Dogwood Solar Project - Traffic Analysis

August 28, 2023

Prepared for:

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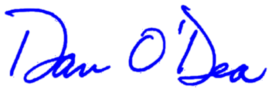
Prepared by 
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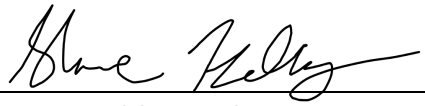
Dan O’Dea

Reviewed by 
(signature)

Brian Aldridge

Approved by 
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Shane Kelley

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Executive Summary

The Dogwood Solar Project development is proposed northeast of Hopkinsville in Christian County, Kentucky on a property located south of KY 189, north of Deason Lane, east of I-69 and west of KY 1682. 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 2027 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 024007: KY 107 (Greenville Road) from (MP 27.016) to MP (30.288)
- Station 024030: KY 107 (Greenville Road) from (MP 21.642) to MP (27.016)
- Station 024006: KY 189 (Ovil Road) from (MP 0.00) to MP (5.351)
- Station 024029: KY 1682 (Antioch Church Road) from (MP 5.894) to (MP 10.775)
- Station 024050: KY 1682 (Antioch Church Road) from (MP 10.775) to (MP 14.973)
- Station 024240: CR 1015 (Deason Lane)
- Station 024043: CR 1111 (Woodburn Hay Road)
- Station 024129: CR 1111 (Woodburn Hay Road)
- Station 024049: CR 1118 (Old Fruit Hill Road)

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.

1.0 INTRODUCTION

The purpose of this study is to estimate the traffic impacts of the proposed Dogwood Solar Project ("Dogwood Solar" or the "Project") which is located approximately six miles northeast of Hopkinsville in Christian County, Kentucky. The project site can be generally described as south of KY 189, north of Deason Lane, east of I-69 and west of KY 1682. The proposed project site is shown in **Figure 1**.

The Project area is a proposed 125-megawatt ("MW") AC solar plus 25 MW AC storage project located near the intersection of Dogwood Kelly and Greenville Roads, north of the city of Hopkinsville, in Christian County on privately-owned property. The Project is proposing to interconnect to the 161kV Hopkinsville-Lost City transmission line via a new 3-ring bus substation. The Project is anticipated to utilize approximately 670 acres for the PV solar array and associated Project components. Project will have access points around the site with major truck deliveries. A construction year of 2027 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 024007: KY 107 (Greenville Road) from (MP 27.016) to MP (30.288)
- Station 024030: KY 107 (Greenville Road) from (MP 21.642) to MP (27.016)
- Station 024006: KY 189 (Ovil Road) from (MP 0.00) to MP (5.351)
- Station 024029: KY 1682 (Antioch Church Road) from (MP 5.894) to (MP 10.775)
- Station 024050: KY 1682 (Antioch Church Road) from (MP 10.775) to (MP 14.973)
- Station 024240: CR 1015 (Deason Lane)
- Station 024043: CR 1111 (Woodburn Hay Road)
- Station 024129: CR 1111 (Woodburn Hay Road)
- Station 024049: CR 1118 (Old Fruit Hill Road)

DATA COLLECTION

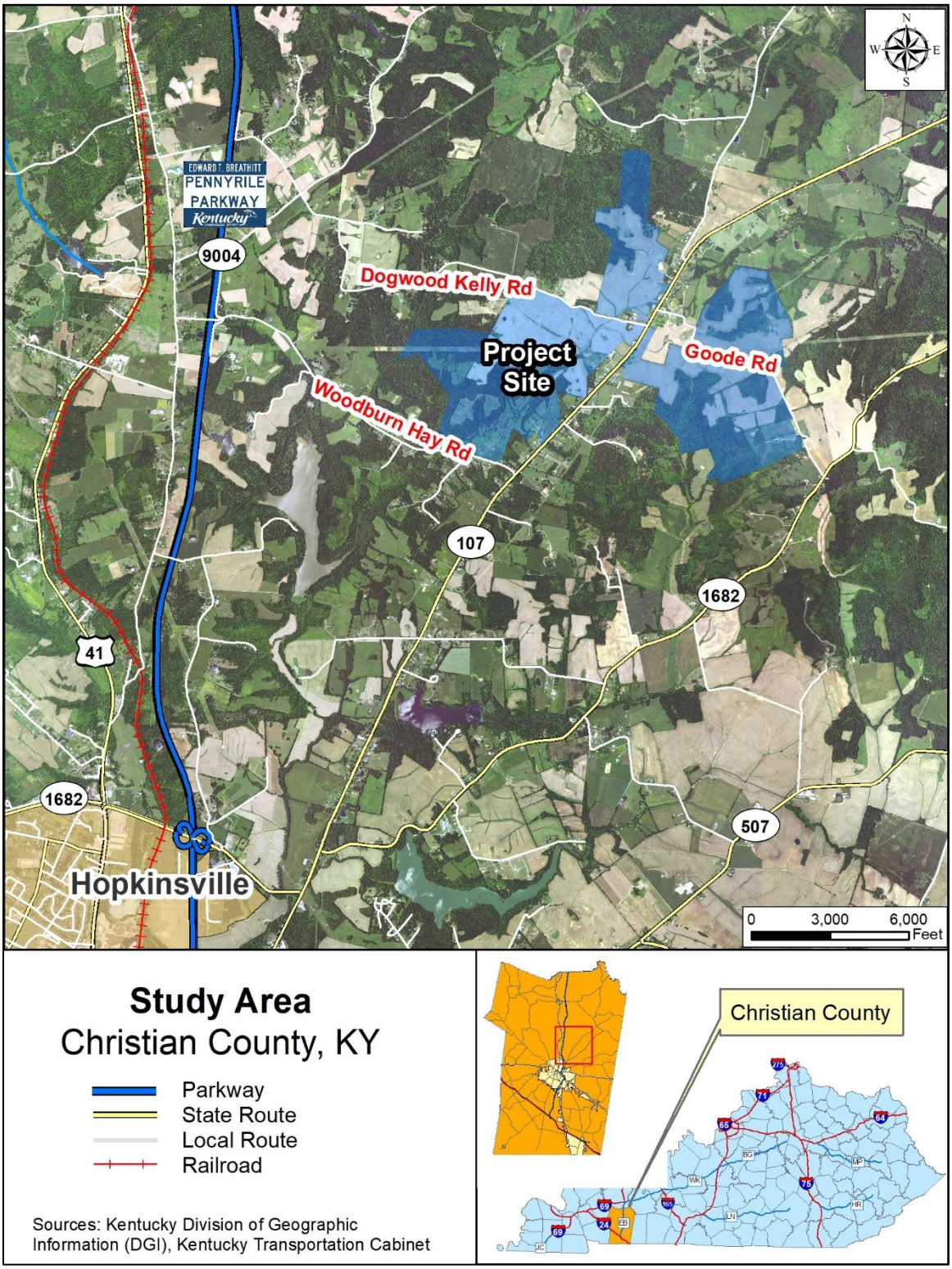


Figure 1: Project Location

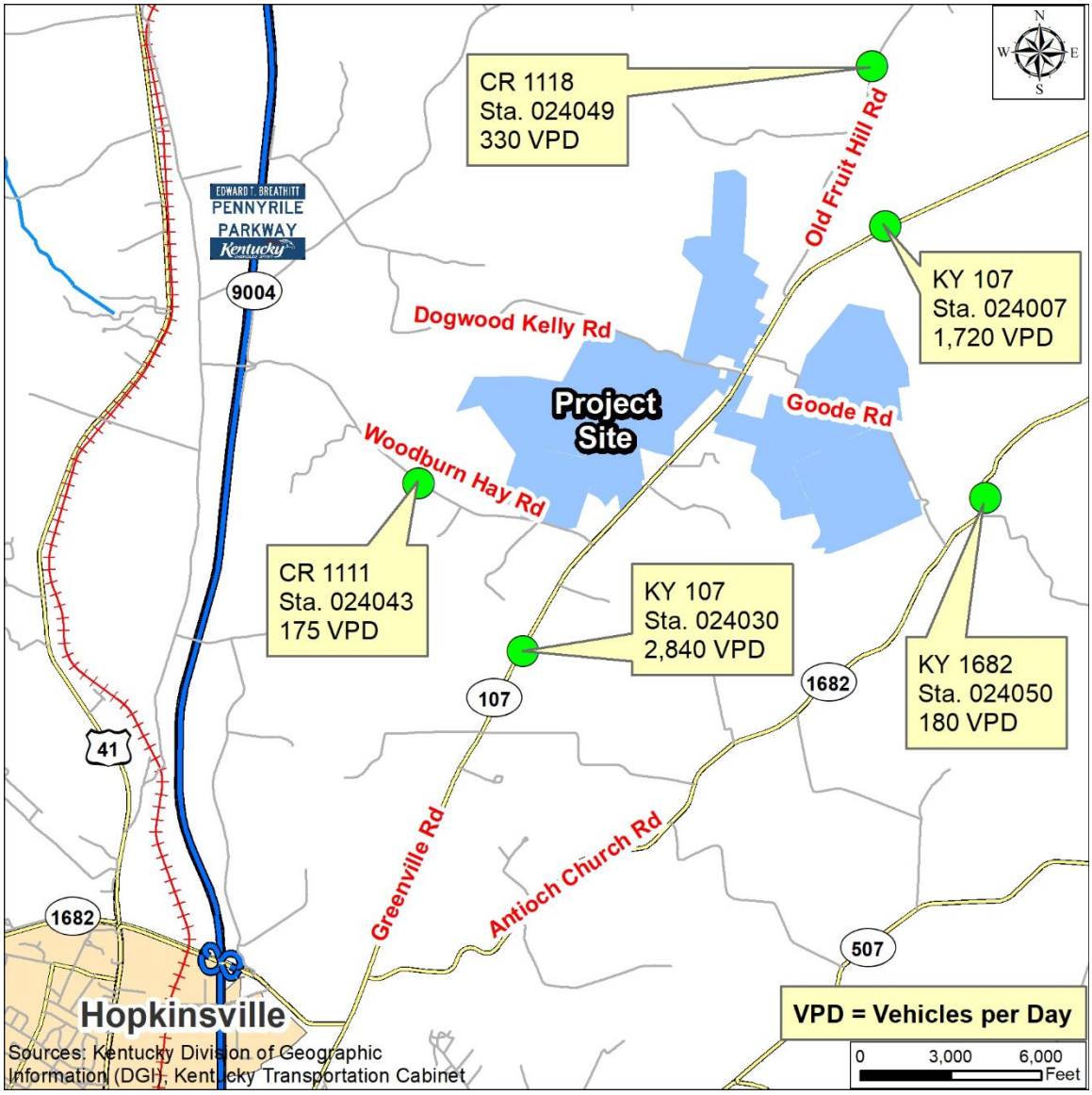


Figure 2: KYTC Count Stations

Christian County population projections remain relatively unchanged since 2019, as shown in **Figure 3**. Therefore, any traffic counts we received, except for the 2009 counts on CR 1015, 1111 and 1118, remained unchanged. The 2009 traffic counts were slightly grown (1%) over the last 13 years.

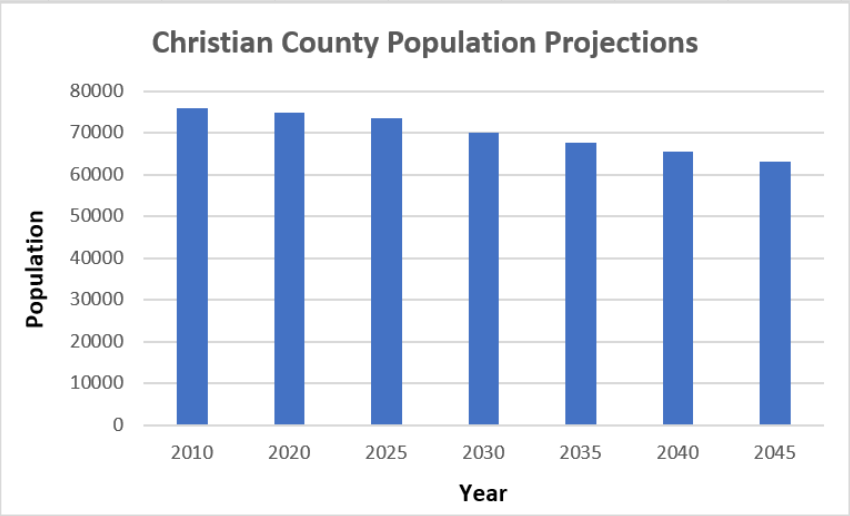


Figure 3: Population Projections

KY 189 located directly north of the project site, is classified as a two-lane minor collector with daily traffic volume of 500 vehicles per day (VPD) with a posted speed limit of 55 mph. KY 107 is a two-lane rural major collector with a posted speed limit of 55 mph and daily traffic of ranging from 1700 to 2800 VPD. To the east of the project site, KY 1682 is a two-lane rural local roadway with a posted speed limit of 55 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 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 desirable.

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

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

LOS	Density (followers/mi) Speed Limit ≥ 50 mph	Density (followers/mi) Speed Limit < 50 mph
A	≤ 2	≤ 2.5
B	> 2 - 4	> 2.5 - 5.5
C	> 4 - 8	> 5 - 10
D	> 8 - 12	> 10 - 15
E	> 12	> 15
F	Demand exceeds capacity	Demand exceeds capacity

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.

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

Segment	Existing AM		Existing PM	
	Density (followers/mi/ln)	LOS	Density (followers/mi/ln)	LOS
CR 1015 (Deason Lane)	0.0	A	0.0	A
CR 1118 (Old Fruit Hill Road)	0.1	A	0.1	A
KY 189 (Ovil Road)	0.0	A	0.0	A
KY 107 (Greenville Road) at:				
Foster Lane to north of Deason Lane/Wayne Elgin Road	0.4	A	0.6	A
North of Deason Lane/Wayne Elgin Road to near Rutland Road	0.6	A	0.7	A
Near Rutland Road to Rutland Road	0.4	A	0.5	A
Rutland Road to south of Woodburn Hay Road	0.5	A	0.7	A
South of Woodburn Hay Road to Old Greenville Road	0.4	A	0.5	A
Old Greenville Road to 1/4 mile north of Old Greenville Road	0.5	A	0.6	A
1/4 mile north of Old Greenville Road to near Dogwood Kelly Road	0.4	A	0.5	A
Near Dogwood Kelly Road to near Goode Road	0.4	A	0.6	A
Near Goode Road to near Old Fruit Hill Road	0.4	A	0.6	A
Near Old Fruit Hill Road to 9190 Greenville Road	0.5	A	0.6	A
9190 Greenville Road to near KY 189	0.4	A	0.5	A
KY 1682 (Antioch Road) at:				
Owens West Road to Goode Road	0.0	A	0.0	A
Goode Road to 8301 KY 1682	0.0	A	0.0	A
8301 KY 1682 to 7985 Antioch Road	0.0	A	0.0	A
7985 Antioch Road to Deason Lane	0.0	A	0.0	A
CR 1111 (Woodburn Hay Road) at:				
KY 107 to Johnson Mill Road	0.0	A	0.0	A
Johnson Mill Road to I-69	0.3	A	0.3	A

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. While specific details concerning construction duration and intensity are not currently known, this study has employed a sensitivity analysis to demonstrate likely construction traffic levels will not have a significant, adverse effect on peak hour traffic operations. For this analysis, existing 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 2027 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.

