	44.8	1352	41.3	9665	<10
R129	306	48.3	1287	41.7	9606	<10
R130	475	44.4	1313	41.5	9555	<10
R131	395	46.0	1392	41.0	9125	<10
R132	504	43.9	1639	39.6	8888	<10
R133	385	46.3	1258	41.9	9978	<10
R134	890	39.0	1797	38.8	9062	<10
R135	921	38.7	1589	39.8	8743	<10
R136	915	38.8	1685	39.3	11542	<10
R137	586	42.6	1300	41.6	12410	<10
R138	293	48.6	894	44.8	13064	<10
R139	317	48.0	907	44.7	13152	<10
Note	Operates 1 minu	ute every 15	Continuous low hum		Substation area	
	minutes during d	aylight hours	during dayligh	t hours		

Noise Levels are Lmax – maximum noise levels expected. R4, R5, and R6 will be demolished prior to construction.

References

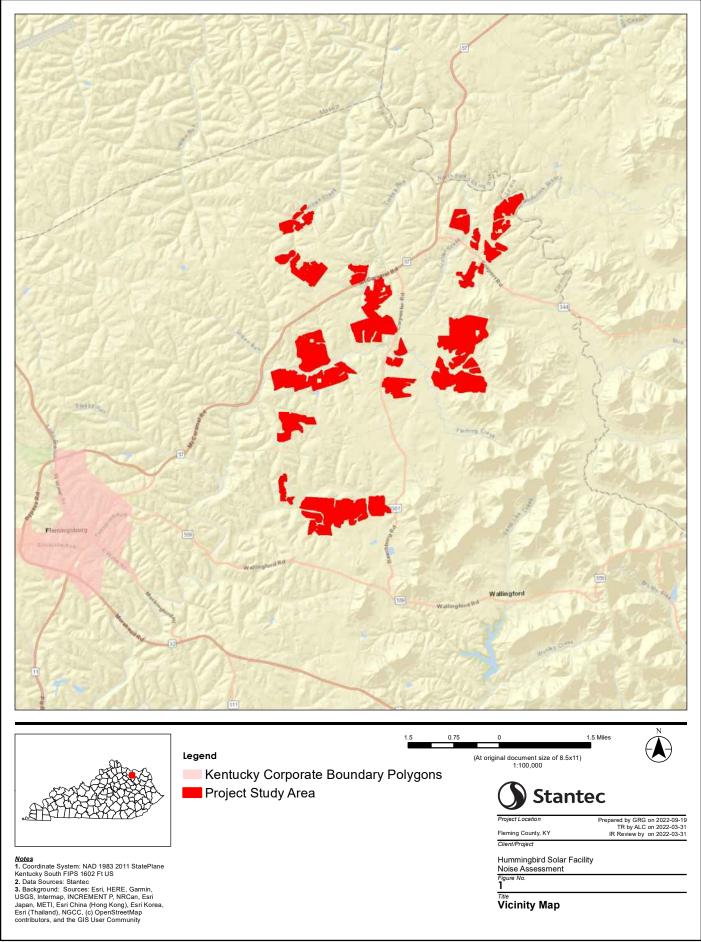
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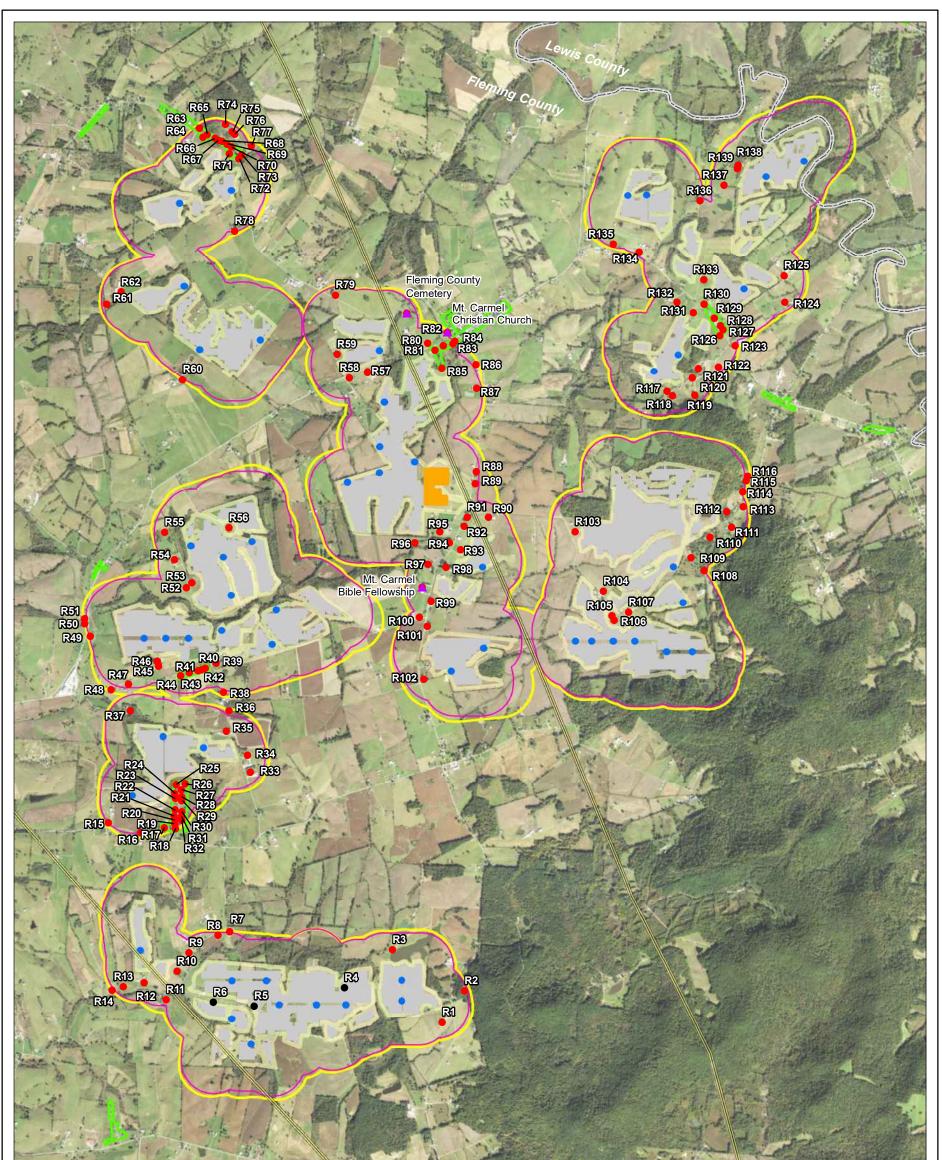
Appendix A Figures

Appendix A FIGURES





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11x17.mxd Revised: 2022-09-23 By: acolem:

Legend

<u>Notes</u> 1. Coordinate System: NAD 1983 StatePlane Kentucky North FIPS 1601

Feet 2. Data Sources: ESRI; Stantec 3. Background: BING Aerials Kentucky Transportation Cabinet (KYTC) 1000 ft Noise Assessment Area

Potential Fence Line

- Noise Sensitive Receptors
- Participating Structures
 - Potential PV Layout
- Potential Inverter Locations
 - Potential Substation Location
 - 55dBA Temporary Construction Noise Limit
 - Residential Neighborhoods as per KRS 278.700
 Counties
- 138kv Transmission Line

	(At original document size of 11x17) 1:36,000
	Stantec
	Project Location Fleming County, KY
Noise Limit	Client/Project
per KRS 278.700	Hummingbird Solar Facility
	Noise Assessment Report
	Figure No.
	0

0

 Project Location Fleming County, KY
 Prepared by ALC on 2022-09-19 TR by JA on 2022-09-19

 Client/Project
 Hummingbird Solar Facility Noise Assessment Report

 Figure No.
 2

 Title
 Title

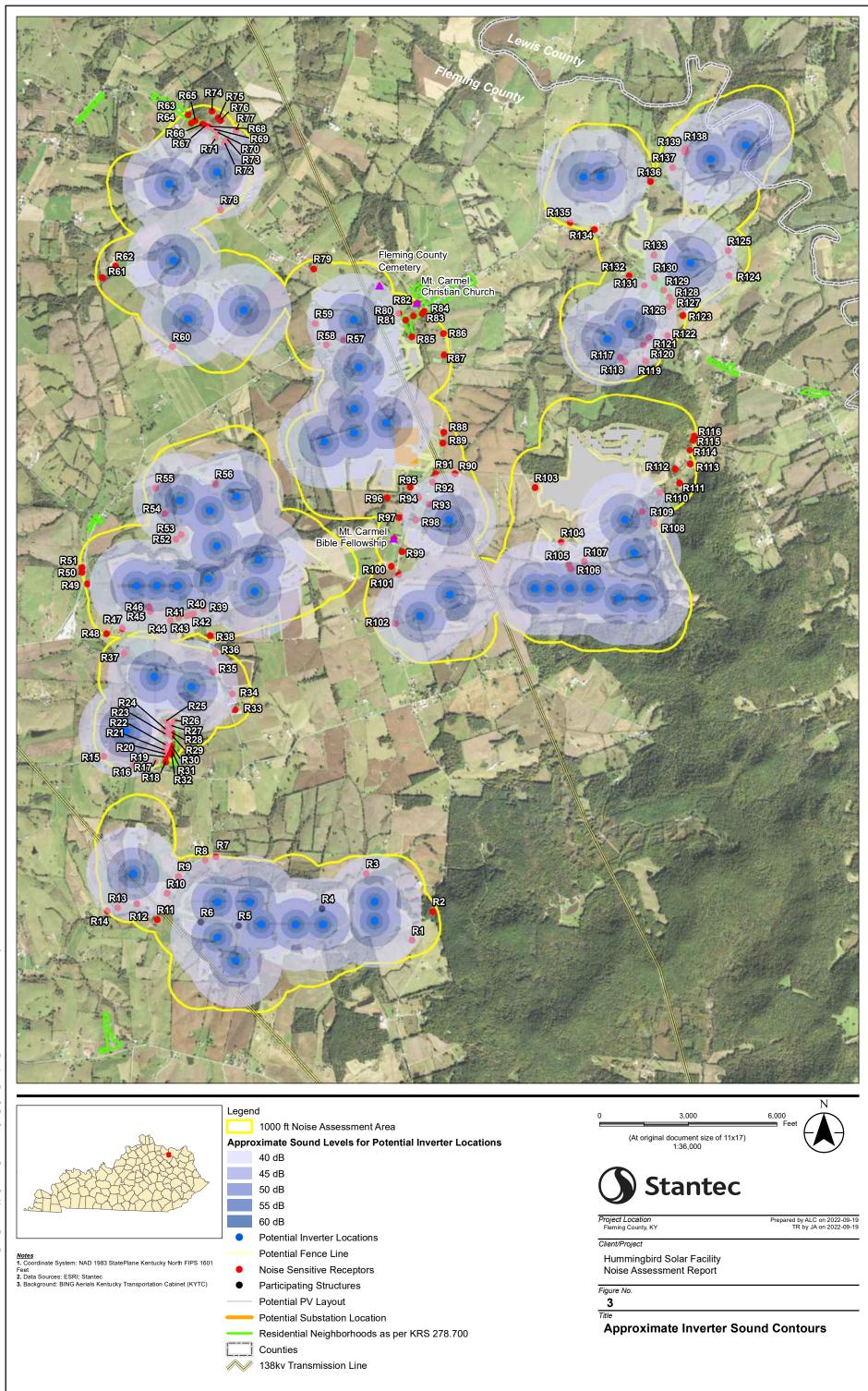
6,000

Feet

Hummingbird Solar Project

3,000

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Noise Assessment Area	0 3,000	6,000 Feet
Sound Levels for Potential Inverter Locations	(At original document size o 1:36,000	of 11x17)
	Stante	ec
	Project Location Fleming County, KY	Prepared by ALC on TR by JA on
al Inverter Locations	Client/Project	
al Fence Line	Hummingbird Solar Facility	1
Sensitive Receptors	Noise Assessment Report	
ating Structures	Figure No.	
al PV Layout	3	
al Substation Location	Title	
ntial Neighborhoods as per KRS 278.700	Approximate Inverte	er Sound Contours
25		
Fransmission Line		

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SAR Exhibit E



Hummingbird Solar Project

August 12, 2022

Prepared for:

Recurrent Energy 98 San Jacinto Blvd, Suite 750 Austin, Texas 78701

Prepared by:

Stantec Consulting Services Inc. 9200 Shelbyville Road, Suite 800 Louisville, Kentucky 40222



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Prepared by		
Enter Name	(signature)	
Reviewed by	(signature)	
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Approved by		
	(signature)	

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Executive Summary

The Hummingbird Solar Project development is proposed northeast of Flemingsburg in Fleming County, Kentucky on a property located south of KY 1237 (Burtonville Road), north of KY 559 (Fox Spring Avenue/Wallingford Road), mostly east of KY 57 (Mt. Carmel Road) and west of KY 1902. The petitioner proposes to utilize the existing land to establish a solar facility on the site. The development will have access points along several routes around the facility. Analyses of the 2022 existing conditions (based on most recent counts provided by the Kentucky Transportation Cabinet, KYTC) and the 2023 construction year were performed. The traffic impact study (TIS) evaluated the operating conditions for the AM and PM peak hours at the roadway segments below:

- Station 035080: CR 1027 (Carpenter Road)
- Station 035150: CR 1030 (Colgan Road)
- Station 035049: CR 1036 (Wilson Run Road)
- Station 035083: CR 1037 (Maddox Pike)
- Station 068811: KY 57 from Fleming/Lewis County Line (MP 0.00) to KY 1237 (MP 2.093)
- Station 035002: KY 57 from KY 344 (MP 8.232) to KY 3301 (2.567)
- Station 035104: KY 57 from KY 3301 (2.567) to KY 57X (MP 1.728)
- Station 035001: KY 344 from KY 57 (MP 0.00) to KY 989 (MP 1.600)
- Station 035091: KY 344 from KY 989 (MP 1.600) to Licking River (MP 2.404)
- Station 035054: KY 559 from Stewart Lane (MP 5.455) to Dudley Hollow Road (MP 11.850)
- Station 068516: KY 989 from Fleming/Lewis County Line (MP 0.00) to KY 1237 (MP 1.214)
- Station 068517: KY 1237 from KY 989 (MP 0.00) to Ribolt-Epworth Road (MP 1.579)
- Station 068761: KY 1237 from Ribolt-Epworth Road (MP 1.579) to KY 57 (MP 3.163)
- Station 035087: KY 3301 from KY 57 (MP 0.00) to Colgan Road (MP 3.425)
- Station 035081: KY 3301 from Colgan Road (MP 3.425) to KY 559 (MP 6.387)

Based on the results of the analysis, the following conclusions were developed:

- During construction, all highway segments are anticipated to continue to operate at acceptable level of service (LOS) standards during both the peak hours. Therefore, the construction for this project will not adversely affect traffic operations on any of the roadways in and around the project area.
- After construction is complete, the site will be managed with negligible added traffic demand. During the operational phase of the project, the surrounding roadway network will continue to operate at an acceptable LOS during the peak hours.

INTRODUCTION

1.0 INTRODUCTION

The purpose of this study is to estimate the traffic impacts of the proposed Hummingbird Solar Project located approximately three miles northeast of Flemingsburg in Fleming County, Kentucky. The project site can be generally described as south of KY 1237 (Burtonville Road), north of KY 559 (Fox Spring Avenue/Wallingford Road), mostly east of KY 57 (Mt. Carmel Road) and west of KY 1902. The proposed project site is shown in **Figure 1**.

The Project area encompasses approximately 4,300-acres in an agricultural area. The petitioner proposes to utilize the land to establish a 110-megawatt (MW), utility-scale, solar-powered electric generating facility. The Project will have access points around the site with major truck deliveries. A construction year of 2023 was evaluated as part of the study.

2.0 DATA COLLECTION

Traffic counts (including both 24-hour and classification counts) were obtained from the Kentucky Transportation Cabinet (KYTC) to establish the existing traffic conditions. **Figure 2** shows the locations of the primary / adjacent count stations used in this analysis. The summarized count data for each of these stations (plus additional stations outside the immediate area) is included in **Appendix A** for the following count stations:

- Station 035080: CR 1027 (Carpenter Road)
- Station 035150: CR 1030 (Colgan Road)
- Station 035049: CR 1036 (Wilson Run Road)
- Station 035083: CR 1037 (Maddox Pike)
- Station 068811: KY 57 from Fleming/Lewis County Line (MP 0.00) to KY 1237 (MP 2.093)
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- Station 035087: KY 3301 from KY 57 (MP 0.00) to Colgan Road (MP 3.425)
- Station 035081: KY 3301 from Colgan Road (MP 3.425) to KY 559 (MP 6.387)

DATA COLLECTION

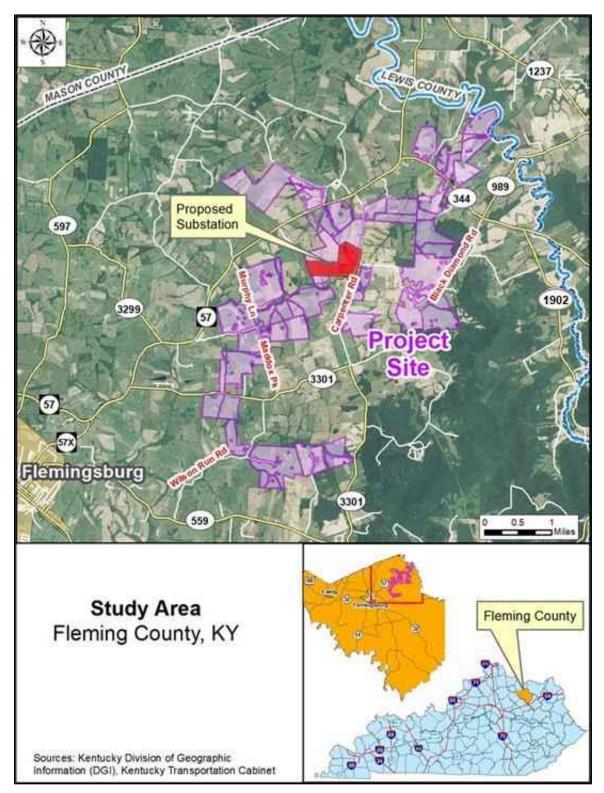


Figure 1: Project Location

DATA COLLECTION

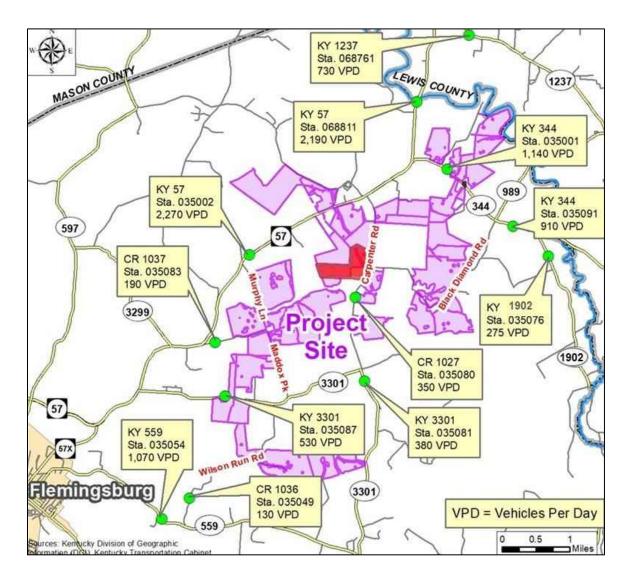


Figure 2: KYTC Count Stations

KY 57 (Mt. Carmel Road), located directly west of most of the project site, is classified as a two-lane major collector with daily traffic volume of 2,300 vehicles per day (VPD). KY 57 has posted speed limits ranging from 35 miles per hour (mph) to 55 mph. To the north, KY 1237 in Lewis County is a two-lane urban minor collector with a posted speed limit of 55 mph and daily traffic of 700 VPD. To the east of the project site, KY 1902 is a two-lane urban local roadway with a posted speed limit of 55 mph. To the south, KY 559 (Fox Spring Avenue/Wallingford Road) is a two-lane urban minor collector from with a posted speed limit of 35 mph.

Two-lane analyses were used to evaluate the roadways based on methods described in the Highway Capacity Manual (HCM) and implemented within the Highway Capacity Software (HCS 2022). The results can be found in **Appendix B**. The analyses were used to estimate capacity and Level of Service (LOS) for given traffic and geometric conditions. LOS provides a measure of the quality of traffic flow provided



DATA COLLECTION

by a roadway facility, expressed in terms of letter grades with LOS A representing the highest quality traffic flow and minimal delay, and LOS F representing poor traffic operations and significant delay. For rural areas, LOS C or better is generally considered to be desirable. In urban areas, LOS D or better is generally considered to be desirable.

The two-lane highways method utilizes follower density (followers/mile) as the service measure for LOS, as shown in **Table 1**.

LOS	Density (followers/mi)	Density (followers/mi)
	Speed Limit ≥ 50 mph	Speed Limit < 50 mph
А	≤ 2	≤ 2.5
В	> 2 - 4	> 2.5 - 5.5
С	> 4 - 8	> 5 - 10
D	> 8 - 12	> 10 - 15
Е	> 12	> 15
F	Demand exceeds capacity	Demand exceeds capacity

Table 1: Level of Service Criteria for Two-Lane Highways

The results of the existing AM and PM peak hour traffic analyses for two-lane roads are summarized in **Table 2**. The results indicate that all existing project-adjacent two-lane roadways currently operate at acceptable LOS during both the AM and PM peak hours.

DATA COLLECTION

Table 2: Existing Alvi/Pivi	I I WO-Lane Highway Analysis							
	Existing A	M	Existing PM					
Segment	Density	1.00	Density					
	(followers/mi/ln)	LOS	(followers/mi/ln)	LOS				
CR 1027 (Carpenter Road)	0.2	Α	0.3	А				
CR 1030 (Colgan Road)	0.1	А	0.0	А				
CR 1036 (Wilson Run Road)	0.1	А	0.1	А				
CR 1037 (Maddox Pike)	0.1	A	0.1	A				
KY 57 (Mt. Caramel Road) at:	0.1		0.1	7.				
	0.0	٨	0.6	۸				
KY 1237 (Burtonville Road) to near north of Mandie Lane	0.2	A	0.6	A				
North of Mandie Lane to south of Mandie Lane	0.1	A	0.5	A				
South of Mandie Lane to Fleming/Lewis County Line	0.1	A	0.4	A				
Fleming/Lewis County Line to near Perkins Lane	0.2	A	0.6	Α				
Near Perkins Lane to near KY 344 (Foxport Road)	0.1	A	0.4	A				
Near KY 344 (Foxport Road) to J M Clary	0.3	A	0.2	A				
J M Clary to near Kilbreth Valley Road	0.8	А	0.7	А				
Kilbreth Valley Road to near Penny Patch Road	0.3	Α	0.2	Α				
Near Penny Patch Road to near Murphy Lane	0.3	А	0.2	А				
Near Murphy Lane to north of Logan Run Road	0.3	А	0.2	А				
North of Logan Run Road to south of Logan Run Road	0.3	А	0.3	А				
South of Logan Run Road to KY 3301 (Beechtree Pike)	0.3	Α	0.2	А				
KY 3301 (Beechtree Pike) to north of KY 57X (Mt. Caramel Road)	1.3	A	1.7	A				
KY 344 (Foxport Road) at:	1.5		1.7					
	0.0	٨	0.4	•				
KY 1902 to 2155 KY 344 (Foxport Road)	0.2	A	0.4	A				
2155 KY 344 (Foxport Road) to 1680 Foxport Road	0.1	A	0.1	Α				
1680 Foxport Road to KY 989 (Burtonville Road)	0.1	A	0.2	Α				
KY 989 (Burtonville Road) to 1278 Foxport Road	0.1	A	0.2	A				
1278 Foxport Road to near Saunders Lane	0.1	A	0.2	А				
Near Saunders Lane to 875 KY 344 (Foxport Road)	0.1	А	0.3	А				
875 KY 344 (Foxport Road) to Andrew Graham property	0.1	А	0.2	А				
Andrew Graham Property to west of Breeze Road	0.1	Α	0.2	А				
West of Breeze Road to 234 KY 344 (Foxport Road)	0.1	А	0.2	А				
234 KY 344 (Foxport Road) to KY 57 (Mt. Caramel Road)	0.1	А	0.3	А				
KY 559 (Foxspring Avenue/Wallingford Road) at:	-							
Gulley Drive to near east of Sutton Road	0.2	А	0.2	A				
East of Sutton Road to west of Botkins Lane	0.1	A	0.1	A				
West of Botkins Lane to 3954 KY 559 (Wallingford Road)	0.1	A	0.1	A				
3954 KY 559 (Wallingford Road) to near Crump Lane	0.1	A	0.1	A				
Near Crump Lane to near Adams Lane	0.1	A	0.2	Α				
Near Adams Lane to 3215 KY 559 (Wallingford Road)	0.1	A	0.2	Α				
3215 KY 559 (Wallingford Road) to near Brookstone Drive	0.2	A	0.2	A				
Near Brookstone Drive to near Stewart Lane	0.2	A	0.3	Α				
Near Stewart Lane to School Street	0.5	А	0.5	А				
KY 989 (Burtonville Road/Salt Lick Road) at:								
KY 344 (Foxport Road) to Fleming/Lewis County Line	0.0	Α	0.0	А				
Fleming/Lewis County Line to KY 1237 (Burtonville Road)	0.0	Α	0.0	А				
KY 1237 (Burtonville Road) at:								
KY 989 (Salt Lick Road) to Thomas Lane/Ribolt Epworth Road	0.0	Α	0.0	А				
Thomas Lane/Ribolt Epworth Road to KY 57	0.0	A	0.1	A				
KY 3301 (Beechtree Pike/Road) at:	0.0		0.1	7.				
	0.1	^	0.1	^				
KY 57 (Mt. Carmel Road) to near Rebecca Lane	0.1	A	0.1	A				
Near Rebecca Lane to near Penny Lane	0.0	A	0.0	A				
Near Penny Lane to Licking River Bridge	0.0	A	0.1	A				
	_			A				
Licking River Bridge to 1208 KY 3301 (Beechtree Pike)	0.0	A	0.0					
	0.0 0.0	A A	0.0	A				
Licking River Bridge to 1208 KY 3301 (Beechtree Pike) 1208 KY 3301 (Beechtree Pike) to Beech Spring Estates Beech Spring Estates to Wilson Run Road								
Licking River Bridge to 1208 KY 3301 (Beechtree Pike) 1208 KY 3301 (Beechtree Pike) to Beech Spring Estates	0.0	А	0.0	А				
Licking River Bridge to 1208 KY 3301 (Beechtree Pike) 1208 KY 3301 (Beechtree Pike) to Beech Spring Estates Beech Spring Estates to Wilson Run Road	0.0 0.0	A A	0.0 0.0	A A				

Table 2: Existing AM/PM Two-Lane Highway Analysis

PROJECT TRIP GENERATION

3.0 PROJECT TRIP GENERATION

3.1 CONSTRUCTION

The trip generation analysis for the construction of the Project would generally be based on the number of workers and the associated construction and delivery truck trips expected during the construction of the project. Construction workers will consist of laborers, equipment operators, electricians, supervisory personnel, support personnel, and construction management personnel. It is envisioned that workers will arrive/depart from passenger vehicles and trucks daily during the AM (7:00 – 9:00 AM) and PM (3:00 – 6:00 PM) peak hours. Equipment deliveries will occur on trailers, flatbeds, or other large vehicles at various times during the day. Specific details concerning construction duration and intensity are not currently known. Therefore, this study has employed a sensitivity analysis to demonstrate that likely construction traffic levels will not have a significant, adverse effect on peak hour traffic operations. For this analysis, AM and PM peak hour traffic volumes on roadways were increased by 50 percent which is far greater than would be anticipated for the actual construction of the Project.

3.1.1 CONSTRUCTION ANALYSIS

The 2023 construction year analysis assumed no changes to the existing roadway network and increases in traffic demand discussed above. The results of the construction year AM and PM peak hour two-lane analysis are summarized in **Table 3**. Complete output reports are included in **Appendix B**. The results indicate that all analyzed roadway segments are anticipated to continue to operate at acceptable LOS during construction for both peak hours.

PROJECT TRIP GENERATION

Table 3: Construction Year (2023)					
Segment	Construction Density	AW	Construction Density		
	(followers/mi/ln)	LOS	(followers/mi/ln)	LOS	
CR 1027 (Carpenter Road)	0.4	А	0.5	А	
CR 1030 (Colgan Road)	0.1	Α	0.1	А	
CR 1036 (Wilson Run Road)	0.2	Α	0.1	А	
CR 1037 (Maddox Pike)	0.2	A	0.2	А	
KY 57 (Mt. Caramel Road) at:		1			
KY 1237 (Burtonville Road) to near north of Mandie Lane	0.4	A	1.2	А	
North of Mandie Lane to south of Mandie Lane	0.3	A	1.0	A	
South of Mandie Lane to Fleming/Lewis County Line	0.2	A	0.8	A	
Fleming/Lewis County Line to near Perkins Lane	0.3	A	1.1	A	
Near Perkins Lane to near KY 344 (Foxport Road)	0.3	A	0.9	A	
Near KY 344 (Foxport Road) to J M Clary	0.6	A	0.5	A	
J M Clary to near Kilbreth Valley Road	1.5	A	1.3	A	
Kilbreth Valley Road to near Penny Patch Road	0.5	A	0.4	A	
Near Penny Patch Road to near Murphy Lane	0.5	A	0.5	A	
Near Murphy Lane to north of Logan Run Road	0.6	A	0.5	A	
North of Logan Run Road to south of Logan Run Road	0.6	A	0.5	А	
South of Logan Run Road to KY 3301 (Beechtree Pike)	0.6	A	0.5	A	
KY 3301 (Beechtree Pike) to north of KY 57X (Mt. Caramel Road)	2.4	В	3.2	В	
KY 344 (Foxport Road) at:		1			
KY 1902 to 2155 KY 344 (Foxport Road)	0.4	A	0.8	A	
2155 KY 344 (Foxport Road) to 1680 Foxport Road	0.1	A	0.3	A	
1680 Foxport Road to KY 989 (Burtonville Road)	0.2	A	0.4	A	
KY 989 (Burtonville Road) to 1278 Foxport Road	0.2	A	0.5	A	
1278 Foxport Road to near Saunders Lane	0.1	A	0.4	A	
Near Saunders Lane to 875 KY 344 (Foxport Road)	0.2	A	0.5	A	
875 KY 344 (Foxport Road) to Andrew Graham property	0.1	A	0.3	A	
Andrew Graham Property to west of Breeze Road	0.2	A	0.4	A	
West of Breeze Road to 234 KY 344 (Foxport Road)	0.1	A	0.3	A	
234 KY 344 (Foxport Road) to KY 57 (Mt. Caramel Road)	0.2	A	0.5	A	
KY 559 (Foxspring Avenue/Wallingford Road) at:	1	1			
Gulley Drive to near east of Sutton Road	0.3	A	0.3	A	
East of Sutton Road to west of Botkins Lane	0.2	A	0.2	A	
West of Botkins Lane to 3954 KY 559 (Wallingford Road)	0.2	A	0.3	A	
3954 KY 559 (Wallingford Road) to near Crump Lane	0.2	A	0.2	A	
Near Crump Lane to near Adams Lane	0.2	A	0.3	A	
Near Adams Lane to 3215 KY 559 (Wallingford Road)	0.2	A	0.3	A	
3215 KY 559 (Wallingford Road) to near Brookstone Drive	0.4	A	0.3	A	
Near Brookstone Drive to near Stewart Lane	0.4	A	0.5	A	
Near Stewart Lane to School Street	0.7	A	0.8	A	
KY 989 (Burtonville Road/Salt Lick Road) at:	1	1			
KY 344 (Foxport Road) to Fleming/Lewis County Line	0.0	A	0.0	A	
Fleming/Lewis County Line to KY 1237 (Burtonville Road)	0.0	A	0.0	A	
KY 1237 (Burtonville Road) at:	-	1			
KY 989 (Salt Lick Road) to Thomas Lane/Ribolt Epworth Road		A	0.1	A	
Thomas Lane/Ribolt Epworth Road to KY 57	0.1	A	0.2	A	
KY 3301 (Beechtree Pike/Road) at:					
KY 57 (Mt. Carmel Road) to near Rebecca Lane	0.1	A	0.1	A	
Near Rebecca Lane to near Penny Lane	0.1	A	0.1	A	
Near Penny Lane to Licking River Bridge	0.1	A	0.1	A	
Licking River Bridge to 1208 KY 3301 (Beechtree Pike)	0.1	A	0.1	A	
1208 KY 3301 (Beechtree Pike) to Beech Spring Estates	0.1	A	0.1	А	
Beech Spring Estates to Wilson Run Road	0.1	A	0.1	Α	
Wilson Run Road to 2810 KY 3301 (Beechtree Pike)	0.1	A	0.1	A	
2810 KY 3301 (Beechtree Pike) to near Colgan Road	0.1	A	0.1	А	
Near Colgan Road to Rice Lane	0.1	A	0.1	А	

Table 3: Construction Year (2023) AM/PM Two-Lane Highway Analysis

CONCLUSION

3.2 OPERATION

Once operational, the facility will be managed and monitored by a small number of employees. The facility will have one employee on site every day and up to three additional employees for 70 days a year for site inspections and repair. Operations workers are expected to commute to and from the project site individually during the peak AM and PM hours. Work can also be conducted at night up to thirty days a year. This additional volume of daily traffic is considered negligible, and the operational phase of the project will have no measurable impact on the traffic and/or transportation infrastructure.

4.0 CONCLUSION

As demonstrated in the traffic analysis, the construction period will not produce significant operational changes to existing roadways. All roadways within the project area will continue to operate at LOS B or better during peak construction traffic. Although no significant adverse traffic impacts are expected during project construction or operation, using mitigation measures such as ridesharing between construction workers, using appropriate traffic controls, or allowing flexible working hours outside of peak hours could be implemented to minimize any potential for delays during the AM and PM peak hours.

Appendix A

Appendix A

TRAFFIC COUNTS AND CLASSIFICATION DATA



Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 05/03/2017 through 05/05/2017

Site names:	035081		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	035-KY-3301 -000 @	3.700 From: COLGAN	Growth Factor Grp:	08

[Su	n, Apr 30	, 2017	Мс	lon, May 1, 2017 Tue, May 2,		2017					Thu, May 4, 2017			Fri, May 5, 2017		Sat, May 6, 2017				
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00													4			1					
01:00													0			0					
02:00													4			1					
03:00													3			0					
04:00													4			7					
05:00													14			12					
06:00													13			18					
07:00													49			37					
08:00													31			20					
09:00													11			7					
10:00										29			27								
11:00										16			31								
12:00										21			36								
13:00										34			32								
14:00										16			34								
15:00										37			39								
16:00										37			44								
17:00										50			50								
18:00										62			30								
19:00										34			14								
20:00										32			26								
21:00										27			17								
22:00										10			8								
23:00										3			4								
Total										408			525			103					
AM Peak Vol										0			49			0					
AM Peak Fct										0			1			0					
AM Peak Hr										:			7: 00			:					
PM Peak Vol										62			50			0					
PM Peak Fct										1			1			0					
PM Peak Hr										18: 00			17: 00			:					
Seasonal Fct										.955			.955			.955					
Daily Fct										.995			.953			.860					
Axle Fct										.489			.489			.489					
Pulse Fct										2.000			2.000			2.000					

Short-term Hourly Traffic Volume for 09/01/2020 through 09/03/2020

Site names:	035081		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	035-KY-3301 -000@	3.700 From: COLGAN	Growth Factor Grp:	08

	Su	n, Aug 30	, 2020	Мо	n, Aug 31	, 2020	Τι	ie, Sep 1,	2020	We	ed, Sep 2,	2020	Th	nu, Sep 3,	2020	F	ri, Sep 4,	2020	S	at, Sep 5,	2020
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										1			1								
01:00										2			3								
02:00										5			1								
03:00										1			0								
04:00										1			0								
05:00										9			7								
06:00										16			21								
07:00										29			22								
08:00										24			23								
09:00										21			21								
10:00										18			19								
11:00										21			29								
12:00										13			23								
13:00										33			18								
14:00										29			27								
15:00							32			20											
16:00							37			29											
17:00							51			31											
18:00							29			32											
19:00							19			23											
20:00							21			17											
21:00							16			19											
22:00							7			7											
23:00							5			6											
Total							217			407			215								
AM Peak Vol										30			32								
AM Peak Fct										.536			.8								
AM Peak Hr										6: 30			10: 45								
PM Peak Vol										33											
PM Peak Fct										.635											
PM Peak Hr										13: 00			:								
Seasonal Fct							.924			.924			.924								
Daily Fct							.989			.986			.961								
Axle Fct							.489			.489			.489								
Pulse Fct							2.000			2.000			2.000								

Short-term Hourly Traffic Volume for 06/24/2019 through 06/27/2019

Site names:	035087		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	035-KY-3301 -000@	1.200 From: KY 57 (NE	Growth Factor Grp:	08

	Su	n, Jun 23,	, 2019	Мс	on, Jun 24	, 2019	Tu	e, Jun 25	, 2019	We	d, Jun 26	, 2019	Th	u, Jun 27	, 2019	Fr	i, Jun 28,	2019	Sa	at, Jun 29,	2019
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							3			6			1								
01:00							1			3			2								
02:00							4			1			5								
03:00							6			5			5								
04:00							5			6			6								
05:00							19			20			11								
06:00							18			13			17								
07:00							46			32			51								
08:00							29			31											
09:00							24			40											
10:00				29			17			29											
11:00				38			33			32											
12:00				31			30			37											
13:00				40			29			38											
14:00				32			23			40											
15:00				33			38			40											
16:00				40			45			38											
17:00				48			39			45											
18:00				32			41			42											
19:00				16			30			32											
20:00				17			33			23											
21:00				11			14			21											
22:00				7			12			11											
23:00				3			9			9											
Total				377			548			594			98								
AM Peak Vol							46			40											
AM Peak Fct							.767			.714											
AM Peak Hr				:			7: 00			8: 45											
PM Peak Vol				53			54			50											
PM Peak Fct				.779			.9			.735											
PM Peak Hr				16: 45			16: 15			12: 30											
Seasonal Fct				.950			.950			.950			.950								
Daily Fct				1.008			.985			.998			.962								
Axle Fct				.495			.495			.495			.495								
Pulse Fct				2.000			2.000			2.000			2.000								

Short-term Hourly Traffic Volume for 05/14/2019 through 05/17/2019

Site names:	068517		Seasonal Factor Grp:	2
County:	Lewis		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	068-KY-1237 -000 @	.500 From: KY 989 To:	Growth Factor Grp:	08

	Su	n, May 12	, 2019	Мо	n, May 13	, 2019	Tu	e, May 14	2019	We	d, May 15	, 2019	Thu	, May 16	, 2019	Fr	i, May 17,	2019	Sa	it, May 18	, 2019
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										3			3			1					
01:00										1			1			0					
02:00										2			0			1					
03:00										3			3			1					
04:00										2			0			0					
05:00										12			8			6					
06:00										17			17			19					
07:00										16			16								
08:00							20			24			20								
09:00							18			27			24								
10:00							28			24			19								
11:00							22			32			18								
12:00							30			28			32								
13:00							42			31			33								
14:00							22			27			27								
15:00							28			38			31								
16:00							34			41			39								
17:00							39			35			38								
18:00							27			30			33								
19:00							37			22			31								
20:00							26			17			17								
21:00							17			14			18								
22:00							5			10			12								
23:00							5			6			6								
Total							400			462			446			28					
AM Peak Vol							28			36			24								
AM Peak Fct							.636			.529			.75								
AM Peak Hr							10: 00			10: 45			8: 45								
PM Peak Vol							42			47			41								
PM Peak Fct							.7			.691			.788								
PM Peak Hr							13: 00			16: 45			16: 45								
Seasonal Fct							.931			.931			.931			.931					
Daily Fct							.977			.982			.970			.863					
Axle Fct							.494			.494			.494			.494					
Pulse Fct							2.000			2.000			2.000			2.000					

Short-term Hourly Traffic Volume for 06/08/2020 through 06/11/2020

Site names:	068761		Seasonal Factor Grp:	2
County:	Lewis		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	068-KY-1237 -000 @	2.400 From: RIBOLT-	Growth Factor Grp:	08

[Su	un, Jun 7,	2020	M	on, Jun 8,	, 2020	Τι	ie, Jun 9,	2020	We	d, Jun 10	, 2020	Th	u, Jun 11	, 2020	Fr	i, Jun 12,	2020	Sa	at, Jun 13	, 2020
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							5			3			2								
01:00							7			4			3								
02:00							2			3			3								
03:00							8			1			5								
04:00							5			9			7								
05:00							14			12			10								
06:00							28			24			25								
07:00							42			41			38								
08:00							49			28			34								
09:00							42			29											
10:00							56			30											
11:00				43			55			45											
12:00				46			57			31											
13:00				64			50			64											
14:00				43			50			45											
15:00				66			67			63											
16:00				73			67			59											
17:00				75			73			70											
18:00				58			61			53											
19:00				46			36			44											
20:00				49			32			32											
21:00				30			21			35											
22:00				20			23			12											
23:00				7			8			5											
Total				620			858			742			127								
AM Peak Vol							63			45											
AM Peak Fct							.788			.804											
AM Peak Hr				:			10: 15			11: 00											
PM Peak Vol				78			75			70											
PM Peak Fct				.78			.781			.673											
PM Peak Hr				16: 30			17: 30			17: 00											
Seasonal Fct				.921			.921			.921			.921								
Daily Fct				.998			1.000			.976			.960								
Axle Fct				.495			.495			.495			.495								
Pulse Fct				2.000			2.000			2.000			2.000								

Short-term Hourly Traffic Volume for 06/12/2017 through 06/14/2017

Site names:	068761		Seasonal Factor Grp:	2
County:	Lewis		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	068-KY-1237 -000 @	2.400 From: RIBOLT-	Growth Factor Grp:	08

	Su	n, Jun 11	, 2017	Mc	on, Jun 12	, 2017	Tu	e, Jun 13	, 2017	Wee	d, Jun 14	, 2017	Th	u, Jun 15,	2017	Fr	⁻ i, Jun 16,	2017	Sa	it, Jun 17,	2017
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							3			4											
01:00							0			0											
02:00							5			9											
03:00							3			5											
04:00							7			10											
05:00							29			31											
06:00							39			32											
07:00							46			42											
08:00				43			44			54											
09:00				41			50			45											
10:00				45			55														
11:00				40			42														
12:00				41			44														
13:00				46			47														
14:00				47			53														
15:00				49			62														
16:00				58			74														
17:00				79			65														
18:00				43			47														
19:00				41			44														
20:00				45			42														
21:00				23			28														
22:00				21			12														
23:00				13			4														
Total				675			845			232											
AM Peak Vol				0			55			0											
AM Peak Fct				0			1			0											
AM Peak Hr							10: 00			:											
PM Peak Vol				79			74			0											
PM Peak Fct				1			1			0											
PM Peak Hr				17: 00			16: 00			:											
Seasonal Fct				.950			.950			.950											
Daily Fct				1.016			1.015			.984											
Axle Fct				.488			.488			.488											
Pulse Fct				2.000			2.000			2.000											

Short-term Hourly Traffic Volume for 05/14/2019 through 05/16/2019

Site names:	068516		Seasonal Factor Grp:	2
County:	Lewis		Daily Factor Grp:	2
Funct Class:	R Local System		Axle Factor Grp:	09
Location:	068-KY-0989 -000 @	.800 From: FLEMING	Growth Factor Grp:	09

