APPENDIX A

BASE DATA FROM HIS

Route	Beginning MP	Beginning Feature	Ending MP	Ending Feature	Length	Functional Class	State System	NHS	NTN	Truck Weight Class	# of Lanes	Lane Width	Shoulder Type
US 41	3.275	Industrial Road	3.426	Kingdom Hall Road	3.575	Urban Principal Arterial	State Secondary	N	N	AAA	2	10	Paved with Bituminous Material
US 41	3.426	Kingdom Hall Road	3.575	Wicks Well Road	0.149	Urban Principal Arterial	State Secondary						
	3.575	Wicks Well Road	3.722	Calumet Lane	0.147								
	3.722	Calumet Lane	4.140	Culvert	0.418								
	4.140	Culvert	4.249	Rainwater/Hawkins Lane	0.109								
	4.249	Rainwater/Hawkins Lane	4.806	N/A	0.557								
	4.806	N/A	4.967	Shepherd Lane	0.161								
	4.967	Shepherd Lane	5.002	Manitou Loop	0.035								
	5.002	Manitou Loop	5.010	KY 630	0.008								
	5.010	KY 630	5.056	Manitou Drive	0.046								
	5.056	Manitou Drive	5.145	Webster Street	0.089								
	5.145	Webster Street	5.210	Manitou Loop	0.065								
	5.210	Manitou Loop	5.220	KY 630	0.010								
	5.220	KY 630	5.316	N/A	0.096							10	
	5.316	N/A	5.515	Pond Creek Bridge - B00200	0.199							10	
>	5.515	Pond Creek Bridge - B00200	6.759	Pond Creek Bridge - B00208	1.244								
County	6.759 7.103	Pond Creek Bridge - B00208	7.103 7.154	J E Ellis Lane KY 2320	0.344 0.051								
Sol	7.103	J E Ellis Lane KY 2320	7.154	Withers Lane	0.051			N	N	AAA	2		Paved with Bituminous Material
) SI	7.134	Withers Lane	8.254	Rose Creek Culvert - B00197	0.580	Rural Minor Arterial		IN	IN	AAA	2		Paved with bituminous Material
Hopkins	8.254	Rose Creek Culvert - B00197	8.421	N/A	0.360								
호	8.421	N/A	8.431	Noffsinger Road	0.010								
_	8.431	Noffsinger Road	8.605	Lakewood Drive	0.010								
	8.605	Lakewood Drive	8.679	North Hoffman Street	0.074								
	8.679	North Hoffman Street	8.691	South Hoffman Street	0.012								
	8.691	South Hoffman Street	8.794	KY 502	0.103								
	8.794	KY 502	8.944	N/A	0.150								
	8.944	N/A	9.685	KY 1089	0.741								
	9.685	KY 1089	10.389	Hayes Road	0.704								
	10.389	Hayes Road	11.038	KY 2280	0.649								
	11.038	KY 2280	11.898	Weirs Creek Bridge - B00201	0.860								
	11.898	Weirs Creek Bridge - B00201	12.391	Ferrell Loop	0.493							9	
	12.391	Ferrell Loop	12.461	Ferrell Loop	0.070							9	
	12.461	Ferrell Loop	12.627	Lutontown Road	0.166								
	12.627	Lutontown Road	13.190	Gibson Jackson Road	0.563								
	13.190	Gibson Jackson Road	13.278	Hopkins - Webster County Line	0.088								
	0.000	Hopkins - Webster County Line	0.401	Greg Hudson Drive	0.401								
	0.401	Greg Hudson Drive	0.420	N/A	0.019								
	0.420	N/A	0.470	KY 814	0.050								
	0.470	KY 814	0.626	Old Madisonville Street	0.156							10	
_	0.626	Old Madisonville Street	0.738	Trader Drive	0.112								
l tr	0.738	Trader Drive	0.934	Country Club Meadows/Fairway Acres	0.196								
County	0.934	Country Club Meadows/Fairway Acres	1.000	N/A	0.066								
j.	1.000	N/A	1.194	Liberty	0.194	Rural Minor Arterial	State Secondary	N	N	AAA	2	12	Combination
Webster	1.194	Liberty	1.324	KY 670	0.130		•					13	
Veb	1.324	KY 670 N/A	1.420 1.550	N/A N/A	0.096 0.130								
5	1.420 1.550	N/A N/A	1.625	Ken Williams Road	0.130								
	1.625	Ken Williams Road	3.379	Old Stanhope Road	1.754								
	3.379	Old Stanhope Road	4.120	Bull Creek Bridge	0.741							10	
	4.120	Bull Creek Bridge	4.780	Slover Creek Bridge	0.660								