Table 3: Construction Year (2027) AM/PM Two-Lane Highway Analysis

Segment	Construction AM		Construction PM	
	Density (followers/mi/ln)	LOS	Density (followers/mi/ln)	LOS
CR 1015 (Deason Lane)	0.0	A	0.0	A
CR 1118 (Old Fruit Hill Road)	0.3	A	0.2	A
KY 189 (Ovil Road)	0.0	A	0.1	A
KY 107 (Greenville Road) at:				
Foster Lane to north of Deason Lane/Wayne Elgin Road	0.9	A	1.1	A
North of Deason Lane/Wayne Elgin Road to near Rutland Road	1.1	A	1.4	A
Near Rutland Road to Rutland Road	0.8	A	1.0	A
Rutland Road to south of Woodburn Hay Road	1.0	A	1.3	A
South of Woodburn Hay Road to Old Greenville Road	0.8	A	1.0	A
Old Greenville Road to 1/4 mile north of Old Greenville Road	0.9	A	1.2	A
1/4 mile north of Old Greenville Road to near Dogwood Kelly Road	0.8	A	1.1	A
Near Dogwood Kelly Road to near Goode Road	0.9	A	1.1	A
Near Goode Road to near Old Fruit Hill Road	0.9	A	1.1	A
Near Old Fruit Hill Road to 9190 Greenville Road	1.0	A	1.1	A
9190 Greenville Road to near KY 189	0.9	A	1.0	A
KY 1682 (Antioch Road) at:				
Owens West Road to Goode Road	0.0	A	0.0	A
Goode Road to 8301 KY 1682	0.1	A	0.1	A
8301 KY 1682 to 7985 Antioch Road	0.0	A	0.1	A
7985 Antioch Road to Deason Lane	0.0	A	0.1	A
CR 1111 (Woodburn Hay Road) at:				
KY 107 to Johnson Mill Road	0.1	A	0.1	A
Johnson Mill Road to I-69	0.6	A	0.6	A

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 A 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

TRAFFIC COUNTS AND CLASSIFICATION DATA

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 03/28/2022 through 03/30/2022

Site names:	024007,	Seasonal Factor Grp:	2
County:	Christian	Daily Factor Grp:	2
Funct Class:	Major Collector	Axle Factor Grp:	07
Location:	024-KY-0107 -000 @ 28.652 From: OLD	Growth Factor Grp:	07

	Sun, Mar 27, 2022			Mon, Mar 28, 2022			Tue, Mar 29, 2022			Wed, Mar 30, 2022			Thu, Mar 31, 2022			Fri, Apr 1, 2022			Sat, Apr 2, 2022		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							11	8	3	5	4	1									
01:00							5	3	2	7	4	3									
02:00							7	3	4	4	1	3									
03:00							11	4	7	15	4	11									
04:00							35	7	28	26	2	24									
05:00							72	8	64	62	4	58									
06:00							129	32	97	127	27	100									
07:00							127	46	81	126	31	95									
08:00							81	33	48	99	45	54									
09:00							64	41	23	106	50	56									
10:00				81	55	26	82	49	33												
11:00				71	48	23	99	65	34												
12:00				71	50	21	80	35	45												
13:00				85	56	29	84	47	37												
14:00				99	58	41	75	42	33												
15:00				129	95	34	138	93	45												
16:00				153	128	25	157	111	46												
17:00				135	102	33	136	93	43												
18:00				74	52	22	92	64	28												
19:00				73	48	25	54	35	19												
20:00				63	47	16	35	28	7												
21:00				36	21	15	45	32	13												
22:00				21	16	5	25	13	12												
23:00				7	4	3	14	10	4												
Total				1,098	780	318	1,658	902	756	577	172	405									
AM Peak Vol							145	65	104												
AM Peak Fct							.74	.813	.703												
AM Peak Hr				:	:	:	6: 30	10: 45	6: 15												
PM Peak Vol				158	128	41	166	122	51												
PM Peak Fct				.806	.821	.732	.883	.803	.708												
PM Peak Hr				15: 45	15: 45	14: 00	16: 30	15: 45	16: 30												
Seasonal Fct				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
Daily Fct				1.012	1.012	1.012	.970	.970	.970	.965	.965	.965									
Axle Fct				.500	.500	.500	.500	.500	.500	.500	.500	.500									
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000									

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 09/09/2019 through 09/11/2019

Site names:	024007,	Seasonal Factor Grp:	2
County:	Christian	Daily Factor Grp:	2
Funct Class:	Major Collector	Axle Factor Grp:	07
Location:	024-KY-0107 -000 @ 28.652 From: OLD	Growth Factor Grp:	07

	Sun, Sep 8, 2019			Mon, Sep 9, 2019			Tue, Sep 10, 2019			Wed, Sep 11, 2019			Thu, Sep 12, 2019			Fri, Sep 13, 2019			Sat, Sep 14, 2019		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							8	7	1	5	3	2									
01:00							4	3	1	7	5	2									
02:00							6	1	5	7	2	5									
03:00							15	2	13	14	2	12									
04:00							34	5	29	25	2	23									
05:00							67	12	55	65	15	50									
06:00							149	26	123	117	10	107									
07:00							134	36	98	151	34	117									
08:00							102	28	74	92	33	59									
09:00				85	38	47	80	33	47												
10:00				99	40	59	92	42	50												
11:00				99	47	52	82	43	39												
12:00				102	52	50	97	43	54												
13:00				100	47	53	113	57	56												
14:00				118	74	44	102	57	45												
15:00				144	108	36	139	86	53												
16:00				160	114	46	164	121	43												
17:00				139	89	50	132	98	34												
18:00				109	71	38	100	68	32												
19:00				61	44	17	74	46	28												
20:00				49	40	9	46	30	16												
21:00				24	16	8	28	18	10												
22:00				16	8	8	24	9	15												
23:00				19	16	3	20	17	3												
Total				1,324	804	520	1,812	888	924	483	106	377									
AM Peak Vol							151	43	123												
AM Peak Fct							.726	.632	.641												
AM Peak Hr				:	:	:	6: 15	11: 00	6: 00												
PM Peak Vol				162	124	57	173	126	63												
PM Peak Fct				.88	.756	.713	.816	.768	.926												
PM Peak Hr				16: 15	15: 45	12: 45	16: 30	16: 30	12: 30												
Seasonal Fct				.944	.944	.944	.944	.944	.944	.944	.944	.944									
Daily Fct				1.044	1.044	1.044	.983	.983	.983	.992	.992	.992									
Axle Fct				.500	.500	.500	.500	.500	.500	.500	.500	.500									
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000									

Kentucky Transportation Cabinet

Count Class Distribution for 03/28/2022 through 03/30/2022

Site names: 024007
County: Christian
Funct Class: Major Collector
Location: 024-KY-0107 -000 @ 28.652 From: OLD FRUIT HILL ROAD To:

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

	Road	Pos	Neg	Pos Lane1	Neg Lane1
MC	6 .18%	3 .16%	3 .20%	3 .16%	3 .20%
CAR	1,843 54.32%	843 44.75%	1,000 66.27%	843 44.75%	1,000 66.27%
PU	1,048 30.89%	635 33.70%	413 27.37%	635 33.70%	413 27.37%
BUS	40 1.18%	28 1.49%	12 .80%	28 1.49%	12 .80%
2D	313 9.22%	279 14.81%	34 2.25%	279 14.81%	34 2.25%
SU 3	33 .97%	14 .74%	19 1.26%	14 .74%	19 1.26%
SU 4+	22 .65%	21 1.11%	1 .07%	21 1.11%	1 .07%
ST 4-	61 1.80%	46 2.44%	15 .99%	46 2.44%	15 .99%
ST 5	25 .74%	15 .80%	10 .66%	15 .80%	10 .66%
ST 6+	1 .03%	0 .00%	1 .07%	0 .00%	1 .07%
MT 5-	1 .03%	0 .00%	1 .07%	0 .00%	1 .07%
MT 6	0 .00%	0 .00%	0 .00%	0 .00%	0 .00%
MT 7+	0 .00%	0 .00%	0 .00%	0 .00%	0 .00%
NA	0 .00%	0 .00%	0 .00%	0 .00%	0 .00%
UNCLS	0 .00%	0 .00%	0 .00%	0 .00%	0 .00%
Trucks	496 14.62%	403 21.39%	93 6.16%	403 21.39%	93 6.16%
Combo Trucks	88 2.59%	61 3.24%	27 1.79%	61 3.24%	27 1.79%
Classified	3,393 100.00%	1,884 100.00%	1,509 100.00%	1,884 100.00%	1,509 100.00%
Unclassified	0 .00%	0 .00%	0 .00%	0 .00%	0 .00%
Total	3,393 100.00%	1,884 100.00%	1,509 100.00%	1,884 100.00%	1,509 100.00%

Kentucky Transportation Cabinet

Count Class Distribution for 09/09/2019 through 09/11/2019

Site names: 024007
County: Christian
Funct Class: Major Collector
Location: 024-KY-0107 -000 @ 28.652 From: OLD FRUIT HILL ROAD To:

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

	Road	Pos	Neg	Pos Lane1	Neg Lane1
MC	97 2.62%	8 .44%	89 4.76%	8 .44%	89 4.76%
CAR	3,134 84.68%	1,422 77.58%	1,712 91.65%	1,422 77.58%	1,712 91.65%
PU	354 9.56%	342 18.66%	12 .64%	342 18.66%	12 .64%
BUS	5 .14%	3 .16%	2 .11%	3 .16%	2 .11%
2D	44 1.19%	24 1.31%	20 1.07%	24 1.31%	20 1.07%
SU 3	20 .54%	10 .55%	10 .54%	10 .55%	10 .54%
SU 4+	8 .22%	4 .22%	4 .21%	4 .22%	4 .21%
ST 4-	12 .32%	6 .33%	6 .32%	6 .33%	6 .32%
ST 5	23 .62%	11 .60%	12 .64%	11 .60%	12 .64%
ST 6+	2 .05%	2 .11%	0 .00%	2 .11%	0 .00%
MT 5-	0 .00%	0 .00%	0 .00%	0 .00%	0 .00%
MT 6	0 .00%	0 .00%	0 .00%	0 .00%	0 .00%
MT 7+	1 .03%	1 .05%	0 .00%	1 .05%	0 .00%
NA	0 .00%	0 .00%	0 .00%	0 .00%	0 .00%
UNCLS	1 .03%	0 .00%	1 .05%	0 .00%	1 .05%
Trucks	115 3.11%	61 3.33%	54 2.89%	61 3.33%	54 2.89%
Combo Trucks	38 1.03%	20 1.09%	18 .96%	20 1.09%	18 .96%
Classified	3,700 99.97%	1,833 100.00%	1,867 99.95%	1,833 100.00%	1,867 99.95%
Unclassified	1 .03%	0 .00%	1 .05%	0 .00%	1 .05%
Total	3,701 100.00%	1,833 100.00%	1,868 100.00%	1,833 100.00%	1,868 100.00%

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 03/21/2022 through 03/22/2022

Site names:	024030,	Seasonal Factor Grp:	2
County:	Christian	Daily Factor Grp:	2
Funct Class:	Major Collector	Axle Factor Grp:	07
Location:	024-KY-0107 -000 @ 24.329 From: KY 1682	Growth Factor Grp:	07

	Sun, Mar 20, 2022			Mon, Mar 21, 2022			Tue, Mar 22, 2022			Wed, Mar 23, 2022			Thu, Mar 24, 2022			Fri, Mar 25, 2022			Sat, Mar 26, 2022		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							8														
01:00							4														
02:00							10														
03:00							16														
04:00							30														
05:00							62														
06:00							154														
07:00							164														
08:00							95														
09:00							100														
10:00							105														
11:00				127			112														
12:00				117			102														
13:00				133			106														
14:00				126			116														
15:00				168			183														
16:00				199			201														
17:00				184			176														
18:00				115																	
19:00				81																	
20:00				59																	
21:00				38																	
22:00				18																	
23:00				13																	
Total				1,378			1,744														
AM Peak Vol							172														
AM Peak Fct							.86														
AM Peak Hr				:			6: 30														
PM Peak Vol				211																	
PM Peak Fct				.879																	
PM Peak Hr				16: 30			:														
Seasonal Fct				1.074			1.074														
Daily Fct				.969			1.002														
Axle Fct				.500			.500														
Pulse Fct				2.000			2.000														

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 09/09/2019 through 09/11/2019

Site names: 024030,
County: Christian
Funct Class: Major Collector
Location: 024-KY-0107 -000 @ 24.329 From: KY 1682

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

	Sun, Sep 8, 2019			Mon, Sep 9, 2019			Tue, Sep 10, 2019			Wed, Sep 11, 2019			Thu, Sep 12, 2019			Fri, Sep 13, 2019			Sat, Sep 14, 2019		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							8			6											
01:00							10			7											
02:00							8			8											
03:00							18			26											
04:00							56			49											
05:00							97			100											
06:00							232			194											
07:00							248			282											
08:00							189			172											
09:00							136			138											
10:00				164			136														
11:00				162			135														
12:00				170			154														
13:00				180			164														
14:00				196			172														
15:00				213			270														
16:00				257			288														
17:00				236			223														
18:00				180			168														
19:00				124			134														
20:00				83			90														
21:00				43			43														
22:00				28			45														
23:00				26			25														
Total				2,062			3,049			982											
AM Peak Vol							266														
AM Peak Fct							.801														
AM Peak Hr				:			6: 45														
PM Peak Vol				271			302														
PM Peak Fct				.916			.848														
PM Peak Hr				15: 45			16: 30														
Seasonal Fct				.944			.944			.944											
Daily Fct				1.044			.983			.992											
Axle Fct				.490			.490			.490											
Pulse Fct				2.000			2.000			2.000											

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 09/29/2020 through 10/02/2020

Site names:	024006,	Seasonal Factor Grp:	2
County:	Christian	Daily Factor Grp:	2
Funct Class:	Minor Collector	Axle Factor Grp:	08
Location:	024-KY-0189 -000 @ 4.646 From: KY 1682	Growth Factor Grp:	08

	Sun, Sep 27, 2020			Mon, Sep 28, 2020			Tue, Sep 29, 2020			Wed, Sep 30, 2020			Thu, Oct 1, 2020			Fri, Oct 2, 2020			Sat, Oct 3, 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			2			5					
01:00										0			1			3					
02:00										1			1			2					
03:00										1			1			1					
04:00										6			6			8					
05:00										5			12			13					
06:00										19			20			13					
07:00										22			22			26					
08:00										18			28			29					
09:00										32			21								
10:00										23			30								
11:00										27			35								
12:00										37			43								
13:00										49			35								
14:00										35			44								
15:00							39			36			51								
16:00							32			46			53								
17:00							38			55			45								
18:00							37			39			47								
19:00							22			21			35								
20:00							22			20			18								
21:00							12			11			10								
22:00							11			13			3								
23:00							4			4			4								
Total							217			521			567			100					
AM Peak Vol										32			35								
AM Peak Fct										.615			.795								
AM Peak Hr										9: 00			11: 00								
PM Peak Vol										58			55								
PM Peak Fct										.763			.764								
PM Peak Hr										17: 30			16: 15								
Seasonal Fct							.924			.924			.941			.941					
Daily Fct							.989			.986			.949			.860					
Axle Fct							.489			.489			.494			.494					
Pulse Fct							2.000			2.000			2.000			2.000					

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 08/02/2017 through 08/04/2017

Site names:	024006,	Seasonal Factor Grp:	2
County:	Christian	Daily Factor Grp:	2
Funct Class:	Minor Collector	Axle Factor Grp:	08
Location:	024-KY-0189 -000 @ 4.646 From: KY 1682	Growth Factor Grp:	08

	Sun, Jul 30, 2017			Mon, Jul 31, 2017			Tue, Aug 1, 2017			Wed, Aug 2, 2017			Thu, Aug 3, 2017			Fri, Aug 4, 2017			Sat, Aug 5, 2017		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00													1			0					
01:00													0			0					
02:00													1			1					
03:00													3			1					
04:00													4			5					
05:00													2			4					
06:00													15			14					
07:00										22			16			17					
08:00										15			17			21					
09:00										21			16								
10:00										28			12								
11:00										21			33								
12:00										22			20								
13:00										19			25								
14:00										19			24								
15:00										45			30								
16:00										35			41								
17:00										24			33								
18:00										34			34								
19:00										19			18								
20:00										20			24								
21:00										5			15								
22:00										3			8								
23:00										4			2								
Total										356			394			63					
AM Peak Vol										0			33			0					
AM Peak Fct										0			1			0					
AM Peak Hr										:			11: 00			:					
PM Peak Vol										45			41			0					
PM Peak Fct										1			1			0					
PM Peak Hr										15: 00			16: 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

Short-term Hourly Traffic Volume for 11/10/2020 through 11/12/2020

Site names:	024029,	Seasonal Factor Grp:	2
County:	Christian	Daily Factor Grp:	2
Funct Class:	Local	Axle Factor Grp:	09
Location:	024-KY-1682 -000 @ 8.335 From: KY 107	Growth Factor Grp:	09

	Sun, Nov 8, 2020			Mon, Nov 9, 2020			Tue, Nov 10, 2020			Wed, Nov 11, 2020			Thu, Nov 12, 2020			Fri, Nov 13, 2020			Sat, Nov 14, 2020		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00										4			3								
01:00										1			1								
02:00										0			1								
03:00										4			5								
04:00										10			5								
05:00										10			16								
06:00										34			37								
07:00										34			45								
08:00							32			31											
09:00							32			20											
10:00							24			37											
11:00							31			35											
12:00							28			41											
13:00							28			27											
14:00							40			38											
15:00							49			65											
16:00							46			62											
17:00							51			38											
18:00							18			26											
19:00							22			21											
20:00							16			9											
21:00							4			15											
22:00							2			1											
23:00							3			2											
Total							426			565			113								
AM Peak Vol										42											
AM Peak Fct										.618											
AM Peak Hr							:			7: 15											
PM Peak Vol							55			67											
PM Peak Fct							.809			.931											
PM Peak Hr							16: 30			15: 15											
Seasonal Fct							1.012			1.012			1.012								
Daily Fct							.940			.958			1.012								
Axle Fct							.500			.500			.500								
Pulse Fct							2.000			2.000			2.000								

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 08/02/2017 through 08/04/2017

Site names: 024029,
County: Christian
Funct Class: Local
Location: 024-KY-1682 -000 @ 8.335 From: KY 107

Seasonal Factor Grp: 2
Daily Factor Grp: 2
Axle Factor Grp: 09
Growth Factor Grp: 09

	Sun, Jul 30, 2017			Mon, Jul 31, 2017			Tue, Aug 1, 2017			Wed, Aug 2, 2017			Thu, Aug 3, 2017			Fri, Aug 4, 2017			Sat, Aug 5, 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			0					
01:00													1			2					
02:00													2			1					
03:00													1			1					
04:00													3			5					
05:00													15			10					
06:00													22			19					
07:00										26			31			29					
08:00										20			27			23					
09:00										24			22								
10:00										22			17								
11:00										19			21								
12:00										34			21								
13:00										24			31								
14:00										33			27								
15:00										43			38								
16:00										40			45								
17:00										47			39								
18:00										42			34								
19:00										27			30								
20:00										21			16								
21:00										21			11								
22:00										6			10								
23:00										5			6								
Total										454			473			90					
AM Peak Vol										0			31			0					
AM Peak Fct										0			1			0					
AM Peak Hr										:			7: 00			:					
PM Peak Vol										47			45			0					
PM Peak Fct										1			1			0					
PM Peak Hr										17: 00			16: 00			:					
Seasonal Fct										.957			.957			.957					
Daily Fct										.990			.939			.867					
Axle Fct										.486			.486			.486					
Pulse Fct										2.000			2.000			2.000					