	Su	n, May 12	, 2019	Мо	n, May 13	, 2019	Tue	e, May 14	, 2019	We	d, May 15	, 2019	Th	u, May 16	, 2019	Fr	i, May 17,	2019	Sa	t, May 18	, 2019
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										1			5								
01:00										3			0								
02:00										3			1								
03:00										7			8								
04:00										4			1								
05:00										6			4								
06:00										9			6								
07:00										13			7								
08:00										4			6								
09:00							9			7			17								
10:00							14			12			12								
11:00							18			12			8								
12:00							13			19			19								
13:00							18			18			18								
14:00							18			21			7								
15:00							18			34			18								
16:00							12			22			21								
17:00							21			20			21								
18:00							15			14			10								
19:00							8			10			10								
20:00							9			16											
21:00							14			7											
22:00							3			5											
23:00							1			2											
Total							191			269			199								
AM Peak Vol							18			15			17								
AM Peak Fct							.5			.536			.531								
AM Peak Hr							11: 00			6: 30			9: 00								
PM Peak Vol							22			36			24								
PM Peak Fct							.611			.563			.75								
PM Peak Hr							13: 30			14: 15			15: 30								
Seasonal Fct							.931			.931			.931								
Daily Fct							.977			.982			.970								
Axle Fct							.500			.500			.500								
Pulse Fct							2.000			2.000			2.000								

Short-term Hourly Traffic Volume for 06/24/2019 through 06/27/2019

Site names:	035042		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	035-KY-0559 -000@	13.200 From: DUDLEY	Growth Factor Grp:	08

	Su	n, Jun 23,	, 2019	Мс	on, Jun 24	, 2019	Tu	e, Jun 25	, 2019	We	d, Jun 26	, 2019	Th	u, Jun 27	, 2019	Fr	i, Jun 28,	2019	Sa	at, Jun 29,	2019
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							2			2			0								
01:00							0			3			0								
02:00							2			1			2								
03:00							1			0			2								
04:00							2			1			2								
05:00							8			8			10								
06:00							12			10			11								
07:00							25			25			16								
08:00							19			20											
09:00							24			23											
10:00				25			22			30											
11:00				18			26			22											
12:00				23			26			28											
13:00				31			26			27											
14:00				17			32			37											
15:00				30			28			55											
16:00				44			31			36											
17:00				29			25			29											
18:00				24			26			25											
19:00				20			22			20											
20:00				16			18			19											
21:00				14			14			8											
22:00				9			5			8											
23:00				4			4			0											
Total				304			400			437			43								
AM Peak Vol							29			30											
AM Peak Fct							.725			.625											
AM Peak Hr				:			10: 15			10: 00											
PM Peak Vol				46			34			60											
PM Peak Fct				.676			.708			.469											
PM Peak Hr				16: 15			15: 15			15: 15											
Seasonal Fct				.950			.950			.950			.950								
Daily Fct				1.008			.985			.998			.962								
Axle Fct				.495			.495			.495			.495								
Pulse Fct				2.000			2.000			2.000			2.000								

Short-term Hourly Traffic Volume for 04/06/2021 through 04/08/2021

Site names:	035054		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	035-KY-0559 -000@	7.200 From: STEWART	Growth Factor Grp:	08

	S	un, Apr 4,	2021	Mo	on, Apr 5,	2021	Τι	ue, Apr 6,	2021	W	ed, Apr 7,	2021	Τł	nu, Apr 8,	2021	F	ri, Apr 9, 2	2021	Sa	at, Apr 10,	, 2021
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										6			4								
01:00										2			4								
02:00										1			2								
03:00										4			8								
04:00										14			7								
05:00										13			25								
06:00										49			45								
07:00										76			99								
08:00							78			62											
09:00							57			56											
10:00							64			62											
11:00							63			64											
12:00							76			79											
13:00							83			70											
14:00							79			89											
15:00							90			87											
16:00							96			97											
17:00							75			92											
18:00							65			80											
19:00							51			44											
20:00							34			38											
21:00							25			31											
22:00							13			16											
23:00							8			6											
Total							957			1,138			194								
AM Peak Vol										77											
AM Peak Fct										.875											
AM Peak Hr							:			7: 30											
PM Peak Vol							104			108											
PM Peak Fct							.813			.9											
PM Peak Hr							15: 45			16: 30											
Seasonal Fct							1.244			1.244			1.244								
Daily Fct							.930			.943			.948								
Axle Fct							.494			.494			.494								
Pulse Fct							2.000			2.000			2.000								

Short-term Hourly Traffic Volume for 06/24/2019 through 06/27/2019

Site names:	035001		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	035-KY-0344 -000 @	.500 From: KY 57 To:	Growth Factor Grp:	08

	Su	n, Jun 23,	2019	Мс	on, Jun 24	, 2019	Tu	e, Jun 25	, 2019	We	d, Jun 26	, 2019	Th	u, Jun 27	, 2019	Fr	ri, Jun 28,	2019	Sa	at, Jun 29,	2019
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							3			4			4								
01:00							3			5			1								
02:00							7			3			8								
03:00							15			16			14								
04:00							13			14			13								
05:00							50			35			38								
06:00							50			62			55								
07:00							46			62			74								
08:00							59			57			63								
09:00							53			57											
10:00							59			57											
11:00				64			60			79											
12:00				80			59			80											
13:00				83			67			69											
14:00				76			74			61											
15:00				93			61			82											
16:00				90			84			106											
17:00				94			115			115											
18:00				87			83			91											
19:00				54			70			56											
20:00				58			32			56											
21:00				24			42			92											
22:00				23			34			16											
23:00				7			9			14											
Total				833			1,148			1,289			270								
AM Peak Vol							71			79											
AM Peak Fct							.74			.823											
AM Peak Hr							10: 45			11: 00											
PM Peak Vol				100			115			120											
PM Peak Fct				.833			.821			.909											
PM Peak Hr				16: 30			16: 45			16: 15											
Seasonal Fct				.950			.950			.950			.950								
Daily Fct				1.008			.985			.998			.962								
Axle Fct				.495			.495			.495			.495								
Pulse Fct				2.000			2.000			2.000			2.000								

Short-term Hourly Traffic Volume for 04/27/2020 through 04/29/2020

Site names:	035091		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	035-KY-0344 -000 @	1.800 From: KY 989	Growth Factor Grp:	08

	Su	n, Apr 26	, 2020	Mc	on, Apr 27	, 2020	Tu	e, Apr 28	2020	Wee	d, Apr 29	, 2020	Th	u, Apr 30,	2020	F	ri, May 1,	2020	Sa	at, May 2,	2020
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							2			4											
01:00							0			3											
02:00							1			3											
03:00							3			2											
04:00							4			7											
05:00							25			22											
06:00							36			22											
07:00							30			36											
08:00							29			29											
09:00							38			41											
10:00							55			46											
11:00							35			53											
12:00							58			40											
13:00							40			48											
14:00				48	5		35														
15:00				48	8		70														
16:00				64			72														
17:00				75			92														
18:00				71			56														
19:00				46	5		46														
20:00				38	8		26														
21:00				19			31														
22:00				6			13														
23:00				2			5														
Total				417			802			356											
AM Peak Vol							55			53											
AM Peak Fct							.688			.663											
AM Peak Hr							10: 00			11: 00											
PM Peak Vol							97														
PM Peak Fct							.808														
PM Peak Hr							16: 45			:											<u> </u>
Seasonal Fct				1.244			1.244			1.244											
Daily Fct				.942			.930			.943											
Axle Fct				.494			.494			.494											
Pulse Fct				2.000			2.000			2.000											

Short-term Hourly Traffic Volume for 08/16/2017 through 08/18/2017

Site names:	035091		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Minor Collector		Axle Factor Grp:	08
Location:	035-KY-0344 -000 @	1.800 From: KY 989	Growth Factor Grp:	08

	Su	n, Aug 13	, 2017	Мо	n, Aug 14	, 2017	Tu	e, Aug 15	, 2017	We	d, Aug 16	, 2017	Th	u, Aug 17,	2017	Fr	i, Aug 18,	2017	Sa	t, Aug 19	, 2017
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00													6			3					
01:00													2			1					
02:00													1			3					
03:00													10			3					
04:00													13			16					
05:00													33			34					
06:00													65			54					
07:00													61			56					
08:00													53			44					
09:00										55			45								
10:00										49			44								
11:00										70			67								
12:00										52			53								
13:00										46			53								
14:00										56			66								
15:00										73			80								
16:00										64			60								
17:00										95			93								
18:00										55			62								
19:00										37			44								
20:00										38			35								
21:00										22			21								
22:00										12			13								
23:00										2			4								
Total										726			984			214					
AM Peak Vol										0			67			0					
AM Peak Fct										0			1			0					
AM Peak Hr										:			11: 00			:					
PM Peak Vol										95			93			0					
PM Peak Fct										1			1			0					
PM Peak Hr										17: 00			17: 00			:					
Seasonal Fct										.957			.957			.957					
Daily Fct										.990			.939			.867					
Axle Fct										.489			.489			.489					
Pulse Fct										2.000			2.000			2.000					

Kentucky Transportation Cabinet Count Class Distribution for 04/27/2020 through 04/29/2020

Site names: County:	035002 Fleming	
Funct Class:	R Major Collector	
Location:	,	5.407 From: KY 3301 To: KY 344

	Road	Pos	Neg	Pos Lane1	Neg Lane1
MC	7	3	4	3	4
	.18%	.16%	.20%	.16%	.20%
CAR	1,997	966	1,031	966	1,031
	51.39%	50.63%	52.12%	50.63%	52.12%
PU	1,343	643	700	643	700
	34.56%	33.70%	35.39%	33.70%	35.39%
BUS	42	26	16	26	16
	1.08%	1.36%	.81%	1.36%	.81%
2D	352	183	169	183	169
	9.06%	9.59%	8.54%	9.59%	8.54%
SU 3	7	4	3	4	3
	.18%	.21%	.15%	.21%	.15%
SU 4+	4	2	2	2	2
	.10%	.10%	.10%	.10%	.10%
ST 4-	130	77	53	77	53
	3.35%	4.04%	2.68%	4.04%	2.68%
ST 5	3	3	0	3	0
	.08%	.16%	.00%	.16%	.00%
ST 6+	0	0	0	0	0
	.00%	.00%	.00%	.00%	.00%
MT 5-	1	1	0	1	0
	.03%	.05%	.00%	.05%	.00%
MT 6	0	0	0	0	0
	.00%	.00%	.00%	.00%	.00%
MT 7+	0	0	0	0	0
	.00%	.00%	.00%	.00%	.00%
NA	0	0	0	0	0
	.00%	.00%	.00%	.00%	.00%
UNCLS	0	0	0	0	0
	.00%	.00%	.00%	.00%	.00%
Trucks	539	296	243	296	243
	13.87%	15.51%	12.29%	15.51%	12.29%
Combo Trucks	134	81	53	81	53
	3.45%	4.25%	2.68%	4.25%	2.68%
Classified	3,886	1,908	1,978	1,908	1,978
	100.00%	100.00%	100.00%	100.00%	100.00%
Unclassified	0	0	0	0	0
	.00%	.00%	.00%	.00%	.00%
Total	3,886	1,908	1,978	1,908	1,978
	100.00%	100.00%	100.00%	100.00%	100.00%

Seasonal Factor Grp:	2
Daily Factor Grp:	2
Axle Factor Grp:	07
Growth Factor Grp:	07

Kentucky Transportation Cabinet Count Class Distribution for 06/03/2014 through 06/05/2014

Site names:	035002			
County:	Fleming			
Funct Class:	R Major Collector			
Location:	035-KY-0057 -000 @	5.407 From	: KY 3301	To: KY 344

	Road	Pos	Neg	Pos Lane1	Neg Lane1		
MC	17	11	6	11	6		
	.49%	.65%	.33%	.65%	.33%		
CAR	2,259	1,104	1,155	1,104	1,155		
	64.64%	65.33%	63.99%	65.33%	63.99%		
PU	888	413	475	413	475		
	25.41%	24.44%	26.32%	24.44%	26.32%		
BUS	19	9	10	9	10		
	.54%	.53%	.55%	.53%	.55%		
2D	133	65	68	65	68		
	3.81%	3.85%	3.77%	3.85%	3.77%		
SU 3	27	17	10	17	10		
	.77%	1.01%	.55%	1.01%	.55%		
SU 4+	11	6	5	6	5		
	.31%	.36%	.28%	.36%	.28%		
ST 4-	54	22	32	22	32		
	1.55%	1.30%	1.77%	1.30%	1.77%		
ST 5	78 2.23%	38 2.25%	40 2.22%				
ST 6+	7	3	4	3	4		
	.20%	.18%	.22%	.18%	.22%		
MT 5-	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
MT 6	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
MT 7+	1 .03%	1 .06%	0 .00%				
NA	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
UNCLS	1	1	0	1	0		
	.03%	.06%	.00%	.06%	.00%		
Trucks	330	161	169	161	169		
	9.44%	9.53%	9.36%	9.53%	9.36%		
Combo Trucks	140	64	76	64	76		
	4.01%	3.79%	4.21%	3.79%	4.21%		
Classified	3,494	1,689	1,805	1,689	1,805		
	99.97%	99.94%	100.00%	99.94%	100.00%		
Unclassified	1	1	0	1	0		
	.03%	.06%	.00%	.06%	.00%		
Total	3,495	1,690	1,805	1,690	1,805		
	100.00%	100.00%	100.00%	100.00%	100.00%		

Seasonal Factor Grp:	2
Daily Factor Grp:	2
Axle Factor Grp:	07
Growth Factor Grp:	07

Kentucky Transportation Cabinet Count Class Distribution for 04/26/2022 through

Site names:	035103	
County:	Fleming	
Funct Class:	R Major Collector	
Location:	035-KY-0057 -000 @	1.202 From: KY 597 To: KY 57X

	Road	Pos	Neg	Pos Lane1	Neg Lane1		
МС	10	3	7	3	7		
	.15%	.09%	.20%	.09%	.20%		
CAR	3,717	1,817	1,900	1,817	1,900		
	54.26%	54.66%	53.89%	54.66%	53.89%		
PU	2,108	1,020	1,088	1,020	1,088		
	30.77%	30.69%	30.86%	30.69%	30.86%		
BUS	68	38	30	38	30		
	.99%	1.14%	.85%	1.14%	.85%		
2D	420	201	219	201	219		
	6.13%	6.05%	6.21%	6.05%	6.21%		
SU 3	82	45	37	45	37		
	1.20%	1.35%	1.05%	1.35%	1.05%		
SU 4+	28	4	24	4	24		
	.41%	.12%	.68%	.12%	.68%		
ST 4-	186	94	92	94	92		
	2.72%	2.83%	2.61%	2.83%	2.61%		
ST 5	223	98	125	98	125		
	3.26%	2.95%	3.55%	2.95%	3.55%		
ST 6+	7	3	4	3	4		
	.10%	.09%	.11%	.09%	.11%		
MT 5-	1	1	0	1	0		
	.01%	.03%	.00%	.03%	.00%		
MT 6	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
MT 7+	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
NA	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
UNCLS	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
Trucks	1,015	484	531	484	531		
	14.82%	14.56%	15.06%	14.56%	15.06%		
Combo Trucks	417	196	221	196	221		
	6.09%	5.90%	6.27%	5.90%	6.27%		
Classified	6,850	3,324	3,526	3,324	3,526		
	100.00%	100.00%	100.00%	100.00%	100.00%		
Unclassified	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
Total	6,850	3,324	3,526	3,324	3,526		
	100.00%	100.00%	100.00%	100.00%	100.00%		

through 04/29/2022

Seasonal Factor Grp:	2
Daily Factor Grp:	2
Axle Factor Grp:	07
Growth Factor Grp:	07

Kentucky Transportation Cabinet Count Class Distribution for 05/16/2018 through

Site names:	035103	
County:	Fleming	
Funct Class:	R Major Collector	
Location:	035-KY-0057 -000 @	1.202 From: KY 597 To: KY 57X

Location.		7 000 @	1.202 11011				
	Road	Pos	Neg	Pos Lane1	Neg Lane1		
MC	10	6	4	6	4		
	.22%	.28%	.17%	.28%	.17%		
CAR	2,452	1,136	1,316	1,136	1,316		
	54.97%	53.53%	56.26%	53.53%	56.26%		
PU	1,332	627	705	627	705		
	29.86%	29.55%	30.14%	29.55%	30.14%		
BUS	38	16	22	16	22		
	.85%	.75%	.94%	.75%	.94%		
2D	288	154	134	154	134		
	6.46%	7.26%	5.73%	7.26%	5.73%		
SU 3	78	61	17	61	17		
	1.75%	2.87%	.73%	2.87%	.73%		
SU 4+	35	3	3	32			
	.78%	.14%	.14%	1.37%			
ST 4-	100	47	53	47	53		
	2.24%	2.21%	2.27%	2.21%	2.27%		
ST 5	125	70	55	70	55		
	2.80%	3.30%	2.35%	3.30%	2.35%		
ST 6+	1	1	0	1	0		
	.02%	.05%	.00%	.05%	.00%		
MT 5-	1	1	0	1	0		
	.02%	.05%	.00%	.05%	.00%		
MT 6	1	0	1	0	1		
	.02%	.00%	.04%	.00%	.04%		
MT 7+	0	0	0	0			
	.00%	.00%	.00%	.00%			
NA	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
UNCLS	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
Trucks	667	353	314	353	314		
	14.95%	16.64%	13.42%	16.64%	13.42%		
Combo Trucks	228	119	109	119	109		
	5.11%	5.61%	4.66%	5.61%	4.66%		
Classified	4,461	2,122	2,339	2,122	2,339		
	100.00%	100.00%	100.00%	100.00%	100.00%		
Unclassified	0	0	0	0	0		
	.00%	.00%	.00%	.00%	.00%		
Total	4,461	2,122	2,339	2,122	2,339		
	100.00%	100.00%	100.00%	100.00%	100.00%		
Classified Unclassified	5.11% 4,461 100.00% 0 .00% 4,461	5.61% 2,122 100.00% 0 .00% 2,122	4.66% 2,339 100.00% 0 .00% 2,339	5.61% 2,122 100.00% 0 .00% 2,122	4.66% 2,339 100.00 0 .00% 2,339		

through 05/18/2018

Seasonal Factor Grp:	2
Daily Factor Grp:	2
Axle Factor Grp:	07
Growth Factor Grp:	07

Short-term Hourly Traffic Volume for 04/27/2020 through 04/29/2020

Site names:	035002		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Major Collector		Axle Factor Grp:	07
Location:	035-KY-0057 -000@	5.407 From: KY 3301	Growth Factor Grp:	07

I	Su	n, Apr 26,	2020	Мо	n, Apr 27,	2020	Tu	e, Apr 28	, 2020	We	d, Apr 29,	2020	Th	u, Apr 30,	2020	F	ri, May 1,	2020	Sa	at, May 2,	2020
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							6	4	2	10	7	3									
01:00							13	g	4	3	0	3									
02:00							4	1	3	3	0	3									
03:00							7	3	4	6	4	2									
04:00							15	5	10	13	5	8									
05:00							46	15	31	39	9	30									
06:00							57	17	40	64	20	44									
07:00							130	28	102	119	28	91									
08:00							101	41	60	102	37	65									
09:00							89	44	45	103	45	58									
10:00							120	59	61	129	58	71									
11:00							118	54	64	152	77	75									
12:00							138	62	. 76	130	63	67									
13:00							136	69	67	142	72	70									
14:00				152	71	81	147	83	64												
15:00				155	84	71	158	73	85												
16:00				156	100	56	151	91	60												
17:00				190	112	78	190	124	66												
18:00				118	69	49	92	65	27												
19:00				67	40	27	76	37	39												
20:00				56	30	26	62	33	29												
21:00				39	23	16	34	16	18												
22:00				13	7	6	19	11	8												
23:00				6	0	6	10	3	7												
Total				952	536	416	1,919	947	972	1,015	425	590									
AM Peak Vol							133	60	102	153	78	93									
AM Peak Fct							.693	.789	.607	.797	.65	.802									
AM Peak Hr							7: 30	10: 15	7: 00	10: 45	10: 45	7: 15									
PM Peak Vol							199	139	85												
PM Peak Fct							.905	.772	.759												
PM Peak Hr							16: 45	16: 45	15: 00	:	:	:									
Seasonal Fct				1.244	1.244	1.244	1.244	1.244	1.244	1.244	1.244	1.244									
Daily Fct				.942	.942		.930	.930			.943	.943									
Axle Fct				.500	.500	.500	.500	.500			.500	.500									
Pulse Fct				2.000	2.000	2.000	2.000	2.000		2.000	2.000	2.000									

Short-term Hourly Traffic Volume for 05/03/2017 through 05/05/2017

Site names:	035002		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Major Collector		Axle Factor Grp:	07
Location:	035-KY-0057 -000@	5.407 From: KY 3301	Growth Factor Grp:	07

	Su	in, Apr 30,	2017	Мо	n, May 1,	, 2017	Τι	Tue, May 2, 2017		Wed, May 3, 2017		Thu, May 4, 2017		Fri, May 5, 2		2017 Sat, May 6, 2		2017			
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00													13	8	5	11	8	3			
01:00													2	1	1	7	3	4			
02:00													11	4	7	10	4	6			
03:00													26	6	20	33	12	21			
04:00													22	9	13	16	6	10			
05:00													45	11	34	35	5	30			
06:00													89	28	61	73	20	53			
07:00													164	36	128	157	39	118			
08:00													116	37	79	113	37	76			
09:00													109	47	62	126	62	64			
10:00													107	53	54	103	47	56			
11:00													111	53	58	145	66	79			
12:00													104	56	48	151	83	68			
13:00													138	80	58	132	63	69			
14:00													154	76	78	142	73	69			
15:00										143	78	65	159	90	69						
16:00										163	102	61	175	113	62						
17:00										168	118	50	157	97	60						
18:00										123	75	48	84	50	34						
19:00										86	57	29	58	40	18						
20:00										88	56	32	62	46	16						
21:00										51	28	23	30	13	17						
22:00										25	16	9	10	7	3						
23:00										22	13	9	18	12	6						
Total										869	543	326	1,964	973	991	1,254	528	726			
AM Peak Vol										0	0	0	164	53	128	157	66	118			
AM Peak Fct										0	0	0	1	1	1	1	1	1			
AM Peak Hr										:	:	:	7: 00	10: 00	7: 00	7: 00	11: 00	7: 00			
PM Peak Vol										0	0	0	175	113	78	0	0	0			
PM Peak Fct										0	0	0	1	1	1	0	0	0			
PM Peak Hr										:	:	:	16: 00	16: 00	14: 00	:	:	:			
Seasonal Fct										.955	.955	.955		.955	.955	.955	.955	.955			
Daily Fct										.995	.995	.995		.953	.953	.860	.860	.860			
Axle Fct										.500	.500	.500	.500	.500	.500	.500	.500	.500			
Pulse Fct										2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000			

Short-term Hourly Traffic Volume for 04/06/2021 through 04/08/2021

Site names:	035104		Seasonal Factor Grp:	2
County:	Fleming		Daily Factor Grp:	2
Funct Class:	R Major Collector		Axle Factor Grp:	07
Location:	035-KY-0057 -000@	2.147 From: KY 57X	Growth Factor Grp:	07

	S	un, Apr 4,	2021	Мс	on, Apr 5,	2021	Τι	Tue, Apr 6, 2021		Wed, Apr 7, 2021		Thu, Apr 8, 2021			Fri, Apr 9, 2021			Sat, Apr 10, 2021			
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										20			12								
01:00										10			13								
02:00										7			10								
03:00										42			37								
04:00										50			46								
05:00										81			72								
06:00										145			124								
07:00										263			287								
08:00										194			220								
09:00										208			200								
10:00										216			236								
11:00										201			194								
12:00										228			233								
13:00										214			245								
14:00							241			222											
15:00							309			236											
16:00							324			367											
17:00							336			329											
18:00							179			214											
19:00							152			172											
20:00							129			120											
21:00							88			83											
22:00							58			48											
23:00							25			34											
Total							1,841			3,704			1,929								
AM Peak Vol										281			287								
AM Peak Fct										.798			.854								
AM Peak Hr										7: 30			7: 00								
PM Peak Vol										394											
PM Peak Fct										.879											
PM Peak Hr										16: 15			:								
Seasonal Fct							1.244			1.244			1.244								
Daily Fct							.930			.943			.948								
Axle Fct							.492			.492			.492								
Pulse Fct							2.000			2.000			2.000								

Short-term Hourly Traffic Volume for 06/08/2020 through 06/11/2020

Site names:	068811	Seasonal Factor Grp:	2
County:	Lewis	Daily Factor Grp:	2
Funct Class:	R Major Collector	Axle Factor Grp:	07
Location:	@ .308 From: ??? To: ???	Growth Factor Grp:	07

	Su	ın, Jun 7,	2020	Мо	on, Jun 8,	2020	Τι	Tue, Jun 9, 2020		Wed, Jun 10, 2020		Thu, Jun 11, 2020			Fri, Jun 12, 2020		Sat, Jun 13, 20		2020		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							13			12			10								
01:00							6			9			7								
02:00							8			10			6								
03:00							18			23			24								
04:00							24			32			24								
05:00							74			80			90								
06:00							78			80			69								
07:00							144			138			155								
08:00							141			164			151								
09:00							129			134											
10:00							151			154											
11:00				147			161			183											
12:00				146			156			155											
13:00				178			165			166											
14:00				160			173			198											
15:00				162			180			184											
16:00				178			178			205											
17:00				214			200			198											
18:00				121			133			135											
19:00				89			98			74											
20:00				73			67			87											
21:00				61			36			59											
22:00				32			37			34											
23:00				17			17			21											
Total				1,578			2,387			2,535			536								
AM Peak Vol							175			183											
AM Peak Fct							.875			.775											
AM Peak Hr				:			10: 30			11: 00											
PM Peak Vol				214			206			212											
PM Peak Fct				.836			.817			.914											
PM Peak Hr				17: 00			16: 30			15: 30											
Seasonal Fct				.921			.921			.921			.921								
Daily Fct				.998			1.000			.976			.960								
Axle Fct				.492			.492			.492			.492								
Pulse Fct				2.000			2.000			2.000			2.000								

Short-term Hourly Traffic Volume for 06/12/2017 through 06/14/2017

Site names:	068811	Seasonal Factor Grp:	2
County:	Lewis	Daily Factor Grp:	2
Funct Class:	R Major Collector	Axle Factor Grp:	07
Location:	@ .308 From: ??? To: ???	Growth Factor Grp:	07

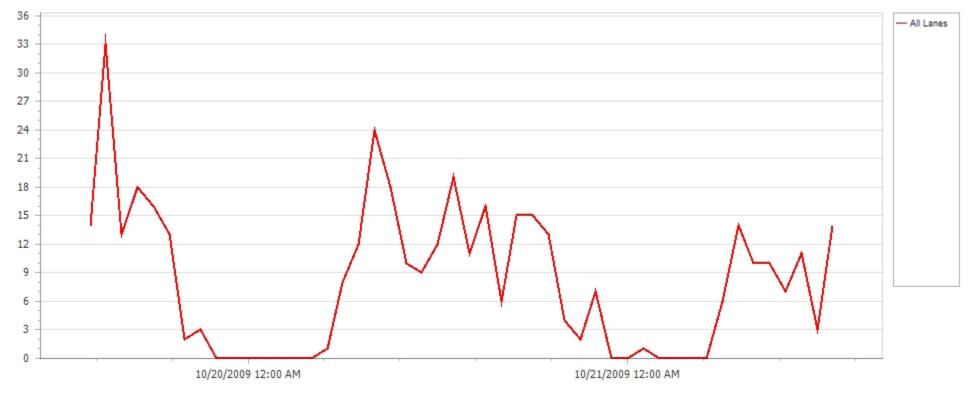
	Su	n, Jun 11	, 2017	Мо	n, Jun 12	, 2017	Tu	Tue, Jun 13, 2017		Wed, Jun 14, 2017			Thu, Jun 15, 2017			Fri, Jun 16, 2017			Sat, Jun 17, 2017		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							16			39											
01:00							8			11											
02:00							8			9											
03:00							11			7											
04:00							26			24											
05:00							31			39											
06:00							81			77											
07:00							96			78											
08:00							148			133											
09:00				99			115			110											
10:00				147			118			118											
11:00				119			128														
12:00				121			131														
13:00				137			135														
14:00				119			149														
15:00				116			130														
16:00				155			140														
17:00				162			199														
18:00				186			171														
19:00				136			131														
20:00				79			87														
21:00				64			79														
22:00				40			50														
23:00				29			23														
Total				1,709			2,211			645											
AM Peak Vol				0			148			0											
AM Peak Fct				0			1			0											
AM Peak Hr				:			8: 00			:											
PM Peak Vol				186			199			0											
PM Peak Fct				1			1			0											
PM Peak Hr				18: 00			17: 00			:											
Seasonal Fct				.950			.950			.950											
Daily Fct				1.016			1.015			.984											
Axle Fct				.484			.484			.484											
Pulse Fct				2.000			2.000			2.000											





Volume by Lane

Name:	R1037_0018T9-035083A2AV11		
Site:	R1037_0018T9	Station:	035083A2AV11
Latitude:	0.000000 N	Longitude:	0.000000 E
Started:	10/19/2009 2:00:00 PM	Ended:	10/21/2009 1:59:59 PM





Hasta 24 horas comenzand	o en Monday, October 19, 2009
Interval	All Lanes
14:00	14
15:00	33
16:00	13
17:00	18
18:00	16
19:00	13
20:00	2
21:00	3
22:00	0
23:00	0
00:00	0
01:00	0
02:00	0
03:00	0
04:00	0
05:00	1
06:00	8
07:00	12
08:00	24
09:00	18
10:00	10
11:00	9
12:00	12
13:00	19
24 Hour Total	225
AM Peak	24 (starting at 08:00:00)
PM Peak	33 (starting at 15:00:00)



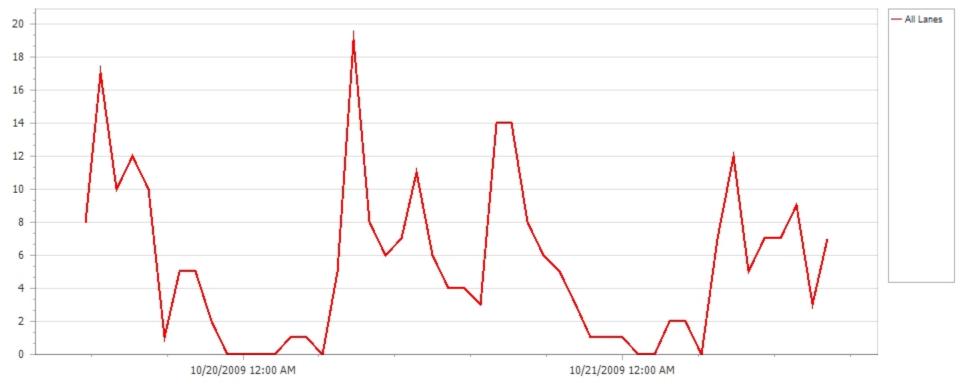
Hasta 24 horas comenzando	en Tuesday, October 20, 2009)
Interval	All Lanes	
14:00	11	
15:00	16	
16:00	6	
17:00	15	
18:00	15	
19:00	13	
20:00	4	
21:00	2	
22:00	7	
23:00	0	
00:00	0	
01:00	1	
02:00	0	
03:00	0	
04:00	0	
05:00	0	
06:00	6	
07:00	14	
08:00	10	
09:00	10	
10:00	7	
11:00	11	
12:00	3	
13:00	14	
24 Hour Total	165	
	14 (starting at 07:00:00)	
	16 (starting at 15:00:00)	
Average Interval	8	
Maximum in one Interval	33	
Grand Total	390	







Volume by Lane Name: R1036_0004T9-035049A2AV11 Station: 035049A2AV11 Site: R1036_0004T9 Station: 035049A2AV11 Latitude: 0.00000 N Longitude: 0.00000 E Started: 10/19/2009 2:00:00 PM Ended: 10/21/2009 1:59:59 PM





	o en Monday, October 19, 2009
Interval	All Lanes
14:00	8
15:00	17
16:00	10
17:00	12
18:00	10
19:00	1
20:00	5
21:00	5
22:00	2
23:00	0
00:00	0
01:00	0
02:00	0
03:00	1
04:00	1
05:00	0
06:00	5
07:00	19
08:00	8
09:00	6
10:00	7
11:00	11
12:00	6
13:00	4
24 Hour Total	138
AM Peak	19 (starting at 07:00:00)
PM Peak	17 (starting at 15:00:00)



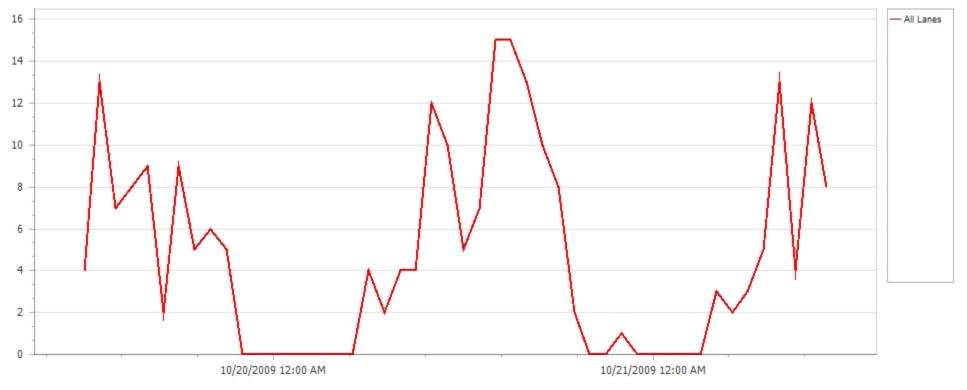
Hasta 24 horas comenzando	en Tuesday, October 20, 2009)
Interval	All Lanes	
14:00	4	
15:00	3	
16:00	14	
17:00	14	
18:00	8	
19:00	6	
20:00	5	
21:00	3	
22:00	1	
23:00	1	
00:00	1	
01:00	0	
02:00	0	
03:00	2	
04:00	2	
05:00	0	
06:00	7	
07:00	12	
08:00	5	
09:00	7	
10:00	7	
11:00	9	
12:00	3	
13:00	7	
24 Hour Total	121	
AM Peak	12 (starting at 07:00:00)	
PM Peak	14 (starting at 16:00:00)	
Average Interval	5	
Maximum in one Interval	19	
Grand Total	259	







Volume by Lane Name: R1030_0009T9-035Z81A2AV11 O35Z81A2AV11 Site: R1030_0009T9 Station: 035Z81A2AV11 Latitude: 0.00000 N Longitude: 0.000000 E Started: 10/19/2009 12:00:00 PM Ended: 10/21/2009 11:59:59 AM





Hasta 24 horas comenzand	o en Monday, October 19, 2009
Interval	All Lanes
12:00	4
13:00	13
14:00	7
15:00	8
16:00	9
17:00	2
18:00	9
19:00	5
20:00	6
21:00	5
22:00	0
23:00	0
00:00	0
01:00	0
02:00	0
03:00	0
04:00	0
05:00	0
06:00	4
07:00	2
08:00	4
09:00	4
10:00	12
11:00	10
24 Hour Total	104
AM Peak	12 (starting at 10:00:00)
PM Peak	13 (starting at 13:00:00)



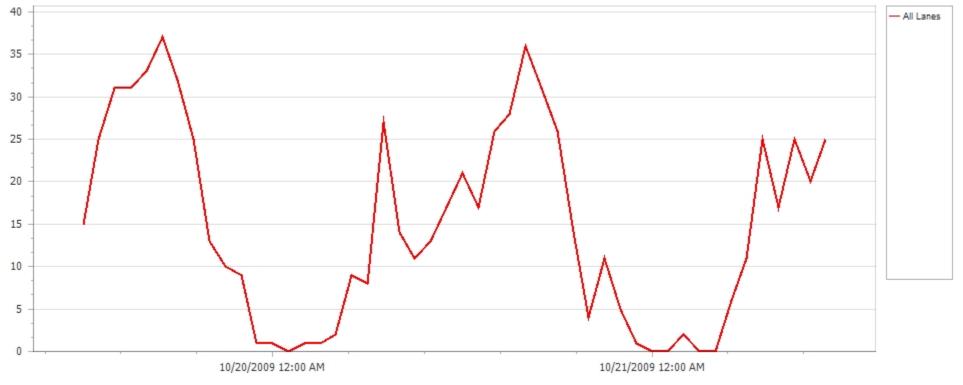
Hasta 24 horas comenzando	en Tuesday, October 20, 2	009
Interval	All Lanes	
12:00	5	
13:00	7	
14:00	15	
15:00	15	
16:00	13	
17:00	10	
18:00	8	
19:00	2	
20:00	0	
21:00	0	
22:00	1	
23:00	0	
00:00	0	
01:00	0	
02:00	0	
03:00	0	
04:00	3	
05:00	2	
06:00	3	
07:00	5	
08:00	13	
09:00	4	
10:00	12	
11:00	8	
24 Hour Total	126	
	13 (starting at 08:00:00)	
	15 (starting at 14:00:00)	
Average Interval	5	
Maximum in one Interval	15	
Grand Total	230	







Volume by Lane Name: R1027_0012T9-035080A2AV11 Site: R1027_0012T9 Station: 035080A2AV11 Latitude: 0.00000 N Longitude: 0.000000 E Started: 10/19/2009 12:00:00 PM Ended: 10/21/2009 11:59:59 AM





	o en Monday, October 19, 2009
Interval	All Lanes
12:00	15
13:00	25
14:00	31
15:00	31
16:00	33
17:00	37
18:00	32
19:00	25
20:00	13
21:00	10
22:00	9
23:00	1
00:00	1
01:00	0
02:00	1
03:00	1
04:00	2
05:00	9
06:00	8
07:00	27
08:00	14
09:00	11
10:00	13
11:00	17
24 Hour Total	366
AM Peak	27 (starting at 07:00:00)
PM Peak	37 (starting at 17:00:00)



Hasta 24 horas comenzando	en Tuesday, October 20, 2009
Interval	All Lanes
12:00	21
13:00	17
14:00	26
15:00	28
16:00	36
17:00	31
18:00	26
19:00	14
20:00	4
21:00	11
22:00	5
23:00	1
00:00	0
01:00	0
02:00	2
03:00	0
04:00	0
05:00	6
06:00	11
07:00	25
08:00	17
09:00	25
10:00	20
11:00	25
24 Hour Total	351
	25 (starting at 07:00:00)
	36 (starting at 16:00:00)
Average Interval	15
Maximum in one Interval	37
Grand Total	717



HUMMINGBIRD SOLAR PROJECT

Appendix B

Appendix B

HIGHWAY CAPACITY SOFTWARE (HCS 2022) FILES

EXISTING

CONSTRUCTION PERIOD



EXISTING

HCS Two-Lane H	lighway	Report
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Project Information Analyst ATW 5/4/2022 Date Agency Stantec Analysis Year 2022 Jurisdiction Time Analyzed Existing AM **Project Description** CR 1027 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 2575 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 6.1 **Demand and Capacity** 28 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 20.9 Speed Slope Coefficient (m) 1.66210 Speed Power Coefficient (p) 0.41674 -1.30998 PF Slope Coefficient (m) 0.59048 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.2 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 2575 20.9 **Vehicle Results** 20.9 14.6 Percent Followers, % Average Speed, mi/h

J J	•				
Segment	Travel Time, minutes	1.40	Follower Density (FD), followers/mi/In	0.2	
Vehicle L	OS	A			
Facility Results					
т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS	
1	2	0.00	0.2		

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HCS M Highways Version 2022 Existing AM CR 1027.xuf

HCS Two-Lane Hi	ghway Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Existing PM Jurisdiction Time Analyzed **Project Description** CR 1027 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 2575 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 6.1 **Demand and Capacity** 36 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 20.9 Speed Slope Coefficient (m) 1.66210 Speed Power Coefficient (p) 0.41674 PF Slope Coefficient (m) -1.30998 0.59048 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.3 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 2575 20.9 1 **Vehicle Results**

Vehicle LOS	А		
Segment Travel Time, minutes	1.40	Follower Density (FD), followers/mi/In	0.3
Average Speed, mi/h	20.9	Percent Followers, %	16.8

Facility Results

Т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	4	0.00	0.3	А

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HCSTM Highways Version 2022 Existing PM CR 1027.xuf

Generated: 05/12/2022 13:44:52

HCS Two-Lane I	Highway Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Jurisdiction Time Analyzed Existing AM **Project Description** KY 3301 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 1584 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 55 Access Point Density, pts/mi 33.3 **Demand and Capacity** 27 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 0.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 48.4 Speed Slope Coefficient (m) 3.13556 Speed Power Coefficient (p) 0.41674 0.71076 PF Slope Coefficient (m) -1.46639 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.1 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 1584 48.4 1 **Vehicle Results** 10.5 48.4 Percent Followers, % Average Speed, mi/h 0.37 Segment Travel Time, minutes Follower Density (FD), followers/mi/In 0.1 А Vehicle LOS Segment 2

Segment Type	gment Type Passing Zone		1732				
Lane Width, ft	9	Shoulder Width, ft	0				
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.2				
Demand and Capacity							
Demand and Capacity							
Demand and Capacity Directional Demand Flow Rate, veh/h	27	Opposing Demand Flow Rate, veh/h	19				

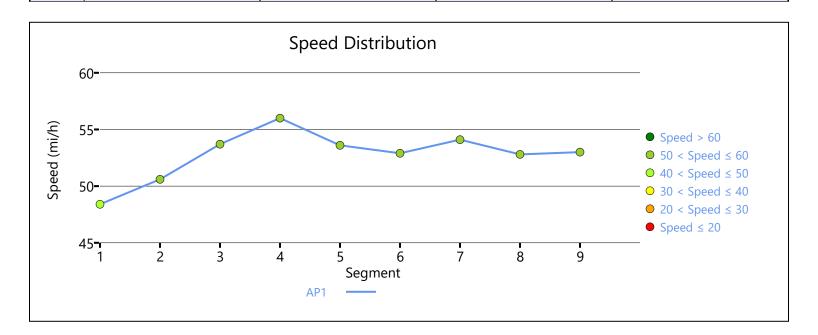
Segment Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.02
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	50.6
Speed Slope Coefficient (m)	2.90478	2.90478		fficient (p)	0.62836
PF Slope Coefficient (m)	-1.22654		PF Power Coeffici	ent (p)	0.78245
In Passing Lane Effective Length?	No		Total Segment De	ensity, veh/mi/ln	0.0
%Improvement to Percent Followers	0.0		%Improvement to	o Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Length, ft Radi		Superelevation, %	Average Speed, mi/h
1 Tangent	1732	-		-	50.6
Vehicle Results					
Average Speed, mi/h	50.6		Percent Followers	, %	6.9
Segment Travel Time, minutes	0.39		Follower Density	(FD), followers/mi/ln	0.0
Vehicle LOS	A				
		Segn	nent 3		
Vehicle Inputs					
Segment Type	Passing Constra	ined	Length, ft		1056
Lane Width, ft	9		Shoulder Width, ft		0
Speed Limit, mi/h	55		Access Point Density, pts/mi		12.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	27		Opposing Demand Flow Rate, veh/h		-
Peak Hour Factor	0.94		Total Trucks, %		0.00
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.02
Intermediate Results			<u>.</u>		
Segment Vertical Class	1		Free-Flow Speed,	mi/h	53.7
Speed Slope Coefficient (m)	3.41926		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)	-1.44983		PF Power Coefficient (p)		0.72120
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.0
%Improvement to Percent Followers	0.0		%Improvement to Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	1056	-		-	53.7
Vehicle Results					
Average Speed, mi/h	53.7		Percent Followers	, %	10.1
Segment Travel Time, minutes	0.22		Follower Density	(FD), followers/mi/ln	0.0
Vehicle LOS	A				
		Soar	nent 4		