	4.780				0.423								
	4.780	Slover Creek Bridge	5.203	KY 270	0.423								

Route	Beginning MP	Beginning Feature	Ending MP	Ending Feature	Shoulder Width	Speed Limit	Pavement Type	Current ADT	Condition Index (CONDINDX)	Safety Index (SAFEINDX)	Service Index (SERVINDX)	Composite Adequacy Rating (COMPINDX)	Composite Adequacy Rating Percentile
US 41	3.275	Industrial Road	3.426	Kingdom Hall Road	2	55	High Flexible	12,200	30.00	40.00	20.00	90.00	94.09
US 41		Kingdom Hall Road	3.575	Wicks Well Road			Ŭ		30.00	40.00	20.00	90.00	94.09
	3.575	Wicks Well Road	3.722	Calumet Lane									55.95
	3.722	Calumet Lane	4.140	Culvert		55							
	4.140	Culvert	4.249	Rainwater/Hawkins Lane				11 000					
	4.249	Rainwater/Hawkins Lane	4.806	N/A				11,800	30.00	32.80	19.00	81.80	
	4.806	N/A	4.967	Shepherd Lane									
	4.967	Shepherd Lane	5.002	Manitou Loop									
	5.002	Manitou Loop	5.010	KY 630									
	5.010	KY 630	5.056	Manitou Drive		45							53.74
	5.056	Manitou Drive	5.145	Webster Street		45							
	5.145	Webster Street	5.210	Manitou Loop									
	5.210	Manitou Loop	5.220	KY 630									
	5.220	KY 630	5.316	N/A									
	5.316	N/A	5.515	Pond Creek Bridge - B00200									
	5.515	Pond Creek Bridge - B00200	6.759	Pond Creek Bridge - B00208									
-≨-	6.759	Pond Creek Bridge - B00208	7.103	J E Ellis Lane									
Hopkins County	7.103	J E Ellis Lane	7.154	KY 2320		55							
Ö	7.154	KY 2320	7.674	Withers Lane	2		High Flexible	6,320	30.00	30.80	20.00	80.80	
ns	7.674	Withers Lane	8.254	Rose Creek Culvert - B00197									
- Z	8.254	Rose Creek Culvert - B00197	8.421	N/A									
오	8.421	N/A	8.431	Noffsinger Road									
	8.431	Noffsinger Road	8.605	Lakewood Drive									
	8.605	Lakewood Drive	8.679	North Hoffman Street		4.5							
	8.679	North Hoffman Street	8.691	South Hoffman Street		45							
	8.691	South Hoffman Street	8.794	KY 502									
	8.794	KY 502	8.944	N/A									
	8.944	N/A	9.685	KY 1089									
	9.685	KY 1089	10.389	Hayes Road									55.95
	10.389	Hayes Road	11.038	KY 2280									
	11.038	KY 2280	11.898	Weirs Creek Bridge - B00201									
	11.898	Weirs Creek Bridge - B00201	12.391	Ferrell Loop		55		F 000	00.00	04.00	00.00	04.00	
	12.391	Ferrell Loop	12.461	Ferrell Loop				5,030	30.00	31.80	20.00	81.80	
	12.461	Ferrell Loop	12.627	Lutontown Road									
	12.627	Lutontown Road	13.190	Gibson Jackson Road									
	13.190	Gibson Jackson Road	13.278	Hopkins - Webster County Line									
	0.000	Hopkins - Webster County Line	0.401	Greg Hudson Drive		FF							61.36
	0.401	Greg Hudson Drive	0.420	N/A		55		5,030	30.00	32.80	20.00	82.80	
	0.420	N/A	0.470	KY 814									
	0.470	KY 814	0.626	Old Madisonville Street									48.52
	0.626	Old Madisonville Street	0.738	Trader Drive		45							
₹	0.738	Trader Drive	0.934	Country Club Meadows/Fairway Acres				5,190	00.00	00.00	40.00	70.00	
П	0.934	Country Club Meadows/Fairway Acres	1.000	N/A					30.00	30.80	19.00	79.80	
ပိ	1.000	N/A	1.194	Liberty	٦ ,	0.5							
Webster County	1.194	Liberty	1.324	KY 670	3	35	High Flexible	7,200					
bsq	1.324	KY 670	1.420	N/A		4.5		,					53.74
×e	1.420	N/A	1.550	N/A		45							22
	1.550	N/A	1.625	Ken Williams Road									
	1.625	Ken Williams Road	3.379	Old Stanhope Road				2,520	30.00	30.80	20.00	80.80	
	3.379	Old Stanhope Road	4.120	Bull Creek Bridge		55		_, 3_0	22.00	22.00		22.00	