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 03/28/2022 through 03/30/2022

Site names: 024050,
County: Christian
Funct Class: Local
Location: 024-KY-1682 -000 @ 12.874 From: GOODE

Seasonal Factor Grp: 2
Daily Factor Grp: 2
Axle Factor Grp: 09
Growth Factor Grp: 09

	Sun, Mar 27, 2022			Mon, Mar 28, 2022			Tue, Mar 29, 2022			Wed, Mar 30, 2022			Thu, Mar 31, 2022			Fri, Apr 1, 2022			Sat, Apr 2, 2022		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							0			1											
01:00							1			0											
02:00							0			0											
03:00							1			1											
04:00							0			1											
05:00							5			11											
06:00							3			4											
07:00							14			20											
08:00							12			4											
09:00							4			7											
10:00				5			12														
11:00				10			4														
12:00				5			11														
13:00				8			9														
14:00				12			10														
15:00				18			13														
16:00				7			9														
17:00				16			18														
18:00				10			22														
19:00				12			8														
20:00				4			5														
21:00				5			3														
22:00				3			2														
23:00				2			3														
Total				117			169			49											
AM Peak Vol							15														
AM Peak Fct							.536														
AM Peak Hr				:			7: 15														
PM Peak Vol				19			24														
PM Peak Fct				.594			.857														
PM Peak Hr				15: 15			17: 45														
Seasonal Fct				1.000			1.000			1.000											
Daily Fct				1.012			.970			.965											
Axle Fct				.500			.500			.500											
Pulse Fct				2.000			2.000			2.000											

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 09/09/2019 through 09/11/2019

Site names: 024050,
County: Christian
Funct Class: Local
Location: 024-KY-1682 -000 @ 12.874 From: GOODE

Seasonal Factor Grp: 2
Daily Factor Grp: 2
Axle Factor Grp: 09
Growth Factor Grp: 09

	Sun, Sep 8, 2019			Mon, Sep 9, 2019			Tue, Sep 10, 2019			Wed, Sep 11, 2019			Thu, Sep 12, 2019			Fri, Sep 13, 2019			Sat, Sep 14, 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			0											
01:00							1			2											
02:00							0			0											
03:00							0			0											
04:00							2			2											
05:00							2			4											
06:00							13			10											
07:00							10			9											
08:00							7			5											
09:00				6			10														
10:00				12			15														
11:00				15			8														
12:00				9			11														
13:00				7			5														
14:00				12			16														
15:00				3			7														
16:00				12			14														
17:00				24			27														
18:00				17			16														
19:00				16			8														
20:00				8			7														
21:00				0			4														
22:00				6			7														
23:00				2			2														
Total				149			193			32											
AM Peak Vol							18														
AM Peak Fct							.5														
AM Peak Hr				:			10: 30														
PM Peak Vol				24			31														
PM Peak Fct				.545			.861														
PM Peak Hr				16: 45			17: 15														
Seasonal Fct				.944			.944			.944											
Daily Fct				1.044			.983			.992											
Axle Fct				.500			.500			.500											
Pulse Fct				2.000			2.000			2.000											

Appendix B

HIGHWAY CAPACITY SOFTWARE (HCS 2022) FILES

EXISTING

CONSTRUCTION PERIOD

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing AM
Project Description	Deason Lane	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7971
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	19.9

Demand and Capacity

Directional Demand Flow Rate, veh/h	3	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	28.9
Speed Slope Coefficient (m)	2.14827	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.35216	PF Power Coefficient (p)	0.63549
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	7971	-	-	28.9

Vehicle Results

Average Speed, mi/h	28.9	Percent Followers, %	3.4
Segment Travel Time, minutes	3.14	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	1	0.00	0.0	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing PM
Project Description	Deason Lane	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7971
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	19.9

Demand and Capacity

Directional Demand Flow Rate, veh/h	4	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	28.9
Speed Slope Coefficient (m)	2.14827	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.35216	PF Power Coefficient (p)	0.63549
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	7971	-	-	28.9

Vehicle Results

Average Speed, mi/h	28.9	Percent Followers, %	4.1
Segment Travel Time, minutes	3.14	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	2	0.00	0.0	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing AM
Project Description	Old Fruit Hill Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	12173
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	10.8

Demand and Capacity

Directional Demand Flow Rate, veh/h	30	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	31.1
Speed Slope Coefficient (m)	2.30094	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39785	PF Power Coefficient (p)	0.61601
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	12173	-	-	31.1

Vehicle Results

Average Speed, mi/h	31.1	Percent Followers, %	14.8
Segment Travel Time, minutes	4.44	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	16	0.00	0.1	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing PM
Project Description	Old Fruit Hill Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	12173
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	10.8

Demand and Capacity

Directional Demand Flow Rate, veh/h	28	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	31.1
Speed Slope Coefficient (m)	2.30094	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39785	PF Power Coefficient (p)	0.61601
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	12173	-	-	31.1

Vehicle Results

Average Speed, mi/h	31.1	Percent Followers, %	14.2
Segment Travel Time, minutes	4.44	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	15	0.00	0.1	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing AM
Project Description	KY 189	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7450
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	17.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	12	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	53.1
Speed Slope Coefficient (m)	3.45635	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34281	PF Power Coefficient (p)	0.73462
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	7450	-	-	53.1

Vehicle Results

Average Speed, mi/h	53.1	Percent Followers, %	5.0
Segment Travel Time, minutes	1.59	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	4	0.00	0.0	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing PM
Project Description	KY 189	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7450
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	17.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	22	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	53.1
Speed Slope Coefficient (m)	3.45635	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34281	PF Power Coefficient (p)	0.73462
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	7450	-	-	53.1

Vehicle Results

Average Speed, mi/h	53.1	Percent Followers, %	7.9
Segment Travel Time, minutes	1.59	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	7	0.00	0.0	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing AM
Project Description	KY 107	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1425
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	29.6

Demand and Capacity

Directional Demand Flow Rate, veh/h	106	Opposing Demand Flow Rate, veh/h	77
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	50.5
Speed Slope Coefficient (m)	2.93848	Speed Power Coefficient (p)	0.58559
PF Slope Coefficient (m)	-1.28308	PF Power Coefficient (p)	0.76706
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1425	-	-	50.4

Vehicle Results

Average Speed, mi/h	50.4	Percent Followers, %	20.6
Segment Travel Time, minutes	0.32	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1742
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	27.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	106	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	2	Free-Flow Speed, mi/h	51.0
Speed Slope Coefficient (m)	3.11550	Speed Power Coefficient (p)	0.41622
PF Slope Coefficient (m)	-1.54091	PF Power Coefficient (p)	0.70305
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.6
%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	1742	-	-	50.6

Vehicle Results

Average Speed, mi/h	50.6	Percent Followers, %	27.3
Segment Travel Time, minutes	0.39	Follower Density (FD), followers/mi/ln	0.6
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	3854
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	19.2

Demand and Capacity

Directional Demand Flow Rate, veh/h	106	Opposing Demand Flow Rate, veh/h	77
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	53.1
Speed Slope Coefficient (m)	3.11454	Speed Power Coefficient (p)	0.58559
PF Slope Coefficient (m)	-1.20833	PF Power Coefficient (p)	0.80056
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3854	-	-	53.0

Vehicle Results

Average Speed, mi/h	53.0	Percent Followers, %	18.2
Segment Travel Time, minutes	0.83	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	977
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	106	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	51.9
Speed Slope Coefficient (m)	3.32351	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46187	PF Power Coefficient (p)	0.71687
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.5
%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	977	-	-	51.5

Vehicle Results

Average Speed, mi/h	51.5	Percent Followers, %	25.4
Segment Travel Time, minutes	0.22	Follower Density (FD), followers/mi/ln	0.5
Vehicle LOS	A		

Segment 5

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	4297
Lane Width, ft	10	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	106	Opposing Demand Flow Rate, veh/h	77
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	2	Free-Flow Speed, mi/h	51.7
Speed Slope Coefficient (m)	3.11550	Speed Power Coefficient (p)	0.59333
PF Slope Coefficient (m)	-1.18777	PF Power Coefficient (p)	0.78584
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4297	-	-	51.5

Vehicle Results

Average Speed, mi/h	51.5	Percent Followers, %	18.5
Segment Travel Time, minutes	0.95	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1320
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	106	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.9
Speed Slope Coefficient (m)	3.48611	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44027	PF Power Coefficient (p)	0.72456
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.5
%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	1320	-	-	54.5

Vehicle Results

Average Speed, mi/h	54.5	Percent Followers, %	24.7
Segment Travel Time, minutes	0.28	Follower Density (FD), followers/mi/ln	0.5
Vehicle LOS	A		

Segment 7

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	903
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	16.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	106	Opposing Demand Flow Rate, veh/h	77
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	53.9
Speed Slope Coefficient (m)	3.12116	Speed Power Coefficient (p)	0.58559
PF Slope Coefficient (m)	-1.28155	PF Power Coefficient (p)	0.77530
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	903	-	-	53.8

Vehicle Results

Average Speed, mi/h	53.8	Percent Followers, %	20.2
Segment Travel Time, minutes	0.19	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Segment 8

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	4308
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	13.4

Demand and Capacity

Directional Demand Flow Rate, veh/h	106	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.6
Speed Slope Coefficient (m)	3.50851	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34913	PF Power Coefficient (p)	0.74640
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	4308	-	-	54.2

Vehicle Results

Average Speed, mi/h	54.2	Percent Followers, %	22.4
Segment Travel Time, minutes	0.90	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Segment 9

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1140
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	106	Opposing Demand Flow Rate, veh/h	77
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	51.9
Speed Slope Coefficient (m)	3.01276	Speed Power Coefficient (p)	0.58559
PF Slope Coefficient (m)	-1.28636	PF Power Coefficient (p)	0.76919
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1140	-	-	51.8

Vehicle Results

Average Speed, mi/h	51.8	Percent Followers, %	20.5
Segment Travel Time, minutes	0.25	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Bicycle Results

Percent Occupied Parking	0	Pavement Condition Rating	4
Flow Rate Outside Lane, veh/h	106	Bicycle Effective Width, ft	16
Bicycle LOS Score	3.68	Bicycle Effective Speed Factor	4.79
Bicycle LOS	D		

Segment 10

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1690
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	6.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	114	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	56.4

Speed Slope Coefficient (m)	3.57078	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.40749	PF Power Coefficient (p)	0.73425
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.5
%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	1690	-	-	55.8

Vehicle Results

Average Speed, mi/h	55.8	Percent Followers, %	24.8
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	0.5
Vehicle LOS	A		

Segment 11

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1584
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	13.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	114	Opposing Demand Flow Rate, veh/h	40
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.6
Speed Slope Coefficient (m)	3.13784	Speed Power Coefficient (p)	0.60842
PF Slope Coefficient (m)	-1.24375	PF Power Coefficient (p)	0.78792
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

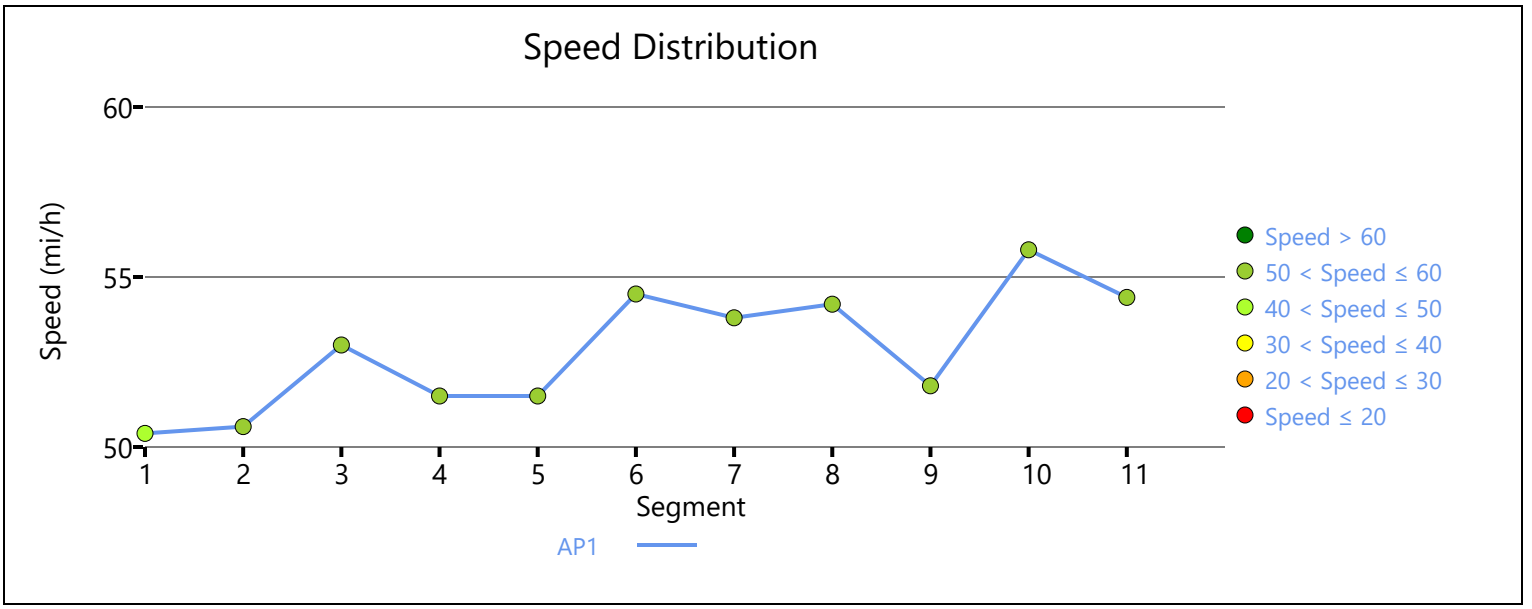
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-	-	54.4

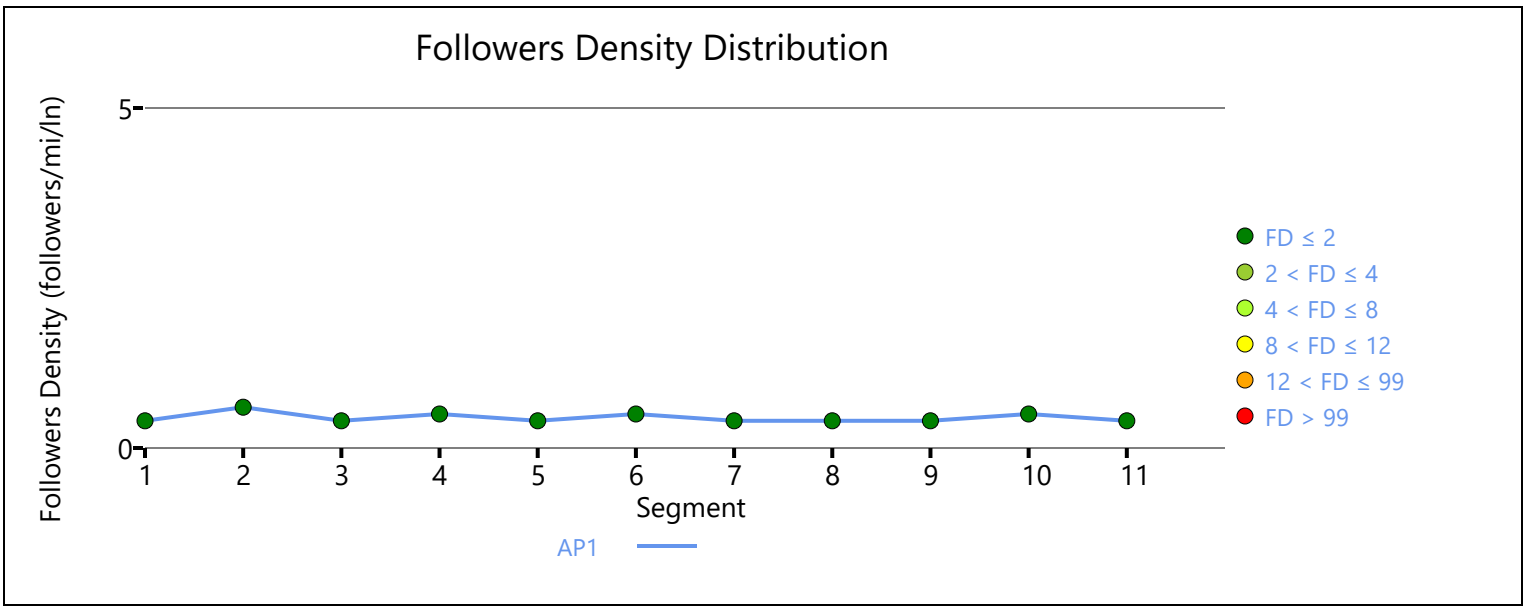
Vehicle Results

Average Speed, mi/h	54.4	Percent Followers, %	20.1
Segment Travel Time, minutes	0.33	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	111	0.01	0.4	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing PM
Project Description	KY 107	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1425
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	29.6