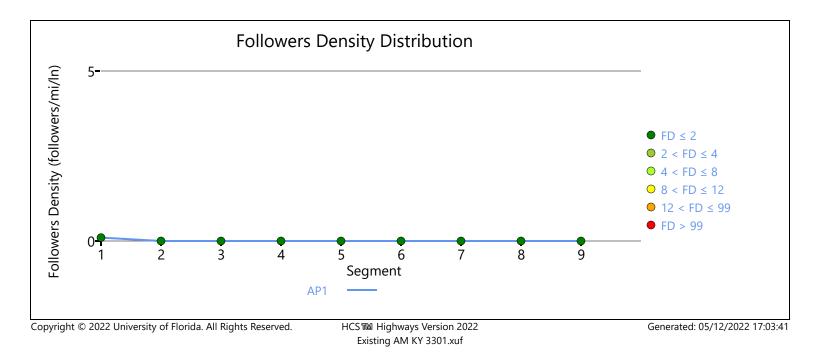
Veh	nicle Inputs					
	nent Type	Passing Zone		Length, ft		1796
-	Width, ft	9		Shoulder Width, ft		0
	ed Limit, mi/h	55		Access Point Dens		2.9
	mand and Capacity				····, / P····, ····	
	ctional Demand Flow Rate, veh/h	27		Opposing Deman	d Flow Rate, veh/h	19
	Hour Factor	0.94		Total Trucks, %		0.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.02
	ermediate Results	1				
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	56.0
-	ed Slope Coefficient (m)	3.19448		Speed Power Coer		0.62836
	ope Coefficient (m)	-1.21184		PF Power Coefficie	•	0.80011
	issing Lane Effective Length?	No		Total Segment De		0.0
	provement to Percent Followers	0.0		%Improvement to	-	0.0
Suk	osegment Data	<u> </u>				
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1796	-		-	56.0
Veł	nicle Results		1		1	
Aver	age Speed, mi/h	56.0		Percent Followers,	. %	6.4
Segn	nent Travel Time, minutes	0.36		Follower Density (FD), followers/mi/In		0.0
Vehi	cle LOS	A				
		S	egn	nent 5		·
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained	_	Length, ft		2565
Lane	Width, ft	9		Shoulder Width, ft		0
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		12.2
Der	mand and Capacity					
Direc	ctional Demand Flow Rate, veh/h	27		Opposing Deman	d Flow Rate, veh/h	-
_	Hour Factor	0.94		Total Trucks, %		0.00
Peak				Demand/Capacity (D/C)		0.02
	nent Capacity, veh/h			-		
Segn	nent Capacity, veh/h ermediate Results					
Segn		1		Free-Flow Speed,	mi/h	53.6
Segn Inte Segn	ermediate Results	1 3.43628		Free-Flow Speed, Speed Power Coer		53.6 0.41674
Segn Inte Segn Spee	ermediate Results	_		· · · · ·	fficient (p)	
Segn Inte Segn Spee PF SI	ermediate Results nent Vertical Class ed Slope Coefficient (m)	3.43628		Speed Power Coe	fficient (p) ent (p)	0.41674
Segn Inte Segn Spee PF SI In Pa	ermediate Results nent Vertical Class ed Slope Coefficient (m) ope Coefficient (m)	3.43628 -1.39290		Speed Power Coe PF Power Coefficie	fficient (p) ent (p) nsity, veh/mi/ln	0.41674 0.73652

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2565	-		-	53.6
Veł	nicle Results					
Average Speed, mi/h 53.6			Percent Follow	ers, %	9.2	
Segr	nent Travel Time, minutes	0.54		Follower Densi	ty (FD), followers/mi/ln	0.0
Vehi	cle LOS	А				
			Segn	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		2067
Lane	e Width, ft	9		Shoulder Widt	h, ft	0
Spee	ed Limit, mi/h	55		Access Point D	ensity, pts/mi	15.4
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	27		Opposing Dem	nand Flow Rate, veh/h	19
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Segr	nent Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.02
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		52.9
Spee	ed Slope Coefficient (m)	3.03029		Speed Power C	Coefficient (p)	0.62836
PF S	lope Coefficient (m)	-1.20996		PF Power Coef	ficient (p)	0.79496
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.0
%lm	provement to Percent Followers	0.0		%Improvemen	t to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2067	-		-	52.9
Veł	nicle Results					
Aver	age Speed, mi/h	52.9		Percent Followers, %		6.5
Segr	nent Travel Time, minutes	0.44		Follower Densi	ty (FD), followers/mi/ln	0.0
Vehi	cle LOS	A				
			Segn	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		4526
Lane	Width, ft	9		Shoulder Width, ft		0
Spee	ed Limit, mi/h	55		Access Point D	ensity, pts/mi	10.5
Dei	mand and Capacity			-		
Dire	ctional Demand Flow Rate, veh/h	27		Opposing Dem	nand Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Sear	nent Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.02

Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		54.1
Spee	ed Slope Coefficient (m)	3.48395		Speed Power C	oefficient (p)	0.41674
PF SI	lope Coefficient (m)	-1.35008		PF Power Coef	icient (p)	0.74489
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.0
%lm	provement to Percent Followers	0.0		%Improvemen	t to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft Radi		lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4526 -			-	54.1
Veł	nicle Results					
Aver	age Speed, mi/h	54.1		Percent Follow	ers, %	8.7
Segr	nent Travel Time, minutes	0.95		Follower Densi	ty (FD), followers/mi/ln	0.0
Vehi	cle LOS	A				
			Segn	nent 8		<u> </u>
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		3016
Lane	e Width, ft	9		Shoulder Width, ft		0
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		15.8
Der	mand and Capacity	·				·
Dire	ctional Demand Flow Rate, veh/h	27		Opposing Demand Flow Rate, veh/h		19
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.02
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		52.8
Spee	ed Slope Coefficient (m)	3.03813		Speed Power Coefficient (p)		0.62836
PF SI	lope Coefficient (m)	-1.18454		PF Power Coefficient (p)		0.80498
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.0
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3016	-		-	52.8
Veł	icle Results					
Aver	age Speed, mi/h	52.8		Percent Follow	ers, %	6.2
	ment Travel Time, minutes	0.65			ty (FD), followers/mi/ln	0.0
	cle LOS	A				
			_			1

Vehi	cle Inputs					
Segm	ent Type	Passing Constrained		Length, ft		3185
Lane \	Width, ft	9	9		ft	0
Speed	l Limit, mi/h	55		Access Point Den	sity, pts/mi	15.0
Dem	and and Capacity					
Direct	ional Demand Flow Rate, veh/h	26		Opposing Deman	nd Flow Rate, veh/h	-
Peak H	Hour Factor	0.94		Total Trucks, %		0.00
Segm	ent Capacity, veh/h	1700		Demand/Capacity	y (D/C)	0.02
Inte	rmediate Results					
Segm	ent Vertical Class	1		Free-Flow Speed,	mi/h	53.0
Speed	Slope Coefficient (m)	3.40708	.0708 Spee		efficient (p)	0.41674
PF Slo	pe Coefficient (m)	-1.38055		PF Power Coefficient (p)		0.73849
In Pas	sing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.0
%Imp	rovement to Percent Followers	0.0		%Improvement to Speed		0.0
Subs	segment Data					
#	Segment Type	Length, ft	Radi	us, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3185	-	-		53.0
Vehi	cle Results					
Avera	ge Speed, mi/h	53.0		Percent Followers, %		8.8
Segm	ent Travel Time, minutes	0.68		Follower Density (FD), followers/mi/ln		0.0
Vehicl	e LOS	A				
Facil	lity Results					
т	VMT veh-mi/p	۷HD veh-h/p)	Follower D	ensity, followers/ mi/ln	LOS
1	25	0.00			0.0	А





HCS Two-Lane	Highway	Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Existing PM Jurisdiction Time Analyzed **Project Description** KY 3301 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 1584 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 55 Access Point Density, pts/mi 33.3 **Demand and Capacity** 28 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 0.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 48.4 Speed Slope Coefficient (m) 3.13556 Speed Power Coefficient (p) 0.41674 0.71076 PF Slope Coefficient (m) -1.46639 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.1 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 1584 48.4 1 **Vehicle Results** 10.8 48.4 Percent Followers, % Average Speed, mi/h 0.37 Segment Travel Time, minutes Follower Density (FD), followers/mi/In 0.1 А Vehicle LOS Segment 2

Segment Type	ent Type Passing Zone		1732				
Lane Width, ft	9	Shoulder Width, ft	0				
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.2				
Demand and Capacity							
Demand and Capacity			I				
Demand and Capacity Directional Demand Flow Rate, veh/h	28	Opposing Demand Flow Rate, veh/h	19				

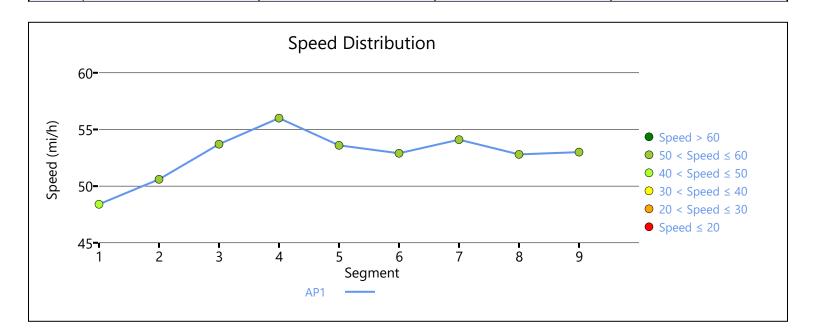
Segment Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.02
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	50.6
Speed Slope Coefficient (m)	2.90478	2.90478		fficient (p)	0.62836
PF Slope Coefficient (m)	-1.22654		PF Power Coeffici	ent (p)	0.78245
In Passing Lane Effective Length?	No		Total Segment De	ensity, veh/mi/ln	0.0
%Improvement to Percent Followers	0.0		%Improvement to	o Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Length, ft Radi		Superelevation, %	Average Speed, mi/h
1 Tangent	1732	-		-	50.6
Vehicle Results					
Average Speed, mi/h	50.6		Percent Followers	, %	7.1
Segment Travel Time, minutes	0.39		Follower Density	(FD), followers/mi/ln	0.0
Vehicle LOS	A				
		Segn	nent 3		
Vehicle Inputs					
Segment Type	Passing Constra	ined	Length, ft		1056
Lane Width, ft	9		Shoulder Width, ft		0
Speed Limit, mi/h	55		Access Point Density, pts/mi		12.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	28		Opposing Demand Flow Rate, veh/h		-
Peak Hour Factor	0.94		Total Trucks, %		0.00
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.02
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	53.7
Speed Slope Coefficient (m)	3.41926		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)	-1.44983		PF Power Coefficient (p)		0.72120
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%Improvement to Percent Followers	0.0		%Improvement to Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	1056	-		-	53.7
Vehicle Results					
Average Speed, mi/h	53.7		Percent Followers	, %	10.3
Segment Travel Time, minutes	0.22		Follower Density	(FD), followers/mi/ln	0.1
Vehicle LOS	A				
		Soar	nent 4		

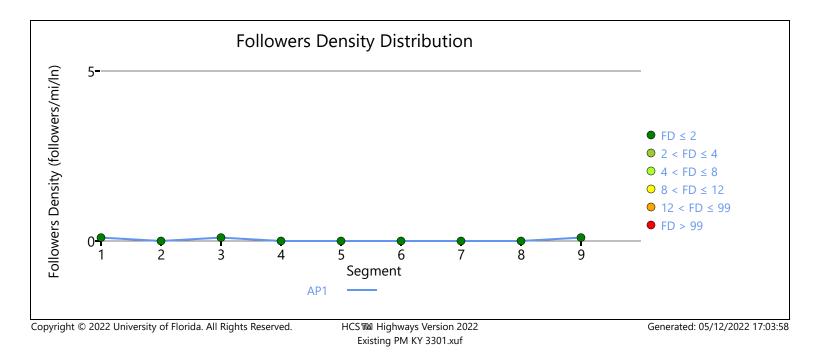
ven	ido Innute					
	icle Inputs	1				1
-	ent Type	Passing Zone		Length, ft		1796
	Width, ft	9		Shoulder Width, ft		0
Speed	d Limit, mi/h	55	4	Access Point Dens	ity, pts/mi	2.9
Den	nand and Capacity					
Direct	tional Demand Flow Rate, veh/h	28	C	Opposing Deman	d Flow Rate, veh/h	19
Peak	Hour Factor	0.94	T	Total Trucks, %		0.00
Segm	ent Capacity, veh/h	1700	C	Demand/Capacity	(D/C)	0.02
Inte	rmediate Results					
Segm	ent Vertical Class	1	F	Free-Flow Speed,	mi/h	56.0
Speed	d Slope Coefficient (m)	3.19448	5	Speed Power Coef	ficient (p)	0.62836
PF Slo	ope Coefficient (m)	-1.21184	F	PF Power Coefficie	ent (p)	0.80011
In Pas	ssing Lane Effective Length?	No	T	Total Segment De	nsity, veh/mi/ln	0.0
%lmp	provement to Percent Followers	0.0	9	%Improvement to	Speed	0.0
Sub	segment Data					
#	Segment Type	Length, ft	Radiu	us, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1796	-		-	56.0
Veh	icle Results	-				-
Avera	ige Speed, mi/h	56.0	F	Percent Followers,	%	6.6
Segm	ent Travel Time, minutes	0.36	F	Follower Density (FD), followers/mi/ln		0.0
Vehic	le LOS	A				
		Se	egme	ent 5		
Veh	icle Inputs					
	ient Type	Passing Constrained		La sa tha fu		
Segm		9		Length, ft		2565
-	Width, ft			Lengtn, ft Shoulder Width, ft		2565 0
Lane	Width, ft d Limit, mi/h		5	5		
Lane '		9	5	Shoulder Width, ft		0
Lane ' Speed Den	d Limit, mi/h	9	2 	Shoulder Width, ft Access Point Dens		0
Lane ¹ Speed Den Direct	d Limit, mi/h nand and Capacity	9 55	2 4 (Shoulder Width, ft Access Point Dens	ity, pts/mi	0 12.2
Lane ¹ Speec Den Direct Peak	d Limit, mi/h nand and Capacity tional Demand Flow Rate, veh/h	9 55 28	2 S 4 7 7 7	Shoulder Width, ft Access Point Dens Opposing Demand	ity, pts/mi d Flow Rate, veh/h	0 12.2 -
Lane ¹ Speec Den Direct Peak Segm	d Limit, mi/h nand and Capacity tional Demand Flow Rate, veh/h Hour Factor	9 55 28 0.94	2 S 4 7 7 7	Shoulder Width, ft Access Point Dens Opposing Demand Total Trucks, %	ity, pts/mi d Flow Rate, veh/h	0 12.2 - 0.00
Lane Speec Den Direct Peak Segm	d Limit, mi/h nand and Capacity tional Demand Flow Rate, veh/h Hour Factor tent Capacity, veh/h termediate Results	9 55 28 0.94	2 4 7 7 7 7 7	Shoulder Width, ft Access Point Dens Opposing Demand Total Trucks, % Demand/Capacity	ity, pts/mi d Flow Rate, veh/h (D/C)	0 12.2 - 0.00
Lane Speed Den Direct Peak Segm Segm	d Limit, mi/h nand and Capacity tional Demand Flow Rate, veh/h Hour Factor tent Capacity, veh/h	9 55 28 0.94 1700	S 4	Shoulder Width, ft Access Point Dens Opposing Demand Total Trucks, %	ity, pts/mi d Flow Rate, veh/h (D/C) mi/h	0 12.2 - 0.00 0.02
Lane Speed Direct Peak Segm Segm Speed	d Limit, mi/h nand and Capacity tional Demand Flow Rate, veh/h Hour Factor tent Capacity, veh/h termediate Results tent Vertical Class	9 55 28 0.94 1700	S 4	Shoulder Width, ft Access Point Dens Opposing Demand Total Trucks, % Demand/Capacity Free-Flow Speed,	ity, pts/mi d Flow Rate, veh/h (D/C) mi/h ficient (p)	0 12.2 - 0.00 0.02 53.6
Lane Speec Den Direct Peak Segm Segm Speec PF Slo	d Limit, mi/h nand and Capacity tional Demand Flow Rate, veh/h Hour Factor tent Capacity, veh/h rmediate Results tent Vertical Class d Slope Coefficient (m)	9 55 28 0.94 1700 1 3.43628	S 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Shoulder Width, ft Access Point Dens Opposing Demand Total Trucks, % Demand/Capacity Free-Flow Speed, Speed Power Coef	ity, pts/mi d Flow Rate, veh/h (D/C) mi/h ficient (p) ent (p)	0 12.2 - 0.00 0.02 53.6 0.41674
Lane ' Speec Direct Peak ' Segm Segm Speec PF SIc In Pas	d Limit, mi/h nand and Capacity tional Demand Flow Rate, veh/h Hour Factor tent Capacity, veh/h termediate Results tent Vertical Class d Slope Coefficient (m) tent Coefficient (m)	9 55 28 0.94 1700 1 3.43628 -1.39290	S 4 7 7 7 7 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8	Shoulder Width, ft Access Point Dens Opposing Demand Total Trucks, % Demand/Capacity Free-Flow Speed, Speed Power Coefficie	ity, pts/mi d Flow Rate, veh/h (D/C) mi/h ficient (p) ent (p) nsity, veh/mi/ln	0 12.2 - 0.00 0.02 53.6 0.41674 0.73652

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2565	-		-	53.6
Veł	nicle Results					
Average Speed, mi/h 53.6		Percent Follow	vers, %	9.4		
Segr	ment Travel Time, minutes	0.54		Follower Dens	ity (FD), followers/mi/ln	0.0
Vehi	cle LOS	A				
			Segr	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		2067
Lane	e Width, ft	9		Shoulder Widt	th, ft	0
Spee	ed Limit, mi/h	55		Access Point D	Density, pts/mi	15.4
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	28		Opposing Der	nand Flow Rate, veh/h	19
Peak	Hour Factor	0.94		Total Trucks, %	,)	0.00
Segr	ment Capacity, veh/h	1700		Demand/Capa	acity (D/C)	0.02
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		52.9
Spee	ed Slope Coefficient (m)	3.03029		Speed Power Coefficient (p)		0.62836
PF S	lope Coefficient (m)	-1.20996		PF Power Coefficient (p)		0.79496
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.0
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2067	-		-	52.9
Veł	nicle Results					
Aver	age Speed, mi/h	52.9		Percent Followers, %		6.7
Segr	nent Travel Time, minutes	0.44		Follower Density (FD), followers/mi/ln		0.0
Vehi	cle LOS	A				
			Segr	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ned	Length, ft		4526
-	e Width, ft	9		Shoulder Wid	:h, ft	0
Spee	ed Limit, mi/h	55		Access Point D	Density, pts/mi	10.5
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	28		Opposing Der	nand Flow Rate, veh/h	-
Peak	K Hour Factor	0.94		Total Trucks, %		0.00
Sear	nent Capacity, veh/h	1700		Demand/Capa	acity (D/C)	0.02

Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Spee	d, mi/h	54.1
Spee	ed Slope Coefficient (m)	3.48395		Speed Power C	pefficient (p)	0.41674
PF Slope Coefficient (m)		-1.35008		PF Power Coeff	cient (p)	0.74489
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.0
%lm	provement to Percent Followers	0.0		%Improvement	to Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rad	Radius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	4526	-			54.1
Veł	nicle Results				•	-
Aver	age Speed, mi/h	54.1		Percent Followe	ers, %	8.9
Segr	nent Travel Time, minutes	0.95		Follower Densit	y (FD), followers/mi/ln	0.0
Vehi	cle LOS	A				
		·	Segn	nent 8		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		3016
Lane	Width, ft	9		Shoulder Width	, ft	0
Spee	ed Limit, mi/h	55		Access Point De	ensity, pts/mi	15.8
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	28		Opposing Demand Flow Rate, veh/h		19
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.02
Inte	ermediate Results					
Segment Vertical Class		1		Free-Flow Speed, mi/h		52.8
Spee	ed Slope Coefficient (m)	3.03813		Speed Power C	pefficient (p)	0.62836
PF S	lope Coefficient (m)	-1.18454		PF Power Coefficient (p)		0.80498
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.0
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3016	-		-	52.8
Veł	icle Results					•
Aver	age Speed, mi/h	52.8		Percent Followers, %		6.4
	nent Travel Time, minutes	0.65		Follower Density (FD), followers/mi/ln		0.0
	cle LOS	A				
		1		I		

Vehi	cle Inputs					
Segme	ent Type	Passing Constrained		Length, ft		3185
Lane V	ane Width, ft 9 5		Shoulder Width,	ft	0	
Speed	Limit, mi/h	55		Access Point Der	nsity, pts/mi	15.0
Dem	and and Capacity	·				
Directional Demand Flow Rate, veh/h		30		Opposing Dema	nd Flow Rate, veh/h	-
Peak H	lour Factor	0.94		Total Trucks, %		0.00
Segme	ent Capacity, veh/h	1700		Demand/Capacit	y (D/C)	0.02
Inter	mediate Results					
Segme	ent Vertical Class	1		Free-Flow Speed, mi/h		53.0
Speed Slope Coefficient (m)		3.40708		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)		-1.38055		PF Power Coefficient (p)		0.73849
In Passing Lane Effective Length?		No		Total Segment Density, veh/mi/ln		0.1
%Impr	ovement to Percent Followers	0.0		%Improvement to Speed		0.0
Subs	egment Data					
# 9	Segment Type	Length, ft	Radi	us, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3185	-		-	53.0
Vehi	cle Results					
Averag	ge Speed, mi/h	53.0		Percent Followers, %		9.8
Segme	ent Travel Time, minutes	0.68		Follower Density (FD), followers/mi/ln		0.1
Vehicle	e LOS	A				
Facil	ity Results					
т	VMT veh-mi/p	VHD veh-h/p)	Follower Density, followers/ mi/ln		LOS
1	27	0.00			0.0	А





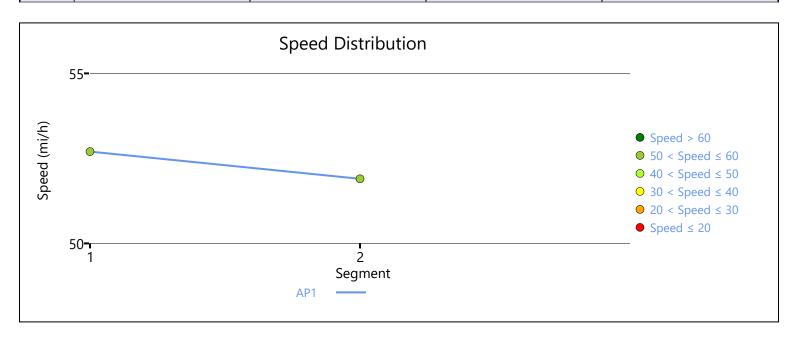
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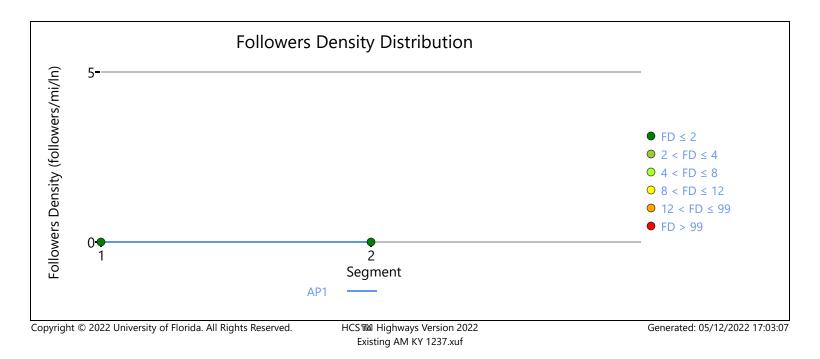
Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Jurisdiction Time Analyzed Existing AM **Project Description** KY 1237 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 8337 Segment Type 9 Lane Width, ft Shoulder Width, ft 1 Speed Limit, mi/h 55 Access Point Density, pts/mi 18.4 **Demand and Capacity** 14 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 52.7 Speed Slope Coefficient (m) 3.44540 Speed Power Coefficient (p) 0.41674 -1.34677 0.72875 PF Slope Coefficient (m) PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.0 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 8337 52.7 1 **Vehicle Results** 5.8 52.7 Percent Followers, % Average Speed, mi/h Segment Travel Time, minutes 1.80 Follower Density (FD), followers/mi/In 0.0 А Vehicle LOS

Segment 2

Segment Type	Passing Constrained	Length, ft	8264			
Lane Width, ft	9	Shoulder Width, ft	1			
Speed Limit, mi/h	55	Access Point Density, pts/mi	21.7			
Demand and Capacity						
Directional Demand Flow Rate, veh/h	27	Opposing Demand Flow Rate, veh/h	-			
Directional Demand Flow Nate, ven/11	21	Opposing Demand How Rate, ven/m	-			

Segm	ent Capacity, veh/h	1700	Der	mand/Capacity	(D/C)	0.02	
Inte	rmediate Results						
Segment Vertical Class		1	Free	e-Flow Speed,	mi/h	51.9	
Speed Slope Coefficient (m)		3.40003	Spe	ed Power Coef	ficient (p)	0.41674	
PF Slope Coefficient (m)		-1.35159	PF I	Power Coefficie	ent (p)	0.72676	
In Pas	ssing Lane Effective Length?	No	Tota	al Segment De	nsity, veh/mi/ln	0.0	
%lmp	provement to Percent Followers	0.0	%In	nprovement to	Speed	0.0	
Sub	Subsegment Data						
#	Segment Type	Length, ft	Radius, f	t	Superelevation, %	Average Speed, mi/h	
1	Tangent	8264	-		-	51.9	
Veh	icle Results						
Avera	ge Speed, mi/h	51.9		Percent Followers, %		9.2	
Segm	ent Travel Time, minutes	1.81	Foll	Follower Density (FD), followers/mi/ln		0.0	
Vehic	le LOS	A					
Faci	lity Results						
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS	
1	15	0.00			0.0	А	



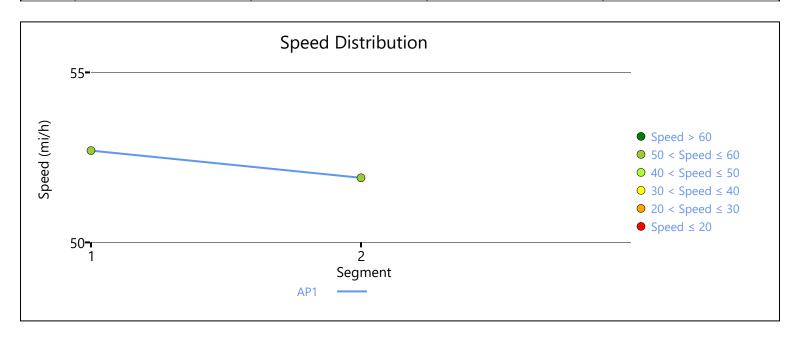


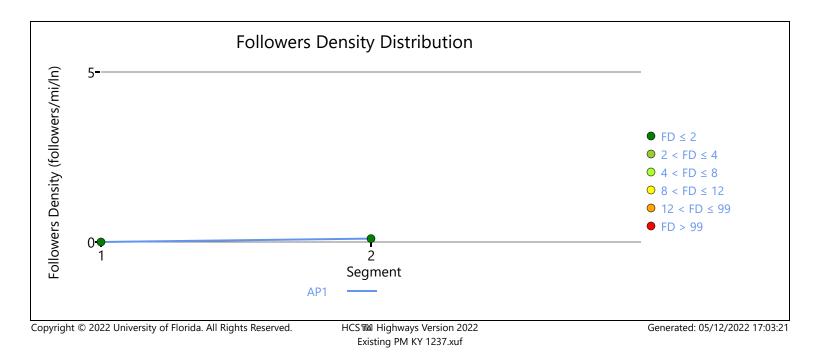
HCS Two-Lane	Highway Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Existing PM Jurisdiction Time Analyzed **Project Description** KY 1237 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 8337 Segment Type 9 Lane Width, ft Shoulder Width, ft 1 Speed Limit, mi/h 55 Access Point Density, pts/mi 18.4 **Demand and Capacity** 23 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 52.7 Speed Slope Coefficient (m) 3.44540 Speed Power Coefficient (p) 0.41674 -1.34677 0.72875 PF Slope Coefficient (m) PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.0 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 8337 52.7 1 **Vehicle Results** 52.7 Percent Followers, % 8.4 Average Speed, mi/h 0.0 Segment Travel Time, minutes 1.80 Follower Density (FD), followers/mi/In A Vehicle LOS Segment 2

-						
Segment Type	Passing Constrained	Length, ft	8264			
Lane Width, ft	9	Shoulder Width, ft	1			
Speed Limit, mi/h	55	Access Point Density, pts/mi	21.7			
Demand and Capacity						
Demand and Capacity						
Demand and Capacity Directional Demand Flow Rate, veh/h	43	Opposing Demand Flow Rate, veh/h	-			

Segm	ent Capacity, veh/h	1700	Der	mand/Capacity	(D/C)	0.03	
Inte	rmediate Results						
Segment Vertical Class		1	Fre	e-Flow Speed,	mi/h	51.9	
Speed Slope Coefficient (m)		3.40003	Spe	eed Power Coef	fficient (p)	0.41674	
PF Slope Coefficient (m)		-1.35159	PF	Power Coefficie	ent (p)	0.72676	
In Pas	sing Lane Effective Length?	No	Tot	al Segment De	nsity, veh/mi/ln	0.1	
%Imp	rovement to Percent Followers	0.0	%lr	nprovement to	Speed	0.0	
Sub	Subsegment Data						
#	Segment Type	Length, ft	Radius, f	ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	8264	-		-	51.9	
Vehi	cle Results						
Avera	ge Speed, mi/h	51.9		Percent Followers, %		12.7	
Segm	ent Travel Time, minutes	1.81	Fol	Follower Density (FD), followers/mi/ln		0.1	
Vehicl	e LOS	A					
Facil	lity Results	·					
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS	
1	24	0.00			0.1	А	





HCS Two-Lane	Highway	Report
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5/4/2022

Existing AM

U.S. Customary

2022

Project InformationAnalystATWDateAgencyStantecAnalysis YearJurisdictionTime Analyzed

KY 989

Segment 1

Units

Vehicle Inputs

Project Description

•				
Segment Type	Passing Constrained	Length, ft	5412	
Lane Width, ft	9	Shoulder Width, ft	1	
Speed Limit, mi/h	55	Access Point Density, pts/mi	10.7	
Demand and Capacity				
Directional Demand Flow Rate, veh/h	6	Opposing Demand Flow Rate, veh/h	-	
Peak Hour Factor	0.94	Total Trucks, %	2.00	
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.00	
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed, mi/h	54.7	
Speed Slope Coefficient (m)	3.52422	Speed Power Coefficient (p)	0.41674	
PF Slope Coefficient (m)	-1.33772	PF Power Coefficient (p)	0.74619	
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.0	
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0	

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5412	-	-	54.7

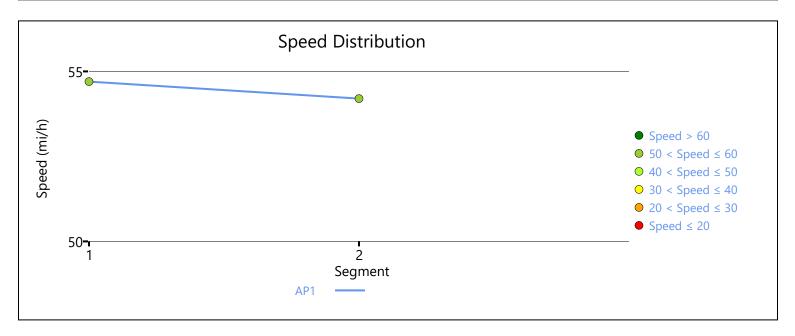
Vehicle Results

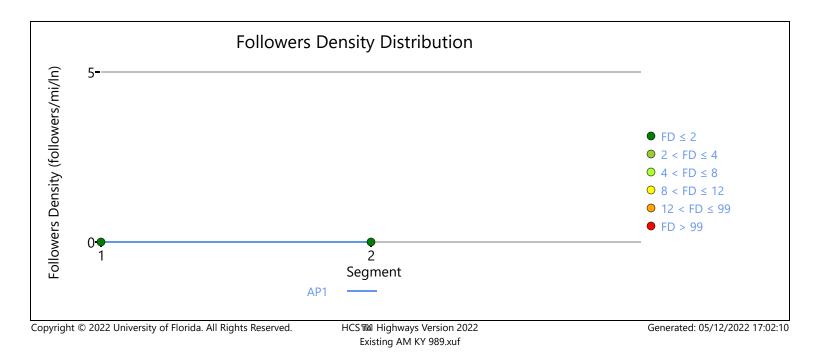
Average Speed, mi/h	54.7	Percent Followers, %	3.0
Segment Travel Time, minutes	1.13	Follower Density (FD), followers/mi/In	0.0
Vehicle LOS	А		

Segment 2

Segment Type	Passing Constrained	Length, ft	6410		
Lane Width, ft	9	Shoulder Width, ft	1		
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.4		
Demand and Capacity					
Directional Demand Flow Rate, veh/h	6	Opposing Demand Flow Rate, veh/h	-		
	1				

Segn	nent Capacity, veh/h	1700	De	mand/Capacity	(D/C)	0.00
Inte	ermediate Results					
Segn	nent Vertical Class	1	Fre	ee-Flow Speed,	mi/h	54.2
Spee	d Slope Coefficient (m)	3.51015	Sp	eed Power Coef	ficient (p)	0.41674
PF SI	ope Coefficient (m)	-1.33606	PF	Power Coefficie	ent (p)	0.74237
In Pa	ssing Lane Effective Length?	No	Tot	tal Segment Dei	nsity, veh/mi/ln	0.0
%lmp	provement to Percent Followers	0.0 %		mprovement to	Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Radius,	ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6410	-		-	54.2
Veh	iicle Results					
Avera	age Speed, mi/h	54.2	Pei	Percent Followers, %		3.1
Segn	nent Travel Time, minutes	1.34	Fo	Follower Density (FD), followers/mi/ln		0.0
Vehicle LOS A						
Faci	ility Results	• 				
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS
1	3	0.00			0.0	А





HCS Two-Lane I	Highway Report
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Project Information ATW Date 5/4/2022 Analyst Agency Stantec Analysis Year 2022 Jurisdiction Time Analyzed Existing PM **Project Description** KY 989 U.S. Customary Units Segment 1 **Vehicle Inputs** Segment Type Passing Constrained Length, ft 5412 Lane Width, ft 9 Shoulder Width, ft 1 Speed Limit, mi/h 55 Access Point Density, pts/mi 10.7 **Demand and Capacity** Directional Demand Flow Rate, veh/h 13 Opposing Demand Flow Rate, veh/h -Peak Hour Factor 0.94 Total Trucks, % 2.00 1700 Segment Capacity, veh/h Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class Free Flow Speed mith 1 517

Segment vertical Class	1	Free-Flow Speed, mi/n	54.7
Speed Slope Coefficient (m)	3.52422	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.33772	PF Power Coefficient (p)	0.74619
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

1 Tangent 5412	-	54.7

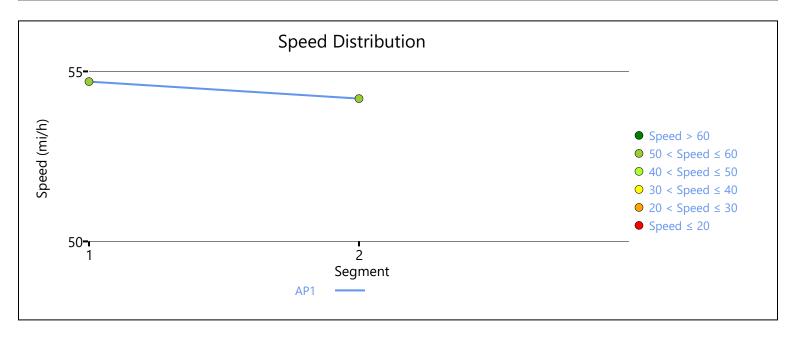
Vehicle Results

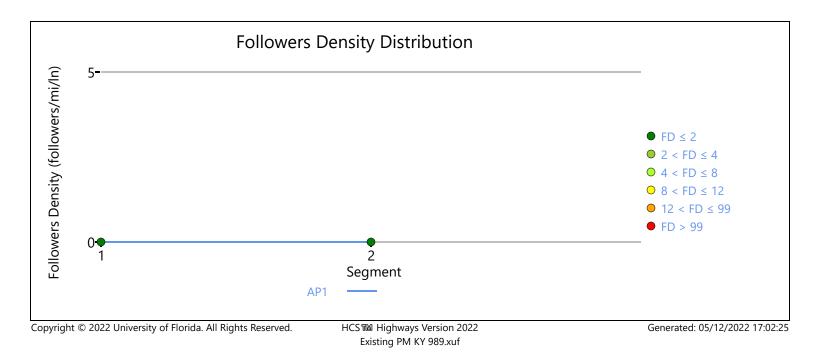
Average Speed, mi/h	54.7	Percent Followers, %	5.0
Segment Travel Time, minutes	1.13	Follower Density (FD), followers/mi/In	0.0
Vehicle LOS	А		

Segment 2

Segment Type	Passing Constrained	Length, ft	6410			
Lane Width, ft	9	Shoulder Width, ft	1			
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.4			
Demand and Capacity						
Directional Demand Flow Rate, veh/h	13	Opposing Demand Flow Rate, veh/h	-			
Peak Hour Factor	0.94	Total Trucks, %	2.00			

Segn	nent Capacity, veh/h	1700	[Demand/Capacity	(D/C)	0.01
Inte	ermediate Results					
Segn	nent Vertical Class	1	Fr		mi/h	54.2
Spee	d Slope Coefficient (m)	3.51015	9	Speed Power Coef	ficient (p)	0.41674
PF SI	ope Coefficient (m)	-1.33606			ent (p)	0.74237
In Pa	ssing Lane Effective Length?	No	-	Total Segment Dei	nsity, veh/mi/ln	0.0
%lmp	provement to Percent Followers	0.0	0.0 %Ir		Speed	0.0
Sub	segment Data					
#	Segment Type	Length, ft	Radiu	ıs, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6410	-		-	54.2
Veh	icle Results				-	
Avera	age Speed, mi/h	54.2	F	Percent Followers,	%	5.1
Segn	nent Travel Time, minutes	1.34	1	Follower Density (FD), followers/mi/ln		0.0
Vehic	le LOS	A				
Faci	ility Results					·
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS
1	7	0.00			0.0	А





HCS Two-Lane I	Highway Report
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Project Information

Pro	oject Information					
Ana	ilyst	ATW		Date		5/4/2022
Age	ency	Stantec		Analysis Year		2022
Juri	sdiction			Time Analyzed		Existing AM
Proj	ject Description	KY 559		Units		U.S. Customary
		S	egn	nent 1		
Ve	hicle Inputs					
Seg	iment Type	Passing Constrained	Passing Constrained			2862
Lan	e Width, ft	10			t	0
Spe	ed Limit, mi/h	55 .		Access Point Dens	ity, pts/mi	31.5
De	emand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	53 (Opposing Deman	d Flow Rate, veh/h	-
Pea	k Hour Factor	0.94		Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.03
Int	termediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		49.4
Spe	ed Slope Coefficient (m)	3.20852		Speed Power Coefficient (p)		0.41674
PF S	Slope Coefficient (m)	-1.40969		PF Power Coefficient (p)		0.72659
In P	Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%In	nprovement to Percent Followers	0.0		%Improvement to	Speed	0.0
Su	bsegment Data					
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2862	-		-	49.4
Ve	hicle Results					
Ave	rage Speed, mi/h	49.4		Percent Followers,	, %	15.4
Seg	ment Travel Time, minutes	0.66		Follower Density (FD), followers/mi/In		0.2
Veh	icle LOS	A				
		S	egn	nent 2		
Ve	hicle Inputs					
Seg	ment Type	Passing Zone		Length, ft		2899
Lan	e Width, ft	10		Shoulder Width, ft		0
Spe	ed Limit, mi/h	55		Access Point Dens	sity, pts/mi	20.0
De	mand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	53		Opposing Deman	d Flow Rate, veh/h	40
	k Hour Factor	0.94		Opposing Demand Flow Rate, veh/h Total Trucks, %		2.00

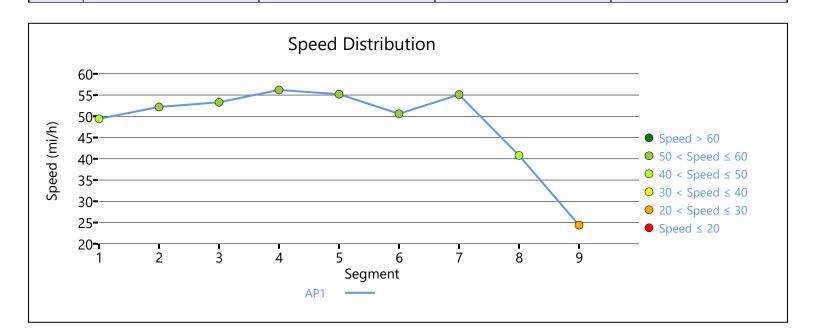
I Class 1		Free-Flow Speed,	mi/h	52.2
3.02857	3.02857		fficient (p)	0.60883
-1.20604		PF Power Coefficie	ent (p)	0.79798
No		Total Segment De	nsity, veh/mi/ln	0.1
0.0		%Improvement to	Speed	0.0
Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
2899	-		-	52.2
52.2		Percent Followers	, %	11.0
0.63		Follower Density ((FD), followers/mi/ln	0.1
A				
	Segn	ment 3		
Passing Constrair	Passing Constrained		Length, ft	
10		Shoulder Width, ft		0
55		Access Point Density, pts/mi		15.7
				-
53		Opposing Deman	Opposing Demand Flow Rate, veh/h	
0.94		Total Trucks, %	Total Trucks, %	
1700		Demand/Capacity	(D/C)	0.03
1		Free-Flow Speed,	mi/h	53.3
3.44342		Speed Power Coe	fficient (p)	0.41674
-1.35294		PF Power Coefficient (p)		0.74299
No		Total Segment Density, veh/mi/ln		0.1
0.0		%Improvement to Speed		0.0
Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
4715	-		-	53.3
53.3		Percent Followers	, %	14.2
1.01		Follower Density ((FD), followers/mi/ln	0.1
A		1		
	1.20604No0.0Length, ft289952.20.630.63APassing Constrait105510530.941700132941314343421313143421010530.941700110053100531005310010053100531005310053100531005310053100531005353.31.01	-1.20604 No 0.0 Iength, ft Rate 2899 - 52.2 0.63 0.63 A Passing Constrained I 10 S 55 I 93 53 0.94 I 1700 I 13.44342 I 1.35294 No 0.0 1 1.55. I I 1.700 I 1.01 I 1.01 I	-1.20604 PF Power Coefficient No Total Segment De 0.0 %Improvement to 2899 - 52.2 Percent Followers 0.63 Follower Density of A Follower Density of A Europh, ft Passing Constrained Length, ft 10 Shoulder Width, ft 55 Access Point Density 53 Opposing Deman 0.94 Total Trucks, % 1700 Demand/Capacity 1 Free-Flow Speed, 3.44342 Speed Power Coefficient No Total Segment De 0.0 %Improvement to 1 Total Segment De 0.0 %Improvement to 1 Total Segment De 0.0 %Improvement to 1 Total Segment De 0.0 %Improvement to 53.3 Percent Followers	1.20604 PF Power Coefficient (p) No Total Segment Density, veh/mi/ln 0.0 %Improvement to Speed Length, ft Radius, ft Superelevation, % 2899 - - 52.2 Percent Followers, % - 0.63 Follower Density (FD), followers/mi/ln A A Segment 3 Segment 3 Passing Constrained Length, ft 10 Shoulder Width, ft 55 Access Point Density, pts/mi 53 Opposing Demand Flow Rate, veh/h 0.94 Total Trucks, % 1700 Demand/Capacity (D/C) 1 Free-Flow Speed, mi/h 3.44342 Speed Power Coefficient (p) 1.35294 PF Power Coefficient (p) No Total Segment Density, veh/mi/ln 0.0 %Improvement to Speed Vertex Junct Superelevation, % 1.01 Follower Density (FD), followers/mi/ln