	4.120	Bull Creek Bridge	4.780	Slover Creek Bridge									
	4.780	Slover Creek Bridge	5.203	KY 270									
	7.700	Slover Greek Bridge	0.200	IXT ZIV									

Route	Beginning MP	g Beginning Feature	Ending MP	Ending Feature	Length	Functional Class	State System	NHS NT	Truck N Weight Class	# of Lanes	Lane Width	Shoulder Type	Shoulder Width	Speed Limit	Pavement Type	Current (HIS) ADT	Number of Crashes	Number of Darkness Crashes	Number of Run-off- Road Crashes	Number of Fatal Crashes	Number of Injury Crashes	Number killed	Number Injured	ADT	Actual Crash Rate	Critical Crash Rate	Road Type	Crash Query	CRF
US 41									ı										Graenee										
	3.275	Industrial Drive	3.426	Kingdom Hall Road	0.151	Urban Principal											1	0	0	0	0	0	0	12147	0.075	0.937	Urban 2- lane	All	0.080
	3,426	Kingdom Hall Road	3.575	Wicks Well Road	0.149	Arterial											_				-								0.000
	3.575	Wicks Well Road	3.722	Calumet Lane	0.147									55															
	3.722	Calumet Lane	4.140	Culvert	0.418											11800													
	4.140	Culvert	4.249	Rainwater/Hawkins Lane	0.109											11000	21	5	1	0	5	0	5	12357	98.043	292.077	Rural 2-	All	0.336
	4.249	Rainwater/Hawkins Lane	4.806	N/A	0.557												21	3	7	U	3	U		12337	30.043	232.077	lane	All	0.550
	4.806	N/A	4.967	Shepherd Lane	0.161																								
	4.967	Shepherd Lane	5.002	Manitou Loop	0.035																								
	5.002	Manitou Loop	5.010	KY 630	0.008																								
	5.010	KY 630	5.056	Manitou Drive	0.046									45															
	5.056	Manitou Drive	5.145	Webster Street	0.089									-10															
	5.145	Webster Street	5.210	Manitou Loop	0.065																								
	5.210	Manitou Loop	5.220	KY 630	0.010						40																		
	5.220	KY 630	5.316	N/A	0.096						10																		
≥	5.316	N/A	5.515	Pond Creek Bridge - B00200	0.199																								
Ę	5.515	Pond Creek Bridge - B00200	6.759	Pond Creek Bridge - B00208	1.244							D 1 30																	
ပိ	6.759	Pond Creek Bridge - B00208	7.103	J E Ellis Lane	0.344		State					Paved with																	
SU	7.103	J E Ellis Lane	7.154	KY 2320	0.051		Secondary	N N	AAA	2		Bituminous	2	55	High Flexible												Rural 2-		
꽃	7.154	KY 2320	7.674	Withers Lane	0.520	Rural Minor	,					Material				6320	46	14	18	1	15	1	17	6243	143.811	276.678	lane	All	0.520
운	7.674	Withers Lane	8.254	Rose Creek Culvert - B00197	0.580	Arterial																					10.10		
	8.254	Rose Creek Culvert - B00197	8.421	N/A	0.167																								
	8.421	N/A	8.431	Noffsinger Road	0.010																								
	8.431	Noffsinger Road	8.605	Lakewood Drive	0.174																								
	8.605	Lakewood Drive	8.679	North Hoffman Street	0.074									45															
	8.679	North Hoffman Street	8.691	South Hoffman Street	0.012																								
	8.691	South Hoffman Street	8.794	KY 502	0.103																								
	8.794	KY 502	8.944	N/A	0.150																								
	8.944	N/A	9.685	KY 1089	0.741																								
	9.685	KY 1089	10.389	Hayes Road	0.704																								
	10.389	Hayes Road	11.038	KY 2280	0.649																								
	11.038	KY 2280	11.898	Weirs Creek Bridge - B00201	0.860																						DI C		
	11.898	Weirs Creek Bridge - B00201	12.391	Ferrell Loop	0.493						9			55		5030	24	9	14	1	9	2	12	4744	128.737	298.212	Rural 2-	All	0.432