Demand and Capacity

Directional Demand Flow Rate, veh/h	124	Opposing Demand Flow Rate, veh/h	89
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	50.5
Speed Slope Coefficient (m)	2.94575	Speed Power Coefficient (p)	0.57916
PF Slope Coefficient (m)	-1.28959	PF Power Coefficient (p)	0.76568
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.6
%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	1425	-	-	50.2

Vehicle Results

Average Speed, mi/h	50.2	Percent Followers, %	23.0
Segment Travel Time, minutes	0.32	Follower Density (FD), followers/mi/ln	0.6
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1742
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	27.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	124	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	2	Free-Flow Speed, mi/h	51.0
Speed Slope Coefficient (m)	3.11550	Speed Power Coefficient (p)	0.41622
PF Slope Coefficient (m)	-1.54091	PF Power Coefficient (p)	0.70305
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.7
%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	1742	-	-	50.3

Vehicle Results

Average Speed, mi/h	50.3	Percent Followers, %	30.0
Segment Travel Time, minutes	0.39	Follower Density (FD), followers/mi/ln	0.7
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	3854
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	19.2

Demand and Capacity

Directional Demand Flow Rate, veh/h	124	Opposing Demand Flow Rate, veh/h	89
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	53.1
Speed Slope Coefficient (m)	3.12181	Speed Power Coefficient (p)	0.57916
PF Slope Coefficient (m)	-1.21432	PF Power Coefficient (p)	0.79895
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.5
%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	3854	-	-	52.8

Vehicle Results

Average Speed, mi/h	52.8	Percent Followers, %	20.5
Segment Travel Time, minutes	0.83	Follower Density (FD), followers/mi/ln	0.5
Vehicle LOS	A		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	977
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	124	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	51.9
Speed Slope Coefficient (m)	3.32351	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46187	PF Power Coefficient (p)	0.71687
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.7
%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	977	-	-	51.2

Vehicle Results

Average Speed, mi/h	51.2	Percent Followers, %	28.0
Segment Travel Time, minutes	0.22	Follower Density (FD), followers/mi/ln	0.7
Vehicle LOS	A		

Segment 5

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	4297
Lane Width, ft	10	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	124	Opposing Demand Flow Rate, veh/h	89
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	2	Free-Flow Speed, mi/h	51.7
Speed Slope Coefficient (m)	3.11550	Speed Power Coefficient (p)	0.58552
PF Slope Coefficient (m)	-1.19420	PF Power Coefficient (p)	0.78409
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.5
%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	4297	-	-	51.3

Vehicle Results

Average Speed, mi/h	51.3	Percent Followers, %	20.8
Segment Travel Time, minutes	0.95	Follower Density (FD), followers/mi/ln	0.5
Vehicle LOS	A		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1320
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	124	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.9
Speed Slope Coefficient (m)	3.48611	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44027	PF Power Coefficient (p)	0.72456
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.6
%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	1320	-	-	54.2

Vehicle Results

Average Speed, mi/h	54.2	Percent Followers, %	27.3
Segment Travel Time, minutes	0.28	Follower Density (FD), followers/mi/ln	0.6
Vehicle LOS	A		

Segment 7

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	903
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	16.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	124	Opposing Demand Flow Rate, veh/h	89
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	53.9
Speed Slope Coefficient (m)	3.12843	Speed Power Coefficient (p)	0.57916
PF Slope Coefficient (m)	-1.28797	PF Power Coefficient (p)	0.77392
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.5
%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	903	-	-	53.6

Vehicle Results

Average Speed, mi/h	53.6	Percent Followers, %	22.6
Segment Travel Time, minutes	0.19	Follower Density (FD), followers/mi/ln	0.5
Vehicle LOS	A		

Segment 8

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	4308
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	13.4

Demand and Capacity

Directional Demand Flow Rate, veh/h	124	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.6
Speed Slope Coefficient (m)	3.50851	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34913	PF Power Coefficient (p)	0.74640
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.6
%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	4308	-	-	53.8

Vehicle Results

Average Speed, mi/h	53.8	Percent Followers, %	24.8
Segment Travel Time, minutes	0.91	Follower Density (FD), followers/mi/ln	0.6
Vehicle LOS	A		

Segment 9

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1140
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	124	Opposing Demand Flow Rate, veh/h	89
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	51.9
Speed Slope Coefficient (m)	3.02003	Speed Power Coefficient (p)	0.57916
PF Slope Coefficient (m)	-1.29286	PF Power Coefficient (p)	0.76782
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.6
%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	1140	-	-	51.6

Vehicle Results

Average Speed, mi/h	51.6	Percent Followers, %	23.0
Segment Travel Time, minutes	0.25	Follower Density (FD), followers/mi/ln	0.6
Vehicle LOS	A		

Bicycle Results

Percent Occupied Parking	0	Pavement Condition Rating	4
Flow Rate Outside Lane, veh/h	124	Bicycle Effective Width, ft	16
Bicycle LOS Score	3.76	Bicycle Effective Speed Factor	4.79
Bicycle LOS	D		

Segment 10

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1690
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	6.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	123	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	56.4

Speed Slope Coefficient (m)	3.57078	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.40749	PF Power Coefficient (p)	0.73425
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.6
%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	1690	-	-	55.6

Vehicle Results

Average Speed, mi/h	55.6	Percent Followers, %	26.1
Segment Travel Time, minutes	0.35	Follower Density (FD), followers/mi/ln	0.6
Vehicle LOS	A		

Segment 11

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1584
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	13.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	123	Opposing Demand Flow Rate, veh/h	44
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.6
Speed Slope Coefficient (m)	3.14040	Speed Power Coefficient (p)	0.60600
PF Slope Coefficient (m)	-1.24608	PF Power Coefficient (p)	0.78739
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

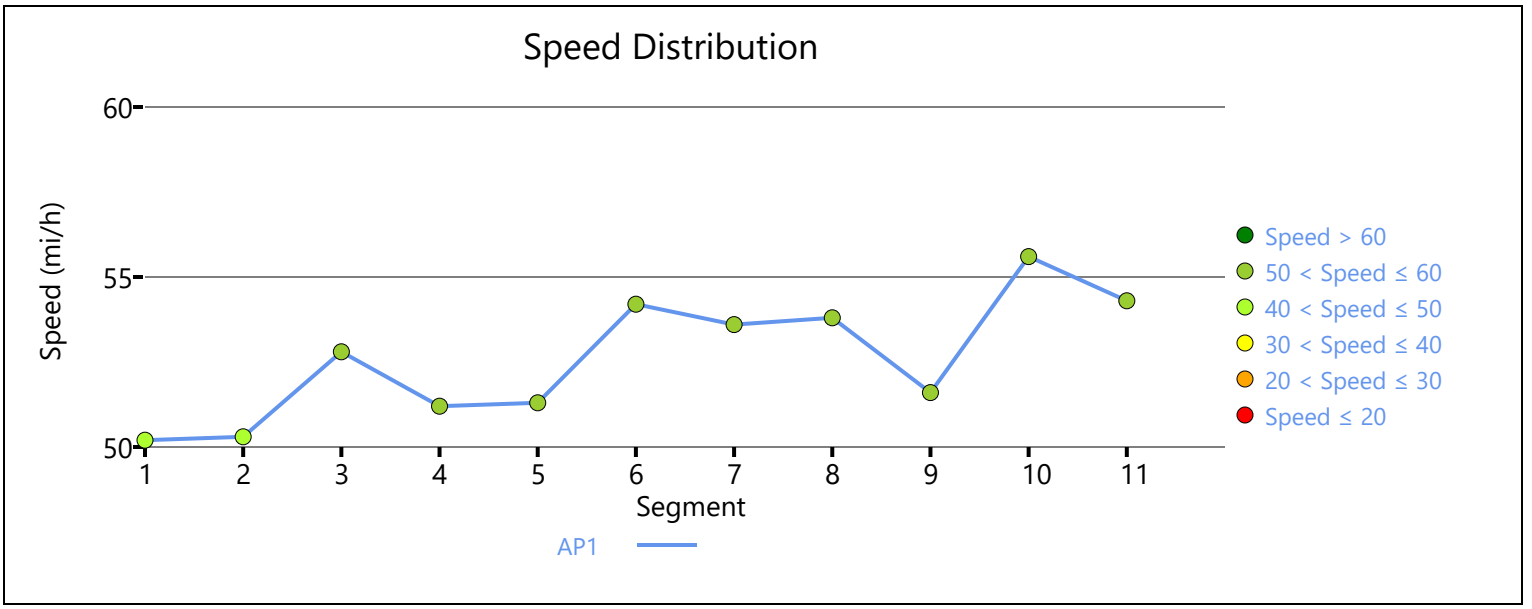
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-	-	54.3

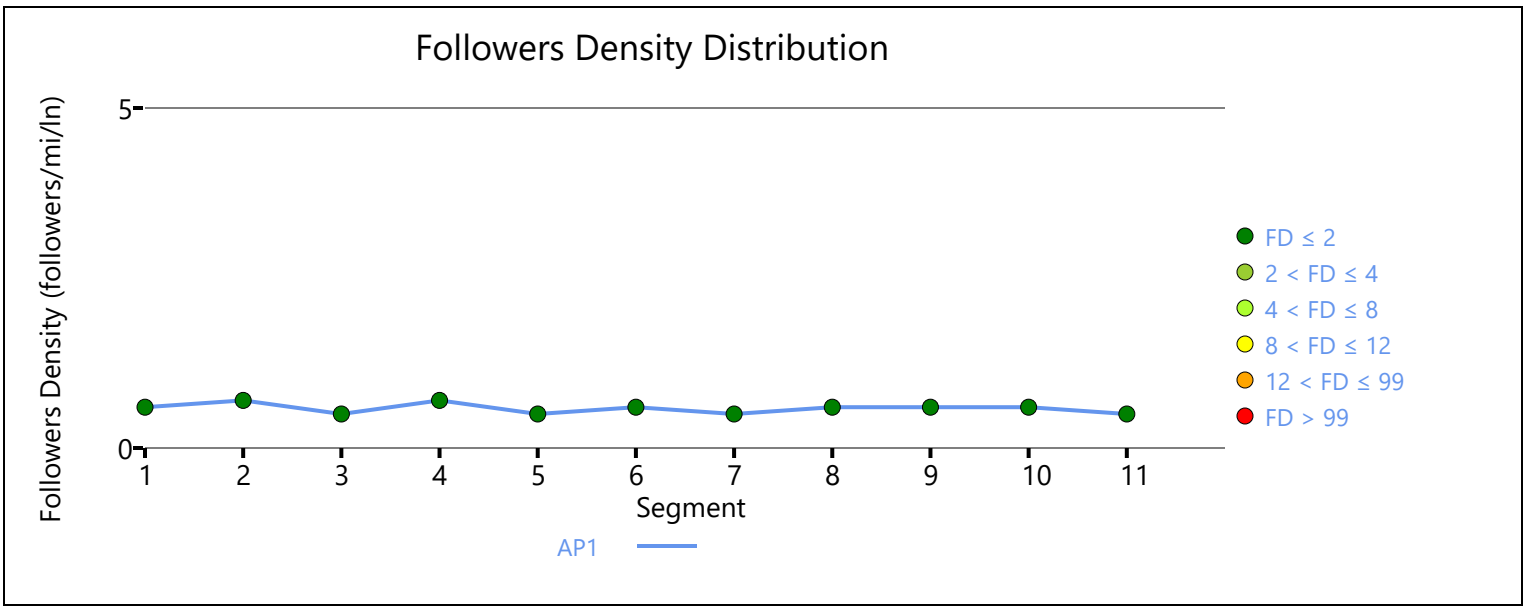
Vehicle Results

Average Speed, mi/h	54.3	Percent Followers, %	21.3
Segment Travel Time, minutes	0.33	Follower Density (FD), followers/mi/ln	0.5
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	129	0.02	0.6	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing AM
Project Description	KY 1682	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11019
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	6.7

Demand and Capacity

Directional Demand Flow Rate, veh/h	11	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	55.7
Speed Slope Coefficient (m)	3.62268	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34359	PF Power Coefficient (p)	0.71736
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	11019	-	-	55.7

Vehicle Results

Average Speed, mi/h	55.7	Percent Followers, %	5.0
Segment Travel Time, minutes	2.25	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1320
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	16.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	18	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	53.3
Speed Slope Coefficient (m)	3.39939	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.45222	PF Power Coefficient (p)	0.72054
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	1320	-	-	53.3

Vehicle Results

Average Speed, mi/h	53.3	Percent Followers, %	7.7
Segment Travel Time, minutes	0.28	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1742
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.2

Demand and Capacity

Directional Demand Flow Rate, veh/h	18	Opposing Demand Flow Rate, veh/h	14
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	51.3
Speed Slope Coefficient (m)	2.93247	Speed Power Coefficient (p)	0.63519
PF Slope Coefficient (m)	-1.21845	PF Power Coefficient (p)	0.78649
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	1742	-	-	51.3

Vehicle Results

Average Speed, mi/h	51.3	Percent Followers, %	5.1
Segment Travel Time, minutes	0.39	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7586
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	17.4

Demand and Capacity

Directional Demand Flow Rate, veh/h	18	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	53.0
Speed Slope Coefficient (m)	3.45285	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34349	PF Power Coefficient (p)	0.73368
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

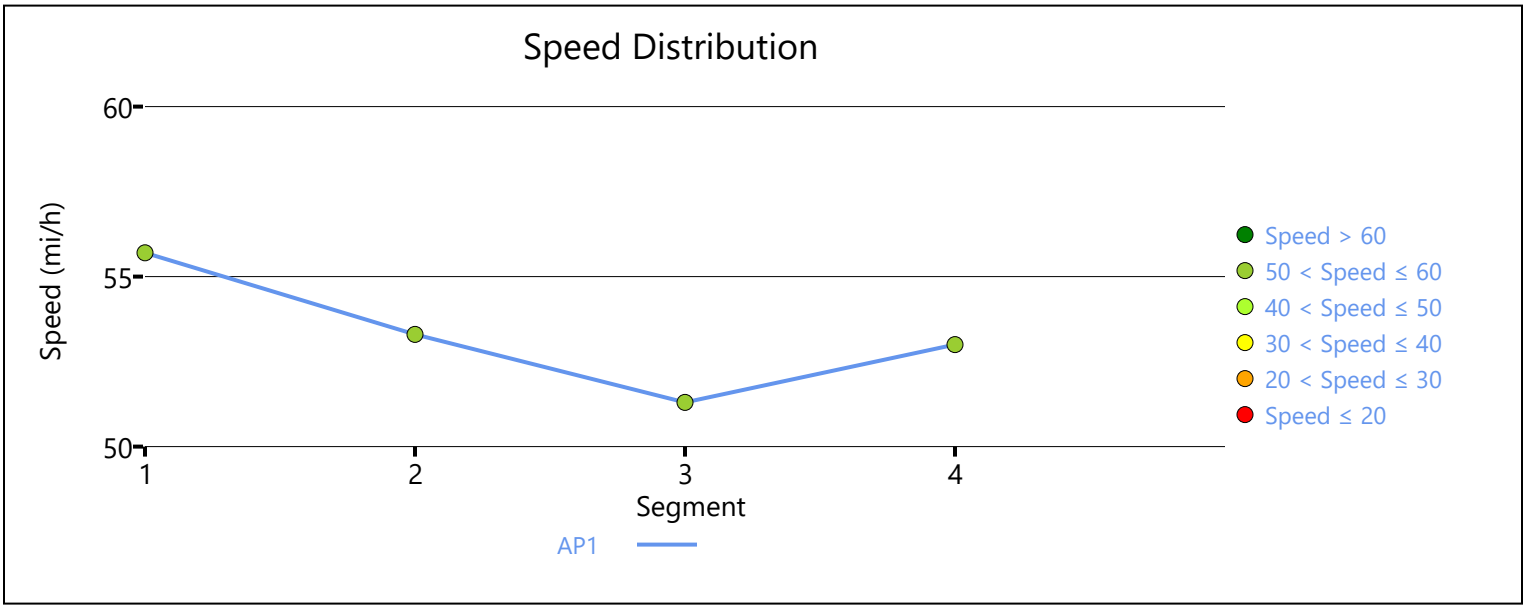
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	7586	-	-	53.0