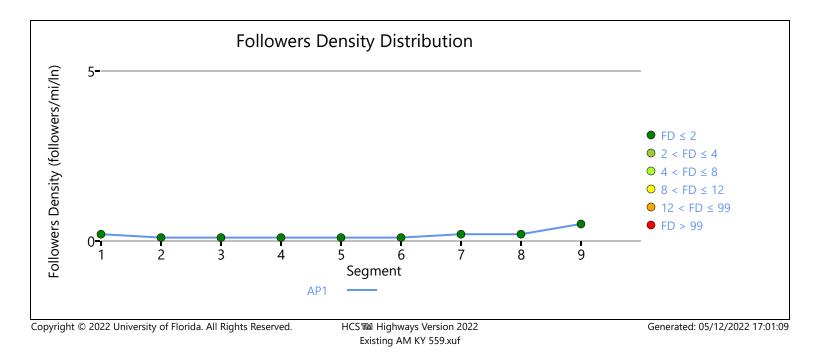
Veł	hicle Inputs					
Segr	ment Type	Passing Zone		Length, ft	Length, ft	
Lane	e Width, ft	10		Shoulder Width, ft	Shoulder Width, ft	
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	4.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	53		Opposing Deman	d Flow Rate, veh/h	40
Peak	K Hour Factor	0.94		Total Trucks, %		2.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03
Int	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	56.2
Spee	ed Slope Coefficient (m)	3.22057		Speed Power Coet	fficient (p)	0.60883
PF S	lope Coefficient (m)	-1.25169		PF Power Coefficie	ent (p)	0.78709
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Sul	bsegment Data			·		
#	Segment Type	Length, ft	R	adius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	317	-		-	56.2
Veł	hicle Results					-
Aver	rage Speed, mi/h	56.2		Percent Followers,	%	11.7
Segr	ment Travel Time, minutes	0.06		Follower Density (FD), followers/mi/ln	0.1
Vehi	icle LOS	A				
			Seg	ment 5		
Veł	hicle Inputs					
Segr	ment Type	Passing Constraine	d	Length, ft		3168
Lane	e Width, ft	10		Shoulder Width, ft	t	0
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		8.3
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	53		Opposing Deman	d Flow Rate, veh/h	-
Peak	< Hour Factor	0.94		Total Trucks, %	Total Trucks, %	
Segr	ment Capacity, veh/h	1700		Demand/Capacity	Demand/Capacity (D/C)	
Int	ermediate Results					·
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	55.2
Spee	ed Slope Coefficient (m)	3.52656		Speed Power Coet	fficient (p)	0.41674
	lope Coefficient (m)	-1.36536		PF Power Coefficie	ent (p)	0.74471
PF S	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
		No				
In Pa	provement to Percent Followers	0.0		%Improvement to	Speed	0.0

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3168	-		-	55.2
Veł	nicle Results					
Average Speed, mi/h		55.2		Percent Follow	vers, %	14.2
Segr	nent Travel Time, minutes	0.65		Follower Dens	ity (FD), followers/mi/ln	0.1
Vehi	cle LOS	A				
			Segn	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1584
Lane	e Width, ft	10		Shoulder Wid	th, ft	0
Spee	ed Limit, mi/h	55		Access Point I	Density, pts/mi	26.7
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	53		Opposing Der	nand Flow Rate, veh/h	40
Peak	Hour Factor	0.94		Total Trucks, 9	, 0	2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.03
Inte	ermediate Results					·
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		50.6
Speed Slope Coefficient (m)		2.91831		Speed Power Coefficient (p)		0.60883
PF Slope Coefficient (m)		-1.25193		PF Power Coe	fficient (p)	0.77544
In Passing Lane Effective Length?		No		Total Segmen	t Density, veh/mi/ln	0.1
%Improvement to Percent Followers		0.0		%Improveme	nt to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	1584	-		-	50.6
Veł	nicle Results	-			2	
Average Speed, mi/h		50.6		Percent Followers, %		12.1
Segr	nent Travel Time, minutes	0.36		Follower Density (FD), followers/mi/ln		0.1
Vehi	cle LOS	A				
			Segn	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ned	Length, ft		12302
Lane Width, ft 10		Shoulder Width, ft		0		
Speed Limit, mi/h 55		55	55		Density, pts/mi	8.6
Der	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	53		Opposing Demand Flow Rate, veh/h		-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Sear	nent Capacity, veh/h	1700			acity (D/C)	0.03

Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		55.1
Speed Slope Coefficient (m)	3.59986	3.59986		Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36038	-1.36038		fficient (p)	0.70449
In Passing Lane Effective Length?	No		Total Segmen	t Density, veh/mi/ln	0.2
%Improvement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Length, ft Radiu		Superelevation, %	Average Speed, mi/h
1 Tangent	12302	12302 -		-	55.1
Vehicle Results				•	
Average Speed, mi/h	55.1	55.1		wers, %	15.8
Segment Travel Time, minutes	2.54		Follower Den	sity (FD), followers/mi/ln	0.2
Vehicle LOS	A				
		Segn	nent 8		·
Vehicle Inputs					
Segment Type	Passing Constrai	ned	Length, ft		1003
Lane Width, ft	10		Shoulder Width, ft		0
Speed Limit, mi/h	45	45		Density, pts/mi	20.0
Demand and Capacity					- 1
Directional Demand Flow Rate, veh/h	53	53		mand Flow Rate, veh/h	-
Peak Hour Factor	0.94		Total Trucks, %		2.00
Segment Capacity, veh/h	1700		Demand/Cap	acity (D/C)	0.03
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		40.8
Speed Slope Coefficient (m)	2.72189		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)	-1.50480		PF Power Coe	fficient (p)	0.68051
In Passing Lane Effective Length?	No	No		t Density, veh/mi/ln	0.2
%Improvement to Percent Followers	0.0		%Improvement to Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	lius, ft Superelevation, %		Average Speed, mi/h
1 Tangent	1003			-	40.8
Vehicle Results					
Average Speed, mi/h	40.8	40.8		wers, %	18.5
Segment Travel Time, minutes	0.28			sity (FD), followers/mi/ln	0.2
Vehicle LOS	A				
			1		

Vehicl	e Inputs					
Segmen	t Type	Passing Constrained		ength, ft		1869
Lane Wi	dth, ft	10	S	ihoulder Width, f	t	0
Speed Li	imit, mi/h	35	A	Access Point Dens	sity, pts/mi	57.1
Dema	nd and Capacity					
Direction	nal Demand Flow Rate, veh/h	53	C	Opposing Deman	d Flow Rate, veh/h	-
Peak Ho	ur Factor	0.94	Т	otal Trucks, %		2.00
Segmen	t Capacity, veh/h	1700	C	Demand/Capacity	/ (D/C)	0.03
Intern	nediate Results	-	· ·			
Segmen	t Vertical Class	1	F	ree-Flow Speed,	mi/h	24.4
Speed S	lope Coefficient (m)	1.84278		Speed Power Coefficient (p)		0.41674
PF Slope	e Coefficient (m)	-1.38415		PF Power Coefficient (p)		0.60433
In Passir	ng Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.5
%Improv	vement to Percent Followers	0.0		%Improvement to Speed		0.0
Subse	gment Data					
# Se	egment Type	Length, ft	Radius	ius, ft Superelevation, %		Average Speed, mi/h
1 Ta	ngent	1869	-	-		24.4
Vehic	e Results					
Average	Speed, mi/h	24.4		Percent Followers	, %	20.9
Segment Travel Time, minutes		0.87		ollower Density ((FD), followers/mi/In	0.5
Vehicle LOS		A				
Facilit	y Results					
т	VMT veh-mi/p	VHD veh-h/	VHD veh-h/p		ensity, followers/ mi/ln	LOS
1	73	0.00			0.2	A





HCS Two-Lane	Highway	Report
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Project Information

Pro	oject Information					
Ana	lyst	ATW		Date		5/4/2022
Age	ncy	Stantec		Analysis Year		2022
Juris	sdiction			Time Analyzed		Existing PM
Proj	ect Description	KY 559		Units		U.S. Customary
		S	egn	nent 1		
Ve	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		2862
Lan	e Width, ft	10		Shoulder Width, f	t	0
Spe	ed Limit, mi/h	55		Access Point Dens	sity, pts/mi	31.5
De	mand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	59		Opposing Deman	d Flow Rate, veh/h	-
Pea	k Hour Factor	0.94		Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.03
Int	ermediate Results					
Seg	ment Vertical Class	1	1		mi/h	49.4
Speed Slope Coefficient (m)		3.20852		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)		-1.40969		PF Power Coefficient (p)		0.72659
In Passing Lane Effective Length?		No		Total Segment Density, veh/mi/ln		0.2
%Improvement to Percent Followers 0.0			%Improvement to Speed		0.0	
Su	bsegment Data					
#	Segment Type	Length, ft	Rac	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	2862	-	-		49.4
Ve	hicle Results	·				•
Ave	rage Speed, mi/h	49.4		Percent Followers,	, %	16.4
Seg	ment Travel Time, minutes	0.66		Follower Density (FD), followers/mi/ln		0.2
Veh	icle LOS	A				
		S	egn	nent 2		
Ve	hicle Inputs					
Seg	ment Type	Passing Zone	_	Length, ft		2899
Lan	Lane Width, ft 10		Shoulder Width, ft		0	
Spe	ed Limit, mi/h	55		Access Point Density, pts/mi		20.0
De	mand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	59		Opposing Demand Flow Rate, veh/h		44
Pea	k Hour Factor	0.94		Total Trucks, %		2.00

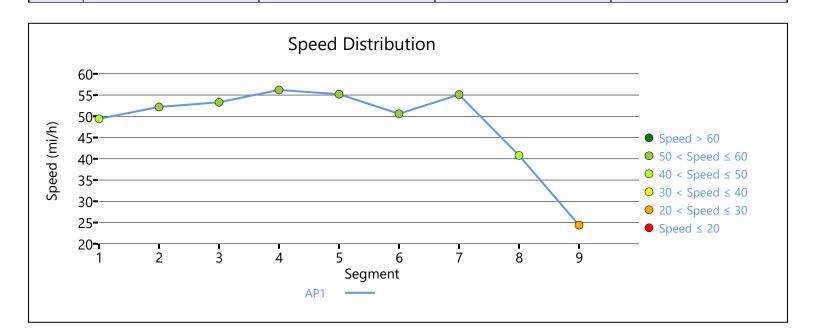
1700		Demand/Capacity (D/C)		0.03	
1		Free-Flow Speed,	mi/h	52.2	
3.03197		Speed Power Coe	fficient (p)	0.60561	
-1.20906		PF Power Coefficie	ent (p)	0.79721	
No		Total Segment De	nsity, veh/mi/ln	0.1	
0.0		%Improvement to	Speed	0.0	
Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h	
2899	-		-	52.2	
52.2		Percent Followers	, %	11.8	
0.63		Follower Density ((FD), followers/mi/ln	0.1	
A					
	Segn	nent 3			
Passing Constrained		Length, ft		4715	
10		Shoulder Width, ft		0	
55	55		Access Point Density, pts/mi		
59		Opposing Deman	d Flow Rate, veh/h	-	
0.94		Total Trucks, %		2.00	
1700		Demand/Capacity (D/C)		0.03	
		-			
1		Free-Flow Speed, mi/h		53.3	
3.44342		Speed Power Coefficient (p)		0.41674	
-1.35294		PF Power Coefficient (p)		0.74299	
No		Total Segment Density, veh/mi/ln		0.2	
0.0		%Improvement to	Speed	0.0	
# Segment Type Length, ft Rad		lius, ft Superelevation, %		Average Speed, mi/h	
4715	-		-	53.3	
53.3		Percent Followers	, %	15.1	
1.01		Follower Density (FD), followers/mi/ln		0.2	
1.01		Follower Density ((FD), 10110wers/mi/m	0.2	
	3.03197 -1.20906 No 0.0 Length, ft 2899 52.2 0.63 A 0.63 A Passing Constrain 10 55 9 10 55 10 55 10 55 10 10 55 10 11 3.44342 -1.35294 No 0.0 Length, ft 4715	i 3.03197 -1.20906 No 0.0 0.0 I Length, ft Rad 2899 - 52.2 0.63 0.0 No 0.63 A Passing Constrained I 10 S5 59 0.94 1700 I 13.44342 I 1.35294 No 0.0 O.0	3.03197 Speed Power Coe 1.20906 PF Power Coefficient No Total Segment De 0.0 %Improvement to 2899 - 52.2 Percent Followers 0.63 Follower Density of A Image: Segment 3 Passing Constrained Length, ft 10 Shoulder Width, ft 55 Access Point Density of 59 Opposing Deman 0.94 Total Trucks, % 1700 Demand/Capacity 1 Free-Flow Speed, 3.44342 Speed Power Coe 0.0 %Improvement to 1 Total Segment De 0.0 Speed Power Coe	3.03197 Speed Power Coefficient (p) 1.20906 PF Power Coefficient (p) No Total Segment Density, veh/mi/ln 0.0 %Improvement to Speed Length, ft Radius, ft Superelevation, % 2899 - - 52.2 Percent Followers, % - 0.63 Follower Density (FD), followers/mi/ln A A - Segment 3 Passing Constrained Length, ft 10 Shoulder Width, ft - 55 Access Point Density, pts/mi - Segment 3 1000 Deposing Demand Flow Rate, veh/h 0.94 Total Trucks, % - 1700 Demand/Capacity (D/C) - 1 Free-Flow Speed, mi/h 3.44342 Speed Power Coefficient (p) -1.35294 PF Power Coefficient (p) 1.35294 PF Power Coefficient (p) -1.35294 No Total Segment Density, veh/mi/ln 0.0 0.0 %Improvement to Speed Speed No	

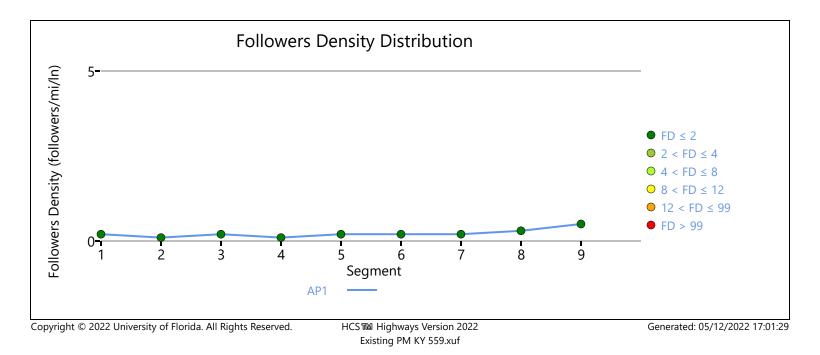
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		317
Lane	Width, ft	10		Shoulder Width, ft	t	0
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	4.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	59		Opposing Deman	d Flow Rate, veh/h	44
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	56.2
Spee	ed Slope Coefficient (m)	3.22398		Speed Power Coet	fficient (p)	0.60561
PF S	lope Coefficient (m)	-1.25480		PF Power Coefficie	ent (p)	0.78639
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
%lm	provement to Percent Followers	0.0	0.0		%Improvement to Speed	
Sul	osegment Data					
#	Segment Type	Length, ft	R	adius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	317	-		-	56.2
Veł	nicle Results				-	
Aver	age Speed, mi/h	56.2		Percent Followers,	Percent Followers, %	
Segr	nent Travel Time, minutes	0.06		Follower Density (FD), followers/mi/ln	0.1
Vehi	cle LOS	A				
			Seg	ment 5		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		3168
Lane	Width, ft	10		Shoulder Width, ft	Shoulder Width, ft	
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		8.3
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	59		Opposing Deman	Opposing Demand Flow Rate, veh/h	
Peak	Hour Factor	0.94		Total Trucks, %	Total Trucks, %	
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.03
Inte	ermediate Results					
Segment Vertical Class 1		Free-Flow Speed,	Free-Flow Speed, mi/h			
Spee	ed Slope Coefficient (m)	3.52656		Speed Power Coet	Speed Power Coefficient (p)	
PF Slope Coefficient (m) -1.36536		-1.36536		PF Power Coefficie	PF Power Coefficient (p)	
In Passing Lane Effective Length? No		No		Total Segment De	Total Segment Density, veh/mi/ln	
In Pa	%Improvement to Percent Followers 0.0		%Improvement to Speed		1	
	provement to Percent Followers	0.0		%Improvement to	Speed	0.0

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3168	-		-	55.2
Veł	nicle Results	-				
Aver	age Speed, mi/h	55.2		Percent Followe	ers, %	15.2
Segr	nent Travel Time, minutes	0.65		Follower Densit	y (FD), followers/mi/ln	0.2
Vehi	cle LOS	A				
			Segn	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1584
Lane	e Width, ft	10		Shoulder Width	ı, ft	0
Spee	ed Limit, mi/h	55		Access Point De	ensity, pts/mi	26.7
Dei	mand and Capacity					
Directional Demand Flow Rate, veh/h 59		Opposing Dem	and Flow Rate, veh/h	44		
Peak Hour Factor 0.94		Total Trucks, %		2.00		
Segment Capacity, veh/h 1700		Demand/Capac	ity (D/C)	0.03		
Inte	ermediate Results	·				
Segment Vertical Class 1			Free-Flow Spee	d, mi/h	50.6	
Speed Slope Coefficient (m) 2.92171		2.92171	Speed Power Coefficient (p)		0.60561	
PF S	lope Coefficient (m)	-1.25510		PF Power Coeff	icient (p)	0.77474
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improvement	to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	1584	-	-		50.6
Veł	nicle Results	-				
Aver	age Speed, mi/h	50.6		Percent Followers, %		13.0
Segr	nent Travel Time, minutes	0.36		Follower Densit	y (FD), followers/mi/ln	0.2
Vehi	cle LOS	A				
			Segn	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		12302
	Width, ft	10		Shoulder Width, ft		0
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		8.6
Dei	mand and Capacity					•
Dire	ctional Demand Flow Rate, veh/h	59		Opposing Dem	and Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Sear	nent Capacity, veh/h	1700		Demand/Capac	ity (D/C)	0.03

Intermediate Results					
Segment Vertical Class	1		Free-Flow Spe	eed, mi/h	55.1
Speed Slope Coefficient (m)	3.59986		Speed Power	Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36038		PF Power Coe	fficient (p)	0.70449
In Passing Lane Effective Length?	No		Total Segmen	t Density, veh/mi/ln	0.2
%Improvement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Length, ft Radiu		Superelevation, %	Average Speed, mi/h
1 Tangent	12302	-		-	55.1
Vehicle Results					•
Average Speed, mi/h 55.1 I		Percent Follow	vers, %	16.8	
Segment Travel Time, minutes	2.54	2.54		sity (FD), followers/mi/ln	0.2
Vehicle LOS	A				
		Segn	nent 8		·
Vehicle Inputs					
Segment Type	Passing Constrai	Passing Constrained			1003
Lane Width, ft	10		Shoulder Width, ft		0
Speed Limit, mi/h	45		Access Point I	Density, pts/mi	20.0
Demand and Capacity					- 1
Directional Demand Flow Rate, veh/h	59		Opposing De	mand Flow Rate, veh/h	-
Peak Hour Factor	0.94		Total Trucks, %		2.00
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.03
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		40.8
Speed Slope Coefficient (m)	2.72189		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)	-1.50480		PF Power Coefficient (p)		0.68051
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.3
%Improvement to Percent Followers	0.0		%Improvement to Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	1003	-		-	40.8
Vehicle Results					
Average Speed, mi/h	40.8		Percent Follow	vers, %	19.6
Segment Travel Time, minutes	0.28			sity (FD), followers/mi/ln	0.3
-				<u> </u>	
Vehicle LOS	111				

Vehio	cle Inputs					
Segme	nt Type	Passing Constrained	L	ength, ft		1869
Lane W	/idth, ft	10	S	houlder Width, f	t	0
Speed	Limit, mi/h	35	A	Access Point Dens	sity, pts/mi	57.1
Dem	and and Capacity	·				
Directio	onal Demand Flow Rate, veh/h	59	С	Opposing Deman	d Flow Rate, veh/h	-
Peak H	our Factor	0.94	Т	otal Trucks, %		2.00
Segme	nt Capacity, veh/h	1700	D	Demand/Capacity	r (D/C)	0.03
Inter	mediate Results					·
Segment Vertical Class		1	F	Free-Flow Speed, mi/h		24.4
Speed Slope Coefficient (m)		1.84278		Speed Power Coefficient (p)		0.41674
PF Slop	pe Coefficient (m)	-1.38415		PF Power Coefficient (p)		0.60433
In Pass	ing Lane Effective Length?	No		otal Segment De	nsity, veh/mi/ln	0.5
%Impro	ovement to Percent Followers	0.0	%	%Improvement to Speed		0.0
Subs	egment Data					
# S	Segment Type	Length, ft	Radius	ius, ft Superelevation, %		Average Speed, mi/h
1 T	angent	1869	-	-		24.4
Vehio	cle Results				-	
Averag	e Speed, mi/h	24.4	P	Percent Followers, %		22.0
Segme	nt Travel Time, minutes	0.87	F	Follower Density (FD), followers/mi/ln		0.5
Vehicle	LOS	A				
Facili	ity Results					
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS
1	80	0.00			0.2	A





HCS Two-Lane	Highway	Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Jurisdiction Time Analyzed Existing AM **Project Description** KY 344 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 512 Segment Type 9 Lane Width, ft Shoulder Width, ft 1 Speed Limit, mi/h 35 20.0 Access Point Density, pts/mi **Demand and Capacity** 35 Directional Demand Flow Rate, veh/h Opposing Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 29.5 Speed Slope Coefficient (m) 2.10943 Speed Power Coefficient (p) 0.41674 0.62573 PF Slope Coefficient (m) -1.46561 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.2 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	512	-	-	29.5
Vak	ialo Doculto				

Vehicle Results

Average Speed, mi/h	29.5	Percent Followers, %	16.5
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/In	0.2
Vehicle LOS	А		

Segment 2

Segment Type	Passing Zone	Length, ft	2518				
Lane Width, ft	9	Shoulder Width, ft	1				
Speed Limit, mi/h	55	Access Point Density, pts/mi	27.1				
Demand and Capacity							
Demand and Capacity		• •					
Demand and Capacity Directional Demand Flow Rate, veh/h	35	Opposing Demand Flow Rate, veh/h	27				

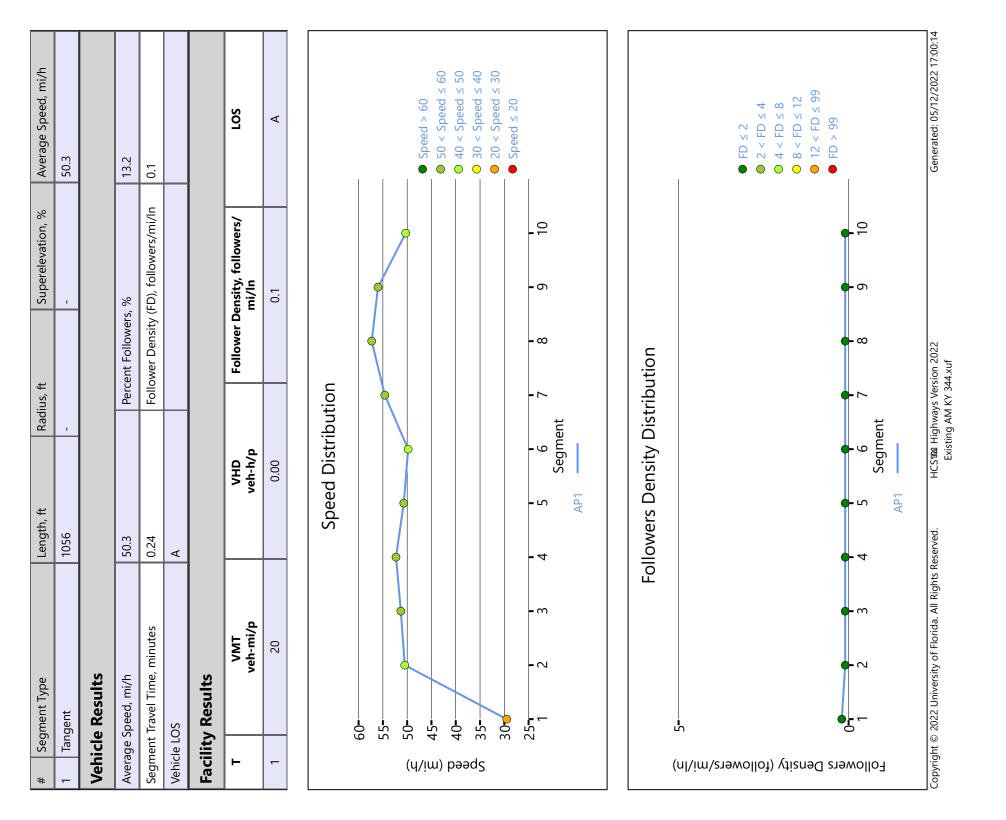
Segment Capacity, veh/h	1700	1700		Demand/Capacity (D/C)	
Intermediate Results					
Segment Vertical Class	2		Free-Flow Speed,	mi/h	50.5
Speed Slope Coefficient (m)	3.11550		Speed Power Coe	fficient (p)	0.62179
PF Slope Coefficient (m)	-1.20383		PF Power Coefficie	ent (p)	0.77717
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	2518	-		-	50.5
Vehicle Results					
Average Speed, mi/h	50.5		Percent Followers	, %	8.5
Segment Travel Time, minutes	0.57		Follower Density	(FD), followers/mi/ln	0.1
Vehicle LOS	ehicle LOS A				
		Segr	nent 3		
Vehicle Inputs					
Segment Type	Passing Constrai	ined	Length, ft		327
Lane Width, ft	9		Shoulder Width, f	t	1
Speed Limit, mi/h	55	55		sity, pts/mi	24.0
Demand and Capacity	·				·
Directional Demand Flow Rate, veh/h	35		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.94		Total Trucks, %		2.00
Segment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.02
Intermediate Results			-		
Segment Vertical Class	1	1		mi/h	51.3
Speed Slope Coefficient (m)	3.29099	3.29099		fficient (p)	0.41674
PF Slope Coefficient (m)	-1.46577		PF Power Coefficient (p)		0.71525
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	327	-		-	51.3
Vehicle Results					
Average Speed, mi/h	51.3		Percent Followers	, %	12.5
Segment Travel Time, minutes	0.07		Follower Density	(FD), followers/mi/ln	0.1
Vehicle LOS	A				
		Sear	nent 4		

Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		1592
-	e Width, ft	9		Shoulder Width, ff	t	1
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	20.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	37		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.02
Inte	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	52.3
Spee	ed Slope Coefficient (m)	3.35025		Speed Power Coet	fficient (p)	0.41674
PF S	lope Coefficient (m)	-1.44258		PF Power Coefficie	ent (p)	0.72248
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-		-	52.3
Veł	nicle Results				л	-
Aver	age Speed, mi/h	52.3	Percent Followers, %		12.5	
Segr	nent Travel Time, minutes	0.35		Follower Density (FD), followers/mi/ln	0.1
Vehi	cle LOS	A				
		S	egn	nent 5		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1525
-	e Width, ft	9		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		26.7
De	mand and Capacity					•
Dire	ctional Demand Flow Rate, veh/h	37		Opposing Demand Flow Rate, veh/h		28
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segment Capacity, veh/h 1700		1700		Demand/Capacity (D/C)		0.02
Segr	ermediate Results					·
			Free-Flow Speed,	mi/h	50.7	
Inte	nent Vertical Class	1			Speed Power Coefficient (p)	
Into Segr	ment Vertical Class ed Slope Coefficient (m)	1 2.91171		Speed Power Coet	fficient (p)	0.61936
Into Segr Spee		_		Speed Power Coefficie	•	0.61936 0.77686
Into Segr Spee PF S	ed Slope Coefficient (m)	2.91171			ent (p)	

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-		-	50.7
Veł	nicle Results		, in the second s			
Aver	age Speed, mi/h	50.7		Percent Follow	ers, %	9.2
Segr	nent Travel Time, minutes	0.34		Follower Dens	ity (FD), followers/mi/ln	0.1
Vehi	cle LOS	A				
			Segr	nent 6		
Veł	nicle Inputs					
Segment Type Passing Constrained			Length, ft		528	
Lane	Width, ft	9		Shoulder Widt	h, ft	1
Spee	ed Limit, mi/h	55		Access Point D	ensity, pts/mi	30.0
Dei	mand and Capacity			•		·
Directional Demand Flow Rate, veh/h 37		Opposing Den	nand Flow Rate, veh/h	-		
Peak Hour Factor 0.94		Total Trucks, %	,	2.00		
Segment Capacity, veh/h 1700		Demand/Capa	city (D/C)	0.02		
Inte	ermediate Results					·
Segment Vertical Class 1			Free-Flow Spe	ed, mi/h	49.8	
Speed Slope Coefficient (m) 3.20969			Speed Power (Coefficient (p)	0.41674	
PF S	lope Coefficient (m)	-1.47482		PF Power Coef	ficient (p)	0.71104
In Pa	ssing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.1
%lm	provement to Percent Followers	0.0		%Improvemen	t to Speed	0.0
Sub	osegment Data			-		
#	Segment Type	Length, ft	Rad	dius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	528	-		-	49.8
Veł	nicle Results	·			·	·
Aver	age Speed, mi/h	49.8		Percent Followers, %		13.2
Segr	nent Travel Time, minutes	0.12		Follower Density (FD), followers/mi/ln		0.1
Vehi	cle LOS	A				
			Segr	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1584
	Width, ft	9		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point D	ensity, pts/mi	10.0
Dei	mand and Capacity					1
	ctional Demand Flow Rate, veh/h	37		Opposing Den	nand Flow Rate, veh/h	28
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Sear	nent Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.02

Segment Vertical Class	3		Free-Flow Sp	eed, mi/h	54.6
Speed Slope Coefficient (m)	3.11550		Speed Power	Coefficient (p)	0.70657
PF Slope Coefficient (m)	-1.16319		PF Power Coe	efficient (p)	0.78625
In Passing Lane Effective Length?	No		Total Segmer	nt Density, veh/mi/ln	0.1
%Improvement to Percent Followers	0.0		%Improveme	ent to Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Length, ft Radiu		Superelevation, %	Average Speed, mi/h
1 Tangent	1584	-		-	54.6
Vehicle Results					·
Average Speed, mi/h 54.6		Percent Follo	wers, %	8.4	
Segment Travel Time, minutes	0.33		Follower Den	sity (FD), followers/mi/ln	0.1
Vehicle LOS	A				
		Segn	nent 8		
Vehicle Inputs					
Segment Type	Passing Constrained		Length, ft		528
Lane Width, ft	9		Shoulder Wic	dth, ft	1
Speed Limit, mi/h	55		Access Point	Density, pts/mi	0.0
Demand and Capacity	•				
Directional Demand Flow Rate, veh/h	37		Opposing Demand Flow Rate, veh/h		-
Peak Hour Factor	0.94		Total Trucks, %		2.00
Segment Capacity, veh/h	1700		Demand/Cap	pacity (D/C)	0.02
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		57.3
Speed Slope Coefficient (m)	3.61619		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)	-1.42067		PF Power Coefficient (p)		0.73029
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%Improvement to Percent Followers	0.0		%Improvement to Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	528	-		-	57.3
Vehicle Results					
Average Speed, mi/h	57.3		Percent Follo	wers, %	12.1
Segment Travel Time, minutes	0.10			sity (FD), followers/mi/ln	0.1
Vehicle LOS	A				
					1

	• • •					
Veh	iicle Inputs					
-	nent Type			Length, ft		2112
	Width, ft	9		Shoulder Width, f	t	1
Spee	d Limit, mi/h	55		Access Point Dens	ity, pts/mi	5.0
Der	mand and Capacity					
Direc	tional Demand Flow Rate, veh/h	37		Opposing Deman	d Flow Rate, veh/h	28
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segn	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.02
Inte	ermediate Results					
Segn	nent Vertical Class	2	_	Free-Flow Speed,	mi/h	56.0
Spee	d Slope Coefficient (m)	3.11550		Speed Power Coe	fficient (p)	0.65161
PF SI	ope Coefficient (m)	-1.20105		PF Power Coefficie	ent (p)	0.79250
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
%lmį	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Sub	segment Data			•		
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2112	-		-	56.0
Veh	icle Results	•			<u> </u>	-
Avera	age Speed, mi/h	56.0		Percent Followers,	. %	8.5
Segn	nent Travel Time, minutes	0.43		Follower Density (FD), followers/mi/ln	0.1
Vehic	cle LOS	A				
		Se	gm	ent 10		
Veh	icle Inputs					
	nent Type	Passing Constrained		Length, ft		1056
-	Width, ft	9		Shoulder Width, ft		1
Spee	d Limit, mi/h	55		Access Point Dens	ity, pts/mi	28.0
Der	mand and Capacity					
	tional Demand Flow Rate, veh/h	37		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segn	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.02
	ermediate Results					
Inte				Free-Flow Speed,	mi/h	50.3
	nent Vertical Class	1			· ·	
Segn		1 3.23679		Speed Power Coe	fficient (p)	0.41674
Segn Spee	d Slope Coefficient (m)			Speed Power Coe PF Power Coefficie	•	0.41674
Segm Spee PF Sl	d Slope Coefficient (m) ope Coefficient (m)	3.23679		PF Power Coefficie	ent (p)	
Segm Spee PF Slo In Pa	d Slope Coefficient (m)	3.23679 -1.47191			ent (p) nsity, veh/mi/ln	0.71247



HCS Two-Lane	Highway	Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Existing PM Jurisdiction Time Analyzed **Project Description** KY 344 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 512 Segment Type 9 Lane Width, ft Shoulder Width, ft 1 Speed Limit, mi/h 35 20.0 Access Point Density, pts/mi **Demand and Capacity** 57 Directional Demand Flow Rate, veh/h Opposing Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.03 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 29.5 Speed Slope Coefficient (m) 2.10943 Speed Power Coefficient (p) 0.41674 0.62573 PF Slope Coefficient (m) -1.46561 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.4 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	512	-	-	29.5
Ve	nicle Results				

21.8 29.5 Percent Followers, % Average Speed, mi/h 0.20 0.4 Segment Travel Time, minutes Follower Density (FD), followers/mi/In А Vehicle LOS

Segment 2

Segment Type	Passing Zone	Length, ft	2518					
Lane Width, ft	9	Shoulder Width, ft	1					
Speed Limit, mi/h	55	Access Point Density, pts/mi	27.1					
Demand and Capacity								
Demand and Capacity								
Directional Demand Flow Rate, veh/h	57	Opposing Demand Flow Rate, veh/h	43					

Segment Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.03	
Intermediate Results						
Segment Vertical Class	2		Free-Flow Speed,	mi/h	50.5	
Speed Slope Coefficient (m)	3.11550		Speed Power Coe	fficient (p)	0.60526	
PF Slope Coefficient (m)	-1.21726		PF Power Coeffici	ent (p)	0.77397	
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1	
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0	
Subsegment Data						
# Segment Type	Segment Type Length, ft Radius, ft Supe				Average Speed, mi/h	
1 Tangent	2518	-		-	50.5	
Vehicle Results				<u>.</u>		
Average Speed, mi/h	50.5		Percent Followers	, %	12.5	
Segment Travel Time, minutes	0.57		Follower Density	(FD), followers/mi/ln	0.1	
Vehicle LOS	A					
		Segr	nent 3			
Vehicle Inputs						
Segment Type	Passing Constrai	ined	Length, ft		327	
Lane Width, ft	9		Shoulder Width, f	t	1	
Speed Limit, mi/h	55		Access Point Den	sity, pts/mi	24.0	
Demand and Capacity	•		• •			
Directional Demand Flow Rate, veh/h	57		Opposing Deman	d Flow Rate, veh/h	-	
Peak Hour Factor	0.94	0.94		Total Trucks, %		
Segment Capacity, veh/h	1700	1700		Demand/Capacity (D/C)		
Intermediate Results						
Segment Vertical Class	1		Free-Flow Speed,	mi/h	51.3	
Speed Slope Coefficient (m)	3.29099		Speed Power Coe	fficient (p)	0.41674	
PF Slope Coefficient (m)	-1.46577		PF Power Coeffici	ent (p)	0.71525	
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.2	
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0	
Subsegment Data						
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	327	-		-	51.3	
Vehicle Results						
Average Speed, mi/h	51.3		Percent Followers	, %	17.3	
Segment Travel Time, minutes	0.07		Follower Density	(FD), followers/mi/ln	0.2	
Vehicle LOS	A					
		Sear	nent 4			

	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		1592
Lane	e Width, ft	9		Shoulder Width, ft	1	
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		20.0
Der	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	67		Opposing Deman	d Flow Rate, veh/h	-
Peak	k Hour Factor 0.94			Total Trucks, %		2.00
Segment Capacity, veh/h 1700				Demand/Capacity	(D/C)	0.04
Inte	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	52.3
Spee	ed Slope Coefficient (m)	3.35025		Speed Power Coef	fficient (p)	0.41674
PF S	lope Coefficient (m)	-1.44258		PF Power Coefficie	ent (p)	0.72248
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-		-	52.3
Veł	nicle Results	-				_
Aver	age Speed, mi/h	52.3	52.3		%	18.5
Segr	nent Travel Time, minutes	0.35		Follower Density (FD), followers/mi/ln	0.2
Vehi	cle LOS	A				
		S	egn	nent 5		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1525
Lane	e Width, ft	9		Shoulder Width, ft		1
Snor	ed Limit, mi/h	55		Access Point Density, pts/mi		26.7
Sher	mand and Capacity	•		•		
		67		Opposing Demand Flow Rate, veh/h		48
Der	ctional Demand Flow Rate, veh/h					
Dei Direc	ctional Demand Flow Rate, veh/h	0.94		Total Trucks, %		2.00
Der Direc		0.94		Iotal Irucks, % Demand/Capacity	r (D/C)	0.04
Den Direct Peak Segr	Hour Factor				· (D/C)	
Der Direc Peak Segr Inte	t Hour Factor ment Capacity, veh/h					
Der Direc Peak Segr Intc Segr	a Hour Factor ment Capacity, veh/h ermediate Results	1700		Demand/Capacity	mi/h	0.04
Der Direc Peak Segr Inte Segr Spee	a Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class	1700		Demand/Capacity	mi/h fficient (p)	0.04 50.7
Der Direc Peak Segr Into Segr Spee PF SI	a Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class ed Slope Coefficient (m)	1700 1 1 2.92891		Demand/Capacity Free-Flow Speed, Speed Power Coef	mi/h fficient (p) ent (p)	0.04 50.7 0.60294
Der Direc Peak Segr Inte Segr Spee PF SI In Pa	a Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class ed Slope Coefficient (m) lope Coefficient (m)	1700 1 1 2.92891 -1.26041		Demand/Capacity Free-Flow Speed, Speed Power Coefficie	mi/h fficient (p) ent (p) nsity, veh/mi/ln	0.04 50.7 0.60294 0.77331

#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-		-	50.7
Veł	nicle Results					
Aver	age Speed, mi/h	50.7		Percent Follow	wers, %	14.4
Segr	ment Travel Time, minutes	0.34		Follower Den	sity (FD), followers/mi/In	0.2
Vehi	cle LOS	A				
			Segr	ment 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrair	ned	Length, ft		528
Lane	e Width, ft	9		Shoulder Wid	th, ft	1
Spee	ed Limit, mi/h	55		Access Point I	Density, pts/mi	30.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	67		Opposing De	mand Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, 9	%	2.00
Segr	nent Capacity, veh/h	1700		Demand/Cap	acity (D/C)	0.04
Inte	ermediate Results					·
Segr	ment Vertical Class	1	1		eed, mi/h	49.8
Spee	ed Slope Coefficient (m)	3.20969	3.20969		Coefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.47482		PF Power Coe	fficient (p)	0.71104
In Pa	assing Lane Effective Length?	No		Total Segmen	t Density, veh/mi/ln	0.3
%lm	provement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	528	-		-	49.8
Veł	nicle Results	·			·	·
Aver	age Speed, mi/h	49.8		Percent Follow	wers, %	19.4
Segr	nent Travel Time, minutes	0.12		Follower Den	sity (FD), followers/mi/ln	0.3
Vehi	cle LOS	A				
		·	Segr	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1584
	e Width, ft	9		Shoulder Wid	th, ft	1
Spee	ed Limit, mi/h	55		Access Point I	Density, pts/mi	10.0
Dei	mand and Capacity					
	ctional Demand Flow Rate, veh/h	67		Opposing De	mand Flow Rate, veh/h	48
Peak	Hour Factor	0.94		Total Trucks, 9	%	2.00
Sear	ment Capacity, veh/h	1700		Demand/Cap	acity (D/C)	0.04

	ermediate Results					
Segr	ment Vertical Class	3		Free-Flow Sp	eed, mi/h	54.6
Spee	ed Slope Coefficient (m)	3.11550		Speed Power	Coefficient (p)	0.67969
PF S	lope Coefficient (m)	-1.18377		PF Power Coe	efficient (p)	0.78189
In Pa	assing Lane Effective Length?	No		Total Segmer	nt Density, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improveme	ent to Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-		-	54.6
Veł	nicle Results					
Aver	age Speed, mi/h	54.6		Percent Follo	wers, %	13.3
Segr	nent Travel Time, minutes	0.33		Follower Den	sity (FD), followers/mi/ln	0.2
Vehi	cle LOS	A		1		
			Segn	nent 8		·
Veł	nicle Inputs					
Segr	nent Type	Passing Constrai	Length, ft		528	
Lane	e Width, ft	9		Shoulder Wid	dth, ft	1
Spee	ed Limit, mi/h	55		Access Point	Density, pts/mi	0.0
De	mand and Capacity	·		• •		·
Dire	ctional Demand Flow Rate, veh/h	67		Opposing De	emand Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks,	%	2.00
Segr	ment Capacity, veh/h	1700		Demand/Cap	oacity (D/C)	0.04
Int	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Sp	eed, mi/h	57.3
Spee	ed Slope Coefficient (m)	3.61619		Speed Power	Coefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.42067		PF Power Coe	efficient (p)	0.73029
In Pa	assing Lane Effective Length?	No		Total Segmer	nt Density, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improveme	ent to Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	528	-		-	57.3
Veł	nicle Results					
Aver	age Speed, mi/h	57.3		Percent Follo	wers, %	17.9
	ment Travel Time, minutes	0.10			sity (FD), followers/mi/ln	0.2
	cle LOS	A				