	12.391	Ferrell Loop	12.461	Ferrell Loop	0.070																						lane		
	12.461	Ferrell Loop	12.627	Lutontown Road	0.166	_																							
	12.627	Lutontown Road	13.190	Gibson Jackson Road	0.563																								
	13.190	Gibson Jackson Road	13.278	Hopkins - Webster County Line	0.088																								
	0.000	Hopkins - Webster County Line	0.401	Greg Hudson Drive	0.401									55		5030	2	1	2	0	0	0		4757	100 540	467.007	Rural 2-	AII	0.060
>	0.401	Greg Hudson Drive	0.420	N/A	0.019											5030	3	1	2	0	U	U	0	4757	122.548	467.807	lane	All	0.262
Ę.	0.420	N/A KY 814	0.470	KY 814	0.050						10																		
25	0.470		0.626	Old Madisonville Street	0.156	Burol Miner	State				10			45															
je O	0.626	Old Madisonville Street Trader Drive	0.738	Trader Drive	0.112	Rural Minor Arterial	State	N N	AAA	2		Combination	3.00	45	High Flexible	5100													
ste	0.738			Country Club Meadows/Fairway Acres		Arteriai	Secondary									5190	14	4	4	0	4	0	4	E000	254 445	277.066	Rural 2-	A II	0.674
Vet	0.934	Country Club Meadows/Fairway Acres		N/A	0.066												14	1	1	U	,	U	'	5898	254.145	377.066	lane	All	0.674
>	1.000	N/A	1.194	Liberty	0.194						13			35		7200													
	1.194	Liberty	1.324	KY 670							13			45		7200													
	1.324	KY 670	1.420	N/A	0.096									45		2520													

APPENDIX A CRASH INFORMATION

CRASHES

(2008-2010)

S	pot	Bui	ldup	Anal	ysis
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						Banaap	7 11100	7 3.3		
County	Prefix	Route	Suffix	ВМР	ЕМР	Crashes in 2008	Crashes in 2009	Crashes in 2010	Crashes So Far in 2011 (Not included in stats)	Comments
.I Mile Seg	ments	2007-	2009							
Hopkins	US	41	Α	8.740	8.840	2	3	0	I (2/I7/II)	4 of 7 at intersection with Bernard Road (KY 502 in Nebo)
Hopkins	US	41	Α	9.280	9.380	ı	3	I	0	4 were "ran off roadway" (2 daylight, 2 dark)
Webster	US	41	Α	1.164	1.264	3	5	ı	I (6/I5/II)	3 were rear-end; 3 were angle
.3 Mile Seg	ments	2007-	2009							
Hopkins	US	41	Α	6.192	6.492	5	4	0	2 (5/14/11 and 10/21/11)	3 (no injuries) were collision with animal
Webster	US	41	Α	0.957	1.257	3	6	I	I (6/I5/II)	3 were rear-end; 3 were angle

CRASHES (2008-2010)

Spot Buildup Analysis

000 00 1000																										
County	Prefix	Route	Suffix	вмр	EMP	Length	Crashes	AADT	R/U	Median?	FC.	Number of Lanes	Actual Grash Rate	Critical Crash Rate	Critical Crash Rate Factor	Average Crash Rate	RSE Unique	Fatalities	Injuries	Fatal Crashes	Injury Crashes	Wet Roadway Crashes	Single Vehicle Crashes Rear-End Crashes	Angle Crashes	ROTR Crashes	Darkness Crashes
.I Mile Se	gmen	ts 20	008-	-2010																						
Hopkins	US	41	Α	8.740	8.840	0.100	5	6270	Rural	Undivided	Min Art	2	0.728	0.733	0.993	0.210019	054 US- 41A	ı	3	I	2	I 1	1 3	1	1	1
Hopkins	US	41	Α	9.28	9.38	0.100	5	6274	R	Undivided	Min Art	2	0.728	0.733	0.993	0.210	054 US-41A	0	3	0	3	4	4 I	0	4	3
Webster	US	41	Α	1.164	1.264	0.100	9	5902	Rural	Undivided	Min Art	2	1.393	0.752	1.853	0.210019	117-US- 41A	0	1	0	1 (0 0	0 3	3	0 (D
.3 Mile Se	gmen	ts 20	008-	-2010																						
Hopkins	US	41	Α	6.192	6.492	0.300	9	6262	Rural	Undivided	6 ma	2	437.5	493.33	0.887	209.231	054 US- 41A	0	3	0	3 (0 8	8 I	0	3 ()
Webster	US	41	Α	0.957	1.257	0.3	10	5907	R	Undivided	6 ma	2	1.546	1.511	1.023	0.630	117 US- 41A	0	ı	0	1	1 1	I 3	3	0	I

CRASHES FROM JANUARY 1, 2008 TO DECEMBER 31, 2010