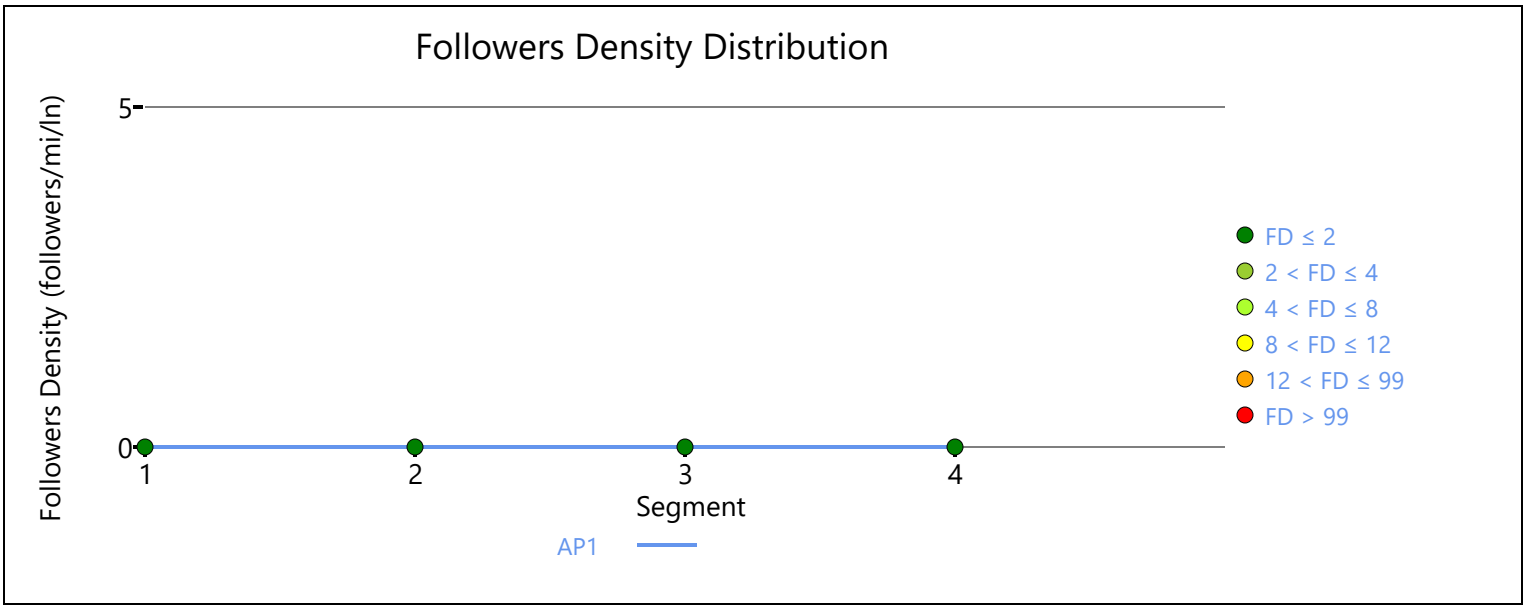
Vehicle Results

Average Speed, mi/h	53.0	Percent Followers, %	6.8
Segment Travel Time, minutes	1.63	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	14	0.00	0.0	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing PM
Project Description	KY 1682	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11019
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	6.7

Demand and Capacity

Directional Demand Flow Rate, veh/h	14	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	55.7
Speed Slope Coefficient (m)	3.62268	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34359	PF Power Coefficient (p)	0.71736
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	11019	-	-	55.7

Vehicle Results

Average Speed, mi/h	55.7	Percent Followers, %	6.0
Segment Travel Time, minutes	2.25	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1320
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	16.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	26	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	53.3
Speed Slope Coefficient (m)	3.39939	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.45222	PF Power Coefficient (p)	0.72054
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	1320	-	-	53.3

Vehicle Results

Average Speed, mi/h	53.3	Percent Followers, %	9.8
Segment Travel Time, minutes	0.28	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1742
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.2

Demand and Capacity

Directional Demand Flow Rate, veh/h	26	Opposing Demand Flow Rate, veh/h	20
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	51.3
Speed Slope Coefficient (m)	2.94053	Speed Power Coefficient (p)	0.62713
PF Slope Coefficient (m)	-1.22614	PF Power Coefficient (p)	0.78469
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	1742	-	-	51.3

Vehicle Results

Average Speed, mi/h	51.3	Percent Followers, %	6.7
Segment Travel Time, minutes	0.39	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7586
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	17.4

Demand and Capacity

Directional Demand Flow Rate, veh/h	26	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	53.0
Speed Slope Coefficient (m)	3.45285	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34349	PF Power Coefficient (p)	0.73368
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

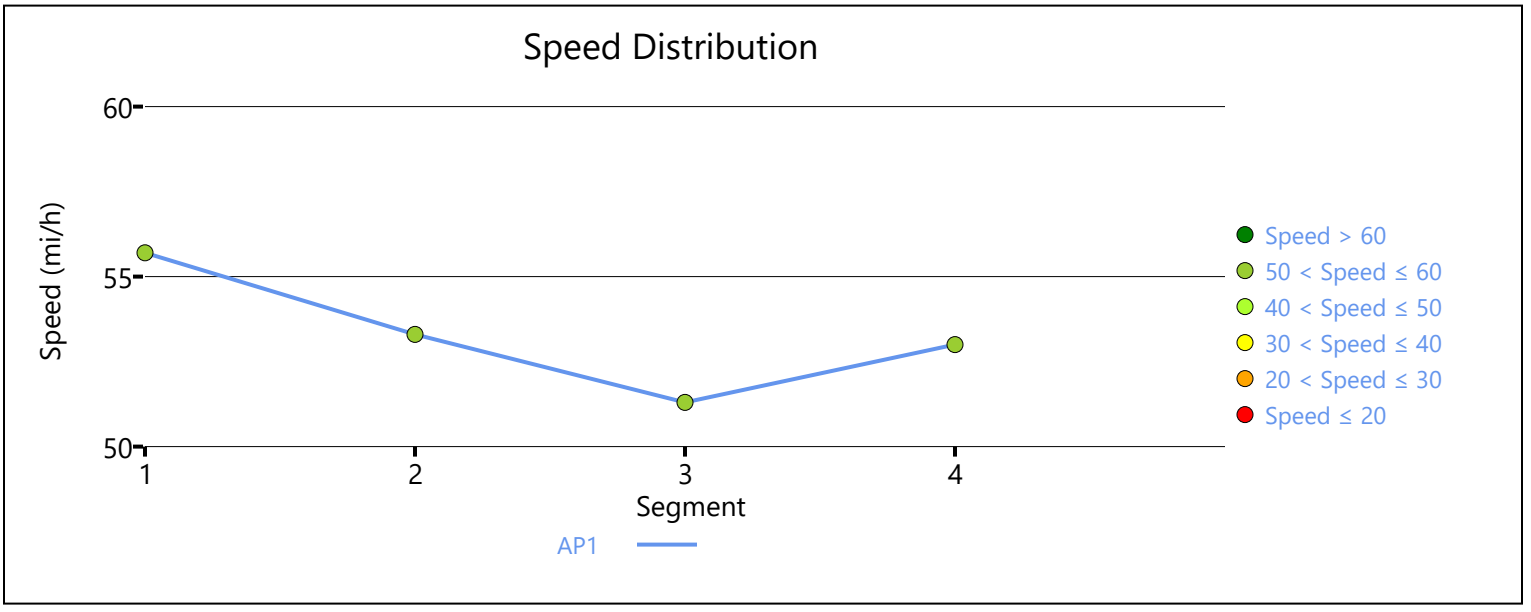
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	7586	-	-	53.0

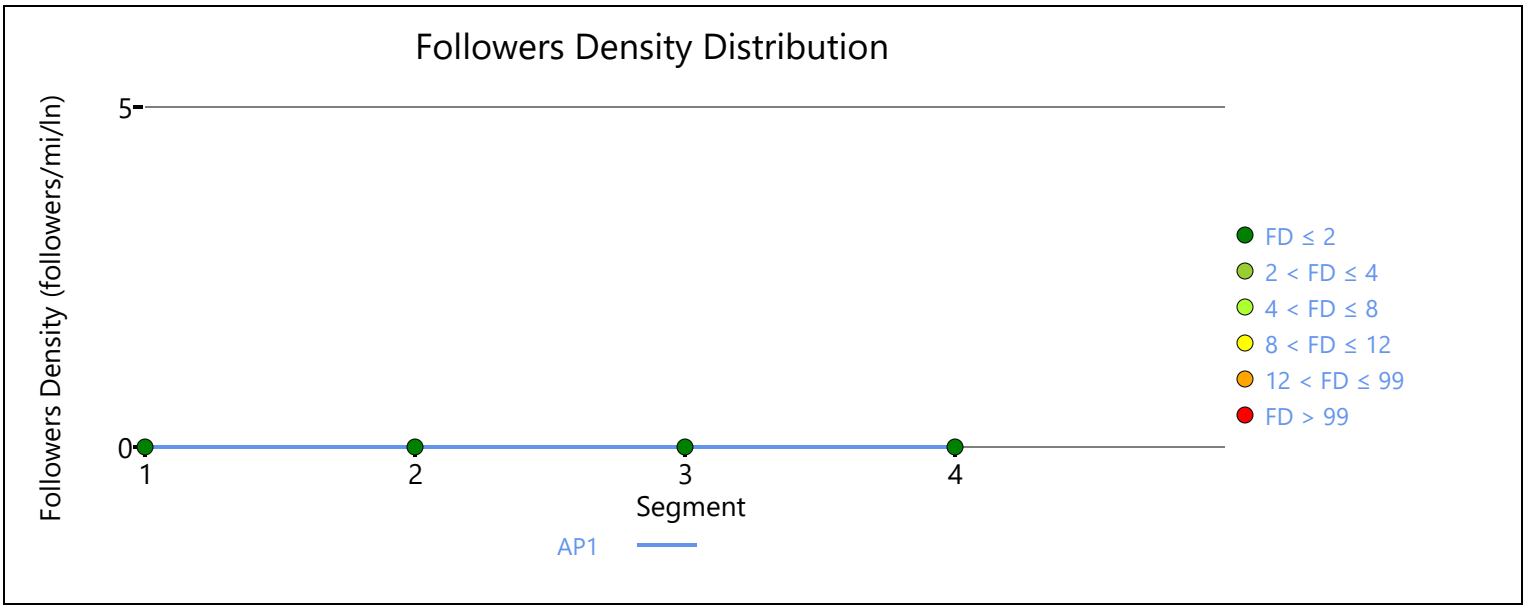
Vehicle Results

Average Speed, mi/h	53.0	Percent Followers, %	8.7
Segment Travel Time, minutes	1.63	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	19	0.00	0.0	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing AM
Project Description	Woodburn Hay Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13257
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	14.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	10	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	30.2
Speed Slope Coefficient (m)	2.25978	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.40543	PF Power Coefficient (p)	0.60145
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	13257	-	-	30.2

Vehicle Results

Average Speed, mi/h	30.2	Percent Followers, %	8.2
Segment Travel Time, minutes	4.98	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	435
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	51	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	33.8
Speed Slope Coefficient (m)	2.34249	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49222	PF Power Coefficient (p)	0.64889
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

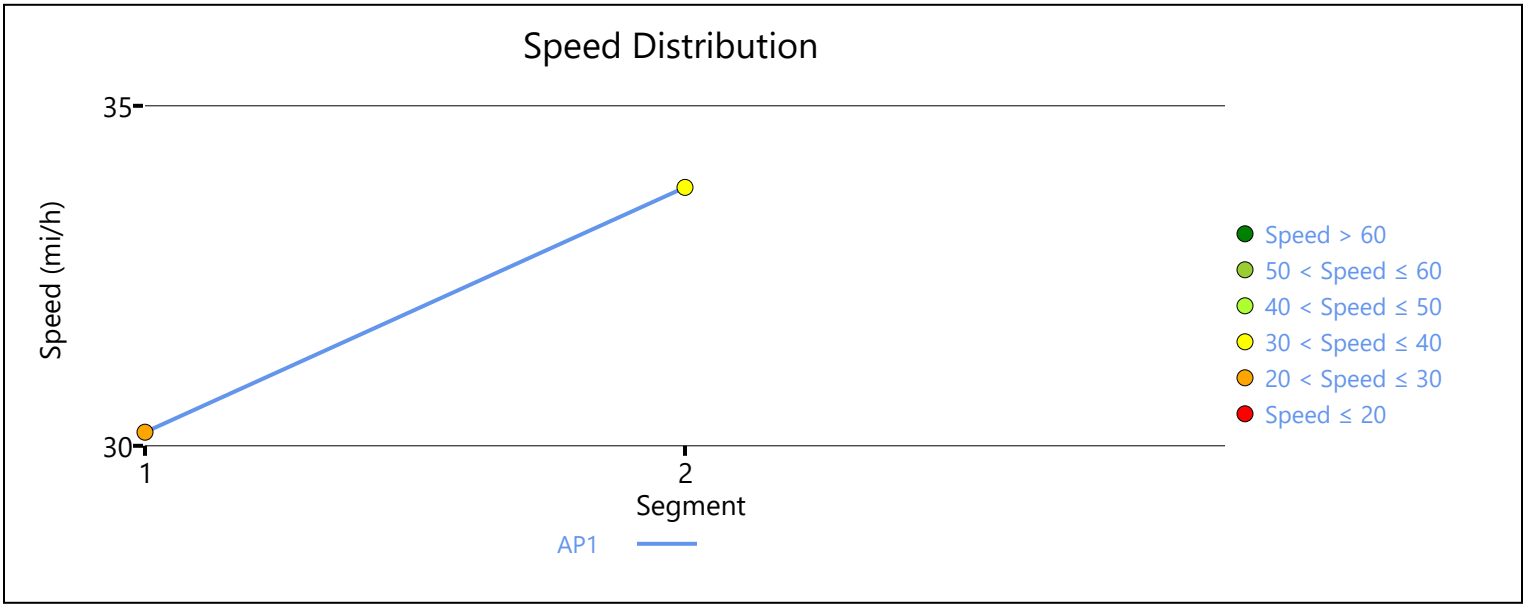
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	435	-	-	33.8

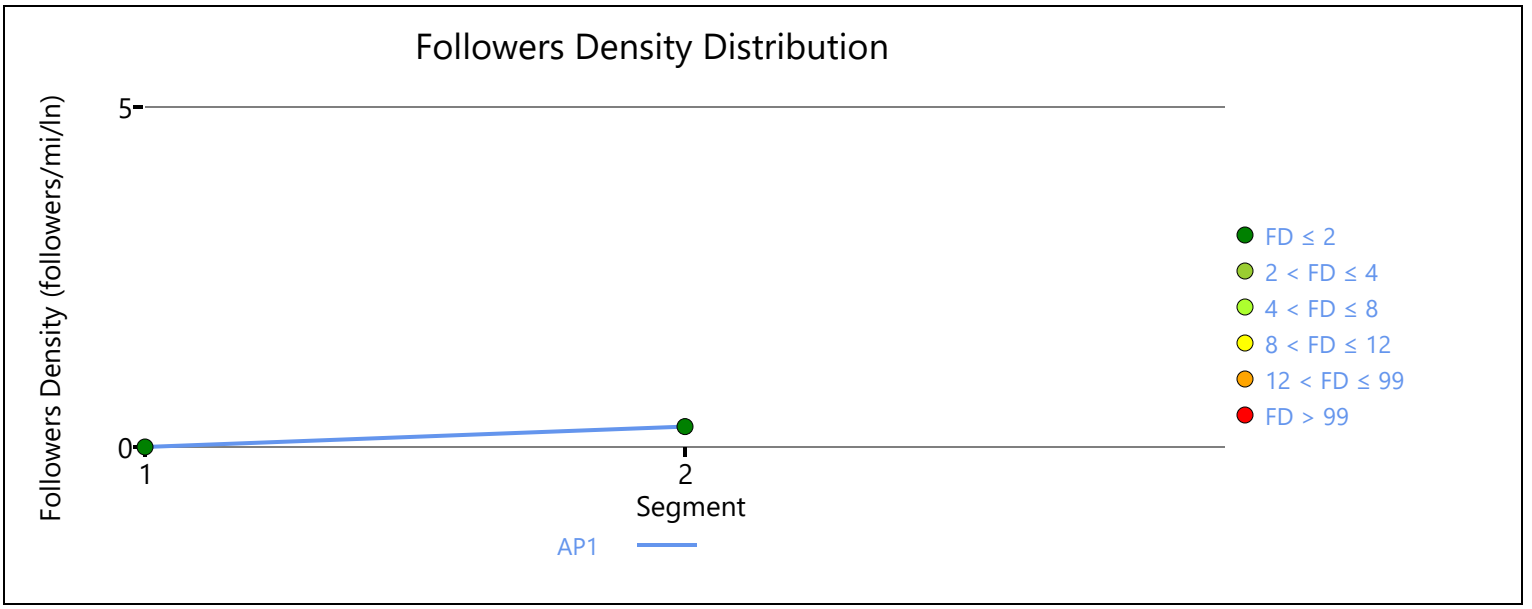
Vehicle Results

Average Speed, mi/h	33.8	Percent Followers, %	19.5
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	0.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	7	0.00	0.0	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Analyzed	Existing PM
Project Description	Woodburn Hay Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13257
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	14.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	11	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	30.2
Speed Slope Coefficient (m)	2.25978	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.40543	PF Power Coefficient (p)	0.60145
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	13257	-	-	30.2

Vehicle Results

Average Speed, mi/h	30.2	Percent Followers, %	8.7
Segment Travel Time, minutes	4.98	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	435
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	51	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	33.8
Speed Slope Coefficient (m)	2.34249	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49222	PF Power Coefficient (p)	0.64889
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