	• • •					
Veh	iicle Inputs			1		
Segn	nent Type	Passing Zone		Length, ft		2112
Lane	Width, ft	9		Shoulder Width, ft	1	
Spee	d Limit, mi/h	55		Access Point Dens	ity, pts/mi	5.0
Der	nand and Capacity					
Direc	tional Demand Flow Rate, veh/h	67		Opposing Deman	d Flow Rate, veh/h	48
Peak Hour Factor 0.94				Total Trucks, %		2.00
Segment Capacity, veh/h 1700				Demand/Capacity	(D/C)	0.04
Inte	ermediate Results					
Segn	nent Vertical Class	2		Free-Flow Speed,	mi/h	56.0
Spee	d Slope Coefficient (m)	3.11550		Speed Power Coef	fficient (p)	0.63164
PF SI	ope Coefficient (m)	-1.21718		PF Power Coefficie	ent (p)	0.78859
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%lmį	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Sub	segment Data			-		
#	-		Rad	dius, ft	ius, ft Superelevation, %	
1	Tangent	2112	-		-	56.0
Veh	icle Results	-			-	-
Avera	age Speed, mi/h	56.0		Percent Followers,	%	13.5
Segn	nent Travel Time, minutes	0.43		Follower Density (FD), followers/mi/ln	0.2
Vehic	cle LOS	A				
		Se	gm	ent 10		
Veh	icle Inputs					
	nent Type	Passing Constrained		Length, ft		1056
-	Width, ft	9		Shoulder Width, ft		1
Spee	d Limit, mi/h	55		Access Point Density, pts/mi		28.0
Der	nand and Capacity					
	tional Demand Flow Rate, veh/h	67		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04
Segn		1				
	ermediate Results					
Inte		1		Free-Flow Speed.	mi/h	50.3
Inte Segn	ermediate Results nent Vertical Class d Slope Coefficient (m)	1 3.23679		Free-Flow Speed, Speed Power Coef		50.3 0.41674
Inte Segn Spee	nent Vertical Class			· · ·	fficient (p)	
Inte Segm Spee PF Slo	nent Vertical Class d Slope Coefficient (m)	3.23679		Speed Power Coet	fficient (p) ent (p)	0.41674
Inte Segn Spee PF Slo In Pa	nent Vertical Class d Slope Coefficient (m) ope Coefficient (m)	3.23679 -1.47191		Speed Power Coefficie	fficient (p) ent (p) nsity, veh/mi/ln	0.41674 0.71247

Average Speed, mi/h	50.3		19.3	0.3			ros	A				● Speed > 60 ● 50 < Speed ≤ 60	40 < Speed <	20 < Speed < Speed < 20				 FU ≤ 2 2 < FD ≤ 4 4 < FD ≤ 8 	 ○ 8 < FD ≤ 12 ● 12 < FD ≤ 99 	6 6 6	Generated: 05/12/2022 17:00:31
Superelevation, %	1		%	Follower Density (FD), followers/mi/ln			Follower Density, followers/ mi/ln	0.2		9					- 6					• - 1	
Radius, ft			Percent Followers, %	Follower Density (I			Follower De		tion						- 8	tribution				•-•	HCSTM Highways Version 2022 Existing PM KY 344.xuf
							VHD veh-h/p	0.00	Speed Distribution						5 6 Segment AP1	Followers Density Distribution				5 6 Segment AP1	HCS100 Highw Existing PN
Length, ft	1056		50.3	0.24	A						•				- 4	ollowe				•-4	All Rights Reserved.
Segment Type	ıt	esults	ed, mi/h	Segment Travel Time, minutes		esults	VMT veh-mi/p	35							- 2					•- m •- ~	Copyright © 2022 University of Florida. All Right
# Segme	1 Tangent	Vehicle Results	Average Speed, mi/h	Segment Tra	Vehicle LOS	Facility Results	F	-		09 11 12		\im) 45 <mark>-</mark>	þəəd	S S	25 -	ىلە uı)	vers/mi/	olloł) y	tisn9G :	Followers	Copyright © 202

5/4/2022

Existing AM

U.S. Customary

2022

Project InformationAnalystATWDateAgencyStantecAnalysis YearJurisdictionIme AnalyzedProject DescriptionKY 57Units

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	3833						
Lane Width, ft	9	Shoulder Width, ft	1						
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.7						
Demand and Capacity									
Directional Demand Flow Rate, veh/h	61	Opposing Demand Flow Rate, veh/h	-						
Peak Hour Factor	0.94	Total Trucks, %	3.50						
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.04						
Intermediate Results									
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.1						
Speed Slope Coefficient (m)	3.31561	Speed Power Coefficient (p)	0.41674						
PF Slope Coefficient (m)	-1.37832	PF Power Coefficient (p)	0.73598						
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.2						
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0						
Subsegment Data									

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3833	-	-	51.1

Vehicle Results

Average Speed, mi/h	51.1	Percent Followers, %	16.1
Segment Travel Time, minutes	0.85	Follower Density (FD), followers/mi/In	0.2
Vehicle LOS	А		

Segment 2

Segment Type	Passing Zone	Length, ft	528		
Lane Width, ft	9	Shoulder Width, ft	1		
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.0		
Demand and Capacity					
Demand and Capacity					
Demand and Capacity Directional Demand Flow Rate, veh/h	61	Opposing Demand Flow Rate, veh/h	32		

Segment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.04
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	54.3
Speed Slope Coefficient (m)	3.10797		Speed Power Coe	fficient (p)	0.61544
PF Slope Coefficient (m)	-1.25102		PF Power Coeffici	ent (p)	0.78296
In Passing Lane Effective Length? No		Total Segment De	nsity, veh/mi/ln	0.1	
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	528	-		-	54.3
Vehicle Results				- -	
Average Speed, mi/h	54.3		Percent Followers	, %	13.0
Segment Travel Time, minutes	0.11		Follower Density	(FD), followers/mi/ln	0.1
Vehicle LOS	A				
		Segr	nent 3		
Vehicle Inputs					
Segment Type	Passing Zone		Length, ft		2580
Lane Width, ft	9		Shoulder Width, ft		6
Speed Limit, mi/h	55		Access Point Density, pts/mi		4.1
Demand and Capacity					
Directional Demand Flow Rate, veh/h	61		Opposing Demand Flow Rate, veh/h		32
Peak Hour Factor	0.94		Total Trucks, %		3.50
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.04
Intermediate Results			-		
Segment Vertical Class	3		Free-Flow Speed,	mi/h	59.3
Speed Slope Coefficient (m)	4.07289		Speed Power Coefficient (p)		0.78235
PF Slope Coefficient (m)	-1.11374		PF Power Coefficient (p)		0.81930
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%Improvement to Percent Followers	0.0		%Improvement to	o Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	2580	-		-	59.3
Vehicle Results					
Average Speed, mi/h	59.3		Percent Followers	, %	10.6
Segment Travel Time, minutes	0.49		Follower Density	(FD), followers/mi/ln	0.1
Vehicle LOS	A				
		Soan	nent 4		

	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		1400
Lane	Width, ft	12		Shoulder Width, ft		6
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	7.7
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	61		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04
Into	ermediate Results					
Segr	nent Vertical Class	3		Free-Flow Speed,	mi/h	60.1
Spee	ed Slope Coefficient (m)	4.77922		Speed Power Coet	fficient (p)	0.53696
PF S	lope Coefficient (m)	-1.47099		PF Power Coefficie	ent (p)	0.73766
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1400	-		-	60.1
Veł	nicle Results	•			л	-
Aver	age Speed, mi/h	60.1		Percent Followers,	%	17.0
Segr	nent Travel Time, minutes	0.26		Follower Density (FD), followers/mi/In		0.2
Vehi	cle LOS	A				
		S	egn	nent 5		
Veł	nicle Inputs					
Sear	nent Type	Passing Zone		Length, ft		1399
		12		Shoulder Width, ft		6
Lane	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	7.4
Lane Spee		55		Access Point Dens	ity, pts/mi	7.4
Lane Spee Dei	ed Limit, mi/h	61		1	ity, pts/mi d Flow Rate, veh/h	32
Lane Spee Der	ed Limit, mi/h mand and Capacity			1		
Lane Spee Der Direc Peak	ed Limit, mi/h mand and Capacity ctional Demand Flow Rate, veh/h	61		Opposing Deman	d Flow Rate, veh/h	32
Lane Spee Der Direc Peak Segr	ed Limit, mi/h mand and Capacity ctional Demand Flow Rate, veh/h : Hour Factor	61 0.94		Opposing Deman	d Flow Rate, veh/h	32 3.50
Lane Spee Der Direc Peak Segr Inte	ed Limit, mi/h mand and Capacity ctional Demand Flow Rate, veh/h : Hour Factor ment Capacity, veh/h	61 0.94		Opposing Deman	d Flow Rate, veh/h (D/C)	32 3.50
Lane Spee Der Direc Peak Segr Into	ed Limit, mi/h mand and Capacity ctional Demand Flow Rate, veh/h t Hour Factor ment Capacity, veh/h ermediate Results	61 0.94 1700		Opposing Deman Total Trucks, % Demand/Capacity	d Flow Rate, veh/h (D/C) mi/h	32 3.50 0.04
Lane Spee Direc Peak Segr Intc Segr Spee	ed Limit, mi/h mand and Capacity ctional Demand Flow Rate, veh/h i Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class	61 0.94 1700 2		Opposing Deman Total Trucks, % Demand/Capacity	d Flow Rate, veh/h (D/C) mi/h fficient (p)	32 3.50 0.04 60.6
Lanee Spee Direc Peak Segr Inte Segr Spee PF SI	ed Limit, mi/h mand and Capacity ctional Demand Flow Rate, veh/h : Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class ed Slope Coefficient (m)	61 0.94 1700 2 3.11550		Opposing Demand Total Trucks, % Demand/Capacity Free-Flow Speed, Speed Power Coeff	d Flow Rate, veh/h (D/C) mi/h fficient (p) ent (p)	32 3.50 0.04 60.6 0.68039

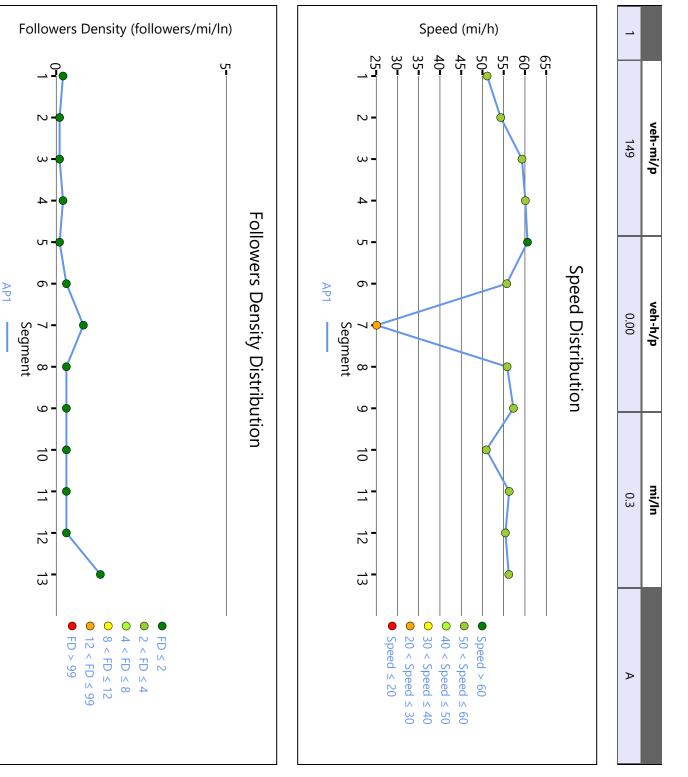
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1399	-		-	60.6
Veł	nicle Results					
Aver	age Speed, mi/h	60.6		Percent Follower	rs, %	12.4
Segr	nent Travel Time, minutes	0.26		Follower Density	/ (FD), followers/mi/ln	0.1
Vehi	cle LOS	A				
			Segr	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		4187
Lane	e Width, ft	10		Shoulder Width,	ft	1
Spee	ed Limit, mi/h	55		Access Point De	nsity, pts/mi	8.9
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	83		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capaci	ty (D/C)	0.05
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		55.7
Spee	ed Slope Coefficient (m)	3.56613		Speed Power Coefficient (p)		0.41674
PF S	lope Coefficient (m)	-1.34280		PF Power Coeffic	cient (p)	0.74945
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.3
%lm	provement to Percent Followers	0.0		%Improvement	to Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	4187	-		-	55.7
Veł	nicle Results					
Aver	age Speed, mi/h	55.7		Percent Follower	rs, %	18.8
Segr	nent Travel Time, minutes	0.85		Follower Density (FD), followers/mi/ln		0.3
Vehi	cle LOS	A				
			Segr	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		4905
Lane	Width, ft	10		Shoulder Width,	ft	1
Spee	ed Limit, mi/h	35		Access Point De	nsity, pts/mi	39.8
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	83		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Sear	nent Capacity, veh/h	1700		Demand/Capaci	ty (D/C)	0.05

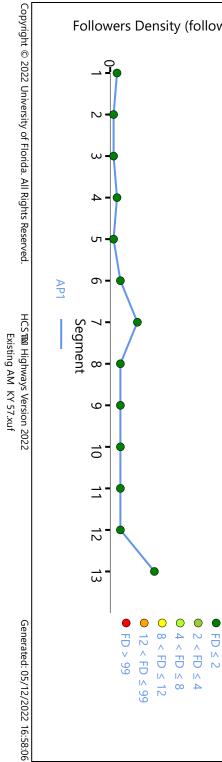
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Spee	ed, mi/h	25.1
Spee	ed Slope Coefficient (m)	1.91896		Speed Power C	oefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.32538	-1.32538		ficient (p)	0.62496
In Pa	assing Lane Effective Length?	No	No		Density, veh/mi/ln	0.8
%lm	provement to Percent Followers	0.0		%Improvemen	t to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4905	-		-	25.1
Veł	icle Results				-	-
Aver	age Speed, mi/h	25.1		Percent Follow	ers, %	24.4
Segr	nent Travel Time, minutes	2.22		Follower Densi	ty (FD), followers/mi/ln	0.8
Vehi	cle LOS	A				
			Segr	nent 8		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1162
Lane	Width, ft	10		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		8.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	83		Opposing Demand Flow Rate, veh/h		45
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.05
Inte	ermediate Results					
Segr	nent Vertical Class	2		Free-Flow Speed, mi/h		55.8
Spee	ed Slope Coefficient (m)	3.11550		Speed Power Coefficient (p)		0.63900
PF S	lope Coefficient (m)	-1.26501		PF Power Coefficient (p)		0.77411
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.3
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1162	-		-	55.8
Veł	nicle Results					
Aver	age Speed, mi/h	55.8		Percent Follow	ers, %	16.8
	ment Travel Time, minutes	0.24			ty (FD), followers/mi/ln	0.3
	cle LOS	A				
		1				

Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		8686
-	Width, ft	12		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Dens	sity, pts/mi	7.3
Dei	mand and Capacity			1		1
Dire	ctional Demand Flow Rate, veh/h	83		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.05
Inte	ermediate Results			Ì		
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	57.3
Spee	ed Slope Coefficient (m)	3.69306		Speed Power Coet	fficient (p)	0.41674
PF SI	ope Coefficient (m)	-1.31619		PF Power Coefficie	ent (p)	0.73942
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	8686	-		-	57.3
Veł	nicle Results				•	-
Aver	age Speed, mi/h	57.3		Percent Followers,	, %	18.9
Segr	nent Travel Time, minutes	1.72		Follower Density (FD), followers/mi/In		0.3
Vehi	cle LOS	A				
		Se	egm	ent 10		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone	Length, ft			1177
Lane	Width, ft	10		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		28.0
Dei	mand and Capacity			•		
Dire	ctional Demand Flow Rate, veh/h	83		Opposing Demand Flow Rate, veh/h		45
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.05
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	50.9
-		2.93442		Speed Power Coet		0.60522
Spee				PF Power Coefficie	ent (p)	0.77025
	ope Coefficient (m)	-1.26835 F				
PF SI	ope Coefficient (m) issing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3
PF SI In Pa	·	No 0.0		Total Segment De %Improvement to	-	0.3

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1177	-		-	50.9
Veł	nicle Results					
Aver	age Speed, mi/h	50.9		Percent Follower	rs, %	17.0
Segment Travel Time, minutes 0.26			Follower Density	r (FD), followers/mi/ln	0.3	
Vehi	cle LOS	А				
			Segm	nent 11		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		1420
Lane	e Width, ft	12		Shoulder Width,	ft	1
Spee	ed Limit, mi/h	55		Access Point Der	nsity, pts/mi	11.1
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	83		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacit	ty (D/C)	0.05
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		56.3
Spee	ed Slope Coefficient (m)	3.56256	6256 Speed Power Coe		efficient (p)	0.41674
PF S	lope Coefficient (m)	-1.42277		PF Power Coefficient (p)		0.72994
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.3
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	1420	-		-	56.3
Veł	nicle Results					
Aver	age Speed, mi/h	56.3		Percent Follower	s, %	20.6
Segr	nent Travel Time, minutes	0.29		Follower Density	r (FD), followers/mi/ln	0.3
Vehi	cle LOS	A				
			Segm	nent 12		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		10212
Lane	e Width, ft	11		Shoulder Width,	ft	1
Spee	ed Limit, mi/h	55		Access Point Der	nsity, pts/mi	12.4
Der	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	83		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Sear	nent Capacity, veh/h	1700		Demand/Capacit	tv (D/C)	0.05

Inte	ermediate Results			1		
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	55.4
Spee	ed Slope Coefficient (m)	3.60216		Speed Power Coe	fficient (p)	0.41674
PF S	ilope Coefficient (m)	-1.33893		PF Power Coeffici	ent (p)	0.72336
In Pa	assing Lane Effective Length?	No	No		ensity, veh/mi/ln	0.3
%lm	provement to Percent Followers	0.0		%Improvement to	o Speed	0.0
Suł	bsegment Data					
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	10212	-		-	55.4
Veł	hicle Results				•	
Aver	rage Speed, mi/h	55.4		Percent Followers	, %	19.8
Segr	ment Travel Time, minutes	2.10		Follower Density	(FD), followers/mi/In	0.3
Vehi	icle LOS	A				
			Sean	nent 13		I
Veł	hicle Inputs					
Segr	ment Type	Passing Constraine	ed	Length, ft		608
Lane	e Width, ft	11		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		4.0
Der	mand and Capacity					/
Dire	ctional Demand Flow Rate, veh/h	189		Opposing Demand Flow Rate, veh/h		-
Peak	k Hour Factor	0.94		Total Trucks, %		3.50
Segr	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.11
Inte	ermediate Results					-
Segr	ment Vertical Class	2		Free-Flow Speed,	mi/h	57.3
Spee	ed Slope Coefficient (m)	3.11550		Speed Power Coefficient (p)		0.42136
PF S	lope Coefficient (m)	-1.52652		PF Power Coefficient (p)		0.71538
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		1.3
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Suk	bsegment Data					
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	608	-		-	56.2
Veł	hicle Results					
Aver	rage Speed, mi/h	56.2		Percent Followers	, %	37.1
Segr	ment Travel Time, minutes	0.12		Follower Density	(FD), followers/mi/In	1.3
Vehi	icle LOS	A				
Fac	ility Results					
_	r vmt	VHD)	Follower D	ensity, followers/	LOS





Project Information ATW Date 5/4/2022 Analyst Agency Stantec Analysis Year 2022 Jurisdiction Time Analyzed Existing PM **Project Description** KY 57 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 3833 Segment Type 9 Lane Width, ft Shoulder Width, ft 1 Speed Limit, mi/h 55 Access Point Density, pts/mi 24.7 **Demand and Capacity** 124 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 3.50 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.07 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 51.1 Speed Slope Coefficient (m) 3.31561 Speed Power Coefficient (p) 0.41674 PF Slope Coefficient (m) -1.37832 0.73598 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.6 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** Length, ft Radius, ft Superelevation, % # Segment Type Average Speed, mi/h

1	Tangent	3833	-	-	50.4			
Veh	Vehicle Results							
Avera	age Speed, mi/h	50.4	Percent Followers,	%	25.7			
Segn	nent Travel Time, minutes	0.86	Follower Density (FD), followers/mi/ln	0.6			
Vehic	le LOS	А						
	Segment 2							

Segment Type	Passing Zone	Length, ft	528		
Lane Width, ft	9	Shoulder Width, ft	1		
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.0		
Demand and Capacity					
Demand and Capacity					
Demand and Capacity Directional Demand Flow Rate, veh/h	124	Opposing Demand Flow Rate, veh/h	68		

	Segment Capacity, veh/h 1700		Demand/Capacity (D/C)		0.07
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	54.3
Speed Slope Coefficient (m) 3.13495		13495 Speed Power Coeffi		fficient (p)	0.59025
PF Slope Coefficient (m) -1.27577 P		PF Power Coefficie	ent (p)	0.77756	
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.5
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft Radi		dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	528	-		-	53.9
Vehicle Results					
Average Speed, mi/h	53.9		Percent Followers,	, %	22.3
Segment Travel Time, minutes	0.11		Follower Density ((FD), followers/mi/ln	0.5
Vehicle LOS	A				
		Segn	nent 3		
Vehicle Inputs					
Segment Type	Passing Zone		Length, ft		2580
Lane Width, ft	9		Shoulder Width, ft		6
Speed Limit, mi/h	Limit, mi/h 55		Access Point Dens	Access Point Density, pts/mi	
Demand and Capacity					-
Directional Demand Flow Rate, veh/h	124		Opposing Deman	d Flow Rate, veh/h	68
Peak Hour Factor	0.94		Total Trucks, %		3.50
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.07
Intermediate Results					
Segment Vertical Class	3	3 Free-Flow Speed,		mi/h	59.3
Speed Slope Coefficient (m)	4.16555		Speed Power Coefficient (p)		0.74144
PF Slope Coefficient (m)	-1.14385		PF Power Coefficient (p)		0.81165
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.4
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	2580	-		-	59.0
Vehicle Results					
vennere riesurts	59.0		Percent Followers,	, %	19.0
Average Speed, mi/h	59.0				
	0.50		Follower Density ((FD), followers/mi/ln	0.4

Veł	nicle Inputs					
Segr	egment Type Passing Constrained		Length, ft		1400	
Lane	e Width, ft	12		Shoulder Width, ft	t	6
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		7.7
De	mand and Capacity			-		
Dire	ctional Demand Flow Rate, veh/h	124		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.07
Inte	ermediate Results					
Segr	ment Vertical Class	3		Free-Flow Speed,	mi/h	60.1
Spee	ed Slope Coefficient (m)	4.77922		Speed Power Coet	fficient (p)	0.53696
PF S	lope Coefficient (m)	-1.47099		PF Power Coefficie	ent (p)	0.73766
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.6
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1400	-		-	59.5
Veł	nicle Results				<u>~</u>	
Average Speed, mi/h		59.5	59.5 Percent Fo		%	27.1
Segment Travel Time, minutes		0.27		Follower Density (FD), followers/mi/ln	0.6
Vehicle LOS		A				
		S	egn	nent 5		
Veł	nicle Inputs					
Segr	ment Type	Passing Zone		Length, ft		1399
Lane	e Width, ft	12		Shoulder Width, ft		6
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		7.4
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	124		Opposing Demand Flow Rate, veh/h		68
	Hour Factor	0.94		Total Trucks, %		3.50
Peak	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.07
	nent capacity, ven/in					
Segr	ermediate Results					
Segr		2		Free-Flow Speed,	mi/h	60.6
Segr	ermediate Results	2 3.11550		Free-Flow Speed, Speed Power Coef		60.6 0.64975
Segr Into Segr Spee	ermediate Results ment Vertical Class			· ·	fficient (p)	_
Segr Inte Segr Spee PF S	ermediate Results ment Vertical Class ed Slope Coefficient (m)	3.11550		Speed Power Coet	fficient (p) ent (p)	0.64975

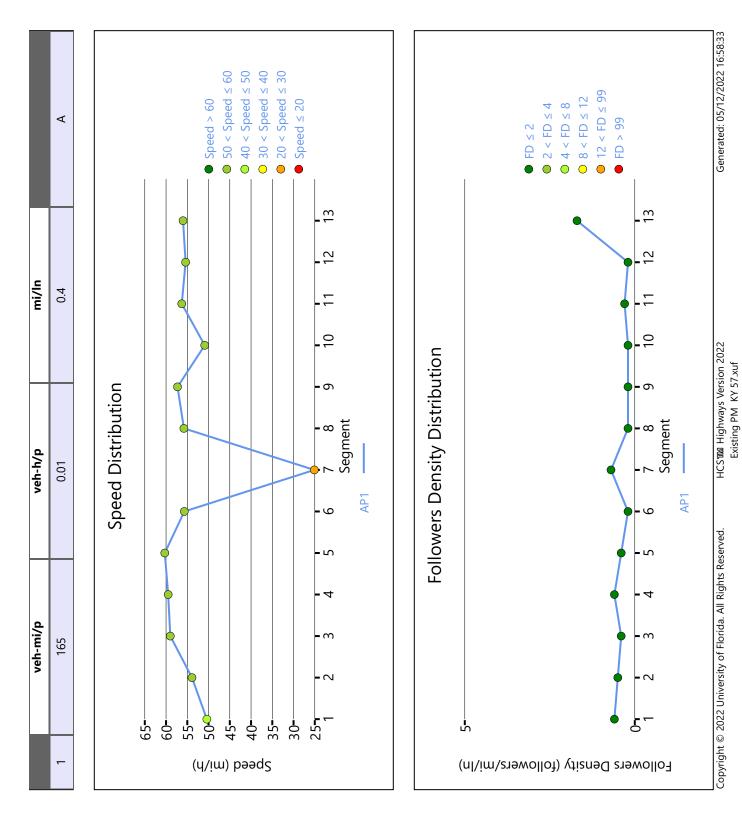
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1399	-		-	60.3
Veł	nicle Results					
Average Speed, mi/h		60.3		Percent Followers, %		21.4
Segment Travel Time, minutes		0.26		Follower Densit	y (FD), followers/mi/ln	0.4
Vehi	cle LOS	A				
			Segr	nent 6		
Veł	nicle Inputs					
Segment Type Passing Constrained		Length, ft		4187		
Lane	e Width, ft	10		Shoulder Width	, ft	1
Spee	eed Limit, mi/h 55 Access Point Density, pts/mi		8.9			
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	74		Opposing Dema	and Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	ment Capacity, veh/h	1700		Demand/Capac	ity (D/C)	0.04
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Spee	d, mi/h	55.7
Speed Slope Coefficient (m)		3.56613		Speed Power Co	pefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.34280		PF Power Coeffi	cient (p)	0.74945
In Pa	assing Lane Effective Length?	No		Total Segment I	Density, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improvement	to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Ra	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	4187	-		-	55.7
Veł	nicle Results					
Aver	age Speed, mi/h	55.7	Percent Followers, %		rs, %	17.4
Segr	nent Travel Time, minutes	0.85		Follower Densit	y (FD), followers/mi/ln	0.2
Vehi	cle LOS	A				
			Segr	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrair	ned	Length, ft		4905
Lane Width, ft 10		Shoulder Width, ft		1		
Spee	ed Limit, mi/h	35		Access Point Density, pts/mi		39.8
Dei	mand and Capacity					•
Dire	ctional Demand Flow Rate, veh/h	74		Opposing Dema	and Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Sear	nent Capacity, veh/h	1700		Demand/Capac	ity (D/C)	0.04

Inte	ermediate Results					
Segment Vertical Class 1 F		Free-Flow Speed, mi/h		25.1		
Spee	eed Slope Coefficient (m) 1.91896 S		Speed Power	Coefficient (p)	0.41674	
PF S	lope Coefficient (m)	-1.32538 P		PF Power Coef	ficient (p)	0.62496
In Pa	assing Lane Effective Length?	No 1		Total Segment	Density, veh/mi/ln	0.7
%lm	provement to Percent Followers	0.0		%Improvemer	t to Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4905	-		-	25.1
Veł	nicle Results				•	
Average Speed, mi/h 25.1 F			Percent Follow	ers, %	23.0	
Segr	nent Travel Time, minutes	2.22		Follower Dens	ity (FD), followers/mi/ln	0.7
Vehi	cle LOS	A				
			Segr	nent 8		
Veł	nicle Inputs					- 1
Segr	nent Type	Passing Zone		Length, ft		1162
Lane	e Width, ft	10		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		8.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	74		Opposing Der	nand Flow Rate, veh/h	40
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700	Demand/Capacity (D/C)		city (D/C)	0.04
Inte	ermediate Results					
Segr	nent Vertical Class	2		Free-Flow Speed, mi/h		55.8
Spee	ed Slope Coefficient (m)	3.11550		Speed Power Coefficient (p)		0.64288
PF S	lope Coefficient (m)	-1.26168		PF Power Coef	ficient (p)	0.77479
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improvemer	t to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1162	-		-	55.8
Veł	nicle Results					
Aver	age Speed, mi/h	55.8		Percent Follow	ers, %	15.5
	nent Travel Time, minutes	0.24		Follower Dens	ity (FD), followers/mi/ln	0.2
Vehi	cle LOS	A				
						1

vei	nicle Inputs					
Segr	egment Type Passing Constrained		Length, ft		8686	
Lane	e Width, ft	12		Shoulder Width, ft	t	1
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	7.3
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	74		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04
Int	ermediate Results			-		
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	57.3
Spee	ed Slope Coefficient (m)	3.69306		Speed Power Coet	fficient (p)	0.41674
PF S	lope Coefficient (m)	-1.31619		PF Power Coefficie	ent (p)	0.73942
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	8686	-		-	57.3
Veł	icle Results					-
Average Speed, mi/h		57.3 Percent Follower		Percent Followers,	%	17.5
Segment Travel Time, minutes		1.72	Follower Density		FD), followers/mi/ln	0.2
Vehicle LOS		A	A			
		S	egm	nent 10		-
Veł	nicle Inputs					
Segr	ment Type	Passing Zone		Length, ft		1177
Lane	e Width, ft	10		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		28.0
_	mand and Capacity					•
Dei	ctional Demand Flow Rate, veh/h	74		Opposing Demand Flow Rate, veh/h		40
	clional Demand Flow Rate, ven/n	0.94		Total Trucks, %		3.50
Dire	K Hour Factor	0.94		Demand/Capacity (D/C)		
Direo Peak		0.94		Demand/Capacity	(D/C)	0.04
Diree Peak Segr	K Hour Factor			Demand/Capacity	(D/C)	0.04
Dired Peak Segr	t Hour Factor ment Capacity, veh/h			Demand/Capacity Free-Flow Speed,		50.9
Dired Peak Segr Into Segr	ermediate Results	1700			mi/h	
Dired Peak Segr Into Segr Spee	t Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class	1700		Free-Flow Speed,	mi/h fficient (p)	50.9
Dired Peak Segr Into Segr Spee PF S	x Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class ed Slope Coefficient (m)	1700 1 1 2.93104		Free-Flow Speed, Speed Power Coe	mi/h fficient (p) ent (p)	50.9 0.60842

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1177	-		-	50.9
Veł	nicle Results					
Average Speed, mi/h 50.9				Percent Follower	s, %	15.7
Segr	nent Travel Time, minutes	0.26		Follower Density	(FD), followers/mi/ln	0.2
Vehi	cle LOS	А				
			Segm	nent 11		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		1420
Lane	e Width, ft	12		Shoulder Width,	ft	1
Spee	ed Limit, mi/h	55		Access Point Der	isity, pts/mi	11.1
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	74		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacit	y (D/C)	0.04
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		56.3
Speed Slope Coefficient (m)		3.56256		Speed Power Co	efficient (p)	0.41674
PF S	lope Coefficient (m)	-1.42277	-1.42277 PI		ient (p)	0.72994
In Pa	assing Lane Effective Length?	No		Total Segment D	ensity, veh/mi/ln	0.3
%Improvement to Percent Followers 0.0				%Improvement t	o Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	1420	-		-	56.3
Veł	nicle Results					
Aver	age Speed, mi/h	56.3		Percent Followers, %		19.2
Segr	nent Travel Time, minutes	0.29		Follower Density (FD), followers/mi/ln		0.3
Vehi	cle LOS	A				
			Segm	nent 12		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		10212
Lane Width, ft 11		Shoulder Width, ft		1		
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		12.4
Der	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	74		Opposing Demand Flow Rate, veh/h		-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Sear	nent Capacity, veh/h	1700		Demand/Capacit	v (D/C)	0.04

Inte	ermediate Results							
				Free-Flow Speed,	· a			
		1				55.4		
		3.60216		Speed Power Coe PF Power Coeffici		0.41674		
					· .	0.72336		
		No		Total Segment De	-	0.2		
%lmj	provement to Percent Followers	0.0		%Improvement to	o Speed	0.0		
Sub	osegment Data							
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	10212	-		-	55.4		
Veh	nicle Results							
Avera	age Speed, mi/h	18.5						
Segn	nent Travel Time, minutes	2.10		Follower Density	(FD), followers/mi/ln	0.2		
Vehio	cle LOS	A						
			Segm	hent 13				
Veh	nicle Inputs							
	nent Type	Passing Constrained		Length, ft	Length, ft			
	Width, ft	11		Shoulder Width, ft		1		
	ed Limit, mi/h	55		Access Point Density, pts/mi		4.0		
Der	mand and Capacity							
	ctional Demand Flow Rate, veh/h	230		Opposing Deman	d Flow Rate, veh/h	-		
	Hour Factor	0.94		Total Trucks, %		3.50		
Segn	nent Capacity, veh/h	1700	1700 Dei		/ (D/C)	0.14		
	ermediate Results					1		
Sean	nent Vertical Class	2		Free-Flow Speed, mi/h		57.3		
	ed Slope Coefficient (m)	3.11550		Speed Power Coe		0.42136		
•	lope Coefficient (m)	-1.52652		PF Power Coefficient (p)		0.71538		
	issing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		1.7		
	provement to Percent Followers			%Improvement to Speed		0.0		
	osegment Data	1		1		1		
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	608	-		-	56.0		
Veh	nicle Results							
Avera	age Speed, mi/h	56.0		Percent Followers	, %	41.3		
	nent Travel Time, minutes	0.12			(FD), followers/mi/ln	1.7		
-	cle LOS	A		,				
Fac	ility Results					1		
	· VMT	VHD		Follower D	ensity, followers/	LOS		



HCS Two-Lane High	way Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Jurisdiction Time Analyzed Existing AM **Project Description** CR 1037 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 2558 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 14.0 **Demand and Capacity** 15 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 18.9 Speed Slope Coefficient (m) 1.55508 Speed Power Coefficient (p) 0.41674 PF Slope Coefficient (m) 0.57790 -1.27783PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.1 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 2558 18.9 **Vehicle Results** 10.6 Percent Followers, % Average Speed, mi/h 18.9 Segment Travel Time, minutes 1.54 Follower Density (FD), followers/mi/In 0.1 Vehicle LOS А **Facility Results**

т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/In	LOS
1	2	0.00	0.1	А

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HCS Two-Lane High	way Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Existing PM Jurisdiction Time Analyzed **Project Description** CR 1037 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 2558 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 14.0 **Demand and Capacity** 18 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 18.9 Speed Slope Coefficient (m) 1.55508 Speed Power Coefficient (p) 0.41674 0.57790 PF Slope Coefficient (m) -1.27783PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.1 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 2558 18.9 **Vehicle Results** Percent Followers, % 11.6 Average Speed, mi/h 18.9 Segment Travel Time, minutes 1.54 Follower Density (FD), followers/mi/In 0.1 Vehicle LOS А **Facility Results**

т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	2	0.00	0.1	А

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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Jurisdiction Time Analyzed Existing AM **Project Description** CR 1036 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 3025 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 12.1 **Demand and Capacity** 20 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 19.4 Speed Slope Coefficient (m) 1.58682 Speed Power Coefficient (p) 0.41674 -1.27434 0.58479 PF Slope Coefficient (m) PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.1 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 3025 19.4 **Vehicle Results** 12.2 Percent Followers, % Average Speed, mi/h 19.4 Segment Travel Time, minutes 1.77 Follower Density (FD), followers/mi/In 0.1 Vehicle LOS А **Facility Results**

т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	3	0.00	0.1	А

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Proje	ect Information					
Analyst	t	ATW	ATW Date		5/4/2022	
Agency	/	Stantec	Aı	Analysis Year		2022
Jurisdic	tion		Ti	Time Analyzed		Existing PM
Project	Description	CR 1036	U	nits		U.S. Customary
		S	egme	nt 1		
Vehic	le Inputs					
Segme	nt Type	Passing Constrained	Le	ength, ft		3025
Lane W	/idth, ft	9	Sł	noulder Width, f	t	0
Speed	Limit, mi/h	25	A	ccess Point Dens	sity, pts/mi	12.1
Dema	and and Capacity					
Directio	onal Demand Flow Rate, veh/h	15	0	pposing Deman	d Flow Rate, veh/h	-
Peak H	our Factor	0.94	Tc	Total Trucks, %		2.00
Segme	nt Capacity, veh/h	1700		Demand/Capacity (D/C)		0.01
Inter	mediate Results					
Segment Vertical Class		1		Free-Flow Speed, mi/h		19.4
Speed Slope Coefficient (m)		1.58682		Speed Power Coefficient (p)		0.41674
PF Slop	e Coefficient (m)	-1.27434	PF	Power Coefficie	ent (p)	0.58479
In Passi	ing Lane Effective Length?	ne Effective Length? No Total Segment Density, veh/mi/ln		0.1		
%Impro	ovement to Percent Followers	0.0	%Improvement to Speed		0.0	
Subs	egment Data					
# S	egment Type	Length, ft	Radius	, ft	Superelevation, %	Average Speed, mi/h
1 Ta	angent	3025	-	-		19.4
Vehic	le Results					
Averag	e Speed, mi/h	19.4	Pe	Percent Followers, %		10.3
Segment Travel Time, minutes		1.77		Follower Density (FD), followers/mi/ln		0.1
Vehicle LOS A		A				
Facili	ty Results					
т	VMT veh-mi/p	VHD veh-h/p		Follower Density, followers/ mi/In		LOS
1	2	0.00		1	0.1	А

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HCS Two-Lane Hi	ghway Report
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Projec	t Information					
Analyst		ATW D		Date		5/4/2022
Agency		Stantec		Analysis Year		2022
Jurisdicti	ion			Time Analyzed		Existing AM
Project D	Description	CR 1030	Ur	nits		U.S. Customary
		Se	egmei	nt 1		
Vehicl	e Inputs					
Segment	t Type	Passing Constrained	Le	ngth, ft		4172
Lane Wid	dth, ft	9	Sh	oulder Width, ft	t	0
Speed Li	imit, mi/h	25	Ac	ccess Point Dens	ity, pts/mi	7.6
Dema	nd and Capacity					
Directior	nal Demand Flow Rate, veh/h	13	Op	pposing Deman	d Flow Rate, veh/h	-
Peak Ho	ur Factor	0.94	То	Total Trucks, %		2.00
Segment Capacity, veh/h 1700		De	Demand/Capacity (D/C)		0.01	
Intern	nediate Results					
Segment Vertical Class		1		Free-Flow Speed, mi/h		20.5
Speed SI	lope Coefficient (m)	1.66165		Speed Power Coefficient (p)		0.41674
PF Slope	e Coefficient (m)	-1.27316		PF Power Coefficient (p)		0.59682
In Passing Lane Effective Length?		No		Total Segment Density, veh/mi/ln		0.1
%Improv	vement to Percent Followers	0.0		%Improvement to Speed		0.0
Subse	gment Data					
# Se	gment Type	Length, ft	Radius,	ft	Superelevation, %	Average Speed, mi/h
1 Tai	ngent	4172	-	-		20.5
Vehicl	e Results	•			8	
Average	Speed, mi/h	20.5		Percent Followers, %		9.2
Segment	t Travel Time, minutes	2.31		Follower Density (FD), followers/mi/ln		0.1
Vehicle L	_OS	A				
Facilit	y Results					
т	VMT veh-mi/p	VHD veh-h/p		Follower Density, followers/ mi/ln		LOS
		0.00			0.1	А

Existing AM CR 1030.xuf

Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2022 Jurisdiction Time Analyzed Existing PM Units **Project Description** CR 1030 U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 4172 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 7.6 **Demand and Capacity** 12 Directional Demand Flow Rate, veh/h Opposing Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 20.5 Speed Slope Coefficient (m) 1.66165 Speed Power Coefficient (p) 0.41674 0.59682 PF Slope Coefficient (m) -1.27316PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.0 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 4172 20.5 1 **Vehicle Results** Percent Followers, % 8.6 Average Speed, mi/h 20.5 0.0 Segment Travel Time, minutes 2.31 Follower Density (FD), followers/mi/In Vehicle LOS А **Facility Results** Follower Density, followers/ Т VMT VHD LOS mi/ln veh-mi/p veh-h/p 1 2 0.0 0.00 А

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CONSTRUCTION

Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Construction AM Jurisdiction Time Analyzed **Project Description** CR 1027 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 2575 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 6.1 **Demand and Capacity** 41 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 20.9 Speed Slope Coefficient (m) 1.66210 Speed Power Coefficient (p) 0.41674 PF Slope Coefficient (m) 0.59048 -1.30998PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.4 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 2575 20.9 **Vehicle Results** 18.1 20.9 Percent Followers, % Average Speed, mi/h Segment Travel Time, minutes 1.40 Follower Density (FD), followers/mi/In 0.4

Facility Results

Vehicle LOS

т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	5	0.00	0.4	А

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Project Inf	formation					
Analyst		ATW	C	Date		5/4/2022
Agency		Stantec	A	Analysis Year		2023
Jurisdiction			Т	Time Analyzed		Construction PM
Project Descrip	otion	CR 1027	ι	Jnits		U.S. Customary
		S	egme	ent 1		
Vehicle Inj	outs					
Segment Type		Passing Constrained	L	Length, ft		2575
Lane Width, ft		9	S	Shoulder Width, f	t	0
Speed Limit, m	i/h	25	A	Access Point Dens	ity, pts/mi	6.1
Demand a	nd Capacity					
Directional De	mand Flow Rate, veh/h	54	C	Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Fac	tor	0.94	Т	Fotal Trucks, %		2.00
Segment Capa	icity, veh/h	1700	C	Demand/Capacity	(D/C)	0.03
Intermedia	ate Results					
Segment Verti	cal Class	1	F	ree-Flow Speed,	mi/h	20.9
Speed Slope C	oefficient (m)	1.66210	5	Speed Power Coefficient (p)		0.41674
PF Slope Coeff	ficient (m)	-1.30998	F	PF Power Coefficient (p)		0.59048
In Passing Lan	e Effective Length?	No	T	lotal Segment De	nsity, veh/mi/ln	0.5
%Improvemen	t to Percent Followers	0.0	9	%Improvement to	Speed	0.0
Subsegme	ent Data					
# Segmen	t Туре	Length, ft	Radiu	s, ft	Superelevation, %	Average Speed, mi/h
1 Tangent		2575	-		-	20.9
Vehicle Re	sults				-	
Average Speed	d, mi/h	20.9	F	Percent Followers,	%	20.9
Segment Trave	el Time, minutes	1.40	F	ollower Density (FD), followers/mi/ln	0.5
Vehicle LOS		A				
Facility Re	sults					
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS
1	6	0.00			0.5	A
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HCS Two-Lane	Highway	Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed Construction AM **Project Description** KY 3301 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 1584 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 55 Access Point Density, pts/mi 33.3 **Demand and Capacity** Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h 36 _ Peak Hour Factor 0.94 Total Trucks, % 0.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 48.4 Speed Slope Coefficient (m) 3.13556 Speed Power Coefficient (p) 0.41674 0.71076 PF Slope Coefficient (m) -1.46639 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.1 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 1584 48.4 1 **Vehicle Results** 12.9 48.4 Percent Followers, % Average Speed, mi/h 0.37 Segment Travel Time, minutes Follower Density (FD), followers/mi/In 0.1 А Vehicle LOS Segment 2

Segment Type	Passing Zone	Length, ft	1732		
Lane Width, ft	9	Shoulder Width, ft	0		
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.2		
Demand and Capacity					
Demand and Capacity					
Demand and Capacity Directional Demand Flow Rate, veh/h	36	Opposing Demand Flow Rate, veh/h	26		