>																						
INVESTIGATING AGENCY	COUNTY NAME	ROADWAY NUMBER	ROADWAY NAME	GPS LATITUDE DECIMAL	GPS LONGITUDE DECIMAL	MILEPOINT DERIVED	COLLISION	COLLISION	INTERSECTION INTERSECTION ROADWAY # ROADWAY NAME	BETWEEN STREET ROADWAY # 1	BETWEEN STREET E	ROADWAY # 2	BETWEEN STREET ROADWAY NAME 2	MOTOR VEHICLES	UNITS NVOLVED	KILLED INJURED	WEATHER	ROADWAY HIT & RUN CONDITION INDICATOR	DIRECTIONAL ANALYSIS	MANNER OF COLLISION	ROADWAY CHARACTER	LIGHT CONDITION
MADISONVILLE POLICE DEPT.	HOPKINS	US0041A	NEBO	37.3576431	-87.5502792	3.284	2/20/2009	1111112	ROADWAT WANTE	NOADWAI # 1	INDUSTRIAL	NOADWAT#2	MARIGOLD	3	3	0 0	CLEAR	DRY N	REAR END IN TRAFFIC ONE VEHICLE STOPPED	REAR END	STRAIGHT & LEVEL	DAYLIGHT
MADISONVILLE POLICE DEPT.	HOPKINS	US0041A	NEBO	37 3578556	-87 551017	3 328	1/29/2010	1610			MARIGOLD		INDUSTRIAL	2	2		SAND/SOIL/ DIRT/SNOW	SNOW/SLUSH N	SIDESWIPE COLLISION - OPPOSITE DIRECTION	SIDESWIPE- OPPOSITE DIRECTION	CURVE & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3583642	-87.5526715	3.428	8/15/2009	1115	KINGDOM HALL		MARIGOLD		INDUSTRIAL	2	2	0 0	CLEAR	DRY N	OPPOSING LEFT TURN	OPPOSING LEFT TURN	STRAIGHT & GRADE	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT. KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3582969 37.3588108	-87.5527071 -87.5548901	3.429 3.549								2	2	0 0	CLOUDY	DRY N WET N	1 VEHICLE ENTERING/LEAVING ENTRANCE REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	ANGLE REAR END	STRAIGHT & LEVEL STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3589186	-87.5550144	3.557	1/22/2010							2	2	0 0	CLOUDY	DRY N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DUSK
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3588972 37.3589878	-87.5553059 -87.5553351	3.572 3.575	4/25/2010 5/27/2008		WICKS WELLS					2	2	0 0	RAINING RAINING	WET N	ANGLE COLLISION - OTHER	REAR END ANGLE	STRAIGHT & LEVEL STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT. HOPKINS COUNTY SHERIFF DEPT.	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3589963 37.359029	-87.555367 -87.5555153	3.577 3.585	6/5/2009 3/11/2010							2	2	0 0	CLEAR	DRY N	1 VEHICLE ENTERING/LEAVING ENTRANCE 1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE ANGLE	STRAIGHT & GRADE STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
MADISONVILLE POLICE DEPT.	HOPKINS	US0041A	NEBO	37.3558665	-87.5446393	3.591	3/25/2009	646			BEAN CEMETARY		INDUSTIAL	2	2	0 0	RAINING	WET N	REAR END IN TRAFFIC ONE VEHICLE STOPPED	REAR END	STRAIGHT & GRADE	DAWN
KY STATE POLICE, POST 02 HOPKINS COUNTY SHERIFF DEPT.	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3591305 37.3593049	-87.5558875 -87.556612	3.608 3.651	10/1/2009 5/29/2008							2	2	0 0	CLEAR	WET N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END REAR END	STRAIGHT & LEVEL STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3596602	-87.5577876	3.722	9/25/2009	1645	CALUMET					2	2	0 1	CLOUDY	WET N	ANGLE COLLISION - ONE VEHICLE TURNING LEFT	ANGLE	CURVE & GRADE	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT. KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3596735 37.3602454	-87.5579321 -87.5596198	3.73 3.832	6/7/2009 12/5/2008							1	1	0 0	CLEAR	DRY N DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH) OTHER COLLISIONS ON SHOULDER	SINGLE VEHICLE SINGLE VEHICLE	STRAIGHT & LEVEL CURVE & LEVEL	DARK-HWY NOT LIGHTED DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3611524	-87.5619039	3.972	5/21/2009	2241						1	1	0 1	CLEAR	DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE SIDESWIPE-	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3619795	-87.5640723	4.104	12/22/2010							2	2	0 0	CLOUDY	DRY Y	SIDESWIPE COLLISION - OPPOSITE DIRECTION	OPPOSITE DIRECTION	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