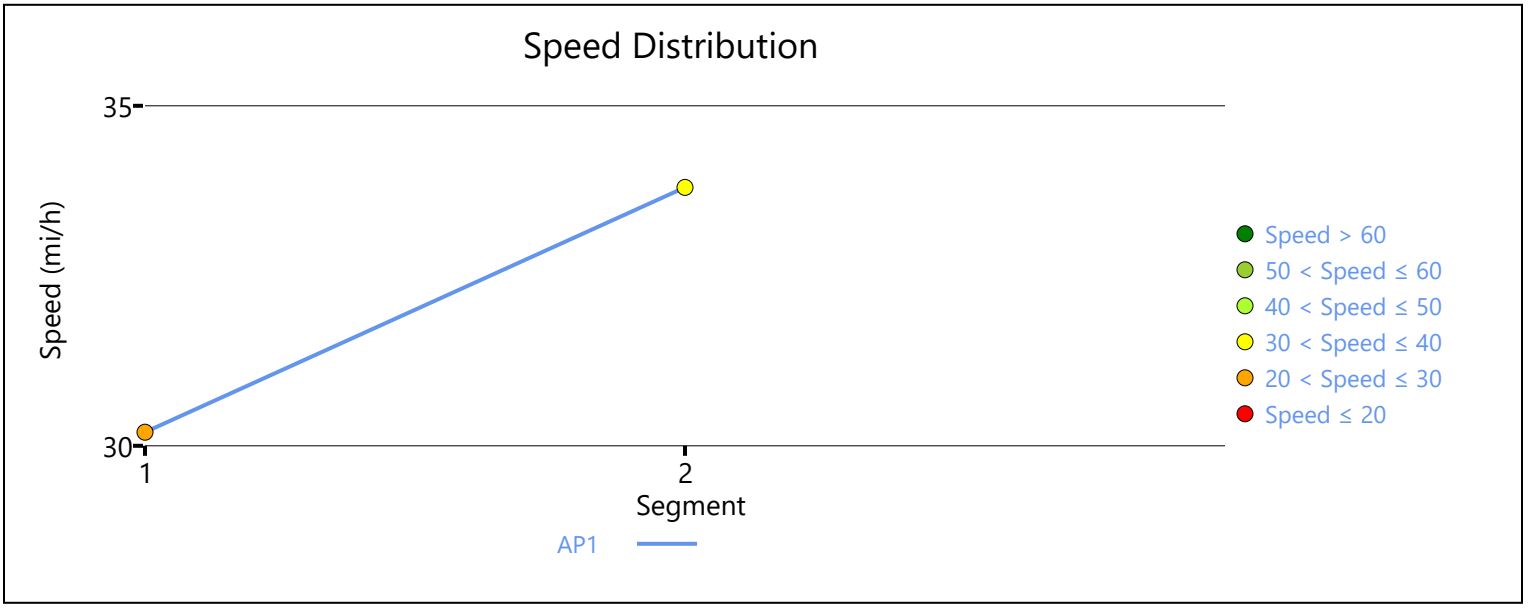
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	435	-	-	33.8

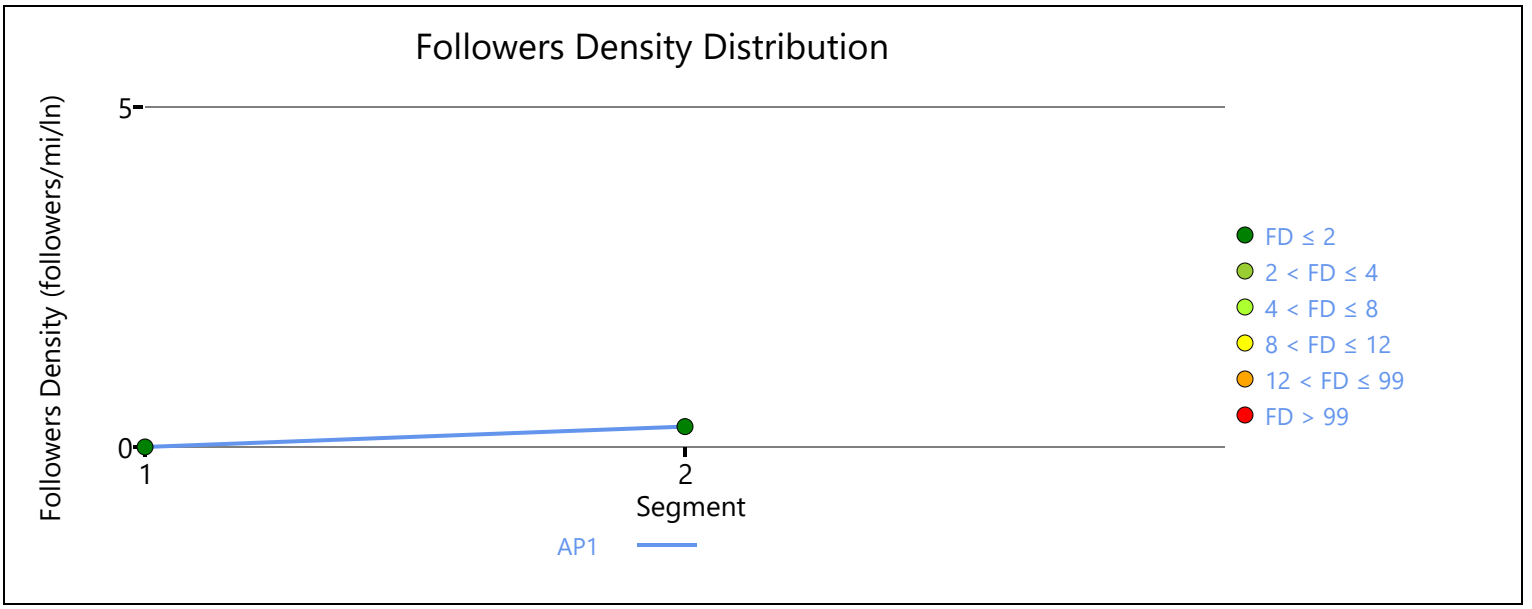
Vehicle Results

Average Speed, mi/h	33.8	Percent Followers, %	19.5
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	0.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	7	0.00	0.0	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction AM
Project Description	Deason Lane	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7971
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	19.9

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	28.9
Speed Slope Coefficient (m)	2.14827	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.35216	PF Power Coefficient (p)	0.63549
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	7971	-	-	28.9

Vehicle Results

Average Speed, mi/h	28.9	Percent Followers, %	5.3
Segment Travel Time, minutes	3.14	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	2	0.00	0.0	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction PM
Project Description	Deason Lane	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7971
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	19.9

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	28.9
Speed Slope Coefficient (m)	2.14827	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.35216	PF Power Coefficient (p)	0.63549
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	7971	-	-	28.9

Vehicle Results

Average Speed, mi/h	28.9	Percent Followers, %	5.3
Segment Travel Time, minutes	3.14	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	2	0.00	0.0	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction AM
Project Description	Old Fruit Hill Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	12173
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	10.8

Demand and Capacity

Directional Demand Flow Rate, veh/h	44	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	31.1
Speed Slope Coefficient (m)	2.30094	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39785	PF Power Coefficient (p)	0.61601
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	12173	-	-	31.1

Vehicle Results

Average Speed, mi/h	31.1	Percent Followers, %	18.4
Segment Travel Time, minutes	4.44	Follower Density (FD), followers/mi/ln	0.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	24	0.00	0.3	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction PM
Project Description	Old Fruit Hill Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	12173
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	10.8

Demand and Capacity

Directional Demand Flow Rate, veh/h	41	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	31.1
Speed Slope Coefficient (m)	2.30094	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39785	PF Power Coefficient (p)	0.61601
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	12173	-	-	31.1

Vehicle Results

Average Speed, mi/h	31.1	Percent Followers, %	17.9
Segment Travel Time, minutes	4.44	Follower Density (FD), followers/mi/ln	0.2
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	22	0.00	0.2	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction AM
Project Description	KY 189	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7450
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	17.0

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	Demand/Capacity (D/C)	0.01

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	53.1
Speed Slope Coefficient (m)	3.45635	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34281	PF Power Coefficient (p)	0.73462
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	7450	-	-	53.1

Vehicle Results

Average Speed, mi/h	53.1	Percent Followers, %	6.5
Segment Travel Time, minutes	1.59	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	6	0.00	0.0	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction PM
Project Description	KY 189	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7450
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	17.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	34	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	53.1
Speed Slope Coefficient (m)	3.45635	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34281	PF Power Coefficient (p)	0.73462
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	7450	-	-	53.1

Vehicle Results

Average Speed, mi/h	53.1	Percent Followers, %	10.6
Segment Travel Time, minutes	1.59	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	11	0.00	0.1	A

HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction AM
Project Description	KY 107	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1425
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	29.6

Demand and Capacity

Directional Demand Flow Rate, veh/h	160	Opposing Demand Flow Rate, veh/h	115
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	50.5
Speed Slope Coefficient (m)	2.95887	Speed Power Coefficient (p)	0.56787
PF Slope Coefficient (m)	-1.30115	PF Power Coefficient (p)	0.76324
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.9
%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	1425	-	-	49.9

Vehicle Results

Average Speed, mi/h	49.9	Percent Followers, %	27.4
Segment Travel Time, minutes	0.32	Follower Density (FD), followers/mi/ln	0.9
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1742
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	27.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	160	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	2	Free-Flow Speed, mi/h	51.0
Speed Slope Coefficient (m)	3.11550	Speed Power Coefficient (p)	0.41622
PF Slope Coefficient (m)	-1.54091	PF Power Coefficient (p)	0.70305
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%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	1742	-	-	50.0

Vehicle Results

Average Speed, mi/h	50.0	Percent Followers, %	34.6
Segment Travel Time, minutes	0.40	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	3854
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	19.2

Demand and Capacity

Directional Demand Flow Rate, veh/h	160	Opposing Demand Flow Rate, veh/h	115
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	53.1
Speed Slope Coefficient (m)	3.13493	Speed Power Coefficient (p)	0.56787
PF Slope Coefficient (m)	-1.22491	PF Power Coefficient (p)	0.79609
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	3854	-	-	52.5

Vehicle Results

Average Speed, mi/h	52.5	Percent Followers, %	24.7
Segment Travel Time, minutes	0.83	Follower Density (FD), followers/mi/ln	0.8
Vehicle LOS	A		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	977
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	160	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	51.9
Speed Slope Coefficient (m)	3.32351	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46187	PF Power Coefficient (p)	0.71687
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.0
%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	977	-	-	50.9

Vehicle Results

Average Speed, mi/h	50.9	Percent Followers, %	32.4
Segment Travel Time, minutes	0.22	Follower Density (FD), followers/mi/ln	1.0
Vehicle LOS	A		

Segment 5

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	4297
Lane Width, ft	10	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	160	Opposing Demand Flow Rate, veh/h	115
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	2	Free-Flow Speed, mi/h	51.7
Speed Slope Coefficient (m)	3.11550	Speed Power Coefficient (p)	0.57180
PF Slope Coefficient (m)	-1.20573	PF Power Coefficient (p)	0.78097
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	4297	-	-	51.1

Vehicle Results

Average Speed, mi/h	51.1	Percent Followers, %	25.0
Segment Travel Time, minutes	0.96	Follower Density (FD), followers/mi/ln	0.8
Vehicle LOS	A		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1320
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	160	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.9
Speed Slope Coefficient (m)	3.48611	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44027	PF Power Coefficient (p)	0.72456
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.9
%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	1320	-	-	53.9

Vehicle Results

Average Speed, mi/h	53.9	Percent Followers, %	31.7
Segment Travel Time, minutes	0.28	Follower Density (FD), followers/mi/ln	0.9
Vehicle LOS	A		

Segment 7

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	903
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	16.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	160	Opposing Demand Flow Rate, veh/h	115
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	53.9
Speed Slope Coefficient (m)	3.14155	Speed Power Coefficient (p)	0.56787
PF Slope Coefficient (m)	-1.29930	PF Power Coefficient (p)	0.77148
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	903	-	-	53.3

Vehicle Results

Average Speed, mi/h	53.3	Percent Followers, %	27.0
Segment Travel Time, minutes	0.19	Follower Density (FD), followers/mi/ln	0.8
Vehicle LOS	A		

Segment 8

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	4308
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	13.4

Demand and Capacity

Directional Demand Flow Rate, veh/h	160	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.6
Speed Slope Coefficient (m)	3.50851	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34913	PF Power Coefficient (p)	0.74640
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.9
%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	4308	-	-	53.5

Vehicle Results

Average Speed, mi/h	53.5	Percent Followers, %	29.0
Segment Travel Time, minutes	0.92	Follower Density (FD), followers/mi/ln	0.9
Vehicle LOS	A		

Segment 9

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1140
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	160	Opposing Demand Flow Rate, veh/h	115
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	51.9
Speed Slope Coefficient (m)	3.03315	Speed Power Coefficient (p)	0.56787
PF Slope Coefficient (m)	-1.30436	PF Power Coefficient (p)	0.76541
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.9
%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	1140	-	-	51.3

Vehicle Results

Average Speed, mi/h	51.3	Percent Followers, %	27.4
Segment Travel Time, minutes	0.25	Follower Density (FD), followers/mi/ln	0.9
Vehicle LOS	A		

Bicycle Results

Percent Occupied Parking	0	Pavement Condition Rating	4
Flow Rate Outside Lane, veh/h	160	Bicycle Effective Width, ft	14
Bicycle LOS Score	4.19	Bicycle Effective Speed Factor	4.79
Bicycle LOS	D		

Segment 10

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1690
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	6.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	171	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.10

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	56.4

Speed Slope Coefficient (m)	3.57078	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.40749	PF Power Coefficient (p)	0.73425
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.0
%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	1690	-	-	55.2

Vehicle Results

Average Speed, mi/h	55.2	Percent Followers, %	32.0
Segment Travel Time, minutes	0.35	Follower Density (FD), followers/mi/ln	1.0
Vehicle LOS	A		

Segment 11

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1584
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	13.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	171	Opposing Demand Flow Rate, veh/h	61
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.10

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.6
Speed Slope Coefficient (m)	3.15266	Speed Power Coefficient (p)	0.59462
PF Slope Coefficient (m)	-1.25712	PF Power Coefficient (p)	0.78487
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.9
%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	1584	-	-	54.0

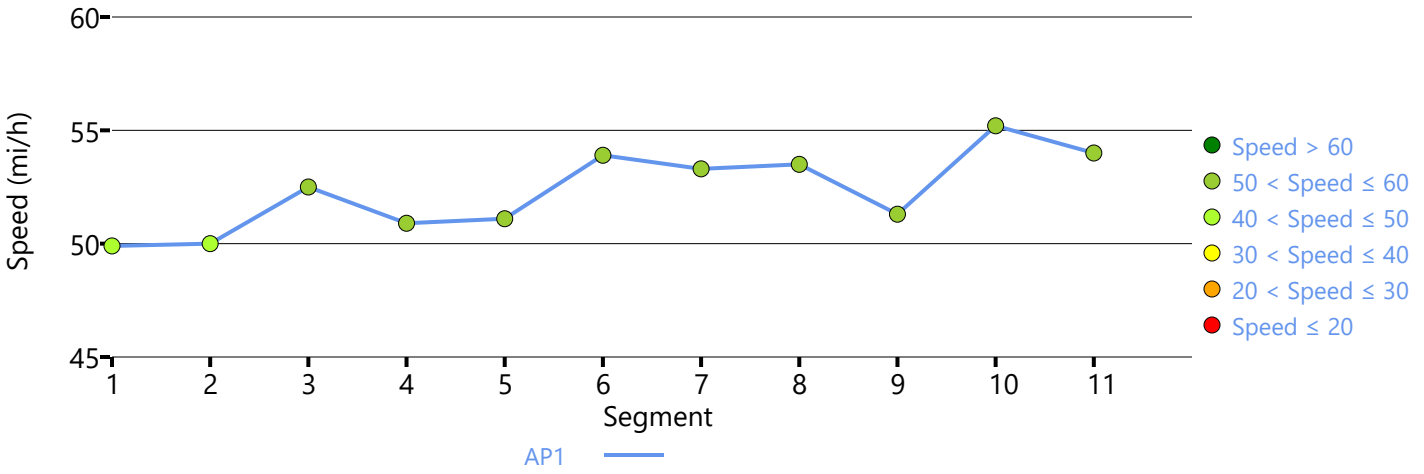
Vehicle Results

Average Speed, mi/h	54.0	Percent Followers, %	27.0
Segment Travel Time, minutes	0.33	Follower Density (FD), followers/mi/ln	0.9
Vehicle LOS	A		

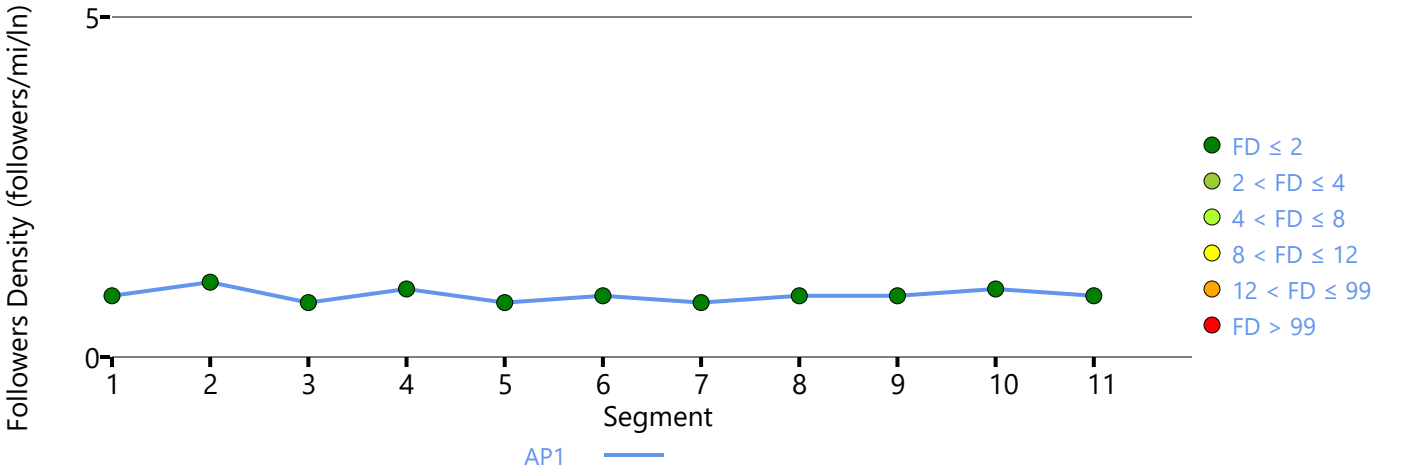
Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	167	0.05	0.9	A