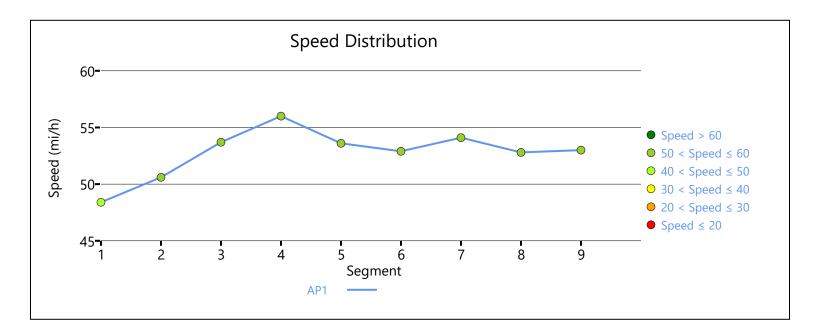
Segment Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.02
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	50.6
Speed Slope Coefficient (m)	2.91212		Speed Power Coe	Speed Power Coefficient (p)	
PF Slope Coefficient (m)	-1.23351		PF Power Coefficie	PF Power Coefficient (p)	
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
%Improvement to Percent Followers	0.0		%Improvement to Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	1732	-		-	50.6
Vehicle Results					
Average Speed, mi/h 50.6		Percent Followers	, %	8.8	
Segment Travel Time, minutes	0.39		Follower Density	(FD), followers/mi/ln	0.1
Vehicle LOS	A				
		Segn	nent 3		
Vehicle Inputs					
Segment Type	Passing Constrai	ined	Length, ft		1056
Lane Width, ft	9		Shoulder Width, ft		0
Speed Limit, mi/h	55		Access Point Density, pts/mi		12.0
Demand and Capacity	-				
Directional Demand Flow Rate, veh/h	36		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.94		Total Trucks, %		0.00
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.02
Intermediate Results	-				
Segment Vertical Class	1		Free-Flow Speed, mi/h		53.7
Speed Slope Coefficient (m)	3.41926		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)	-1.44983		PF Power Coefficient (p)		0.72120
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	1056	-		-	53.7
Vehicle Results					
Average Speed, mi/h	53.7		Percent Followers	, %	12.3
Segment Travel Time, minutes	0.22		Follower Density	(FD), followers/mi/ln	0.1
Vehicle LOS	A				
		Sean	nent 4		

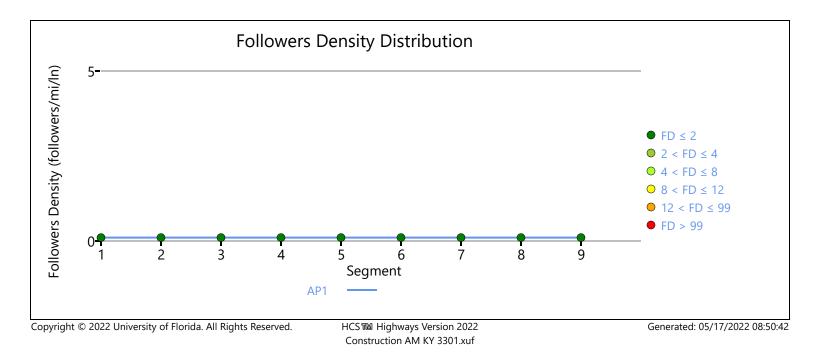
veil	icle Inputs				
6	-				1796
-	nent Type	Passing Zone	Length, ft	Shoulder Width, ft	
	Width, ft	9 55		Access Point Density, pts/mi	
	d Limit, mi/h	55	Access Point Den	sity, pts/mi	2.9
Den	nand and Capacity				
Direc	tional Demand Flow Rate, veh/h	36	Opposing Demar	Opposing Demand Flow Rate, veh/h	
Peak	Hour Factor	0.94	Total Trucks, %		0.00
Segm	nent Capacity, veh/h	1700	Demand/Capacity	y (D/C)	0.02
Inte	ermediate Results				
Segn	nent Vertical Class	1	Free-Flow Speed,	mi/h	56.0
Spee	peed Slope Coefficient (m) 3.20182 S		Speed Power Coe	efficient (p)	0.62113
PF SI	ope Coefficient (m)	-1.21865	PF Power Coeffici	ent (p)	0.79846
In Pa	ssing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	0.1
%lmp	provement to Percent Followers	0.0	%Improvement to	o Speed	0.0
Sub	segment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1796	-	-	56.0
Veh	icle Results	-		1	1
Avera	age Speed, mi/h	56.0	Percent Followers	5, %	8.2
Segn	nent Travel Time, minutes	0.36	Follower Density	(FD), followers/mi/ln	0.1
Vehic	cle LOS	A			
		Se	egment 5		-
Veh	icle Inputs				
Vehicle Inputs					
	nent Type	Passing Constrained	Length, ft		2565
Segn	nent Type Width, ft	Passing Constrained	Length, ft Shoulder Width, f	ft	2565
Segm Lane					
Segm Lane Spee	Width, ft	9	Shoulder Width, 1		0
Segm Lane Speer Den	Width, ft d Limit, mi/h	9	Shoulder Width, f		0
Segm Lane Speer Den Direc	Width, ft d Limit, mi/h nand and Capacity	9 55	Shoulder Width, f	sity, pts/mi	0 12.2
Segm Lane Spee Den Direc Peak	Width, ft d Limit, mi/h mand and Capacity tional Demand Flow Rate, veh/h	9 55 36	Shoulder Width, f	sity, pts/mi nd Flow Rate, veh/h	0 12.2 -
Segm Lane Speer Der Direc Peak Segm	Width, ft d Limit, mi/h mand and Capacity tional Demand Flow Rate, veh/h Hour Factor	9 55 36 0.94	Opposing Demar Total Trucks, %	sity, pts/mi nd Flow Rate, veh/h	0 12.2 - 0.00
Segm Lane Spee Direc Direc Peak Segm Inte	Width, ft d Limit, mi/h mand and Capacity tional Demand Flow Rate, veh/h Hour Factor ment Capacity, veh/h ermediate Results	9 55 36 0.94 1700	Shoulder Width, f Access Point Den Opposing Demar Total Trucks, % Demand/Capacity	sity, pts/mi nd Flow Rate, veh/h y (D/C)	0 12.2 - 0.00 0.02
Segm Lane Speed Direc Peak Segm Segm	Width, ft d Limit, mi/h mand and Capacity nand and Capacity tional Demand Flow Rate, veh/h Hour Factor nent Capacity, veh/h ermediate Results nent Vertical Class	9 55 36 0.94 1700	Shoulder Width, f Access Point Den Opposing Demar Total Trucks, % Demand/Capacity Free-Flow Speed,	sity, pts/mi nd Flow Rate, veh/h y (D/C) mi/h	0 12.2 - 0.00
Segm Lane Speed Direct Peak Segm Segm Speed	Width, ft d Limit, mi/h mand and Capacity and Demand Flow Rate, veh/h Hour Factor ment Capacity, veh/h crmediate Results ment Vertical Class d Slope Coefficient (m)	9 55 36 0.94 1700 1 3.43628	Shoulder Width, f Access Point Den Opposing Demar Total Trucks, % Demand/Capacity Free-Flow Speed, Speed Power Coe	sity, pts/mi nd Flow Rate, veh/h y (D/C) mi/h efficient (p)	0 12.2 - 0.00 0.02 53.6 0.41674
Segm Lane Speed Direc Peak Segm Segm Speed PF Slo	Width, ft d Limit, mi/h mand and Capacity tional Demand Flow Rate, veh/h Hour Factor nent Capacity, veh/h ermediate Results nent Vertical Class d Slope Coefficient (m) ope Coefficient (m)	9 55 36 0.94 1700	Shoulder Width, f Access Point Den Opposing Demar Total Trucks, % Demand/Capacity Free-Flow Speed, Speed Power Coe PF Power Coeffici	sity, pts/mi ad Flow Rate, veh/h y (D/C) mi/h efficient (p) ent (p)	0 12.2 - 0.00 0.02 53.6
Segm Lane Speed Direc Peak Segm Segm Speed PF Slo In Pat	Width, ft d Limit, mi/h mand and Capacity and Demand Flow Rate, veh/h Hour Factor ment Capacity, veh/h crmediate Results ment Vertical Class d Slope Coefficient (m)	9 55 36 0.94 1700 1 3.43628 -1.39290	Shoulder Width, f Access Point Den Opposing Demar Total Trucks, % Demand/Capacity Free-Flow Speed, Speed Power Coe	sity, pts/mi ad Flow Rate, veh/h y (D/C) mi/h efficient (p) ent (p) ensity, veh/mi/ln	0 12.2 - 0.00 0.02 53.6 0.41674 0.73652

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2565	-		-	53.6
Veł	nicle Results					
Aver	age Speed, mi/h	53.6		Percent Follower	rs, %	11.3
Segr	nent Travel Time, minutes	0.54		Follower Density (FD), followers/mi/In		0.1
Vehi	cle LOS	A				
			Segr	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		2067
Lane	e Width, ft	9		Shoulder Width,	ft	0
Spee	ed Limit, mi/h	55		Access Point Der	nsity, pts/mi	15.4
Dei	mand and Capacity					
Directional Demand Flow Rate, veh/h 36		Opposing Dema	nd Flow Rate, veh/h	26		
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Segr	nent Capacity, veh/h	1700		Demand/Capaci	ty (D/C)	0.02
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed	l, mi/h	52.9
Spee	ed Slope Coefficient (m)	3.03763		Speed Power Co	efficient (p)	0.62113
PF S	lope Coefficient (m)	-1.21680	.21680 PF Power Coeffic		cient (p)	0.79330
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%lm	provement to Percent Followers	0.0		%Improvement	to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2067	-		-	52.9
Veł	nicle Results					
Aver	age Speed, mi/h	52.9		Percent Followers, %		8.3
Segr	nent Travel Time, minutes	0.44		Follower Density (FD), followers/mi/ln		0.1
Vehi	cle LOS	A				
			Segr	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		4526
	Width, ft	9		Shoulder Width,	ft	0
Spee	ed Limit, mi/h	55		Access Point Der	nsity, pts/mi	10.5
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	36		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Sear	nent Capacity, veh/h	1700		Demand/Capaci	ty (D/C)	0.02

Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Spe	ed, mi/h	54.1
Spee	ed Slope Coefficient (m)	3.48395		Speed Power C	Coefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.35008		PF Power Coefficient (p)		0.74489
In Pa	issing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4526	-		-	54.1
Veł	nicle Results	-				•
Aver	age Speed, mi/h	54.1		Percent Follow	ers, %	10.7
Segr	nent Travel Time, minutes	0.95	0.95		ty (FD), followers/mi/ln	0.1
Vehi	cle LOS	A				
			Segn	nent 8		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		3016
Lane	Width, ft	9		Shoulder Width, ft		0
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		15.8
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	36		Opposing Demand Flow Rate, veh/h		26
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Segr	nent Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.02
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		52.8
Spee	ed Slope Coefficient (m)	3.04547		Speed Power Coefficient (p)		0.62113
PF S	lope Coefficient (m)	-1.19121		PF Power Coef	ficient (p)	0.80322
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3016	-		-	52.8
Veł	nicle Results					
Aver	age Speed, mi/h	52.8		Percent Follow	ers, %	7.9
	nent Travel Time, minutes	0.65			ty (FD), followers/mi/ln	0.1
	cle LOS	A				
		1		1		

Vehicl	e Inputs					
Segment	t Туре	Passing Constrained		Length, ft		3185
Lane Wid	dth, ft	9		Shoulder Width, ft		0
Speed Li	mit, mi/h	55		Access Point Density, pts/mi		15.0
Dema	nd and Capacity					
Directior	nal Demand Flow Rate, veh/h	34		Opposing Deman	-	
Peak Ho	eak Hour Factor 0.94 T		Total Trucks, %		0.00	
Segment	t Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.02
Interm	nediate Results	-				
Segment	t Vertical Class	1		Free-Flow Speed, mi/h		53.0
Speed SI	ope Coefficient (m)	3.40708		Speed Power Coefficient (p)		0.41674
PF Slope	Coefficient (m)	-1.38055		PF Power Coefficient (p)		0.73849
In Passin	g Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%Improv	vement to Percent Followers	0.0		%Improvement to	o Speed	0.0
Subse	gment Data					
# Se	gment Type	Length, ft	Radiu	us, ft	Superelevation, %	Average Speed, mi/h
1 Tar	ngent	3185	-		-	53.0
Vehicl	e Results					
Average	Speed, mi/h	53.0		Percent Followers, %		10.8
Segment	t Travel Time, minutes	0.68		Follower Density (FD), followers/mi/ln		0.1
Vehicle L	.OS	A				
Facilit	y Results					
т	VMT veh-mi/p	VHD veh-h/p		Follower D	ensity, followers/ mi/ln	LOS
1	34	0.00			0.1	A





HCS Two-Lane	Highway	Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Construction PM Jurisdiction Time Analyzed **Project Description** KY 3301 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 1584 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 55 Access Point Density, pts/mi 33.3 **Demand and Capacity** 37 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 0.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 48.4 Speed Slope Coefficient (m) 3.13556 Speed Power Coefficient (p) 0.41674 0.71076 PF Slope Coefficient (m) -1.46639 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.1 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 1584 48.4 1 **Vehicle Results** 48.4 Percent Followers, % 13.2 Average Speed, mi/h 0.37 Segment Travel Time, minutes Follower Density (FD), followers/mi/In 0.1 А Vehicle LOS Segment 2

Segment Type	Passing Zone	Length, ft	1732		
Lane Width, ft	9	Shoulder Width, ft	0		
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.2		
Demand and Capacity					
Directional Demand Flow Rate, veh/h	37	Opposing Demand Flow Rate, veh/h	26		

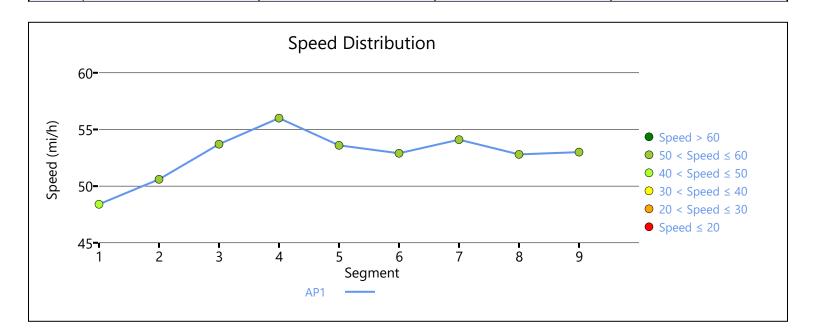
egment Capacity, veh/h 1700		Demand/Capacity	/ (D/C)	0.02	
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	50.6
Speed Slope Coefficient (m)	2.91212		Speed Power Coe	fficient (p)	0.62113
PF Slope Coefficient (m)	-1.23351	-1.23351 I		PF Power Coefficient (p)	
In Passing Lane Effective Length?	No	No		Total Segment Density, veh/mi/ln	
%Improvement to Percent Followers	0.0	0.0		Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	1732	-		-	50.6
Vehicle Results					
Average Speed, mi/h	50.6		Percent Followers	, %	9.0
Segment Travel Time, minutes	0.39		Follower Density	(FD), followers/mi/ln	0.1
Vehicle LOS	A				
		Segn	nent 3		
Vehicle Inputs					
Segment Type	Passing Constrain	ned	Length, ft		1056
Lane Width, ft	9		Shoulder Width, ft		0
Speed Limit, mi/h	55	55		Access Point Density, pts/mi	
Demand and Capacity					
Directional Demand Flow Rate, veh/h	37		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.94		Total Trucks, %		0.00
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.02
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		53.7
Speed Slope Coefficient (m)	3.41926		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)	-1.44983		PF Power Coefficient (p)		0.72120
In Passing Lane Effective Length?	No		Total Segment De	Total Segment Density, veh/mi/ln	
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	1056	-		-	53.7
Vehicle Results					
Average Speed, mi/h	53.7		Percent Followers	, %	12.7
Segment Travel Time, minutes	0.22		Follower Density	(FD), followers/mi/ln	0.1
Vehicle LOS	A				
		Sean	nent 4		

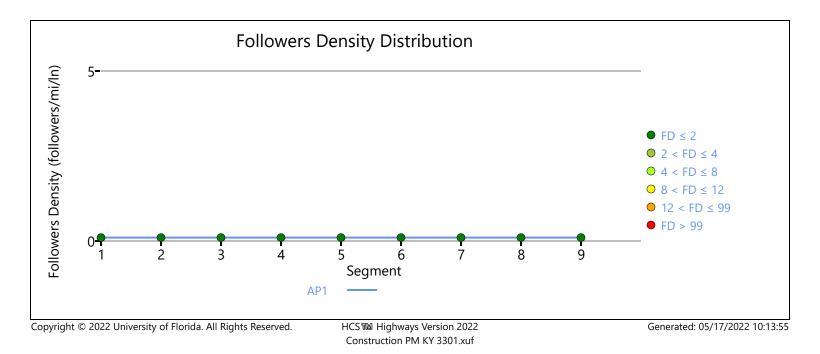
VONICIO INNI	ite					
Vehicle Inpu		Dessing Zara		Longth ft		1700
Segment Type		Passing Zone		Length, ft Shoulder Width, ft		1796
Lane Width, ft		9		· · ·		0
Speed Limit, mi/		55		Access Point Density, pts/mi		2.9
Demand an	d Capacity					
Directional Dem	and Flow Rate, veh/h	37 (Opposing Deman	d Flow Rate, veh/h	26
Peak Hour Factor	r	0.94 1		Total Trucks, %		0.00
Segment Capacit	ty, veh/h	1700		Demand/Capacity	(D/C)	0.02
Intermediat	te Results					
Segment Vertica	l Class	1		Free-Flow Speed,	mi/h	56.0
Speed Slope Coe	efficient (m)	3.20182		Speed Power Coet	fficient (p)	0.62113
PF Slope Coeffici	ient (m)	-1.21865		PF Power Coefficie	ent (p)	0.79846
In Passing Lane I	Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
%Improvement 1	to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegmen	t Data					
# Segment T	Гуре	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent		1796	-		-	56.0
Vehicle Resu	ults	-			1	-
Average Speed, I	mi/h	56.0		Percent Followers,	%	8.4
Segment Travel	Time, minutes	0.36		Follower Density (FD), followers/mi/ln		0.1
Vehicle LOS		A				
		S	egn	nent 5		•
Vehicle Inpu	uts					
- Segment Type		Passing Constrained	assing Constrained Length, ft			2565
Lane Width, ft		9		Shoulder Width, ft		0
Speed Limit, mi/	h	55		Access Point Density, pts/mi		12.2
Demand an	d Capacity					
		37		Opposing Demand Flow Rate, veh/h		-
Directional Dema	and Flow Rate, ven/h	37		Total Trucks, %		
Directional Dema Peak Hour Factor		0.94		Total Trucks, %		0.00
	r			Total Trucks, % Demand/Capacity	(D/C)	0.00
Peak Hour Factor	r ty, veh/h	0.94			(D/C)	
Peak Hour Factor Segment Capacit	r ty, veh/h t e Results	0.94 1700		Demand/Capacity		0.02
Peak Hour Factor Segment Capacit Intermediat Segment Vertica	r ty, veh/h t e Results I Class	0.94 1700		Demand/Capacity	mi/h	0.02 53.6
Peak Hour Factor Segment Capacit Intermediat Segment Vertica Speed Slope Coe	r ty, veh/h t e Results I Class efficient (m)	0.94 1700 1 1 3.43628		Demand/Capacity Free-Flow Speed, Speed Power Coef	mi/h fficient (p)	0.02 53.6 0.41674
Peak Hour Factor Segment Capacit Intermediat Segment Vertica Speed Slope Coe PF Slope Coeffici	r ty, veh/h t e Results I Class efficient (m) ient (m)	0.94 1700 1 3.43628 -1.39290		Demand/Capacity Free-Flow Speed, Speed Power Coefficie	mi/h fficient (p) ent (p)	0.02 53.6 0.41674 0.73652
Peak Hour Factor Segment Capacit Intermediat Segment Vertica Speed Slope Coe PF Slope Coeffici In Passing Lane B	r ty, veh/h t e Results I Class efficient (m)	0.94 1700 1 1 3.43628		Demand/Capacity Free-Flow Speed, Speed Power Coef	mi/h fficient (p) ent (p) nsity, veh/mi/ln	0.02 53.6 0.41674

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2565	-		-	53.6
Veł	nicle Results					
Aver	age Speed, mi/h	53.6		Percent Followers, %		11.6
Segr	nent Travel Time, minutes	0.54		Follower Density (FD), followers/mi/In		0.1
Vehi	cle LOS	A				
			Segn	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		2067
Lane	Width, ft	9		Shoulder Width	n, ft	0
Spee	ed Limit, mi/h	55		Access Point De	ensity, pts/mi	15.4
Der	mand and Capacity					·
Dire	ctional Demand Flow Rate, veh/h	37		Opposing Dem	and Flow Rate, veh/h	26
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Segr	nent Capacity, veh/h	1700		Demand/Capac	ity (D/C)	0.02
Inte	ermediate Results	<u>.</u>				·
Segment Vertical Class 1 Free-Flow Speed, mi/h			d, mi/h	52.9		
Spee	ed Slope Coefficient (m)	3.03763		Speed Power C	oefficient (p)	0.62113
PF SI	lope Coefficient (m)	-1.21680		PF Power Coeff	icient (p)	0.79330
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Sub	osegment Data			-		
#	Segment Type	Length, ft	Rad	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	2067	-		-	52.9
Veł	nicle Results	·			·	
Aver	age Speed, mi/h	52.9		Percent Followers, %		8.6
Segr	nent Travel Time, minutes	0.44		Follower Density (FD), followers/mi/ln		0.1
Vehi	cle LOS	A				
			Segn	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ned	Length, ft		4526
Lane	e Width, ft	9		Shoulder Width, ft		0
Spee	ed Limit, mi/h	55		Access Point De	ensity, pts/mi	10.5
Der	mand and Capacity					
	ctional Demand Flow Rate, veh/h	37		Opposing Dem	and Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Sear	nent Capacity, veh/h	1700		Demand/Capac	tity (D/C)	0.02

Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Spe	ed, mi/h	54.1
Spee	ed Slope Coefficient (m)	3.48395		Speed Power (Coefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.35008		PF Power Coefficient (p)		0.74489
In Pa	ssing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.1
%lm	provement to Percent Followers	0.0		%Improvemen	t to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft Radi		dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4526 -			-	54.1
Veł	nicle Results	·			•	
Aver	age Speed, mi/h	54.1		Percent Follow	ers, %	11.0
Segr	nent Travel Time, minutes	0.95		Follower Dens	ty (FD), followers/mi/ln	0.1
Vehi	cle LOS	A				
			Segn	nent 8		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		3016
Lane	Width, ft	9		Shoulder Width, ft		0
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		15.8
Dei	mand and Capacity					·
Dire	ctional Demand Flow Rate, veh/h	37		Opposing Demand Flow Rate, veh/h		26
Peak	Hour Factor	0.94		Total Trucks, %		0.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.02
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		52.8
Spee	ed Slope Coefficient (m)	3.04547		Speed Power Coefficient (p)		0.62113
PF S	lope Coefficient (m)	-1.19121		PF Power Coef	ficient (p)	0.80322
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.1
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Suk	osegment Data	·				·
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3016	-		-	52.8
Veł	nicle Results					-
Aver	age Speed, mi/h	52.8		Percent Follow	ers, %	8.1
	nent Travel Time, minutes	0.65			ty (FD), followers/mi/ln	0.1
	cle LOS	A				

Vehi	cle Inputs					
Segme	ent Type	Passing Constrained		Length, ft		3185
Lane V	Width, ft	9	9 5		t	0
Speed	l Limit, mi/h	55		Access Point Dens	sity, pts/mi	15.0
Dem	and and Capacity					
Direct	ional Demand Flow Rate, veh/h	40		Opposing Deman	d Flow Rate, veh/h	-
Peak H	Hour Factor	0.94	-	Total Trucks, %		0.00
Segme	ent Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.02
Inte	rmediate Results	•				
Segme	ent Vertical Class	1		Free-Flow Speed,	mi/h	53.0
Speed	Speed Slope Coefficient (m) 3.40708			Speed Power Coefficient (p)		0.41674
PF Slo	pe Coefficient (m)	-1.38055		PF Power Coefficient (p)		0.73849
In Pas	sing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%Imp	rovement to Percent Followers	0.0	· ·	%Improvement to Speed		0.0
Subs	segment Data					
#	Segment Type	Length, ft	Radiu	us, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3185	-	-		53.0
Vehi	cle Results					
Avera	ge Speed, mi/h	53.0		Percent Followers, %		12.1
Segme	ent Travel Time, minutes	0.68		Follower Density ((FD), followers/mi/ln	0.1
Vehicl	e LOS	A				
Facil	lity Results					
т	VMT veh-mi/p	VHD veh-h/p		Follower Density, followers/ mi/ln		LOS
1	36	0.00			0.1	А





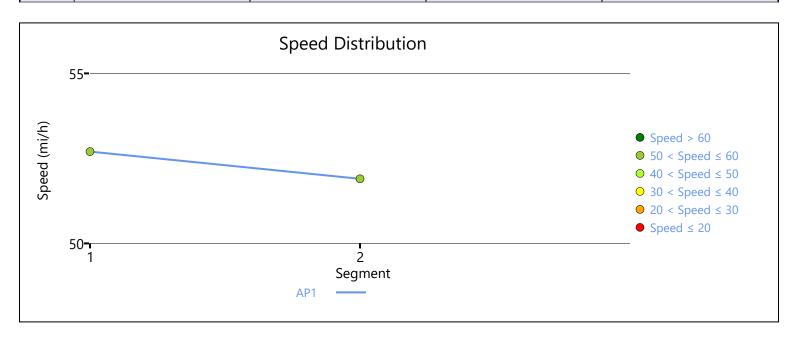
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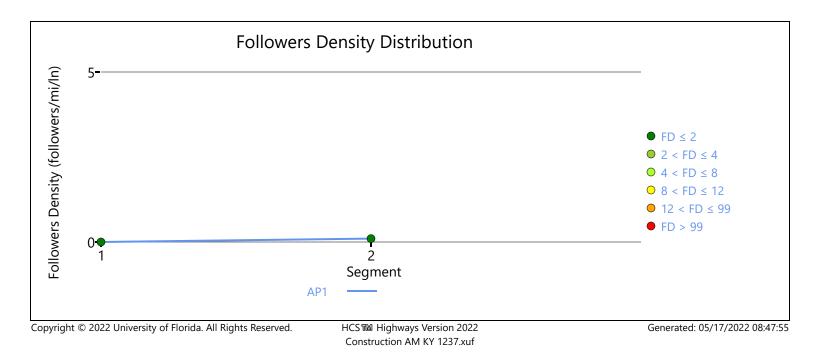
Project Information Analyst ATW 5/4/2022 Date Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed Construction AM **Project Description** KY 1237 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 8337 Segment Type 9 Lane Width, ft Shoulder Width, ft 1 Speed Limit, mi/h 55 Access Point Density, pts/mi 18.4 **Demand and Capacity** 19 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 52.7 Speed Slope Coefficient (m) 3.44540 Speed Power Coefficient (p) 0.41674 -1.34677 0.72875 PF Slope Coefficient (m) PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.0 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 8337 52.7 1 **Vehicle Results** 7.3 52.7 Percent Followers, % Average Speed, mi/h 0.0 Segment Travel Time, minutes 1.80 Follower Density (FD), followers/mi/In А Vehicle LOS

Segment 2

Segment Type	Passing Constrained	Length, ft	8264			
Lane Width, ft	9	Shoulder Width, ft	1			
Speed Limit, mi/h	55	Access Point Density, pts/mi	21.7			
Demand and Capacity						
Demand and Capacity						
Demand and Capacity Directional Demand Flow Rate, veh/h	36	Opposing Demand Flow Rate, veh/h	-			

Segme	ent Capacity, veh/h	1700	De	mand/Capacity	(D/C)	0.02	
Inter	rmediate Results						
Segme	ent Vertical Class	1	Fre	e-Flow Speed,	mi/h	51.9	
Speed	Slope Coefficient (m)	3.40003		eed Power Coef	fficient (p)	0.41674	
PF Slo	pe Coefficient (m)	-1.35159	PF	Power Coefficie	ent (p)	0.72676	
In Pass	sing Lane Effective Length?	No	Tot	tal Segment De	nsity, veh/mi/ln	0.1	
%lmpr	rovement to Percent Followers	0.0	%I	mprovement to	Speed	0.0	
Subsegment Data							
# !	Segment Type	Length, ft	Radius,	ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	8264	-		-	51.9	
Vehi	cle Results						
Averag	ge Speed, mi/h	51.9	Pe	Percent Followers, %		11.3	
Segme	ent Travel Time, minutes	1.81	Fo	Follower Density (FD), followers/mi/ln		0.1	
Vehicle	e LOS	A					
Facil	ity Results	•					
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS	
1	20	0.00			0.1	А	





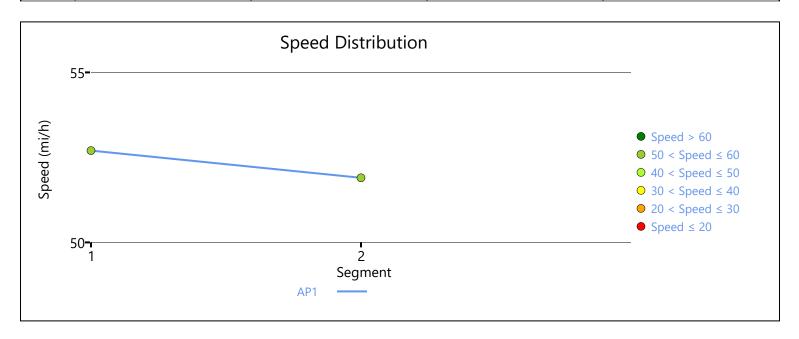
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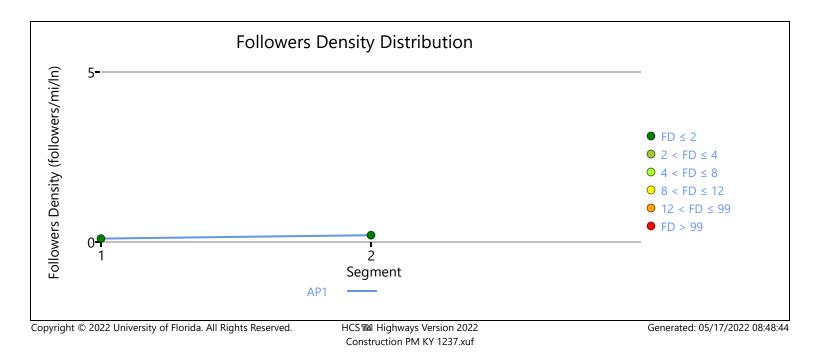
Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed **Construction PM Project Description** KY 1237 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 8337 Segment Type 9 Lane Width, ft Shoulder Width, ft 1 Speed Limit, mi/h 55 Access Point Density, pts/mi 18.4 **Demand and Capacity** 32 Directional Demand Flow Rate, veh/h Opposing Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 52.7 Speed Slope Coefficient (m) 3.44540 Speed Power Coefficient (p) 0.41674 -1.34677 0.72875 PF Slope Coefficient (m) PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.1 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 8337 52.7 1 **Vehicle Results** 10.3 52.7 Percent Followers, % Average Speed, mi/h Segment Travel Time, minutes 1.80 Follower Density (FD), followers/mi/In 0.1 А Vehicle LOS

Segment 2

Segment Type	Passing Constrained	Length, ft	8264
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	21.7
Demand and Capacity	1	1	
Demand and Capacity Directional Demand Flow Rate, veh/h	57	Opposing Demand Flow Rate, veh/h	-

Segm	ent Capacity, veh/h	1700	De	mand/Capacity	(D/C)	0.03
Inte	rmediate Results					
Segm	ent Vertical Class	1	Fre	e-Flow Speed,	mi/h	51.9
Speed	d Slope Coefficient (m)	3.40003		eed Power Coef	fficient (p)	0.41674
PF Slo	ope Coefficient (m)	-1.35159	PF	Power Coefficie	ent (p)	0.72676
In Pas	sing Lane Effective Length?	No	Tot	al Segment De	nsity, veh/mi/ln	0.2
%lmp	rovement to Percent Followers	0.0	%Iı	mprovement to	Speed	0.0
Sub	segment Data					
#	Segment Type	Length, ft	Radius,	ft	Superelevation, %	Average Speed, mi/h
1	Tangent	8264	-	-		51.9
Vehi	icle Results					
Avera	ge Speed, mi/h	51.9	Per	Percent Followers, %		15.6
Segm	ent Travel Time, minutes	1.81	Fol	Follower Density (FD), followers/mi/ln		0.2
Vehic	le LOS	A				
Faci	lity Results					
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS
1	33	0.00			0.1	А





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5/4/2022

Construction AM

U.S. Customary

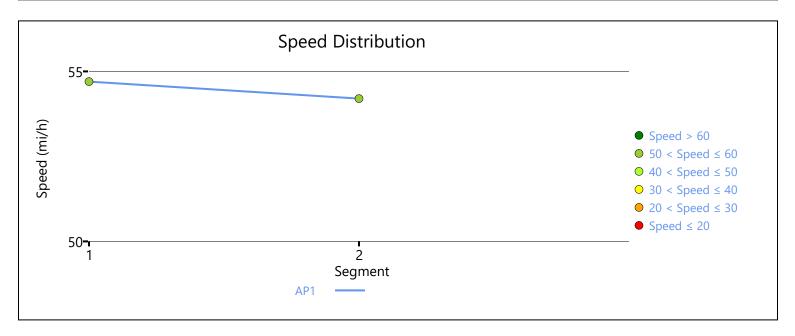
2023

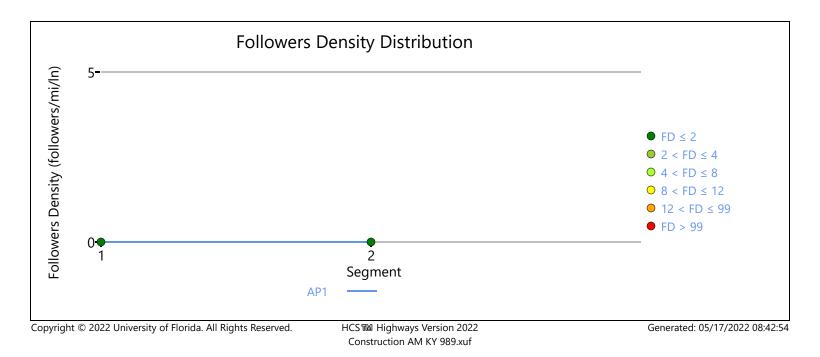
Project Information Analyst ATW Date Agency Stantec Analysis Year Jurisdiction Time Analyzed Project Description KY 989 Units Segment 1

Ve	hicle Inputs					
Seg	ment Type	Passing Constrained	Passing Constrained			5412
Lane	e Width, ft	t 9 S		Shoulder Width, f	t	1
Spe	ed Limit, mi/h	55		Access Point Dens	sity, pts/mi	10.7
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	9		Opposing Deman	d Flow Rate, veh/h	-
Peal	k Hour Factor	0.94		Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.01
Int	ermediate Results			-		
Seg	ment Vertical Class	1		Free-Flow Speed,	mi/h	54.7
Spe	ed Slope Coefficient (m)	3.52422		Speed Power Coefficient (p)		0.41674
PF S	ilope Coefficient (m)	-1.33772		PF Power Coefficient (p)		0.74619
In P	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.0
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Su	bsegment Data					
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5412	-		-	54.7
Ve	hicle Results					
Ave	rage Speed, mi/h	54.7	54.7		, %	3.7
Seg	ment Travel Time, minutes	1.13		Follower Density (FD), followers/mi/ln		0.0
Veh	icle LOS	A				
Segment 2						
Ve	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		6410

Segment Type Passing Constrained I		Length, ft	6410			
Lane Width, ft	9	Shoulder Width, ft	1			
Speed Limit, mi/h 55		Access Point Density, pts/mi	12.4			
Demand and Capacity						
Directional Demand Flow Rate, veh/h	9	Opposing Demand Flow Rate, veh/h	-			
Peak Hour Factor 0.94		Total Trucks, %	2.00			

Segm	Segment Capacity, veh/h 1700		De	Demand/Capacity (D/C)		0.01	
Intermediate Results							
Segn	nent Vertical Class	1	Fre	ee-Flow Speed,	mi/h	54.2	
Spee	d Slope Coefficient (m)	3.51015	Sp	eed Power Coef	ficient (p)	0.41674	
PF SI	ope Coefficient (m)	-1.33606	PF	Power Coefficie	ent (p)	0.74237	
In Pa	ssing Lane Effective Length?	No	Tot	tal Segment Dei	nsity, veh/mi/ln	0.0	
%lmp	provement to Percent Followers	0.0	%	mprovement to	Speed	0.0	
Subsegment Data							
#	Segment Type	Length, ft	Radius,	ius, ft Superelevation, %		Average Speed, mi/h	
1	Tangent	6410	-	-		54.2	
Veh	iicle Results						
Avera	age Speed, mi/h	54.2		Percent Followers, %		3.8	
Segm	nent Travel Time, minutes	1.34	Fo	Follower Density (FD), followers/mi/ln		0.0	
Vehic	cle LOS	A					
Facility Results							
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS	
1	4	0.00			0.0	А	





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5412

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10.7

Project Information ATW Date 5/4/2022 Analyst Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed **Construction PM Project Description** KY 989 Units U.S. Customary Segment 1 **Vehicle Inputs** Segment Type Passing Constrained Length, ft 9 Shoulder Width, ft Lane Width, ft Speed Limit, mi/h 55 Access Point Density, pts/mi **Demand and Capacity** Directional Demand Flow Rate, veh/h 17 Opposing Demand Flow Rate, veh/h

Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segn	nent Capacity, veh/h	1700	1700 Demand/Capacity (D/C)		0.01	
Inte	Intermediate Results					
Segn	nent Vertical Class	1		Free-Flow Speed,	mi/h	54.7
Speed Slope Coefficient (m)		3.52422		Speed Power Coefficient (p)		0.41674
PF SI	ope Coefficient (m)	-1.33772		PF Power Coefficient (p)		0.74619
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.0
%Improvement to Percent Followers 0.0		0.0		%Improvement to Speed		0.0
Subsegment Data						
#	Segment Type	Length, ft	gth, ft Radius, ft		Superelevation, %	Average Speed, mi/h

1	Tangent	5412	-	-	54.7	
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h	

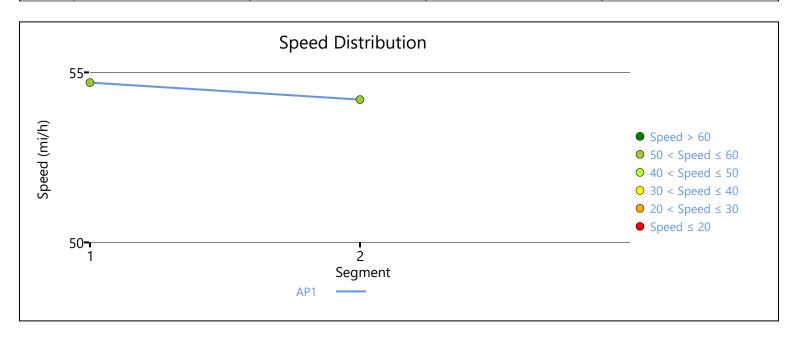
Vehicle Results

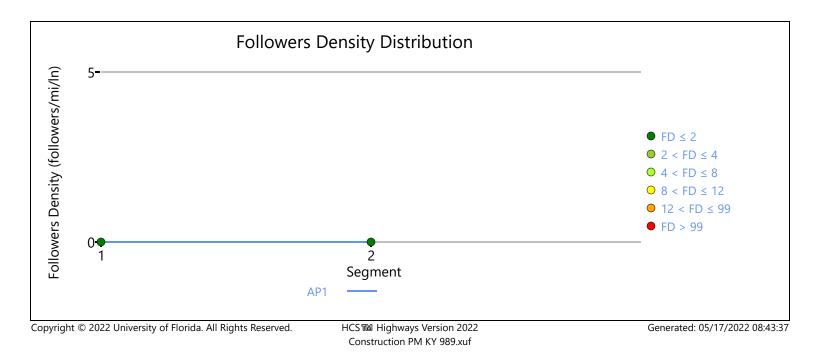
Average Speed, mi/h	54.7	Percent Followers, %	6.2
Segment Travel Time, minutes	1.13	Follower Density (FD), followers/mi/In	0.0
Vehicle LOS	A		

Segment 2

Segment Type Passing Constrain		Length, ft	6410			
Lane Width, ft	9	Shoulder Width, ft	1			
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.4			
Demand and Capacity						
Directional Demand Flow Rate, veh/h	17	Opposing Demand Flow Rate, veh/h	-			
Peak Hour Factor	0.94	Total Trucks, %	2.00			

Segment Capacity, veh/h 1700		Dei	Demand/Capacity (D/C)		0.01		
Intermediate Results							
Segn	nent Vertical Class	1	Fre	e-Flow Speed,	mi/h	54.2	
Spee	ed Slope Coefficient (m)	3.51015	Spe	eed Power Coef	fficient (p)	0.41674	
PF SI	ope Coefficient (m)	-1.33606	PF	Power Coefficie	ent (p)	0.74237	
In Pa	ssing Lane Effective Length?	No	Tot	al Segment De	nsity, veh/mi/ln	0.0	
%lmp	provement to Percent Followers	0.0	%Ir	mprovement to	Speed	0.0	
Sub	Subsegment Data						
#	Segment Type	Length, ft	Radius, t	ius, ft Superelevation, %		Average Speed, mi/h	
1	Tangent	6410	-	-		54.2	
Veh	nicle Results						
Avera	age Speed, mi/h	54.2		Percent Followers, %		6.3	
Segn	nent Travel Time, minutes	1.34	Fol	Follower Density (FD), followers/mi/ln		0.0	
Vehic	cle LOS	A					
Faci	Facility Results						
т	VMT veh-mi/p	VHD veh-h/p			ensity, followers/ mi/ln	LOS	
1	9	0.00			0.0	А	





HCS Two-Lane	Highway	Report
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Pro	ject Information					
Anal	yst	ATW		Date		5/4/2022
Ager	псу	Stantec		Analysis Year		2023
Juris	diction			Time Analyzed		Construction AM
Proje	ect Description	KY 559		Units		U.S. Customary
		S	egn	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		2862
Lane	Lane Width, ft 10		Shoulder Width, f	t	0	
Speed Limit, mi/h 55		Access Point Dens	sity, pts/mi	31.5		
Der	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	72		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.04
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		49.4
Spee	ed Slope Coefficient (m)	3.20852		Speed Power Coefficient (p)		0.41674
PF SI	ope Coefficient (m)	-1.40969		PF Power Coefficient (p)		0.72659
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rac	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	2862	-	-		49.4
Veł	nicle Results					
Aver	age Speed, mi/h	49.4		Percent Followers	, %	18.8
Segr	nent Travel Time, minutes	0.66		Follower Density (FD), followers/mi/ln		0.3
Vehi	cle LOS	A				
		S	egn	nent 2		
Ver	nicle Inputs					
Segment Type Passing Zone			Length, ft		2899	
Lane Width, ft 10		10		Shoulder Width, f	t	0
Speed Limit, mi/h 55		55		Access Point Dens	sity, pts/mi	20.0
Der	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	72		Opposing Deman	d Flow Rate, veh/h	55
Peak	Hour Factor	0.94		Total Trucks, %		2.00