HOPKINS COUNTY SHERIFF DEPT. KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3620145 37.3621946	-87.5641159 -87.564512	4.107 4.133	4/5/2010 10/7/2008							2	2	0 0	CLEAR CLOUDY	DRY N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING OTHER ROADWAY OR MID-BLOCK COLLISION	REAR END OPPOSING LEFT TURN	STRAIGHT & LEVEL STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3659612	-87.5722153	4.631	5/24/2010	820						1	1	0 0	CLEAR	DRY N	COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	CURVE & LEVEL	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT. HOPKINS COUNTY SHERIFF DEPT.	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3675827 37.3679191	-87.5745077 -87.5750311	4.798 4.835					SHEPHERD		RAINWATER	2	2	0 0	CLEAR RAINING	DRY N WET N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING COLLISION WITH ANIMAL	REAR END SINGLE VEHICLE	CURVE & LEVEL STRAIGHT & LEVEL	DAYLIGHT DARK-HWY NOT LIGHTED
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3682243	-87.5755022	4.868	6/13/2009	803						2	2	0 1	CLEAR	DRY N	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE	STRAIGHT & GRADE	DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3689058 37.3693274	-87.576473 -87.5771167	4.939 4.987								2	2	0 1	CLEAR	DRY N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END REAR END	STRAIGHT & GRADE STRAIGHT & LEVEL	DAYLIGHT DARK-HWY NOT LIGHTED
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3715241	-87.5804302	5.221	5/7/2010		KY0630 MANITOU					2	2	0 0	CLOUDY	WET N	ANGLE COLLISION - ONE VEHICLE TURNING LEFT	ANGLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3721154 37.37212	-87.5813123 -87.5813058	5.283 5.283	10/21/2008 2/1/2010							2	2	0 1 0	CLEAR	DRY N WET N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH) REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	SINGLE VEHICLE REAR END	STRAIGHT & LEVEL STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED DAYLIGHT
KY STATE POLICE, POST 02 HOPKINS COUNTY SHERIFF DEPT.	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3734585 37.3759402	-87.5833431 -87.5901121	5.428 5.834	1/1/2008 2/11/2008							1	1	0 0	CLEAR SLEET/HAIL	DRY N	COLLISION WITH ANIMAL RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE SINGLE VEHICLE	STRAIGHT & LEVEL STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3763285	-87.5914256	5.91	6/15/2010							1	1	0 0	CLEAR	DRY N	COLLISION WITH ANIMAL	SINGLE VEHICLE	CURVE & GRADE	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3765745	-87.5922768	5.96	10/27/2010	750						2	2	0 0	CLEAR	DRY N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING COLLISION WITH FIXED OBJECT NON - INTERSECTION -	REAR END	STRAIGHT & HILLCREST	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT. KY STATE POLICE, POST 02	HOPKINS	US0041A US0041A	NEBO NEBO	37.376673 37.3768079	-87.5923816 -87.5930828	5.968 6.007	10/31/2010			KY0630	