Speed Distribution



Followers Density Distribution



HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction PM
Project Description	KY 107	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1425
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	29.6

Demand and Capacity

Directional Demand Flow Rate, veh/h	186	Opposing Demand Flow Rate, veh/h	135
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	50.5
Speed Slope Coefficient (m)	2.96825	Speed Power Coefficient (p)	0.56003
PF Slope Coefficient (m)	-1.30923	PF Power Coefficient (p)	0.76153
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%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	1425	-	-	49.8

Vehicle Results

Average Speed, mi/h	49.8	Percent Followers, %	30.5
Segment Travel Time, minutes	0.33	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1742
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	27.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	186	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	2	Free-Flow Speed, mi/h	51.0
Speed Slope Coefficient (m)	3.11550	Speed Power Coefficient (p)	0.41622
PF Slope Coefficient (m)	-1.54091	PF Power Coefficient (p)	0.70305
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.4
%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	1742	-	-	49.9

Vehicle Results

Average Speed, mi/h	49.9	Percent Followers, %	37.7
Segment Travel Time, minutes	0.40	Follower Density (FD), followers/mi/ln	1.4
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	3854
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	19.2

Demand and Capacity

Directional Demand Flow Rate, veh/h	186	Opposing Demand Flow Rate, veh/h	135
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	53.1
Speed Slope Coefficient (m)	3.14431	Speed Power Coefficient (p)	0.56003
PF Slope Coefficient (m)	-1.23230	PF Power Coefficient (p)	0.79409
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.0
%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	3854	-	-	52.3

Vehicle Results

Average Speed, mi/h	52.3	Percent Followers, %	27.7
Segment Travel Time, minutes	0.84	Follower Density (FD), followers/mi/ln	1.0
Vehicle LOS	A		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	977
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	186	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	51.9
Speed Slope Coefficient (m)	3.32351	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46187	PF Power Coefficient (p)	0.71687
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.3
%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	977	-	-	50.7

Vehicle Results

Average Speed, mi/h	50.7	Percent Followers, %	35.5
Segment Travel Time, minutes	0.22	Follower Density (FD), followers/mi/ln	1.3
Vehicle LOS	A		

Segment 5

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	4297
Lane Width, ft	10	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	186	Opposing Demand Flow Rate, veh/h	135
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	2	Free-Flow Speed, mi/h	51.7
Speed Slope Coefficient (m)	3.11550	Speed Power Coefficient (p)	0.56228
PF Slope Coefficient (m)	-1.21392	PF Power Coefficient (p)	0.77877
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.0
%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	4297	-	-	50.9

Vehicle Results

Average Speed, mi/h	50.9	Percent Followers, %	27.9
Segment Travel Time, minutes	0.96	Follower Density (FD), followers/mi/ln	1.0
Vehicle LOS	A		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1320
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	12.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	186	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.9
Speed Slope Coefficient (m)	3.48611	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44027	PF Power Coefficient (p)	0.72456
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.2
%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	1320	-	-	53.7

Vehicle Results

Average Speed, mi/h	53.7	Percent Followers, %	34.7
Segment Travel Time, minutes	0.28	Follower Density (FD), followers/mi/ln	1.2
Vehicle LOS	A		

Segment 7

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	903
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	16.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	186	Opposing Demand Flow Rate, veh/h	135
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	53.9
Speed Slope Coefficient (m)	3.15093	Speed Power Coefficient (p)	0.56003
PF Slope Coefficient (m)	-1.30721	PF Power Coefficient (p)	0.76978
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%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	903	-	-	53.1

Vehicle Results

Average Speed, mi/h	53.1	Percent Followers, %	30.1
Segment Travel Time, minutes	0.19	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Segment 8

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	4308
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	13.4

Demand and Capacity

Directional Demand Flow Rate, veh/h	186	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.6
Speed Slope Coefficient (m)	3.50851	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34913	PF Power Coefficient (p)	0.74640
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%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	4308	-	-	53.3

Vehicle Results

Average Speed, mi/h	53.3	Percent Followers, %	31.9
Segment Travel Time, minutes	0.92	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Segment 9

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	1140
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	186	Opposing Demand Flow Rate, veh/h	135
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.9
Speed Slope Coefficient (m)	3.04253	Speed Power Coefficient (p)	0.56003
PF Slope Coefficient (m)	-1.31241	PF Power Coefficient (p)	0.76372
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%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	1140	-	-	51.2

Vehicle Results			
Average Speed, mi/h	51.2	Percent Followers, %	30.5
Segment Travel Time, minutes	0.25	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Bicycle Results			
Percent Occupied Parking	0	Pavement Condition Rating	4
Flow Rate Outside Lane, veh/h	186	Bicycle Effective Width, ft	11
Bicycle LOS Score	4.64	Bicycle Effective Speed Factor	4.79
Bicycle LOS	E		

Segment 10

Vehicle Inputs			
Segment Type	Passing Constrained	Length, ft	1690
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	6.3

Demand and Capacity			
Directional Demand Flow Rate, veh/h	185	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	56.4

Speed Slope Coefficient (m)	3.57078	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.40749	PF Power Coefficient (p)	0.73425
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%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	1690	-	-	55.1

Vehicle Results

Average Speed, mi/h	55.1	Percent Followers, %	33.5
Segment Travel Time, minutes	0.35	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Segment 11

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1584
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	13.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	185	Opposing Demand Flow Rate, veh/h	65
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	54.6
Speed Slope Coefficient (m)	3.15544	Speed Power Coefficient (p)	0.59209
PF Slope Coefficient (m)	-1.25959	PF Power Coefficient (p)	0.78431
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

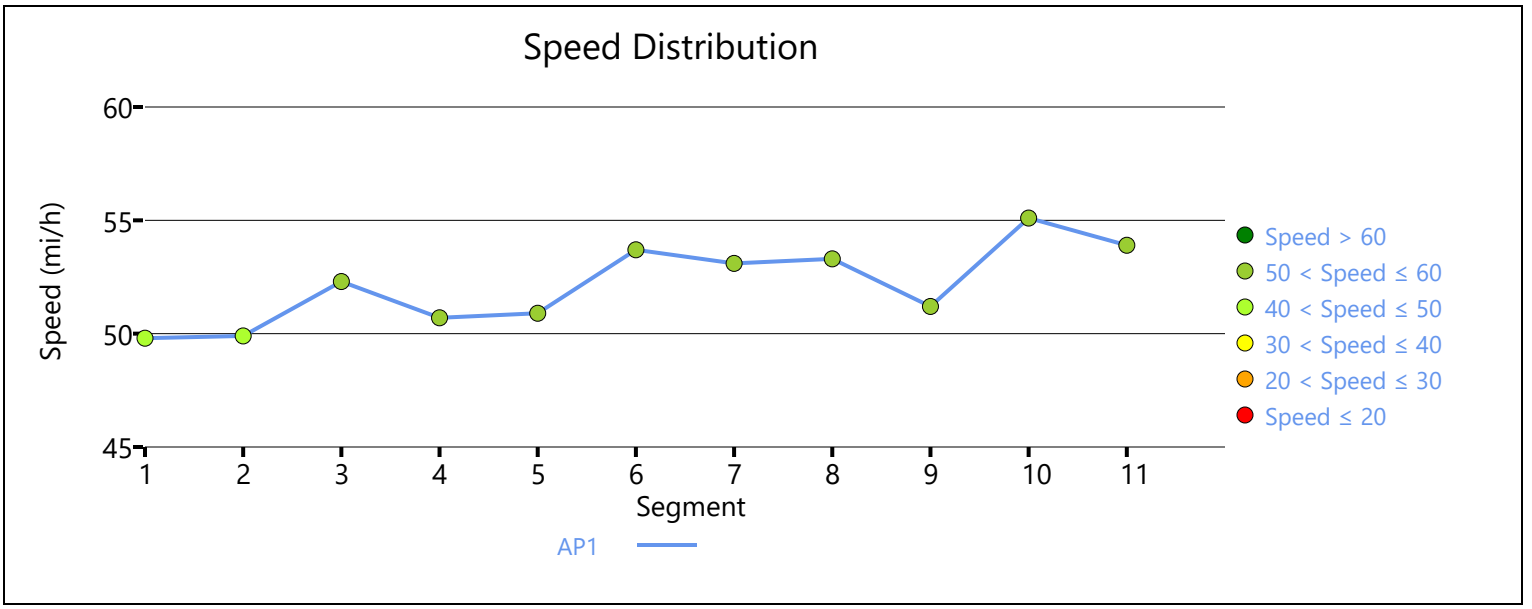
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1584	-	-	53.9

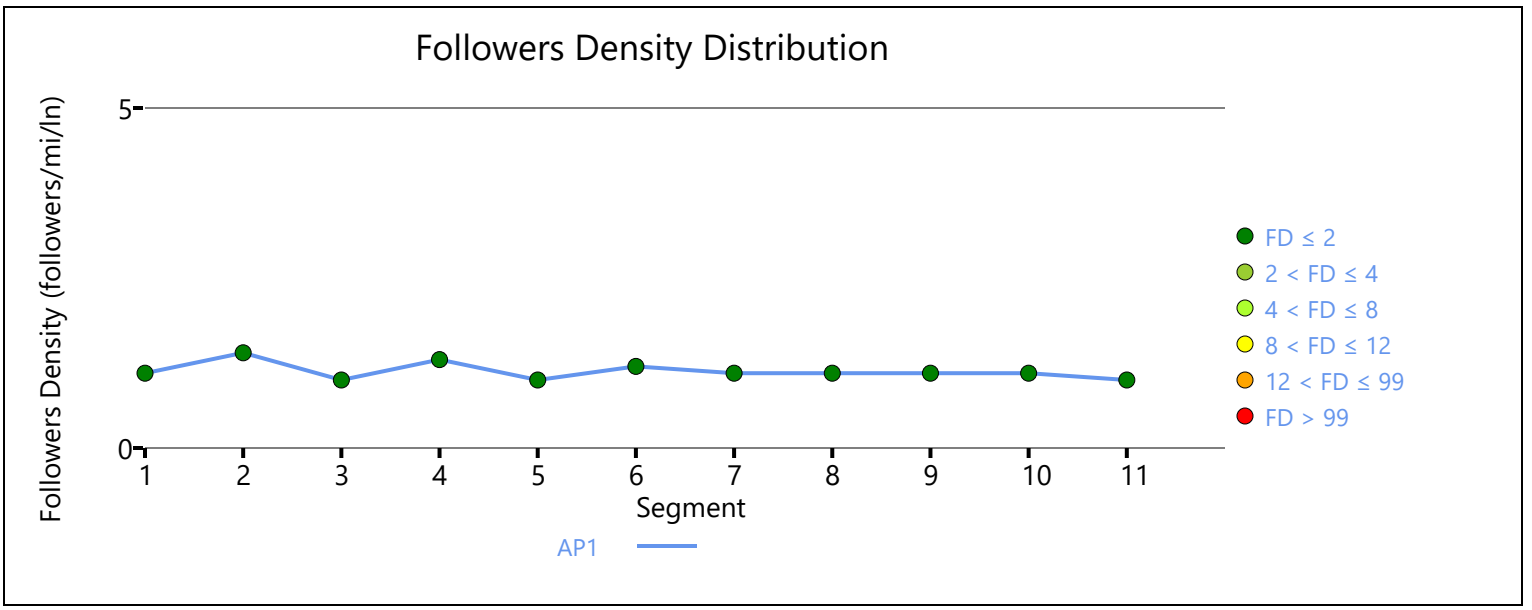
Vehicle Results

Average Speed, mi/h	53.9	Percent Followers, %	28.5
Segment Travel Time, minutes	0.33	Follower Density (FD), followers/mi/ln	1.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	192	0.07	1.1	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction AM
Project Description	KY 1682	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11019
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	6.7

Demand and Capacity

Directional Demand Flow Rate, veh/h	16	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	55.7
Speed Slope Coefficient (m)	3.62268	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34359	PF Power Coefficient (p)	0.71736
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	11019	-	-	55.7

Vehicle Results

Average Speed, mi/h	55.7	Percent Followers, %	6.7
Segment Travel Time, minutes	2.25	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1320
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	16.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	27	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	53.3
Speed Slope Coefficient (m)	3.39939	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.45222	PF Power Coefficient (p)	0.72054
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1320	-	-	53.3

Vehicle Results

Average Speed, mi/h	53.3	Percent Followers, %	10.1
Segment Travel Time, minutes	0.28	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1742
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.2

Demand and Capacity

Directional Demand Flow Rate, veh/h	27	Opposing Demand Flow Rate, veh/h	21
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	51.3
Speed Slope Coefficient (m)	2.94174	Speed Power Coefficient (p)	0.62593
PF Slope Coefficient (m)	-1.22729	PF Power Coefficient (p)	0.78443
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	1742	-	-	51.3

Vehicle Results

Average Speed, mi/h	51.3	Percent Followers, %	6.9
Segment Travel Time, minutes	0.39	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7586
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	17.4

Demand and Capacity

Directional Demand Flow Rate, veh/h	27	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	53.0
Speed Slope Coefficient (m)	3.45285	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34349	PF Power Coefficient (p)	0.73368
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

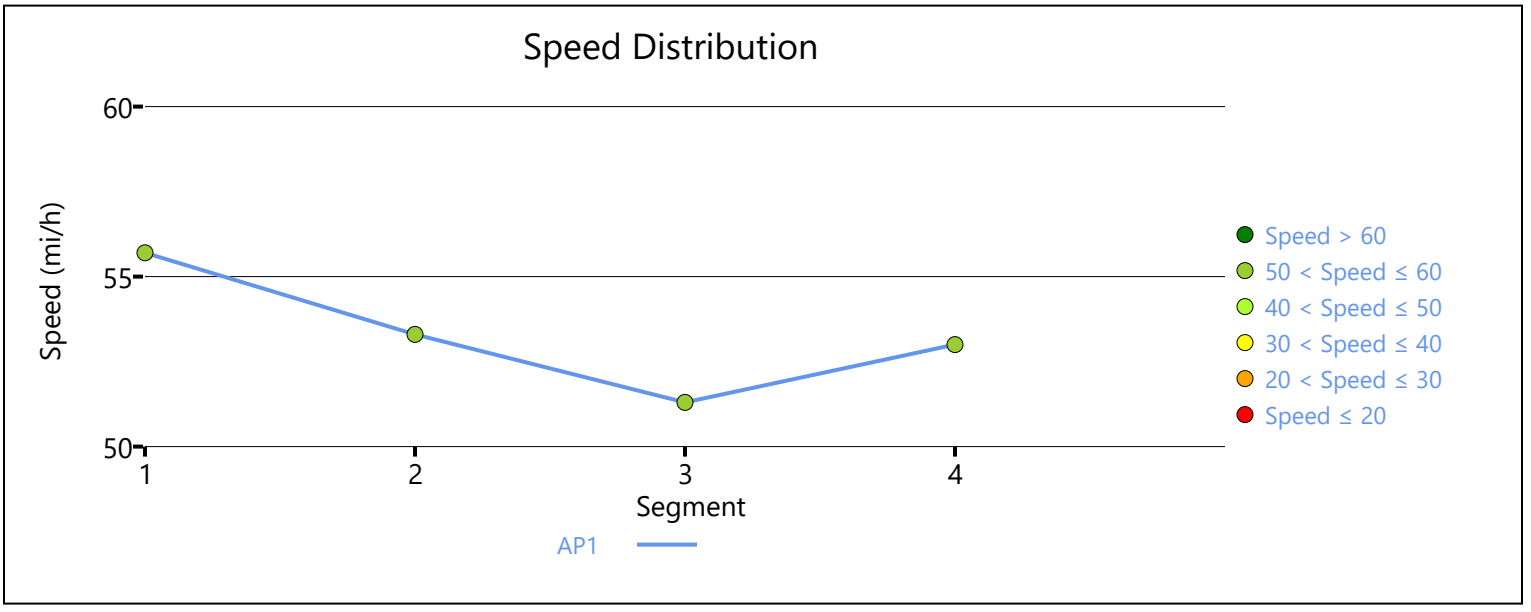
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	7586	-	-	53.0