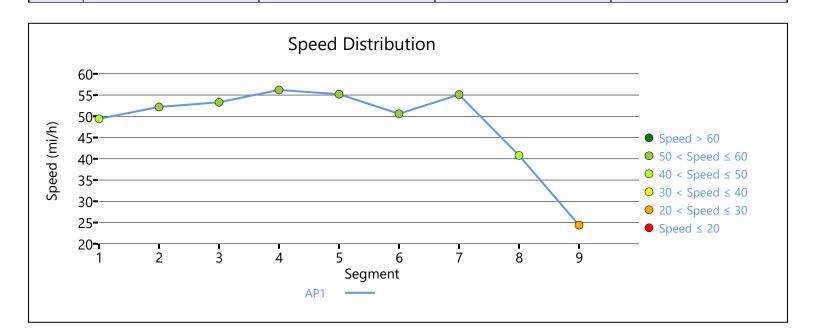
y (D/C)	0.04
, mi/h	52.2
efficient (p)	0.59843
ient (p)	0.79548
ensity, veh/mi/ln	0.2
o Speed	0.0
Superelevation, %	Average Speed, mi/h
-	52.2
s, %	13.9
(FD), followers/mi/ln	0.2
	4715
ft	0
nsity, pts/mi	15.7
nd Flow Rate, veh/h	-
	2.00
y (D/C)	0.04
, mi/h	53.3
efficient (p)	0.41674
ient (p)	0.74299
ensity, veh/mi/ln	0.2
o Speed	0.0
Superelevation, %	Average Speed, mi/h
-	53.3
s, %	17.4
(FD), followers/mi/ln	0.2
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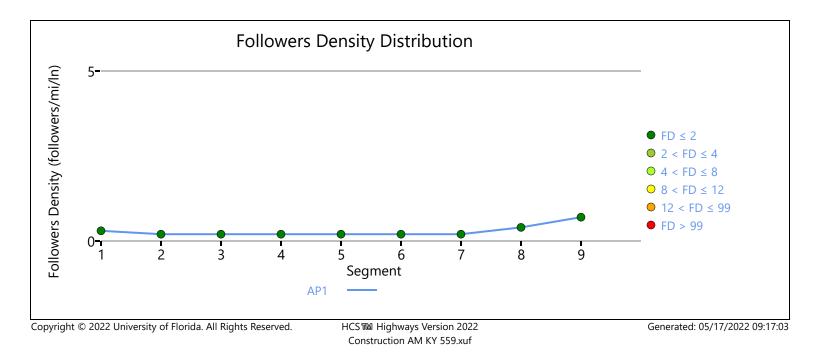
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		317
Lane	e Width, ft	10	Shoulder Width,		Shoulder Width, ft	
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	4.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	72		Opposing Deman	d Flow Rate, veh/h	55
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segr	ment Capacity, veh/h	1700	1700		(D/C)	0.04
Inte	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	56.2
Spee	ed Slope Coefficient (m)	3.23168		Speed Power Coet	fficient (p)	0.59843
PF S	lope Coefficient (m)	-1.26178		PF Power Coefficie	ent (p)	0.78483
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	R	adius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	317	-		-	56.2
Veł	nicle Results					1
Aver	age Speed, mi/h	56.2		Percent Followers,	%	14.8
Segr	nent Travel Time, minutes	0.06		Follower Density (FD), followers/mi/ln	0.2
Vehi	cle LOS	A				
			Seg	ment 5		
Veł	nicle Inputs					
Segr	nent Type	Passing Constraine	ed	Length, ft	Length, ft	
Lane	e Width, ft	10		Shoulder Width, f	0	
Spee	ed Limit, mi/h	55		Access Point Dens	Access Point Density, pts/mi	
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	72		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04
Inte	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	55.2
Spee	ed Slope Coefficient (m)	3.52656		Speed Power Coet	fficient (p)	0.41674
PF S	lope Coefficient (m)	-1.36536		PF Power Coefficie	ent (p)	0.74471
	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
In Pa				Total Segment Density, veh/mi/ln		
	provement to Percent Followers	0.0		%Improvement to	Speed	0.0

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3168	-		-	55.2
Veł	nicle Results	-				
Aver	age Speed, mi/h	55.2		Percent Follov	vers, %	17.5
Segment Travel Time, minutes 0.65				Follower Dens	ity (FD), followers/mi/ln	0.2
Vehicle LOS A						
			Segn	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1584
Lane	e Width, ft	10	10		th, ft	0
Spee	ed Limit, mi/h	55		Access Point D	Density, pts/mi	26.7
De	mand and Capacity			- -		
Dire	ctional Demand Flow Rate, veh/h	72		Opposing Der	nand Flow Rate, veh/h	55
Peak	Hour Factor	0.94		Total Trucks, %	, D	2.00
Segr	nent Capacity, veh/h	1700		Demand/Capa	acity (D/C)	0.04
Inte	ermediate Results	·				·
Segment Vertical Class 1				Free-Flow Spe	ed, mi/h	50.6
Spee	ed Slope Coefficient (m)	2.92941		Speed Power	Coefficient (p)	0.59843
PF S	lope Coefficient (m)	-1.26220		PF Power Coe	fficient (p)	0.77317
In Pa	assing Lane Effective Length?	No		Total Segment	t Density, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improvemer	nt to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	1584	-	-		50.6
Veł	nicle Results	-				
Aver	age Speed, mi/h	50.6		Percent Follov	vers, %	15.2
Segr	nent Travel Time, minutes	0.36		Follower Dens	ity (FD), followers/mi/ln	0.2
Vehi	cle LOS	A				
			Segn	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ned	Length, ft		12302
	Width, ft	10		Shoulder Wid	th, ft	0
Spee	ed Limit, mi/h	55		Access Point [Density, pts/mi	8.6
De	mand and Capacity	·				
Dire	ctional Demand Flow Rate, veh/h	72		Opposing Der	nand Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Sear	nent Capacity, veh/h	1700		Demand/Capa	acity (D/C)	0.04

Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Sp	eed, mi/h	55.1
Spee	ed Slope Coefficient (m)	3.59986		Speed Power	Coefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.36038		PF Power Coe	efficient (p)	0.70449
In Pa	assing Lane Effective Length?	No		Total Segmer	nt Density, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improveme	ent to Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	12302	12302 -		-	55.1
Veł	nicle Results					
Aver	age Speed, mi/h	55.1		Percent Follo	wers, %	19.2
Segr	nent Travel Time, minutes	2.54	4		sity (FD), followers/mi/ln	0.2
Vehi	cle LOS	A				
			Segn	nent 8		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrai	Passing Constrained			1003
Lane	e Width, ft	10		Shoulder Wic	lth, ft	0
Spee	ed Limit, mi/h	45	45		Density, pts/mi	20.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	72		Opposing De	mand Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks,	%	2.00
Segr	nent Capacity, veh/h	1700		Demand/Cap	acity (D/C)	0.04
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Sp	eed, mi/h	40.8
Spee	ed Slope Coefficient (m)	2.72189		Speed Power	Coefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.50480		PF Power Coe	efficient (p)	0.68051
In Pa	assing Lane Effective Length?	No		Total Segmer	nt Density, veh/mi/ln	0.4
%lm	provement to Percent Followers	0.0		%Improveme	ent to Speed	0.0
Suk	osegment Data	·		• •		·
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1003	-		-	40.8
Veł	nicle Results					-
Aver	age Speed, mi/h	40.8		Percent Follo	wers, %	22.2
	nent Travel Time, minutes	0.28			sity (FD), followers/mi/ln	0.4
	cle LOS	A				
				1		

	98		0.00		0.3	А	
т	VMT veh-mi/p	VHD veh-h/	p	Follower	Density, followers/ mi/ln	LOS	
Facility	/ Results						
Vehicle LO	S	A					
Segment	Travel Time, minutes	0.87		Follower Densi	y (FD), followers/mi/In	0.7	
Average S	Speed, mi/h	24.4		Percent Followers, %		24.6	
Vehicle	e Results						
1 Tan	igent	1869	-		-	24.4	
# Seg	gment Type	Length, ft	Radiu	us, ft	Superelevation, %	Average Speed, mi/h	
Subseg	gment Data						
%Improve	ement to Percent Followers	0.0		%Improvement	to Speed	0.0	
In Passing	g Lane Effective Length?	No	No Tota		Density, veh/mi/ln	0.7	
PF Slope	Coefficient (m)	-1.38415		PF Power Coeff	icient (p)	0.60433	
Speed Slope Coefficient (m)		1.84278		Speed Power C	oefficient (p)	0.41674	
Segment	Vertical Class	1		Free-Flow Spee	d, mi/h	24.4	
Interm	ediate Results						
Segment	Capacity, veh/h	1700		Demand/Capad	ity (D/C)	0.04	
Peak Hou	ır Factor	0.94	0.94 T			2.00	
Direction	al Demand Flow Rate, veh/h	72		Opposing Dem	and Flow Rate, veh/h	-	
Demar	nd and Capacity						
Speed Lir	nit, mi/h	35	35		ensity, pts/mi	57.1	
Lane Wid	th, ft	10	10 S		n, ft	0	
Segment	Туре	Passing Constrained	k	Length, ft		1869	





HCS Two-Lane	Highway Report
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Project Information

Pro	ject Information					
Anal	yst	ATW		Date		5/4/2022
Ager	псу	Stantec		Analysis Year		2022
Juris	diction			Time Analyzed		Construction PM
Proje	ect Description	KY 559		Units		U.S. Customary
		Se	egn	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained	_	Length, ft		2862
Lane	Width, ft	10		Shoulder Width, f	t	0
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	31.5
Dei	mand and Capacity			-		
Dire	ctional Demand Flow Rate, veh/h	79	79		d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.05
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	49.4
Spee	ed Slope Coefficient (m)	3.20852		Speed Power Coet	fficient (p)	0.41674
PF S	lope Coefficient (m)	-1.40969		PF Power Coefficie	ent (p)	0.72659
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2862	-		-	49.4
Veł	nicle Results	•			-	
Aver	age Speed, mi/h	49.4		Percent Followers,	%	20.0
Segr	nent Travel Time, minutes	0.66		Follower Density (FD), followers/mi/ln	0.3
Vehi	cle LOS	A				
		Se	egn	nent 2		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		2899
Lane	Width, ft	10		Shoulder Width, ft	t	0
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	20.0
Der	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	79		Opposing Deman	d Flow Rate, veh/h	60
Peak	Hour Factor	0.94		Total Trucks, %		2.00

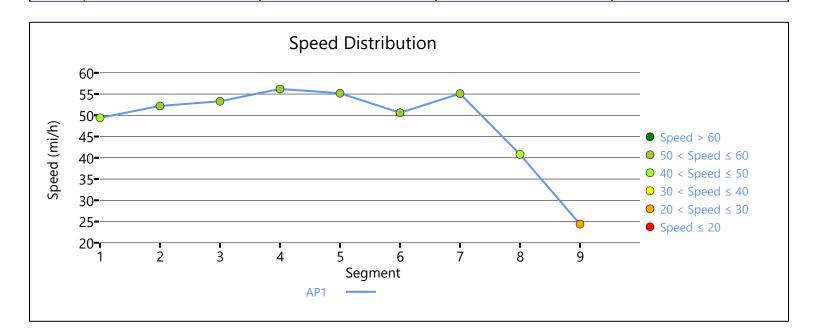
	egment Capacity, veh/h 1700		Demand/Capacity	0.05	
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	52.2
Speed Slope Coefficient (m)	3.04360		Speed Power Coe	fficient (p)	0.59482
PF Slope Coefficient (m)	-1.21923		PF Power Coeffici	ent (p)	0.79461
In Passing Lane Effective Length?	No	No		ensity, veh/mi/ln	0.2
%Improvement to Percent Followers	0.0		%Improvement to	o Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Length, ft Radiu		Superelevation, %	Average Speed, mi/h
1 Tangent	2899	-		-	52.2
Vehicle Results					
Average Speed, mi/h	52.2		Percent Followers	, %	15.0
Segment Travel Time, minutes	0.63		Follower Density	(FD), followers/mi/ln	0.2
Vehicle LOS	A				
		Segn	nent 3		
Vehicle Inputs					
Segment Type	Passing Constrair	Passing Constrained			4715
Lane Width, ft	10		Shoulder Width, f	t	0
Speed Limit, mi/h	55		Access Point Dens	sity, pts/mi	15.7
Demand and Capacity					
Directional Demand Flow Rate, veh/h	79		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.94		Total Trucks, %		2.00
Segment Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.05
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	53.3
Speed Slope Coefficient (m)	3.44342		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)	-1.35294		PF Power Coefficient (p)		0.74299
In Dessing Lange Effective Langeth?	No		Total Segment De	ensity, veh/mi/ln	0.3
In Passing Lane Effective Length?	0.0		%Improvement to	o Speed	0.0
%Improvement to Percent Followers					
%Improvement to Percent Followers Subsegment Data	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
%Improvement to Percent Followers Subsegment Data # Segment Type		Rac	dius, ft	Superelevation, %	Average Speed, mi/h 53.3
%Improvement to Percent Followers Subsegment Data # Segment Type 1 Tangent	Length, ft	Rac	dius, ft	Superelevation, %	
	Length, ft	Rac	dius, ft Percent Followers	-	
%Improvement to Percent Followers Subsegment Data # Segment Type 1 Tangent Vehicle Results	Length, ft 4715	Rac	Percent Followers	-	53.3

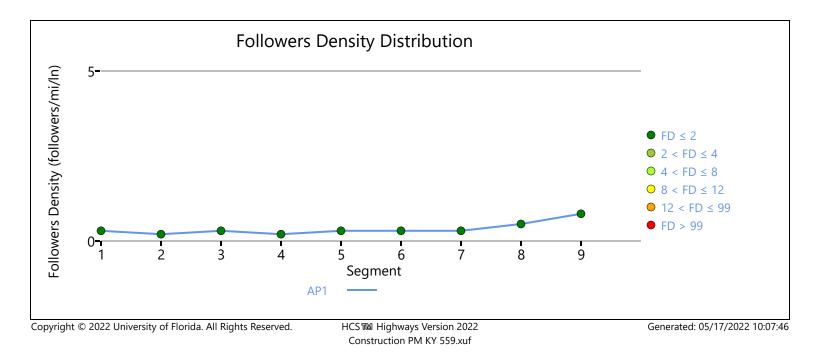
	iclo Inpute					
	iicle Inputs			1		1
-	nent Type	Passing Zone		Length, ft		317
	Width, ft	10		Shoulder Width, ft		0
Spee	d Limit, mi/h	55		Access Point Dens	ity, pts/mi	4.0
Der	mand and Capacity					
Direc	tional Demand Flow Rate, veh/h	79		Opposing Deman	d Flow Rate, veh/h	60
Peak	Hour Factor	0.94	0.94			2.00
Segn	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.05
Inte	ermediate Results					
Segn	nent Vertical Class	1		Free-Flow Speed,	mi/h	56.2
Spee	d Slope Coefficient (m)	3.23561		Speed Power Coet	fficient (p)	0.59482
PF SI	ope Coefficient (m)	-1.26530		PF Power Coefficie	ent (p)	0.78405
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%lmj	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	317	-		-	56.2
Veh	icle Results	1				-
Avera	age Speed, mi/h	56.2		Percent Followers,	%	15.9
Segn	nent Travel Time, minutes	0.06		Follower Density (FD), followers/mi/ln	0.2
Vehic	cle LOS	A				
		S	egn	nent 5		·
Veh	icle Inputs					
Segn	nent Type	Passing Constrained		Length, ft		3168
-	Width, ft	10		Shoulder Width, ft		0
Spee	d Limit, mi/h	55		Access Point Dens	Access Point Density, pts/mi	
Der	mand and Capacity					
		79		Opposing Deman	d Flow Rate, veh/h	-
	tional Demand Flow Rate, veh/h			Total Trucks, %		2.00
Direc	Hour Factor	0.94		Demand/Capacity (D/C)		2.00
Direc Peak		0.94			(D/C)	0.05
Direc Peak Segm	Hour Factor				(D/C)	
Direc Peak Segm	Hour Factor nent Capacity, veh/h ermediate Results			Demand/Capacity		
Direc Peak Segn Inte Segn	Hour Factor nent Capacity, veh/h ermediate Results nent Vertical Class	1700		Demand/Capacity	mi/h	0.05
Direc Peak Segm Inte Segm Spee	Hour Factor nent Capacity, veh/h ermediate Results nent Vertical Class ed Slope Coefficient (m)	1700		Demand/Capacity Free-Flow Speed, Speed Power Coef	mi/h fficient (p)	0.05 55.2
Direc Peak Segm Inte Segm Spee PF Slo	Hour Factor nent Capacity, veh/h ermediate Results nent Vertical Class	1700 1 3.52656		Demand/Capacity	mi/h fficient (p) ent (p)	0.05 55.2 0.41674
Direc Peak Segm Inte Segm Spee PF Sk In Pa	Hour Factor nent Capacity, veh/h ermediate Results nent Vertical Class ed Slope Coefficient (m) ope Coefficient (m)	1700 1 3.52656 -1.36536		Demand/Capacity Free-Flow Speed, Speed Power Coefficie	mi/h fficient (p) ent (p) nsity, veh/mi/ln	0.05 55.2 0.41674 0.74471

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	3168	-		-	55.2	
Veł	nicle Results	-					
Aver	age Speed, mi/h	55.2		Percent Follow	ers, %	18.6	
Segment Travel Time, minutes 0.65				Follower Densi	ty (FD), followers/mi/ln	0.3	
Vehicle LOS A							
			Segr	nent 6			
Veł	nicle Inputs						
Segr	nent Type	Passing Zone		Length, ft		1584	
Lane	e Width, ft	10	10 5		h, ft	0	
Spee	ed Limit, mi/h	55		Access Point D	ensity, pts/mi	26.7	
Dei	mand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	79		Opposing Dem	nand Flow Rate, veh/h	60	
Peak	Hour Factor	0.94		Total Trucks, %		2.00	
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.05	
Inte	ermediate Results	·					
Segment Vertical Class 1				Free-Flow Spe	ed, mi/h	50.6	
Speed Slope Coefficient (m)		2.93334		Speed Power C	Coefficient (p)	0.59482	
PF S	lope Coefficient (m)	-1.26579		PF Power Coef	ficient (p)	0.77239	
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.3	
%lm	provement to Percent Followers	0.0		%Improvemen	t to Speed	0.0	
Sub	osegment Data						
#	Segment Type	Length, ft	Rad	lius, ft Superelevation, %		Average Speed, mi/h	
1	Tangent	1584	-	-		50.6	
Veł	nicle Results	-			- -		
Aver	age Speed, mi/h	50.6		Percent Follow	ers, %	16.3	
Segr	nent Travel Time, minutes	0.36		Follower Densi	ty (FD), followers/mi/ln	0.3	
Vehi	cle LOS	A					
			Segr	nent 7			
Veł	nicle Inputs						
Segr	nent Type	Passing Constrain	ed	Length, ft		12302	
Lane	Width, ft	10		Shoulder Widt	h, ft	0	
Spee	ed Limit, mi/h	55		Access Point D	ensity, pts/mi	8.6	
Dei	mand and Capacity					•	
Dire	ctional Demand Flow Rate, veh/h	79		Opposing Dem	nand Flow Rate, veh/h	-	
Peak	Hour Factor	0.94		Total Trucks, %		2.00	
Sear	nent Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.05	

Intermediate Results					
Segment Vertical Class	1		Free-Flow Spe	eed, mi/h	55.1
Speed Slope Coefficient (m)	3.59986		Speed Power	Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36038		PF Power Coe	fficient (p)	0.70449
In Passing Lane Effective Length?	No		Total Segmen	t Density, veh/mi/ln	0.3
%Improvement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	12302	12302 -		-	55.1
Vehicle Results					
Average Speed, mi/h	55.1		Percent Follow	vers, %	20.3
Segment Travel Time, minutes	2.54	2.54		sity (FD), followers/mi/ln	0.3
Vehicle LOS	A				
		Segn	nent 8		
Vehicle Inputs					
Segment Type	Passing Constrai	Passing Constrained			1003
Lane Width, ft	10			th, ft	0
Speed Limit, mi/h	45	45		Density, pts/mi	20.0
Demand and Capacity					-
Directional Demand Flow Rate, veh/h	79		Opposing De	mand Flow Rate, veh/h	-
Peak Hour Factor	0.94		Total Trucks, 9	6	2.00
Segment Capacity, veh/h	1700		Demand/Cap	acity (D/C)	0.05
Intermediate Results					
Segment Vertical Class	1		Free-Flow Spe	eed, mi/h	40.8
Speed Slope Coefficient (m)	2.72189		Speed Power	Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.50480		PF Power Coe	fficient (p)	0.68051
In Passing Lane Effective Length?	No		Total Segmen	t Density, veh/mi/ln	0.5
%Improvement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	1003	-		-	40.8
Vehicle Results					
Average Speed, mi/h	40.8		Percent Follow	vers, %	23.5
Segment Travel Time, minutes	0.28			sity (FD), followers/mi/ln	0.5
Vehicle LOS	A				

	108		0.00		0.3		А		
т	VMT veh-mi/p	VHD veh-h/	p	Fo		ensity, followers/ mi/ln	LOS		
Facility	/ Results								
Vehicle LO	S	А							
Segment	Travel Time, minutes	0.87		Followe	r Density (I	FD), followers/mi/ln	0.8		
Average S	Speed, mi/h	24.4		Percent Followers, %		25.8			
Vehicle	e Results								
1 Tan	igent	1869	-			-	24.4		
# Seg	gment Type	Length, ft	Radi	ius, ft	us, ft Superelevation, %		Average Spee	d, mi/h	
Subseg	gment Data								
%Improve	ement to Percent Followers	0.0		%Impro	ovement to	Speed	0.0		
In Passing	g Lane Effective Length?	No		Total Segment Density, veh/mi/ln			0.8		
PF Slope	Coefficient (m)	-1.38415	PF Power Coefficient (p)		0.60433				
Speed Slope Coefficient (m)		1.84278		Speed Power Coefficient (p)			0.41674		
Segment Vertical Class 1		Free-Flow Speed, mi/h			24.4				
Interm	ediate Results								
Segment	Capacity, veh/h	1700		Demano	d/Capacity	(D/C)	0.05		
Peak Hou	ır Factor	0.94	0.94 T		ucks, %		2.00		
Direction	al Demand Flow Rate, veh/h	79		Opposir	ng Demano	d Flow Rate, veh/h	-		
Demar	nd and Capacity								
Speed Lir	nit, mi/h	35	35		Point Dens	ity, pts/mi	57.1		
Lane Wid	th, ft	10	10 S		er Width, ft		0		
Segment	Туре	Passing Constrained	b	Length,	Length, ft		1869	1869	





HCS Two-Lane H	lighway	Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed Construction AM **Project Description** KY 344 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 512 Segment Type 9 Lane Width, ft Shoulder Width, ft 1 Speed Limit, mi/h 35 20.0 Access Point Density, pts/mi **Demand and Capacity** 53 Directional Demand Flow Rate, veh/h Opposing Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.03 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 29.5 Speed Slope Coefficient (m) 2.10943 Speed Power Coefficient (p) 0.41674 0.62573 PF Slope Coefficient (m) -1.46561 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.4 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	512	-	-	29.5		
Veł	nicle Results						

20.8 29.5 Percent Followers, % Average Speed, mi/h 0.20 0.4 Segment Travel Time, minutes Follower Density (FD), followers/mi/In Vehicle LOS А

Segment 2

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	2518						
Lane Width, ft	9	Shoulder Width, ft	1						
Speed Limit, mi/h	55	Access Point Density, pts/mi	27.1						
Demand and Capacity									
Demand and Capacity									
Demand and Capacity Directional Demand Flow Rate, veh/h	53	Opposing Demand Flow Rate, veh/h	40						

	1700	Demand/Capacity (D/C) 0.03				
Intermediate Results						
Segment Vertical Class	2		Free-Flow Speed,	mi/h	50.5	
Speed Slope Coefficient (m)	3.11550		Speed Power Coe	efficient (p)	0.60723	
PF Slope Coefficient (m)	-1.21564		PF Power Coeffici	ent (p)	0.77436	
In Passing Lane Effective Length?	No		Total Segment De	ensity, veh/mi/ln	0.1	
%Improvement to Percent Followers	0.0		%Improvement to	o Speed	0.0	
Subsegment Data						
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	2518	-		-	50.5	
Vehicle Results						
Average Speed, mi/h	50.5		Percent Followers	5, %	11.8	
Segment Travel Time, minutes	0.57		Follower Density	(FD), followers/mi/ln	0.1	
Vehicle LOS	A					
		Segr	nent 3			
Vehicle Inputs						
Segment Type	Passing Constrai	ned	Length, ft		327	
Lane Width, ft	9		Shoulder Width,	ft	1	
Speed Limit, mi/h	55		Access Point Den	sity, pts/mi	24.0	
Demand and Capacity						
Directional Demand Flow Rate, veh/h	53		Opposing Demar	nd Flow Rate, veh/h	-	
Peak Hour Factor	0.94	0.94			2.00	
Segment Capacity, veh/h	1700		Demand/Capacity	0.03		
Intermediate Results						
Segment Vertical Class	1		Free-Flow Speed, mi/h		51.3	
Speed Slope Coefficient (m)	3.29099		Speed Power Coe	efficient (p)	0.41674	
PF Slope Coefficient (m)	-1.46577		PF Power Coeffici	ent (p)	0.71525	
In Passing Lane Effective Length?	No		Total Segment De	ensity, veh/mi/ln	0.2	
%Improvement to Percent Followers	0.0		%Improvement to	o Speed	0.0	
Subsegment Data						
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	327	-		-	51.3	
Vehicle Results	Average Speed, mi/h 51.3				465	
	51.3		Percent Followers	5, %	16.5	
Vehicle Results Average Speed, mi/h Segment Travel Time, minutes	51.3 0.07			s, % (FD), followers/mi/ln	0.2	

Veł	nicle Inputs					
	nent Type	Passing Constrained		Length, ft		1592
-	Width, ft	9		Shoulder Width, ft	1	
	ed Limit, mi/h	55		Access Point Dens		20.0
	mand and Capacity					
	ctional Demand Flow Rate, veh/h	56		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03
Inte	ermediate Results	-		-		1
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	52.3
Spee	ed Slope Coefficient (m)	3.35025		Speed Power Coe	fficient (p)	0.41674
PF SI	lope Coefficient (m)	-1.44258		PF Power Coefficie	ent (p)	0.72248
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Suk	osegment Data	•		-		
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-		-	52.3
Veł	icle Results					
Aver	age Speed, mi/h	52.3		Percent Followers,	%	16.5
Segr	nent Travel Time, minutes	0.35		Follower Density (FD), followers/mi/ln	0.2
Vehi	cle LOS	A				
		S	egn	nent 5		·
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1525
Lane	Width, ft	9		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	26.7
Dei	mand and Capacity	•		-		
Dire	ctional Demand Flow Rate, veh/h	56		Opposing Demand Flow Rate, veh/h		41
Peak	Hour Factor	0.94		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	50.7
Speed Slope Coefficient (m) 2.92396				Speed Power Coe	fficient (p)	0.60760
		-1.25581		PF Power Coefficie	ent (p)	0.77432
Spee	lope Coefficient (m)		Total Segment Density,			
Spee PF SI	issing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
Spee PF SI In Pa	•	No 0.0		Total Segment De%Improvement to	-	0.1

#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent		1584 -		-		50.7	
Veł	nicle Results						
Aver	age Speed, mi/h	50.7	Percent Follow	vers, %	12.7		
Segr	ment Travel Time, minutes	0.34		Follower Dens	sity (FD), followers/mi/ln	0.1	
Vehi	cle LOS	A					
			Segr	nent 6			
Veł	nicle Inputs						
Segr	nent Type	Passing Constrair	ned	Length, ft		528	
Lane	e Width, ft	9		Shoulder Wid	th, ft	1	
Spee	ed Limit, mi/h	55		Access Point [Density, pts/mi	30.0	
Dei	mand and Capacity			-			
Dire	ctional Demand Flow Rate, veh/h	56		Opposing Der	mand Flow Rate, veh/h	-	
Peak	Hour Factor	0.94		Total Trucks, 9	6	2.00	
Segr	nent Capacity, veh/h	1700		Demand/Capa	acity (D/C)	0.03	
Inte	ermediate Results					÷	
Segr	ment Vertical Class	1		Free-Flow Spe	ed, mi/h	49.8	
Spee	ed Slope Coefficient (m)	3.20969		Speed Power	Coefficient (p)	0.41674	
PF S	lope Coefficient (m)	-1.47482		PF Power Coe	fficient (p)	0.71104	
In Pa	assing Lane Effective Length?	No		Total Segmen	t Density, veh/mi/ln	0.2	
%lm	provement to Percent Followers	0.0		%Improveme	nt to Speed	0.0	
Sub	osegment Data						
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	528	-		-	49.8	
Veł	nicle Results	·			·	·	
Aver	age Speed, mi/h	49.8		Percent Follow	vers, %	17.4	
Segr	nent Travel Time, minutes	0.12		Follower Dens	sity (FD), followers/mi/ln	0.2	
Vehi	cle LOS	A					
			Segr	nent 7			
Veł	nicle Inputs						
Segr	nent Type	Passing Zone		Length, ft		1584	
	e Width, ft	9		Shoulder Wid	th, ft	1	
Spee	ed Limit, mi/h	55		Access Point I	Density, pts/mi	10.0	
Dei	mand and Capacity						
	ctional Demand Flow Rate, veh/h	56		Opposing Der	mand Flow Rate, veh/h	41	
Peak	Hour Factor	0.94	Total Trucks, 9	6	2.00		
Sear	nent Capacity, veh/h	1700		Demand/Capa	acity (D/C)	0.03	

	ermediate Results	1		1		
Segr	ment Vertical Class	3		Free-Flow Sp	eed, mi/h	54.6
Spee	ed Slope Coefficient (m)	3.11550		Speed Power	Coefficient (p)	0.68727
PF S	lope Coefficient (m)	-1.17787		PF Power Coe	efficient (p)	0.78312
In Pa	assing Lane Effective Length?	No		Total Segmer	nt Density, veh/mi/ln	0.1
%lm	provement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-		-	54.6
Veł	nicle Results	-				
Aver	age Speed, mi/h	54.6		Percent Follo	wers, %	11.7
Segr	ment Travel Time, minutes	0.33		Follower Den	sity (FD), followers/mi/ln	0.1
Vehi	cle LOS	A				
			Segn	nent 8		
Veł	nicle Inputs					
Segr	ment Type	Passing Constrai	ned	Length, ft		528
Lane	e Width, ft	9		Shoulder Wic	lth, ft	1
Spee	ed Limit, mi/h	55		Access Point	Density, pts/mi	0.0
De	mand and Capacity	·				·
Dire	ctional Demand Flow Rate, veh/h	56		Opposing De	mand Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks,	%	2.00
Segr	ment Capacity, veh/h	1700		Demand/Cap	acity (D/C)	0.03
Int	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Sp	eed, mi/h	57.3
Spee	ed Slope Coefficient (m)	3.61619		Speed Power	Coefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.42067		PF Power Coe	efficient (p)	0.73029
In Pa	assing Lane Effective Length?	No		Total Segmer	nt Density, veh/mi/ln	0.2
%lm	provement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	528	-		-	57.3
Veł	nicle Results	1			I	-
Aver	age Speed, mi/h	57.3		Percent Follo	wers, %	16.0
	ment Travel Time, minutes	0.10			sity (FD), followers/mi/ln	0.2
	cle LOS	A			, , ,	

	• • • •						
Veh	iicle Inputs			T			
-	nent Type	Passing Zone		Length, ft	-		
Lane	Width, ft	9		Shoulder Width, ft	t	1	
Spee	d Limit, mi/h	55		Access Point Dens	ity, pts/mi	5.0	
Der	mand and Capacity						
Direc	tional Demand Flow Rate, veh/h	56		Opposing Deman	d Flow Rate, veh/h	41	
Peak	Hour Factor	0.94		Total Trucks, %		2.00	
Segn	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03	
Inte	ermediate Results						
Segn	nent Vertical Class	2		Free-Flow Speed,	mi/h	56.0	
Spee	d Slope Coefficient (m)	3.11550		Speed Power Coet	fficient (p)	0.63731	
PF SI	ope Coefficient (m)	-1.21256		PF Power Coefficie	ent (p)	0.78971	
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1	
%lmį	provement to Percent Followers	0.0		%Improvement to	Speed	0.0	
Sub	segment Data						
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	2112	-		-	56.0	
Veh	icle Results	-			-	-	
Avera	age Speed, mi/h	56.0		Percent Followers,	%	11.8	
Segn	nent Travel Time, minutes	0.43		Follower Density (FD), followers/mi/ln	0.1	
Vehic	cle LOS	A					
		Se	egm	ent 10			
Veh	icle Inputs						
	nent Type	Passing Constrained		Length, ft		1056	
-	Width, ft	9		Shoulder Width, ft		1	
Spee	d Limit, mi/h	55		Access Point Dens	ity, pts/mi	28.0	
Der	mand and Capacity						
	tional Demand Flow Rate, veh/h	56		Opposing Deman	d Flow Rate, veh/h	-	
Peak	Hour Factor	0.94		Total Trucks, %		2.00	
Segn	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03	
	ermediate Results					1	
Inte			Free-Flow Speed,	mi/h	50.3		
		1					
Segn	nent Vertical Class	1 3.23679		· · ·	fficient (p)	0.41674	
Segn Spee	nent Vertical Class d Slope Coefficient (m)			Speed Power Coefficie	•	0.41674	
Segm Spee PF Sl	nent Vertical Class d Slope Coefficient (m) ope Coefficient (m)	3.23679		Speed Power Coefficie	ent (p)		
Segm Spee PF Slo In Pa	nent Vertical Class d Slope Coefficient (m)	3.23679 -1.47191		Speed Power Coet	ent (p) nsity, veh/mi/ln	0.71247	

Average Speed, mi/h	50.3		17.3	0.2			SOJ	A		1 1	 Speed > 60 	● 50 < Speed ≤ 60	40 < spreed a 30 < Spreed a 20 < Spreed a	• Speed ≤ 20				● FD ≤ 2	● 2 < FD ≤ 4 ● 4 < FD ≤ 8	● 8 < FU ≤ 12 ● 12 < FD ≤ 99 ● FD ≤ 00		Generated: 05/12/2022 18:24:31
Superelevation, %	-		; %	Follower Density (FD), followers/mi/ln			Follower Density, followers/ mi/ln	0.2			•			-	9 10						•	
Radius, ft			Percent Followers, %	Follower Density			Follower D		rtion					-	7 8	stribution					•- ∞	HCSTM Highways Version 2022 Construction AM KY 344.xuf
Length, ft Ra	2						VHD veh-h/p	0.00	Speed Distribution					-	5 6 Segment AP1	Followers Density Distribution					5 6 Segment	
Feng	1056		50.3	0.24	A					•				-	4	Follow					•- 4	All Rights Reserved
Segment Type	Tangent	Vehicle Results	Average Speed, mi/h	Segment Travel Time, minutes	SO1	Facility Results	VMT veh-mi/p	30		60 - 55-	50	45-	35-		1 2 3		n				- m - 7	Copyright © 2022 University of Florida. All R
# S	1 T	Vehic	Averag	Segme	Vehicle LOS	Facili	F	-			(q/ir	n) be	əəds			(1	ıl\im\ar	əwoll	ity (fo	s Deus	Follower	Copyright

HCS Two-Lane	Highway	Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed **Construction PM Project Description** KY 344 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 512 Segment Type 9 1 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 35 20.0 Access Point Density, pts/mi **Demand and Capacity** 86 Directional Demand Flow Rate, veh/h Opposing Demand Flow Rate, veh/h -Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.05 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 29.5

5			
Speed Slope Coefficient (m)	2.10943	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46561	PF Power Coefficient (p)	0.62573
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	512	-	-	29.5
Vala	iala Daavita				

Vehicle Results

Average Speed, mi/h	29.5	Percent Followers, %	27.1
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/In	0.8
Vehicle LOS	А		

Segment 2

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	2518				
Lane Width, ft	9	Shoulder Width, ft	1				
Speed Limit, mi/h	55	Access Point Density, pts/mi	27.1				
Demand and Capacity							
Demand and Capacity							
Demand and Capacity Directional Demand Flow Rate, veh/h	86	Opposing Demand Flow Rate, veh/h	64				

Segment Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.05	
Intermediate Results						
Segment Vertical Class	2		Free-Flow Speed,	mi/h	50.5	
Speed Slope Coefficient (m)	3.11550		Speed Power Coe	fficient (p)	0.58813	
PF Slope Coefficient (m)	-1.23157		PF Power Coefficie	ent (p)	0.77061	
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3	
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0	
Subsegment Data						
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	2518	-		-	50.5	
Vehicle Results				•	·	
Average Speed, mi/h	50.5		Percent Followers	, %	17.0	
Segment Travel Time, minutes	0.57		Follower Density ((FD), followers/mi/ln	0.3	
Vehicle LOS	A					
		Segn	nent 3			
Vehicle Inputs						
Segment Type	Passing Constrai	ined	Length, ft		327	
Lane Width, ft	9		Shoulder Width, f	t	1	
Speed Limit, mi/h	55		Access Point Dens	sity, pts/mi	24.0	
Demand and Capacity					·	
Directional Demand Flow Rate, veh/h	86		Opposing Deman	d Flow Rate, veh/h	-	
Peak Hour Factor	0.94	0.94			2.00	
Segment Capacity, veh/h	1700	1700		r (D/C)	0.05	
Intermediate Results						
Segment Vertical Class	1	1		mi/h	51.3	
Speed Slope Coefficient (m)	3.29099		Speed Power Coe	fficient (p)	0.41674	
PF Slope Coefficient (m)	-1.46577		PF Power Coefficie	ent (p)	0.71525	
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.4	
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0	
Subsegment Data						
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	327	-		-	51.3	
Vehicle Results						
Average Speed, mi/h	51.3		Percent Followers	, %	22.4	
Segment Travel Time, minutes	0.07		Follower Density ((FD), followers/mi/ln	0.4	
Vehicle LOS	A					
		Sean	nent 4			

ver	nicle Inputs						
Segr	ment Type	Passing Constrained		Length, ft	1592		
Lane	e Width, ft	9		Shoulder Width, ft	1		
Spee	ed Limit, mi/h	55		Access Point Dens	20.0		
De	mand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	101		Opposing Deman	d Flow Rate, veh/h	-	
Peak	Hour Factor	0.94		Total Trucks, %		2.00	
Segr	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.06	
Inte	ermediate Results						
Segment Vertical Class		1		Free-Flow Speed,	mi/h	52.3	
Spee	ed Slope Coefficient (m)	3.35025		Speed Power Coet	fficient (p)	0.41674	
PF S	lope Coefficient (m)	-1.44258		PF Power Coefficie	ent (p)	0.72248	
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.5	
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0	
Sul	osegment Data						
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	1584	-		-	52.1	
Veł	nicle Results	·				·	
Aver	rage Speed, mi/h	52.1		Percent Followers,	%	24.1	
Segr	ment Travel Time, minutes	0.35		Follower Density (FD), followers/mi/In		0.5	
Vehi	cle LOS	A					
		S	egn	nent 5			
Veł	nicle Inputs						
Segr	ment Type	Passing Zone		Length, ft		1525	
Lane	e Width, ft	9		Shoulder Width, ft		1	
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		26.7	
Dei	mand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	101		Opposing Demand Flow Rate, veh/h		72	
	Hour Factor	0.94		Total Trucks, %		2.00	
Peak	Segment Capacity, veh/h 1700			Demand/Capacity	(D/C)	0.06	
	herr Capacity, veri/fi			-			
Segr	ermediate Results				Free-Flow Speed, mi/h		
Segr		1		Free-Flow Speed,	mi/h	50.7	
Segr Inte Segr	ermediate Results	1 2.94536		Free-Flow Speed, Speed Power Coef		50.7 0.58788	
Segr Into Segr Spee	ermediate Results ment Vertical Class			· · · · ·	fficient (p)		
Segr Into Segr Spee PF S	ermediate Results ment Vertical Class ed Slope Coefficient (m)	2.94536		Speed Power Coet	fficient (p) ent (p)	0.58788	
Segr Inte Segr Spee PF SI In Pa	ermediate Results ment Vertical Class ed Slope Coefficient (m) lope Coefficient (m)	2.94536 -1.27544		Speed Power Coefficie	fficient (p) ent (p) nsity, veh/mi/ln	0.58788 0.77005	

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent		1584 -			-	50.6	
Veł	nicle Results						
Aver	age Speed, mi/h	50.6		Percent Follow	ers, %	19.6	
Segr	ment Travel Time, minutes	0.34		Follower Densi	ty (FD), followers/mi/ln	0.4	
Vehi	cle LOS	A					
			Segr	nent 6			
Veł	nicle Inputs						
Segr	nent Type	Passing Constrain	ned	Length, ft		528	
Lane	e Width, ft	9		Shoulder Widt	h, ft	1	
Spee	ed Limit, mi/h	55		Access Point D	ensity, pts/mi	30.0	
De	mand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	101		Opposing Dem	hand Flow Rate, veh/h	-	
Peak	Hour Factor	0.94		Total Trucks, %		2.00	
Segr	ment Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.06	
Inte	ermediate Results					·	
Segr	ment Vertical Class	49.8					
Spee	ed Slope Coefficient (m)	3.20969		Speed Power C	Coefficient (p)	0.41674	
PF S	lope Coefficient (m)	-1.47482		PF Power Coef	ficient (p)	0.71104	
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.5	
%lm	provement to Percent Followers	0.0		%Improvemen	t to Speed	0.0	
Sub	osegment Data						
#	Segment Type	Length, ft	Rad	lius, ft Superelevation, %		Average Speed, mi/h	
1	Tangent	528	-	-		49.6	
Veł	nicle Results					- '	
Aver	age Speed, mi/h	49.6		Percent Follow	ers, %	25.1	
Segr	nent Travel Time, minutes	0.12		Follower Densi	ty (FD), followers/mi/ln	0.5	
Vehi	cle LOS	A					
			Segr	nent 7			
Veł	nicle Inputs						
Segr	nent Type	Passing Zone		Length, ft		1584	
Lane	e Width, ft	9		Shoulder Widt	h, ft	1	
Spee	ed Limit, mi/h	55		Access Point D	ensity, pts/mi	10.0	
De	mand and Capacity						
	ctional Demand Flow Rate, veh/h	101		Opposing Dem	hand Flow Rate, veh/h	72	
Peak	Hour Factor	0.94		Total Trucks, %		2.00	
Sear	ment Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.06	

	ermediate Results	-1				
Segr	nent Vertical Class	3		Free-Flow Sp	eed, mi/h	54.6
Spee	ed Slope Coefficient (m)	3.11550		Speed Power	Coefficient (p)	0.65542
PF S	lope Coefficient (m)	-1.20321		PF Power Coe	efficient (p)	0.77793
In Pa	assing Lane Effective Length?	No		Total Segmer	t Density, veh/mi/ln	0.3
%lm	provement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-		-	54.5
Veł	nicle Results					
Aver	age Speed, mi/h	54.5		Percent Follo	wers, %	18.3
Segr	nent Travel Time, minutes	0.33		Follower Den	sity (FD), followers/mi/ln	0.3
Vehi	cle LOS	A		1		
		·	Segn	nent 8		·
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ned	Length, ft		528
Lane	e Width, ft	9		Shoulder Wic	lth, ft	1
Spee	ed Limit, mi/h	55		Access Point	Density, pts/mi	0.0
Der	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	101		Opposing De	mand Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, S	%	2.00
Segr	nent Capacity, veh/h	1700		Demand/Cap	acity (D/C)	0.06
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		57.3
Spee	ed Slope Coefficient (m)	3.61619		Speed Power	Coefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.42067		PF Power Coe	efficient (p)	0.73029
In Pa	assing Lane Effective Length?	No		Total Segmer	t Density, veh/mi/ln	0.4
%lm	provement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Sub	osegment Data	·				·
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	528	-		-	57.1
Veł	nicle Results					
Aver	age Speed, mi/h	57.1		Percent Follo	wers, %	23.4
	ment Travel Time, minutes	0.11			sity (FD), followers/mi/ln	0.4
	cle LOS	A				
						1