MANITOU		J E ELLIS	1 2	1 2	0 2	CLEAR	DRY N	FIRST EVENT COLLISION 09 - 32 EXCLUDING 16 REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	SINGLE VEHICLE REAR END	STRAIGHT & LEVEL STRAIGHT & GRADE	DAYLIGHT DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A US0041A	NEBO	37.3768079	-87.5930828 -87.5931715	6.007	12/23/2008	820						1	1	0 0	SLEET/HAIL	ICE N	REAR END IN I PAPEL CARES BOTH VEHICLES MOVING COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	STRAIGHT & GRADE	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3771283	-87.5951917	6.121	11/8/2009							1	1	0 0	CLEAR	DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & GRADE	DAYLIGHT
																			COLLISION WITH FIXED OBJECT NON - INTERSECTION -			
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3773183	-87.5965025	6.192	4/15/2008	910						1	1	0 1	CLEAR	DRY N	FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS	US0041A US0041A	NEBO NEBO	37.3774465 37.3774277	-87.597013 -87.5972026	6.221	7/18/2009 5/28/2008							1	1	0 0	CLEAR	DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH) RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE SINGLE VEHICLE	STRAIGHT & GRADE CURVE & GRADE	DAWN DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3775696	-87.5976498	6.257	7/3/2008	1210						2	2	0 0	CLEAR	DRY N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	CURVE & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02 HOPKINS COUNTY SHERIFF DEPT.	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3776387 37.3778977	-87.5978939 -87.5988033	6.271 6.324					J E ELLIS	KY0630	MANITOU	1	1	0 0	CLEAR CLEAR	DRY N	COLLISION WITH ANIMAL RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE SINGLE VEHICLE	CURVE & LEVEL STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3781896	-87.6000818	6.396	10/21/2008	610						1	1	0 0	CLOUDY	DRY N	COLLISION WITH ANIMAL COLLISION WITH FIXED OBJECT NON - INTERSECTION -	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3784531	-87.6006761	6.434	4/22/2009							1	1	0 1	CLEAR	DRY N	FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3785744	-87.6012894	6.468	2/20/2009	1800						1	1	0 0	CLEAR	DRY N	COLLISION WITH ANIMAL	SINGLE VEHICLE	STRAIGHT & HILLCREST	DARK-HWY NOT LIGHTED
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.379455	-87.6041927	6.639								2	2	0 3	CLEAR	DRY N	OTHER ROADWAY OR MID-BLOCK COLLISION	OPPOSING LEFT TURN	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3800478 37.3803806	-87.6063971 -87.6075518	6.767 6.834								1	1	0 0	CLEAR	DRY N	COLLISION WITH ANIMAL COLLISION WITH ANIMAL	SINGLE VEHICLE SINGLE VEHICLE	STRAIGHT & LEVEL CURVE & GRADE	DARK-HWY NOT LIGHTED DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02 HOPKINS COUNTY SHERIEF DEPT	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3811103 37.3811592	-87.6101494 -87.6104736	6.986 7.003	8/24/2010 4/8/2009	753 1555			J E ELLIS	KY0630	MANITOU	3 2	3	0 0	CLEAR CLEAR	DRY N	OTHER ROADWAY OR MID-BLOCK COLLISION 1 VEHICLE ENTERING/LEAVING ENTRANCE	REAR END ANGLE	STRAIGHT & GRADE CURVE & HILLCREST	DAYLIGHT DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO NEBO	37.3811095	-87.6108328	7.02	1/17/2008				J E ELLIS	K10630	MANITOO	2	2	0 1	CLOUDY	WET N	REAR END IN TRAFFIC ONE VEHICLE STOPPED	REAR END	STRAIGHT & GRADE	DUSK