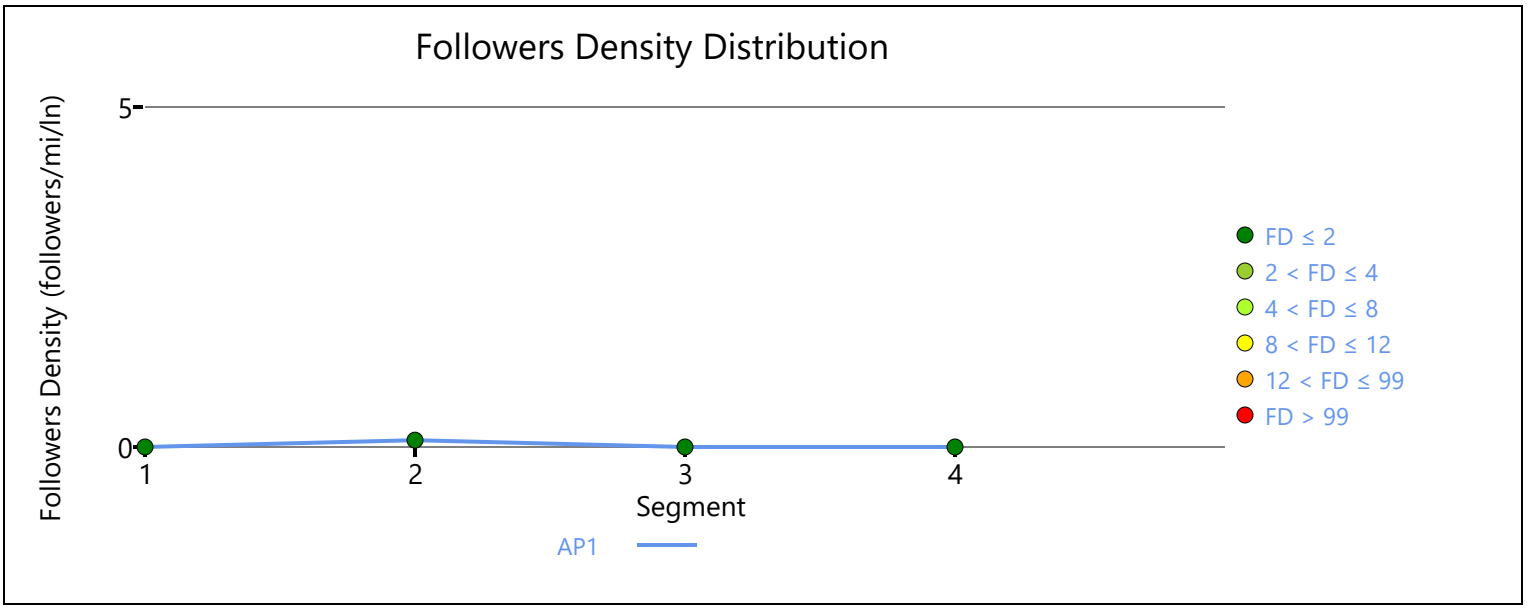
Vehicle Results

Average Speed, mi/h	53.0	Percent Followers, %	9.0
Segment Travel Time, minutes	1.63	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	20	0.00	0.0	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction PM
Project Description	KY 1682	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11019
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	6.7

Demand and Capacity

Directional Demand Flow Rate, veh/h	20	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	55.7
Speed Slope Coefficient (m)	3.62268	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34359	PF Power Coefficient (p)	0.71736
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	11019	-	-	55.7

Vehicle Results

Average Speed, mi/h	55.7	Percent Followers, %	7.9
Segment Travel Time, minutes	2.25	Follower Density (FD), followers/mi/ln	0.0
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1320
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	16.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	38	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	53.3
Speed Slope Coefficient (m)	3.39939	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.45222	PF Power Coefficient (p)	0.72054
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1320	-	-	53.3

Vehicle Results

Average Speed, mi/h	53.3	Percent Followers, %	12.9
Segment Travel Time, minutes	0.28	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	1742
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	24.2

Demand and Capacity

Directional Demand Flow Rate, veh/h	38	Opposing Demand Flow Rate, veh/h	30
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	51.3
Speed Slope Coefficient (m)	2.95050	Speed Power Coefficient (p)	0.61736
PF Slope Coefficient (m)	-1.23555	PF Power Coefficient (p)	0.78252
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1742	-	-	51.3

Vehicle Results

Average Speed, mi/h	51.3	Percent Followers, %	9.2
Segment Travel Time, minutes	0.39	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7586
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi	17.4

Demand and Capacity

Directional Demand Flow Rate, veh/h	38	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	53.0
Speed Slope Coefficient (m)	3.45285	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.34349	PF Power Coefficient (p)	0.73368
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

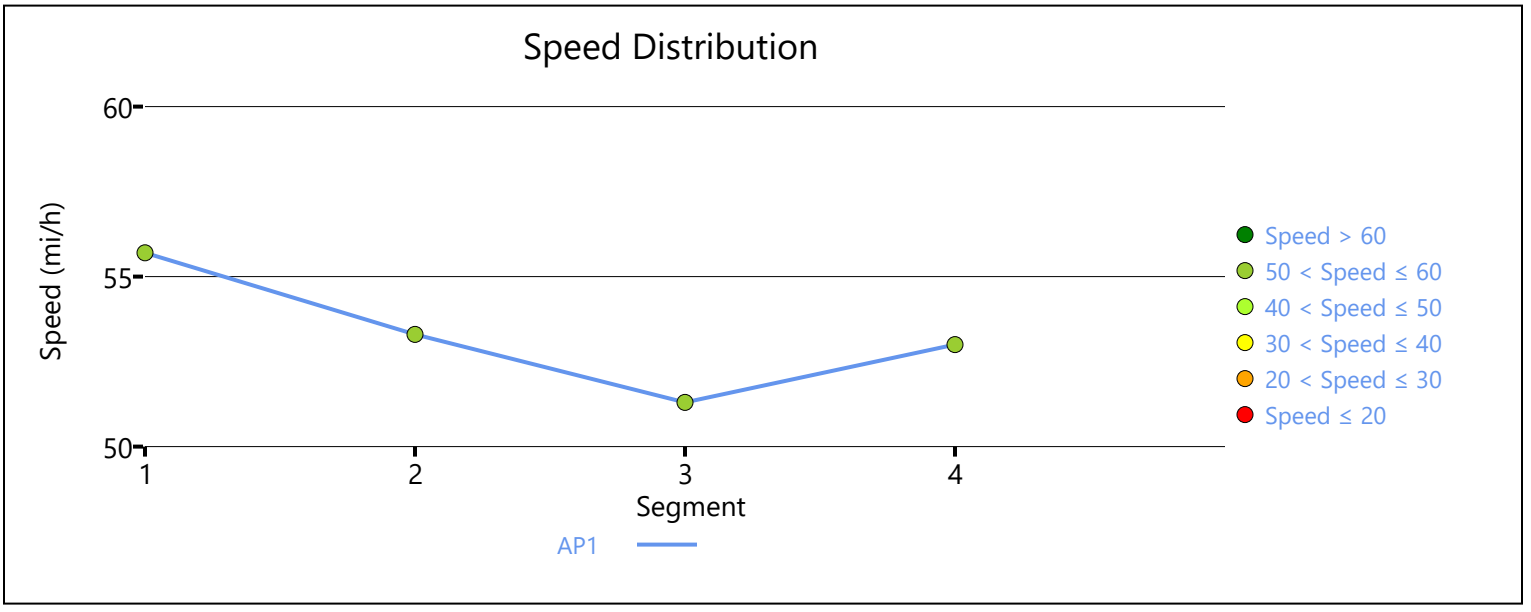
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	7586	-	-	53.0

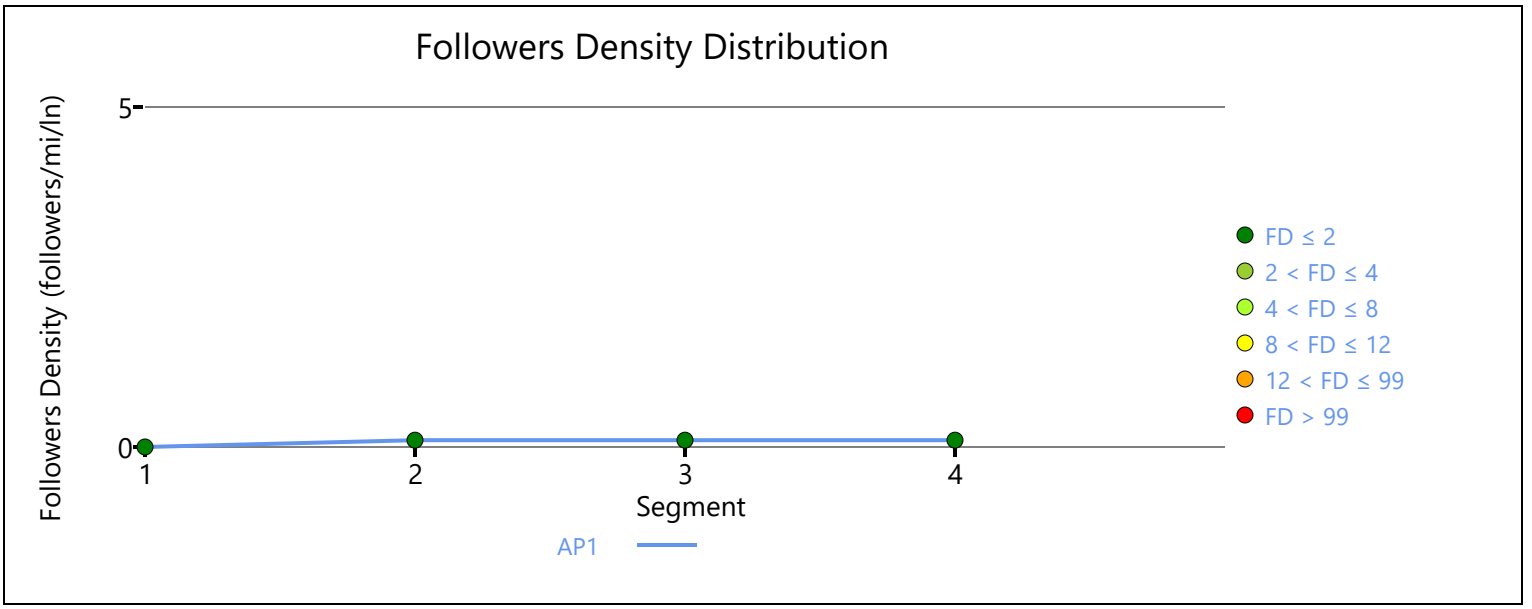
Vehicle Results

Average Speed, mi/h	53.0	Percent Followers, %	11.5
Segment Travel Time, minutes	1.63	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	28	0.00	0.1	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction AM
Project Description	Woodburn Hay Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13257
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	14.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	15	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	30.2
Speed Slope Coefficient (m)	2.25978	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.40543	PF Power Coefficient (p)	0.60145
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13257	-	-	30.2

Vehicle Results

Average Speed, mi/h	30.2	Percent Followers, %	10.6
Segment Travel Time, minutes	4.98	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	435
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	77	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	33.8
Speed Slope Coefficient (m)	2.34249	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49222	PF Power Coefficient (p)	0.64889
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

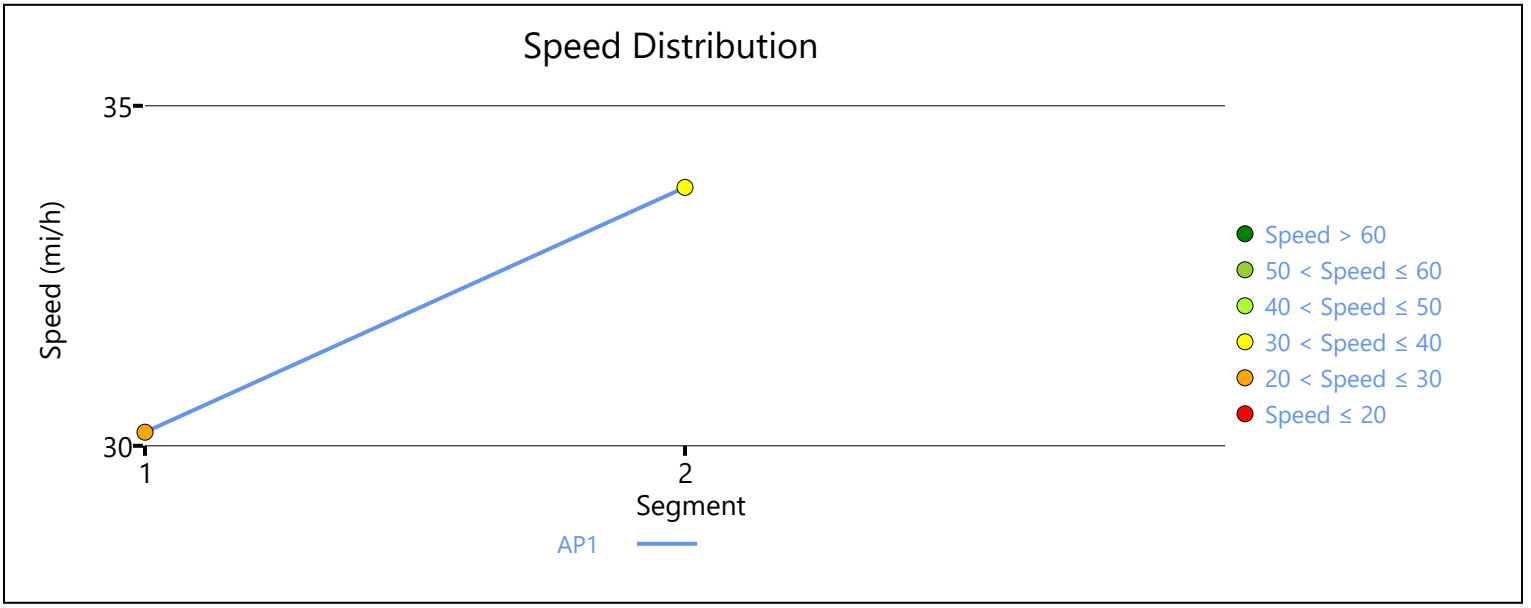
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	435	-	-	33.8

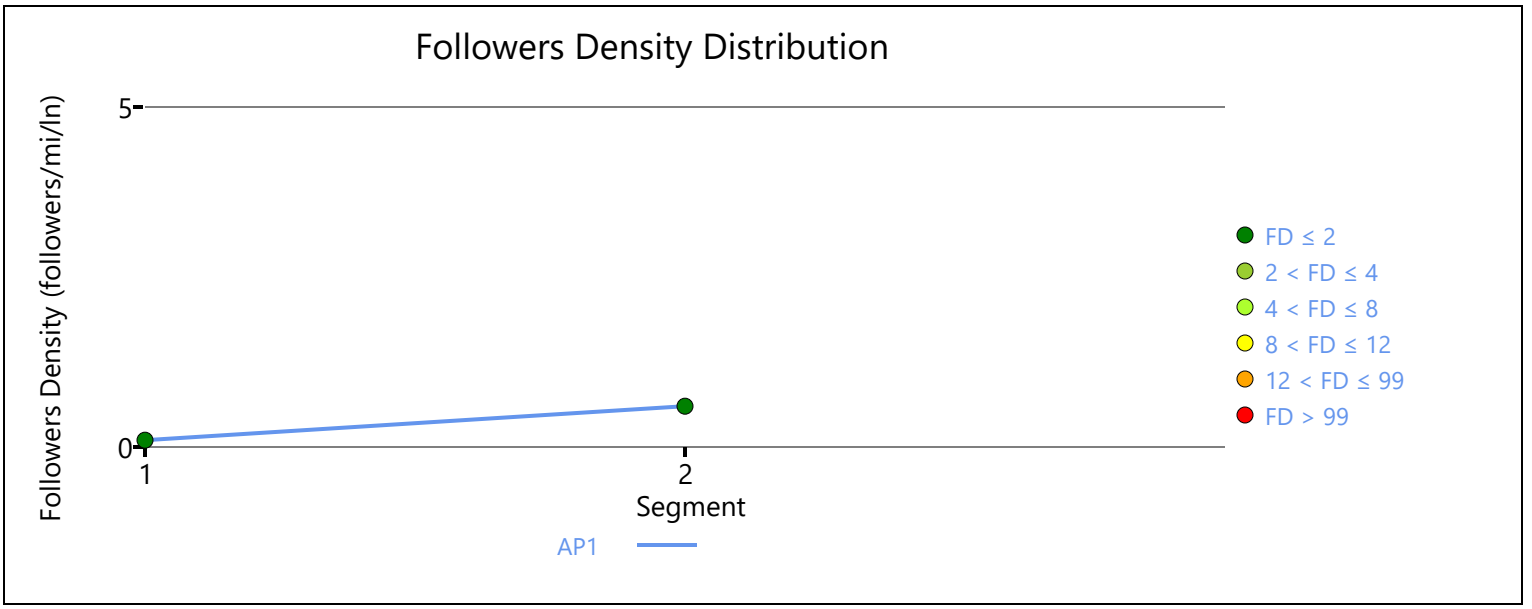
Vehicle Results

Average Speed, mi/h	33.8	Percent Followers, %	24.6
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	0.6
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	10	0.00	0.1	A





HCS Two-Lane Highway Report

Project Information

Analyst	ATW	Date	10/18/22
Agency	Stantec	Analysis Year	2027
Jurisdiction		Time Analyzed	Construction PM
Project Description	Woodburn Hay Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13257
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	14.3

Demand and Capacity

Directional Demand Flow Rate, veh/h	16	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	30.2
Speed Slope Coefficient (m)	2.25978	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.40543	PF Power Coefficient (p)	0.60145
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	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13257	-	-	30.2

Vehicle Results

Average Speed, mi/h	30.2	Percent Followers, %	11.0
Segment Travel Time, minutes	4.98	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	435
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	77	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	33.8
Speed Slope Coefficient (m)	2.34249	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49222	PF Power Coefficient (p)	0.64889
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.6
%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	435	-	-	33.8

Vehicle Results

Average Speed, mi/h	33.8	Percent Followers, %	24.6
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	0.6
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/p	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	11	0.00	0.1	A