Veh	iicle Inputs	1		T		1	
Segn	nent Type	Passing Zone		Length, ft	2112		
Lane	Width, ft	9		Shoulder Width, ft	1		
Spee	d Limit, mi/h	55		Access Point Dens	ity, pts/mi	5.0	
Der	mand and Capacity						
Direc	tional Demand Flow Rate, veh/h	101		Opposing Deman	d Flow Rate, veh/h	72	
Peak	Hour Factor	0.94		Total Trucks, %		2.00	
Segn	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.06	
Inte	ermediate Results						
Segment Vertical Class		2		Free-Flow Speed,	mi/h	56.0	
Spee	d Slope Coefficient (m)	3.11550		Speed Power Coet	ficient (p)	0.61333	
PF SI	ope Coefficient (m)	-1.23244		PF Power Coefficie	ent (p)	0.78494	
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3	
%lmj	provement to Percent Followers	0.0		%Improvement to	Speed	0.0	
Sub	segment Data						
#	Segment Type	Length, ft	Rac	ius, ft Superelevation, %		Average Speed, mi/h	
1	Tangent	2112	-	-		56.0	
Veh	icle Results					-	
Average Speed, mi/h 56.0		56.0		Percent Followers,	%	18.4	
Segn	nent Travel Time, minutes	0.43		Follower Density (FD), followers/mi/ln	0.3	
Vehio	cle LOS	A					
		Se	egm	ent 10			
Veh	icle Inputs						
	nent Type	Passing Constrained		Length, ft		1056	
Lane	Width, ft	9		Shoulder Width, ft		1	
Spee	d Limit, mi/h	55		Access Point Density, pts/mi		28.0	
Der	mand and Capacity						
Direc	tional Demand Flow Rate, veh/h	101		Opposing Demand Flow Rate, veh/h		-	
Peak	Hour Factor	0.94		Total Trucks, %		2.00	
	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.06	
	1 27 7						
Segn	ermediate Results						
Segn Inte		1		Free-Flow Speed,	mi/h	50.3	
Segn Inte Segn	ermediate Results	1 3.23679		Free-Flow Speed, Speed Power Coef		50.3 0.41674	
Segn Inte Segn Spee	ermediate Results			· · ·	ficient (p)		
Segn Inte Segn Spee PF SI	ermediate Results nent Vertical Class d Slope Coefficient (m)	3.23679		Speed Power Coet	ficient (p) ent (p)	0.41674	
Segn Inte Segn Spee PF SI In Pa	ermediate Results nent Vertical Class d Slope Coefficient (m) ope Coefficient (m)	3.23679 -1.47191		Speed Power Coefficie	ficient (p) ent (p) nsity, veh/mi/ln	0.41674	

Average Speed, mi/h	50.1		25.0	0.5			ros	A			50 < Speed ≤	— 0 40 < Speed ≤ 50 — 0 30 < Speed ≤ 40 ■ 20 < Speed < 30	Speed ≤ 20				● FD ≤ 2 ● 2 < FD ≤ 4	● 4 < FD ≤ 8 ● 8 < FD ≤ 12	 12 < FD ≤ 99 FD > 99 		Generated: 05/12/2022 18:27:42
Superelevation, %	-		%	Follower Density (FD), followers/mi/ln			Follower Density, followers/ mi/ln	0.4		•				- 6					•	- 6	
Radius, ft			Percent Followers, %	Follower Density (Follower De		tion					- 1	ribution					8-	HCSTMM Highways Version 2022 Construction PM KY 344.xuf
	1						VHD veh-h/p	0.00	Speed Distribution					5 6 Segment AP1	Followers Density Distribution					5 6 Segment	HCS弧 Highwa Construction
Length, ft	1056		50.1	0.24	A				S					- 4	ollower				•	- 4	All Rights Reserved.
Segment Type	nt	tesults	ed, mi/h	Segment Travel Time, minutes		tesults	VMT veh-mi/p	53						- C2	Ľ					- M - N	Copyright © 2022 University of Florida. All Rights
# Segme	1 Tangent	Vehicle Results	Average Speed, mi/h	Segment Tra	Vehicle LOS	Facility Results	F	-		60- 55-		seed2	30-	r (7	یا u)	l\im\2	əwollo	ł) (tisn	rs De	evollo F_	Copyright © 202

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0.0

Project Information ATW Date Analyst Agency Stantec Analysis Year Jurisdiction Time Analyzed **Project Description** KY 57 Units Segment 1 **Vehicle Inputs** Passing Constrained Length, ft Segment Type 9 Shoulder Width, ft Lane Width, ft

0.0

Speed Limit, mi/h	55	Access Point Density, pts/mi	24.7	
Demand and Capacity				
Directional Demand Flow Rate, veh/h	91	Opposing Demand Flow Rate, veh/h	-	
Peak Hour Factor	0.94	Total Trucks, %	3.50	
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.05	
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.1	
Speed Slope Coefficient (m)	3.31561	Speed Power Coefficient (p)	0.41674	
PF Slope Coefficient (m)	-1.37832	PF Power Coefficient (p)	0.73598	
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.4	

Subsegment Data

%Improvement to Percent Followers

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h					
1	Tangent	3833	-	-	51.1					

%Improvement to Speed

Vehicle Results

Average Speed, mi/h	51.1	Percent Followers, %	21.1
Segment Travel Time, minutes	0.85	Follower Density (FD), followers/mi/In	0.4
Vehicle LOS	А		

Segment 2

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	528				
Lane Width, ft	9	Shoulder Width, ft	1				
Speed Limit, mi/h 55 Access Point Density, pts/mi		Access Point Density, pts/mi	12.0				
Demand and Capacity							
Directional Demand Flow Rate, veh/h	91	Opposing Demand Flow Rate, veh/h	48				
Peak Hour Factor	0.94	Total Trucks, % 3.50					

Segment Capacity, veh/h	1700	1700 Dem		Demand/Capacity (D/C)	
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	54.3
Speed Slope Coefficient (m) 3.12113			Speed Power Coe	fficient (p)	0.60294
PF Slope Coefficient (m)	-1.26325		PF Power Coeffici	ent (p)	0.78028
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	528	-		-	54.3
Vehicle Results					
Average Speed, mi/h	54.3		Percent Followers	, %	17.8
Segment Travel Time, minutes	0.11		Follower Density	(FD), followers/mi/ln	0.3
Vehicle LOS	A				
		Segn	nent 3		
Vehicle Inputs					
Segment Type	Passing Zone	ne Length, ft			2580
Lane Width, ft	9		Shoulder Width, ft		6
Speed Limit, mi/h	55		Access Point Den	Access Point Density, pts/mi	
Demand and Capacity					
Directional Demand Flow Rate, veh/h	91		Opposing Deman	d Flow Rate, veh/h	48
Peak Hour Factor	0.94		Total Trucks, %		3.50
Segment Capacity, veh/h	1700		Demand/Capacity	Demand/Capacity (D/C)	
Intermediate Results					
Segment Vertical Class	3		Free-Flow Speed, mi/h		59.3
Speed Slope Coefficient (m)	4.11812		Speed Power Coefficient (p)		0.76192
PF Slope Coefficient (m)	-1.12853		PF Power Coefficient (p)		0.81549
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.2
%Improvement to Percent Followers	0.0		%Improvement to	o Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	2580	-		-	59.3
Vehicle Results					
Average Speed, mi/h	59.3		Percent Followers	, %	14.8
Segment Travel Time, minutes	0.49		Follower Density	(FD), followers/mi/ln	0.2
Vehicle LOS	A				
		Sear	nent 4		

	nicle Inputs					
Segr	nent Type	t Type Passing Constrained		Length, ft		1400
Lane	e Width, ft	12		Shoulder Width, ft	t	6
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	7.7
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	91		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.05
Into	ermediate Results					
Segr	ment Vertical Class	3		Free-Flow Speed,	mi/h	60.1
Spee	ed Slope Coefficient (m)	4.77922		Speed Power Coet	fficient (p)	0.53696
PF S	lope Coefficient (m)	-1.47099		PF Power Coefficie	ent (p)	0.73766
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1400	-		-	60.1
Veł	nicle Results	•	_		л	-
Average Speed, mi/h		60.1	60.1 Percent Follo		%	22.3
Segr	nent Travel Time, minutes	0.26	26 Follower De		FD), followers/mi/ln	0.3
Vehi	cle LOS	A				
		S	Segn	nent 5		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone	Length, ft			1399
Lane Width, ft		12		Shoulder Width, ft		6
Lane		55		Access Point Density, pts/mi		
	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	7.4
Spee	ed Limit, mi/h mand and Capacity	55		Access Point Dens	ity, pts/mi	7.4
Spee Dei		91		1	ity, pts/mi d Flow Rate, veh/h	48
Spee Der	mand and Capacity			1		
Spee Der Direc Peak	mand and Capacity ctional Demand Flow Rate, veh/h	91		Opposing Deman	d Flow Rate, veh/h	48
Spee Der Direc Peak Segr	mand and Capacity ctional Demand Flow Rate, veh/h t Hour Factor	91 0.94		Opposing Deman	d Flow Rate, veh/h	48 3.50
Spee Der Direc Peak Segr Inte	mand and Capacity ctional Demand Flow Rate, veh/h t Hour Factor ment Capacity, veh/h	91 0.94		Opposing Deman	d Flow Rate, veh/h (D/C)	48 3.50
Spee Den Direc Peak Segr Inte	mand and Capacity ctional Demand Flow Rate, veh/h a Hour Factor ment Capacity, veh/h ermediate Results	91 0.94 1700		Opposing Deman Total Trucks, % Demand/Capacity	d Flow Rate, veh/h (D/C) mi/h	48 3.50 0.05
Spee Direct Peak Segr Into Segr Spee	mand and Capacity ctional Demand Flow Rate, veh/h t Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class	91 0.94 1700 2		Opposing Deman Total Trucks, % Demand/Capacity	d Flow Rate, veh/h (D/C) mi/h fficient (p)	48 3.50 0.05 60.6
Spee Direc Peak Segr Inte Segr Spee PF SI	mand and Capacity ctional Demand Flow Rate, veh/h a Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class ed Slope Coefficient (m)	91 0.94 1700 2 3.11550		Opposing Demand Total Trucks, % Demand/Capacity Free-Flow Speed, Speed Power Coeff	d Flow Rate, veh/h (D/C) mi/h fficient (p) ent (p)	48 3.50 0.05 60.6 0.66519

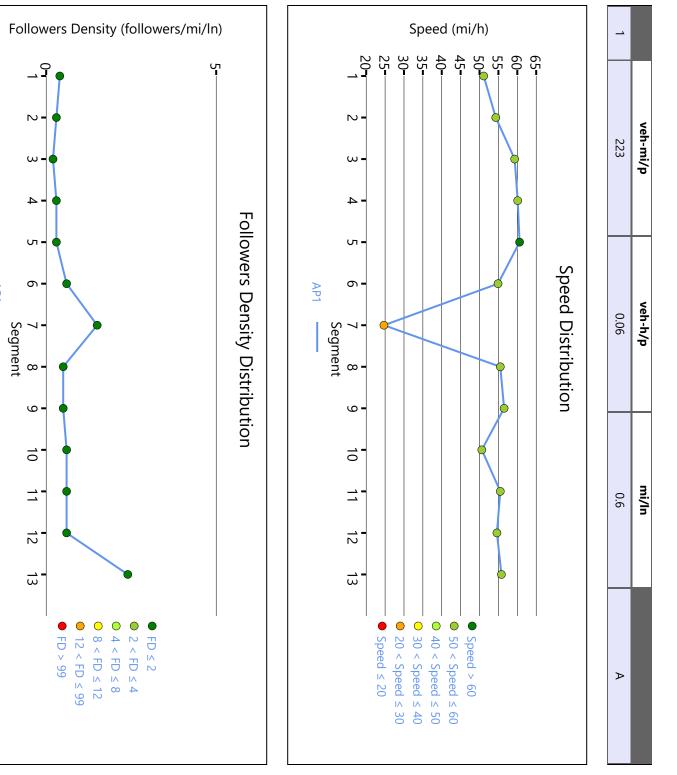
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1399	-		-	60.6
Veł	nicle Results					
Aver	age Speed, mi/h	60.6	Percent Followe	ers, %	17.0	
Segr	ment Travel Time, minutes	0.26		Follower Densit	y (FD), followers/mi/ln	0.3
Vehi	cle LOS	A				
			Segr	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		4187
Lane	e Width, ft	10		Shoulder Width	, ft	1
Spee	ed Limit, mi/h	55		Access Point De	ensity, pts/mi	8.9
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	124		Opposing Dem	and Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	ment Capacity, veh/h	1700		Demand/Capac	ity (D/C)	0.07
Inte	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed, mi/h		55.7
Spee	ed Slope Coefficient (m)	3.56613	Speed Power Coefficient (p)		0.41674	
PF S	lope Coefficient (m)	-1.34280		PF Power Coefficient (p)		0.74945
In Pa	assing Lane Effective Length?	No		Total Segment I	Density, veh/mi/ln	0.6
%lm	provement to Percent Followers	0.0		%Improvement	to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	4187	-		-	54.9
Veł	nicle Results				•	
Aver	age Speed, mi/h	54.9		Percent Followe	ers, %	24.6
Segr	nent Travel Time, minutes	0.87		Follower Densit	y (FD), followers/mi/ln	0.6
Vehi	cle LOS	A				
			Segr	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		4905
Lane Width, ft 10			Shoulder Width, ft		1	
Spee	ed Limit, mi/h	35		Access Point Density, pts/mi		39.8
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	124		Opposing Dem	and Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Sear	ment Capacity, veh/h	1700		Demand/Capac	ity (D/C)	0.07

Int	ermediate Results					
Segment Vertical Class 1 F		Free-Flow Speed, mi/h		25.1		
Speed Slope Coefficient (m) 1.91896 S		Speed Power	Coefficient (p)	0.41674		
PF S	lope Coefficient (m)	-1.32538		PF Power Coe	fficient (p)	0.62496
In Pa	assing Lane Effective Length?	No		Total Segmen	t Density, veh/mi/ln	1.5
%lm	provement to Percent Followers	0.0		%Improveme	nt to Speed	0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4905	-		-	24.7
Vel	nicle Results				•	·
Aver	rage Speed, mi/h	24.7		Percent Follow	vers, %	30.3
Segi	ment Travel Time, minutes	2.25		Follower Dens	sity (FD), followers/mi/ln	1.5
Vehi	cle LOS	A				
			Segn	nent 8		
Vel	nicle Inputs					
Segi	ment Type	Passing Zone		Length, ft		1162
Lane	e Width, ft	10		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		8.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	124		Opposing Demand Flow Rate, veh/h		67
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segi	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.07
Int	ermediate Results					
Segi	ment Vertical Class	2		Free-Flow Speed, mi/h		55.8
Spee	ed Slope Coefficient (m)	3.11550		Speed Power Coefficient (p)		0.62152
PF S	lope Coefficient (m)	-1.28024		PF Power Coefficient (p)		0.77103
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.5
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Rac	dius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	1162	-		-	55.5
Vel	hicle Results					
Aver	rage Speed, mi/h	55.5		Percent Follow	vers, %	22.6
	ment Travel Time, minutes	0.24			sity (FD), followers/mi/ln	0.5
Vehi	cle LOS	A				
		1				1

Veł	nicle Inputs					
Segr	Segment Type Passing Constrained		Length, ft		8686	
-	Width, ft	12		Shoulder Width, ft	t	1
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	7.3
Dei	mand and Capacity	_				
Dire	ctional Demand Flow Rate, veh/h	124		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.07
Inte	ermediate Results	·				·
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	57.3
Spee	ed Slope Coefficient (m)	3.69306		Speed Power Coet	fficient (p)	0.41674
PF SI	lope Coefficient (m)	-1.31619		PF Power Coefficie	ent (p)	0.73942
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.5
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	8686	-		-	56.5
Veł	nicle Results	•	,			-
Aver	age Speed, mi/h	56.5		Percent Followers, %		24.6
Segr	nent Travel Time, minutes	1.75	Follower Density		FD), followers/mi/ln	0.5
Vehi	cle LOS	A				
		Se	egm	ent 10		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1177
Lane	Width, ft	10		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		28.0
Dei	mand and Capacity	·		•		
Dire	ctional Demand Flow Rate, veh/h	124		Opposing Demand Flow Rate, veh/h		67
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.07
Inte	ermediate Results					
Segment Vertical Class 1		1	Free-Flow Speed, I		mi/h	50.9
Segr	ed Slope Coefficient (m)	2.95000		Speed Power Coet		0.59085
				PF Power Coefficient (p)		0.76722
Spee	lope Coefficient (m)	-1.28278		Total Segment Density, veh/mi/ln		
Spee PF SI	lope Coefficient (m) issing Lane Effective Length?	-1.28278 No		Total Segment De	nsity, veh/mi/ln	0.6
Spee PF SI In Pa	•			Total Segment De %Improvement to	-	0.6

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1177	-		-	50.6
Veł	nicle Results	-				
Aver	age Speed, mi/h	50.6	Percent Follower	s, %	22.8	
Segr	nent Travel Time, minutes	0.26		Follower Density	(FD), followers/mi/ln	0.6
Vehi	cle LOS	A				
			Segm	nent 11		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		1420
Lane	e Width, ft	12		Shoulder Width,	ft	1
Spee	ed Limit, mi/h	55		Access Point Der	nsity, pts/mi	11.1
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	124		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacit	ty (D/C)	0.07
Inte	ermediate Results	·				
Segr	nent Vertical Class	1 Free-Flow Speed, mi/h		, mi/h	56.3	
Spee	ed Slope Coefficient (m)	3.56256	3.56256 Speed Power Coefficient (p)		efficient (p)	0.41674
PF S	lope Coefficient (m)	-1.42277		PF Power Coefficient (p)		0.72994
In Pa	assing Lane Effective Length?	No	No Total Segment D		ensity, veh/mi/ln	0.6
%lm	provement to Percent Followers	0.0		%Improvement t	o Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	1420	-	-		55.5
Veł	nicle Results	•				
Aver	age Speed, mi/h	55.5		Percent Follower	s, %	26.7
Segr	nent Travel Time, minutes	0.29	0.29		(FD), followers/mi/ln	0.6
Vehi	cle LOS	A	A			
			Segm	nent 12		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		10212
Lane Width, ft 11			Shoulder Width, ft		1	
Speed Limit, mi/h 55			Access Point Der	nsity, pts/mi	12.4	
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	124		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Sear	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.07

Inte	ermediate Results					
	ment Vertical Class	Free-Flow Speed,	mi/h	55.4		
	ed Slope Coefficient (m)	3.60216			fficient (p)	0.41674
		-1.33893		PF Power Coefficie		0.72336
	assing Lane Effective Length?	No		Total Segment De	· .	0.6
	provement to Percent Followers	0.0		%Improvement to	· ·	0.0
	bsegment Data	0.0		Joimprovement to		
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	10212	-			54.6
	hicle Results				<u> </u>	54.0
_				_		
	rage Speed, mi/h	54.6		Percent Followers		25.7
	ment Travel Time, minutes	2.12		Follower Density (FD), followers/mi/ln	0.6
Vehi	icle LOS	A				
			Segn	nent 13		
Veł	hicle Inputs					
Segr	ment Type	Passing Constraine	ed	Length, ft		608
Lane	e Width, ft	11		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	4.0
De	mand and Capacity	·		•		·
Dire	ctional Demand Flow Rate, veh/h	284		Opposing Deman	d Flow Rate, veh/h	-
Peak	K Hour Factor	0.94		Total Trucks, %		3.50
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.17
Inte	ermediate Results					•
Segr	ment Vertical Class	2	_	Free-Flow Speed,	mi/h	57.3
Spee	ed Slope Coefficient (m)	3.11550		Speed Power Coefficient (p)		0.42136
PF S	ilope Coefficient (m)	-1.52652		PF Power Coefficient (p)		0.71538
In Pa	assing Lane Effective Length?	No			nsity, veh/mi/ln	2.4
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Sub	bsegment Data					
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	608	-	-		55.8
Veł	hicle Results					
Aver	rage Speed, mi/h	55.8		Percent Followers	, %	46.2
Segr	ment Travel Time, minutes	0.12		Follower Density (FD), followers/mi/ln	2.4
Vehi	icle LOS	В				
Fac	ility Results					
1	r VMT	VHD		Follower D	ensity, followers/	LOS





Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed **Construction PM Project Description** KY 57 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 3833 Segment Type 9 Lane Width, ft Shoulder Width, ft 1 Speed Limit, mi/h 55 Access Point Density, pts/mi 24.7 **Demand and Capacity** 187 Directional Demand Flow Rate, veh/h Opposing Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 3.50 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.11 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 51.1 Speed Slope Coefficient (m) 3.31561 Speed Power Coefficient (p) 0.41674 -1.37832 0.73598 PF Slope Coefficient (m) PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 1.2

0.0

Subsegment Data

%Improvement to Percent Followers

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3833	-	-	49.9

%Improvement to Speed

0.0

Vehicle Results

Average Speed, mi/h	49.9	Percent Followers, %	33.1
Segment Travel Time, minutes	0.87	Follower Density (FD), followers/mi/In	1.2
Vehicle LOS	А		

Segment 2

Vehicle Inputs

Segment Type Passing Zone		Length, ft	528
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.0
	1		1
Demand and Capacity		1	
Demand and Capacity Directional Demand Flow Rate, veh/h	187	Opposing Demand Flow Rate, veh/h	102

Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.11
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	54.3
Speed Slope Coefficient (m)	3.15417		Speed Power Coe	fficient (p)	0.57329
PF Slope Coefficient (m)	-1.29266		PF Power Coeffici	ent (p)	0.77391
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	1.0
%Improvement to Percent Followers	0.0		%Improvement to	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	528	-		-	53.5
Vehicle Results				- -	
Average Speed, mi/h	53.5		Percent Followers	, %	29.8
Segment Travel Time, minutes	0.11		Follower Density	(FD), followers/mi/ln	1.0
Vehicle LOS	A				
		Segn	nent 3		
Vehicle Inputs					
Segment Type	Passing Zone	Passing Zone		Length, ft	
Lane Width, ft	9	9		Shoulder Width, ft	
Speed Limit, mi/h	55	55		sity, pts/mi	4.1
Demand and Capacity					
Directional Demand Flow Rate, veh/h	187		Opposing Deman	d Flow Rate, veh/h	102
Peak Hour Factor	0.94	Total Trucks, %			3.50
Segment Capacity, veh/h	1700		Demand/Capacity	Demand/Capacity (D/C)	
Intermediate Results					
Segment Vertical Class	3		Free-Flow Speed, mi/h		59.3
Speed Slope Coefficient (m)	4.23153		Speed Power Coefficient (p)		0.71457
PF Slope Coefficient (m)	-1.16478		PF Power Coefficient (p)		0.80653
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.8
%Improvement to Percent Followers	0.0		%Improvement to	%Improvement to Speed	
Subsegment Data					
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	2580	-		-	58.5
Vehicle Results					
Average Speed, mi/h	58.5		Percent Followers	, %	26.0
Segment Travel Time, minutes	0.50		Follower Density	(FD), followers/mi/ln	0.8
Vehicle LOS	A				
		Soar	nent 4		

	nicle Inputs					
Segment Type Passing Constrained		Length, ft		1400		
Lane	Width, ft	12		Shoulder Width, ft	t	6
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	7.7
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	187		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.11
Inte	ermediate Results					
Segr	nent Vertical Class	3		Free-Flow Speed,	mi/h	60.1
Spee	ed Slope Coefficient (m)	4.77922		Speed Power Coet	fficient (p)	0.53696
PF S	lope Coefficient (m)	-1.47099		PF Power Coefficie	ent (p)	0.73766
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	1.1
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1400	-		-	58.8
Veł	nicle Results	•			<u>и</u>	-
Aver	age Speed, mi/h	58.8		Percent Followers, %		34.8
Segr	nent Travel Time, minutes	0.27		Follower Density (FD), followers/mi/ln	1.1
Vehi	cle LOS	A				
		S	egn	nent 5		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1399
Lane Width, ft		12		Shoulder Width, ft		6
Lane		55		Access Daint Dans	itu ptc/mi	7.4
	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	7.4
Spee	ed Limit, mi/h mand and Capacity	55		Access Point Dens		1.4
Spee Dei		187		1	d Flow Rate, veh/h	102
Spee Der	mand and Capacity	_		1		
Spee Der Direc Peak	mand and Capacity ctional Demand Flow Rate, veh/h	187		Opposing Deman	d Flow Rate, veh/h	102
Spee Der Direc Peak Segr	mand and Capacity ctional Demand Flow Rate, veh/h Hour Factor	187 0.94		Opposing Deman	d Flow Rate, veh/h	102 3.50
Spee Der Direc Peak Segr Into	mand and Capacity ctional Demand Flow Rate, veh/h : Hour Factor ment Capacity, veh/h	187 0.94		Opposing Deman	d Flow Rate, veh/h (D/C)	102 3.50
Spee Den Direc Peak Segr Inte	mand and Capacity ctional Demand Flow Rate, veh/h : Hour Factor ment Capacity, veh/h ermediate Results	187 0.94 1700		Opposing Deman Total Trucks, % Demand/Capacity	d Flow Rate, veh/h (D/C) mi/h	102 3.50 0.11
Spee Diree Peak Segr Inte Segr Spee	mand and Capacity ctional Demand Flow Rate, veh/h Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class	187 0.94 1700 2		Opposing Deman Total Trucks, % Demand/Capacity	d Flow Rate, veh/h (D/C) mi/h fficient (p)	102 3.50 0.11 60.6
Spee Direc Peak Segr Inte Segr Spee	mand and Capacity ctional Demand Flow Rate, veh/h Hour Factor ment Capacity, veh/h ermediate Results ment Vertical Class ed Slope Coefficient (m)	187 0.94 1700 2 3.11550		Opposing Demand Total Trucks, % Demand/Capacity Free-Flow Speed, Speed Power Coeff	d Flow Rate, veh/h (D/C) mi/h fficient (p) ent (p)	102 3.50 0.11 60.6 0.62914

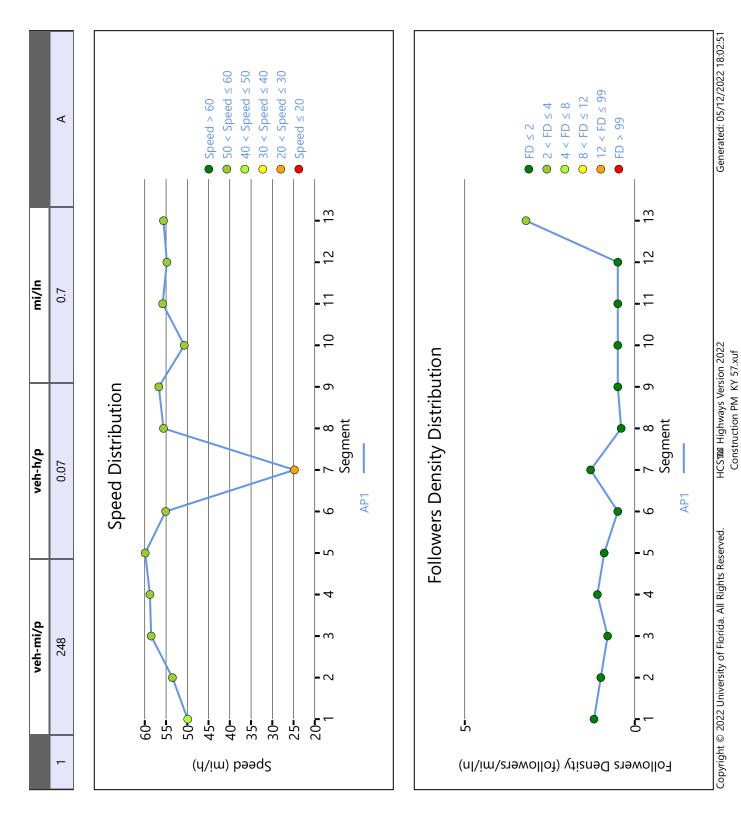
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1399	-		-	59.9
Veł	nicle Results					
Average Speed, mi/h 59.9			Percent Followe	rs, %	28.8	
Segr	nent Travel Time, minutes	0.27		Follower Density	/ (FD), followers/mi/ln	0.9
Vehi	cle LOS	A				
			Segr	nent 6		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		4187
Lane	Width, ft	10		Shoulder Width	, ft	1
Spee	ed Limit, mi/h	55		Access Point De	nsity, pts/mi	8.9
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	112		Opposing Dema	and Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capaci	ty (D/C)	0.07
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		55.7
Spee	ed Slope Coefficient (m)	3.56613		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)		-1.34280	-1.34280		cient (p)	0.74945
In Pa	ssing Lane Effective Length?	No	No		Density, veh/mi/ln	0.5
%lm	provement to Percent Followers	0.0		%Improvement	0.0	
Suł	osegment Data					
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4187	-		-	55.1
Veł	nicle Results					
Aver	age Speed, mi/h	55.1		Percent Followers, %		22.9
Segr	nent Travel Time, minutes	0.86		Follower Density (FD), followers/mi/ln		0.5
Vehi	cle LOS	A				
			Segr	nent 7		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ed	Length, ft		4905
Lane Width, ft 10		Shoulder Width, ft		1		
Spee	ed Limit, mi/h	35		Access Point Density, pts/mi 39.8		
Dei	mand and Capacity					
	ctional Demand Flow Rate, veh/h	112		Opposing Dema	and Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Sear	nent Capacity, veh/h	1700		Demand/Capaci	ty (D/C)	0.07

Inte	ermediate Results					
Segment Vertical Class		1		Free-Flow Speed, mi/h		25.1
Speed Slope Coefficient (m)		1.91896		Speed Power C	oefficient (p)	0.41674
PF S	lope Coefficient (m)	-1.32538		PF Power Coeff	icient (p)	0.62496
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	1.3
%lm	provement to Percent Followers	0.0		%Improvement	to Speed	0.0
Subsegment Data						
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4905	-		-	24.8
Veł	icle Results				-	-1
Aver	age Speed, mi/h	24.8		Percent Followe	ers, %	28.6
Segr	nent Travel Time, minutes	2.24		Follower Densit	y (FD), followers/mi/ln	1.3
Vehi	cle LOS	A				
			Segr	nent 8		
	nicle Inputs	1		1		
-	nent Type	Passing Zone		Length, ft		1162
Lane	e Width, ft	10		Shoulder Width	n, ft	1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		8.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	112		Opposing Demand Flow Rate, veh/h		61
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.07
Inte	ermediate Results					
Segr	ment Vertical Class	2		Free-Flow Speed, mi/h		55.8
Spee	ed Slope Coefficient (m)	3.11550		Speed Power Coefficient (p)		0.62611
PF S	lope Coefficient (m)	-1.27620		PF Power Coefficient (p)		0.77185
In Pa	assing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.4
%lm	provement to Percent Followers	0.0		%Improvement to Speed		0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1162	-		-	55.6
Veł	nicle Results					
Aver	age Speed, mi/h	55.6		Percent Followe	ers, %	20.9
	ment Travel Time, minutes	0.24			y (FD), followers/mi/ln	0.4
	cle LOS	A				

Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		8686
-	e Width, ft	12		Shoulder Width, ft	t	1
Spee	ed Limit, mi/h	55		Access Point Dens	ity, pts/mi	7.3
Dei	mand and Capacity	1		1		1
Dire	ctional Demand Flow Rate, veh/h	112		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.07
Inte	ermediate Results	•		-		·
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	57.3
Spee	ed Slope Coefficient (m)	3.69306		Speed Power Coet	fficient (p)	0.41674
PF S	lope Coefficient (m)	-1.31619		PF Power Coefficie	ent (p)	0.73942
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.5
%lm	provement to Percent Followers	0.0		%Improvement to	Speed	0.0
Suł	osegment Data	·		-		
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	8686	-		-	56.7
Veł	nicle Results	•			•	-
Aver	age Speed, mi/h	56.7		Percent Followers, %		22.9
Segr	nent Travel Time, minutes	1.74		Follower Density (FD), followers/mi/In		0.5
Vehi	cle LOS	A				
		Se	egm	nent 10		
Veł	nicle Inputs					
Segr	nent Type	Passing Zone		Length, ft		1177
Lane	e Width, ft	10		Shoulder Width, ft		1
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		28.0
Dei	mand and Capacity	·		-		
Dire	ctional Demand Flow Rate, veh/h	112		Opposing Demand Flow Rate, veh/h		61
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capacity (D/C)		0.07
Inte	ermediate Results					
Segment Vertical Class 1		1		Free-Flow Speed,	mi/h	50.9
Jugi	ed Slope Coefficient (m)	2.94585		Speed Power Coet		0.59462
				PF Power Coefficie	ent (p)	0.76801
Spee	lope Coefficient (m)	1.21050		Total Segment Density, veh/mi/ln		
Spee PF SI	lope Coefficient (m) assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.5
Spee PF SI In Pa	·			Total Segment De %Improvement to	-	0.5

#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1177	-		-	50.7
Veł	nicle Results					
Aver	Average Speed, mi/h 50.7			Percent Follower	rs, %	21.1
Segr	nent Travel Time, minutes	0.26		Follower Density	r (FD), followers/mi/ln	0.5
Vehi	cle LOS	А				
			Segm	nent 11		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ned	Length, ft		1420
Lane	Width, ft	12		Shoulder Width,	ft	1
Spee	ed Limit, mi/h	55		Access Point Der	nsity, pts/mi	11.1
Dei	mand and Capacity			- -		
Dire	ctional Demand Flow Rate, veh/h	112		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Segr	nent Capacity, veh/h	1700		Demand/Capaci	ty (D/C)	0.07
Inte	ermediate Results	·				
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		56.3
Spee	ed Slope Coefficient (m)	3.56256		Speed Power Co	efficient (p)	0.41674
PF S	lope Coefficient (m)	-1.42277		PF Power Coeffic	cient (p)	0.72994
In Pa	ssing Lane Effective Length?	No	No		ensity, veh/mi/ln	0.5
%lm	provement to Percent Followers	0.0		%Improvement	to Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	lius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	1420	-		-	55.8
Veł	nicle Results					
Aver	age Speed, mi/h	55.8		Percent Follower	s, %	25.0
Segr	nent Travel Time, minutes	0.29		Follower Density (FD), followers/mi/ln		0.5
Vehi	cle LOS	A				
			Segm	nent 12		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrain	ned	Length, ft		10212
Lane Width, ft 11			Shoulder Width, ft		1	
Speed Limit, mi/h 55				Access Point Density, pts/mi 12.4		
Dei	mand and Capacity					•
Dire	ctional Demand Flow Rate, veh/h	112		Opposing Dema	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.94		Total Trucks, %		3.50
Sear	nent Capacity, veh/h	1700		Demand/Capaci	tv (D/C)	0.07

Inte	ermediate Results						
		1		Free-Flow Speed,			
		1				55.4	
		3.60216		Speed Power Coe		0.41674	
	lope Coefficient (m)	-1.33893		PF Power Coefficie	•	0.72336	
	assing Lane Effective Length?	No		Total Segment De	-	0.5	
%Im	provement to Percent Followers	0.0		%Improvement to	Speed	0.0	
Subsegment Data							
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	10212	-		-	54.8	
Veł	nicle Results						
Aver	rage Speed, mi/h	54.8		Percent Followers	, %	24.0	
Segr	ment Travel Time, minutes	2.12		Follower Density ((FD), followers/mi/ln	0.5	
Vehi	cle LOS	A					
			Segn	nent 13			
Veł	nicle Inputs						
Segr	ment Type	Passing Constrained	ł	Length, ft		608	
	e Width, ft	11		Shoulder Width, ft		1	
Spee	ed Limit, mi/h	55		Access Point Density, pts/mi		4.0	
Der	mand and Capacity	1		1			
	ctional Demand Flow Rate, veh/h	345		Opposing Deman	Opposing Demand Flow Rate, veh/h -		
Peak	Hour Factor	0.94		Total Trucks, %		3.50	
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.20	
Inte	ermediate Results						
Segr	ment Vertical Class	2		Free-Flow Speed, mi/h		57.3	
Spee	ed Slope Coefficient (m)	3.11550		Speed Power Coefficient (p)		0.42136	
PF SI	lope Coefficient (m)	-1.52652	-1.52652		ent (p)	0.71538	
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		3.2	
%lm	provement to Percent Followers	0.0			Speed	0.0	
Suk	bsegment Data						
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	608	-		-	55.6	
Veł	hicle Results						
Aver	rage Speed, mi/h	55.6		Percent Followers	, %	51.0	
Segr	ment Travel Time, minutes	0.12		Follower Density ((FD), followers/mi/ln	3.2	
Vehi	cle LOS	В					
Fac	ility Results						
т	г VMT	VHD		Follower D	ensity, followers/	LOS	



Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Construction AM Jurisdiction Time Analyzed Units **Project Description** CR 1037 U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 2558 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 14.0 **Demand and Capacity** 22 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 18.9 Speed Slope Coefficient (m) 1.55508 Speed Power Coefficient (p) 0.41674 0.57790 PF Slope Coefficient (m) -1.27783PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.2 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 2558 18.9 **Vehicle Results** Percent Followers, % 13.2 Average Speed, mi/h 18.9 0.2 Segment Travel Time, minutes 1.54 Follower Density (FD), followers/mi/In Vehicle LOS А **Facility Results**

Т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	3	0.00	0.2	А

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HCS Two-Lane I	Highway Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed Construction PM **Project Description** CR 1037 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 2558 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 14.0 **Demand and Capacity** 28 Directional Demand Flow Rate, veh/h Opposing Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 18.9 Speed Slope Coefficient (m) 1.55508 Speed Power Coefficient (p) 0.41674 0.57790 PF Slope Coefficient (m) -1.27783PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.2 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 2558 18.9 **Vehicle Results** Percent Followers, % 14.8 Average Speed, mi/h 18.9 0.2 Segment Travel Time, minutes 1.54 Follower Density (FD), followers/mi/In Vehicle LOS А **Facility Results**

т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	3	0.00	0.2	А

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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed Construction AM **Project Description** CR 1036 Units U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 3025 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 12.1 **Demand and Capacity** 30 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.02 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 19.4 Speed Slope Coefficient (m) 1.58682 Speed Power Coefficient (p) 0.41674 PF Slope Coefficient (m) -1.27434 0.58479 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.2 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 3025 19.4 **Vehicle Results** 15.2 Percent Followers, % Average Speed, mi/h 19.4 0.2 Segment Travel Time, minutes 1.77 Follower Density (FD), followers/mi/In Vehicle LOS А **Facility Results**

т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/In	LOS
1	4	0.00	0.2	A
	2022 Hat with a CEL date All Distance De			C

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HCS Two-Lane Hi	ighway Report
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Project Information ATW 5/4/2022 Analyst Date Agency Stantec Analysis Year 2023 Jurisdiction Time Analyzed Construction PM Units **Project Description** CR 1036 U.S. Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 3025 Segment Type 9 0 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 25 Access Point Density, pts/mi 12.1 **Demand and Capacity** 22 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h _ Peak Hour Factor 0.94 Total Trucks, % 2.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.01 **Intermediate Results** Segment Vertical Class 1 Free-Flow Speed, mi/h 19.4 Speed Slope Coefficient (m) 1.58682 Speed Power Coefficient (p) 0.41674 PF Slope Coefficient (m) -1.27434 0.58479 PF Power Coefficient (p) In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.1 0.0 0.0 %Improvement to Percent Followers %Improvement to Speed **Subsegment Data** # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 3025 19.4 **Vehicle Results** 12.9 Percent Followers, % Average Speed, mi/h 19.4 Segment Travel Time, minutes 1.77 Follower Density (FD), followers/mi/In 0.1 Vehicle LOS А

Facility Results

1

т	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	3	0.00	0.1	А

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HCS Two-Lane H	ighway Report
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Project Information

Proje	ct Information					
Analyst		ATW	Da	Date		5/4/2022
Agency		Stantec	An	Analysis Year		2023
lurisdict	tion		Tir	me Analyzed		Construction AM
Project I	Description	CR 1030	Un	nits		U.S. Customary
		S	egmer	nt 1		
Vehic	le Inputs					
Segmen	nt Type	Passing Constrained	Lei	ngth, ft		4172
Lane Wi	idth, ft	9	Sh	oulder Width, ft	t	0
Speed L	.imit, mi/h	25	Ac	cess Point Dens	sity, pts/mi	7.6
Dema	and and Capacity	·				·
Directio	nal Demand Flow Rate, veh/h	21	Op	oposing Deman	d Flow Rate, veh/h	-
Peak Ho	our Factor	0.94	To	tal Trucks, %		2.00
Segment Capacity, veh/h		1700 E		Demand/Capacity (D/C)		0.01
Intern	nediate Results					
Segment Vertical Class		1 F		Free-Flow Speed, mi/h		20.5
Speed Slope Coefficient (m)		1.66165		Speed Power Coefficient (p)		0.41674
PF Slope Coefficient (m)		-1.27316		PF Power Coefficient (p)		0.59682
In Passing Lane Effective Length?		No		Total Segment Density, veh/mi/ln		0.1
%Impro	vement to Percent Followers	0.0	%I	mprovement to	0.0	
Subse	egment Data					
# Se	egment Type	Length, ft	Radius,	ft	Superelevation, %	Average Speed, mi/h
1 Ta	ingent	4172	-		-	20.5
Vehic	le Results	•				- ·
Average	e Speed, mi/h	20.5 Perc		Percent Followers, %		11.8
Segmen	nt Travel Time, minutes	2.31	Fo	Follower Density (FD), followers/mi/ln		0.1
Vehicle LOS		A				
F 111 - 1	ty Results					•
Facilit		VHD veh-h/p		Follower Density, followers/ mi/In		LOS
т	VMT veh-mi/p	VHD veh-h/p			mi/ln	

Project Information

Proje	ct Information					
Analyst	:	ATW	Da	ite		5/4/2022
Agency	1	Stantec	Stantec Analysis Year		2023	
Jurisdic	tion		Tir	ne Analyzed		Construction PM
Project	Description	CR 1030	Un	nits		U.S. Customary
		S	egmer	nt 1		
Vehic	le Inputs					
Segmer	nt Type	Passing Constrained	Lei	ngth, ft		4172
Lane W	/idth, ft	9	Sh	oulder Width, ft	t	0
Speed L	Limit, mi/h	25	Ac	cess Point Dens	ity, pts/mi	7.6
Dema	and and Capacity					
Directio	onal Demand Flow Rate, veh/h	18	Op	posing Deman	d Flow Rate, veh/h	-
Peak Ho	our Factor	0.94	To	tal Trucks, %		2.00
Segmer	nt Capacity, veh/h	1700		Demand/Capacity (D/C)		0.01
Inter	mediate Results					
Segment Vertical Class		1		Free-Flow Speed, mi/h		20.5
Speed Slope Coefficient (m)		1.66165		Speed Power Coefficient (p)		0.41674
PF Slop	e Coefficient (m)	-1.27316		PF Power Coefficient (p)		0.59682
In Passi	ing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.1
%Imprc	ovement to Percent Followers	0.0		%Improvement to Speed		0.0
Subse	egment Data					
# S	egment Type	Length, ft	Radius,	ft	Superelevation, %	Average Speed, mi/h
1 Ta	angent	4172	-	-		20.5
Vehic	le Results	2			-	
Average	e Speed, mi/h	20.5		Percent Followers, %		10.8
Segmer	nt Travel Time, minutes	2.31	Fo	Follower Density (FD), followers/mi/ln		0.1
Vehicle LOS		A				
Facili	ty Results					
т	VMT veh-mi/p	VHD veh-h/p		Follower Density, followers/ mi/In		LOS
1	3	0.00		1	0.1	А

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