HOPKINS COUNTY SHERIFF DEPT. KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3812764 37.3812903	-87.6117718 -87.6137901	7.073 7.177								1	1	0 0	CLOUDY	DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH) VEHICLE BACKING	SINGLE VEHICLE BACKING	CURVE & HILLCREST STRAIGHT & GRADE	DAYLIGHT DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.381968	-87.6236183	7.745	3/19/2010	1927						1	1	0 0	CLEAR	DRY N	COLLISION WITH ANIMAL	SINGLE VEHICLE	CURVE & HILLCREST	DARK-HWY NOT LIGHTED
HOPKINS COUNTY SHERIFF DEPT. KY STATE POLICE, POST 02	HOPKINS	US0041A US0041A	NEBO NEBO	37.3825094 37.3824889	-87.627859 -87.6286677	7.98 8.024	1/6/2010							2	2	0 0	GLOUDY S SAND/SOIL/DIF	DRY N SNOW/SLUSH N	SIDESWIPE COLLISION - SAME DIRECTION RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SIDESWIPE-SAME DIRECTION SINGLE VEHICLE	STRAIGHT & LEVEL CURVE & LEVEL	DAYLIGHT DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.38262	-87.6287695	8.031								2	2	0 1	CLOUDY	DRY N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING COLLISION WITH FIXED OBJECT NON - INTERSECTION -	REAR END	STRAIGHT & HILLCREST	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3826489	-87.6296617	8.079	7/31/2008	2251						1	1	0 0	CLEAR	DRY N	FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	STRAIGHT & GRADE	DARK-HWY LIGHTED/OFF
KY STATE POLICE, POST 02 HOPKINS COUNTY SHERIFF DEPT.	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.382801 37.3827947	-87.6306342 -87.6314574	8.134 8.179	11/7/2008 7/27/2009							3 1	3	0 0	CLEAR CLEAR	DRY N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING COLLISION WITH ANIMAL	REAR END SINGLE VEHICLE	STRAIGHT & GRADE STRAIGHT & LEVEL	DAYLIGHT DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS	US0041A US0041A	NEBO NEBO	37.3832449 37.3834464	-87.6372566 -87.6392035	8.498 8.606			LAKEWOOD					2	2	0 1	CLEAR	DRY N	1 VEHICLE ENTERING/LEAVING ENTRANCE ANGLE COLLISION - ONE VEHICLE TURNING RIGHT	ANGLE ANGLE	STRAIGHT & GRADE STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
RYSTATE POLICE, POST 02	HUPKINS	US0041A	NEBU	37.3834464	-87.6392035	8.000	7/26/2009	1435	LAKEWOOD					2	2	0 0	CLOUDY	DRY N	ANGLE COLLISION - ONE VEHICLE TURNING RIGHT	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
WY OTATE DEVICE TO		110															0/	DDV.			0704:-:	
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3837094 37.3838411	-87.6416251 -87.6422785	8.74 8.777								2	2	0 0	CLOUDY RAINING	DRY N WET N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END REAR END	STRAIGHT & LEVEL STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.383781 37.3837867	-87.6426077 -87.6426214	8.794	7/16/2009	1403	KY0502 BERNARD					3	3	1 2	CLEAR CLEAR	DRY N	REAR END - OTHER OTHER ROADWAY OR MID-BLOCK COLLISION	REAR END SINGLE VEHICLE	STRAIGHT & LEVEL STRAIGHT & LEVEL	DAYLIGHT DARK-HWY LIGHTED/ON
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02		US0041A US0041A	NEBO NEBO	37.3837867 37.383795				540	KY0502 BERNARD					2	2	0 0	CLOUDY		ANGLE COLLISION - OTHER	ANGLE ANGLE		DARK-HWY NOT LIGHTED
WANTED TO THE TOTAL TOTAL TO THE TOTAL TO TH		11077	gramme.				200								-		·	PDV.	and a second sec	ODEOWNE	our:	
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3838314	-87.6458815	8.975	10/12/2009	800						2	2	0 0	CLEAR	DRY N	SIDESWIPE COLLISION - OPPOSITE DIRECTION	SIDESWIPE-OPPOSITE DIRECTION	CURVE & LEVEL	DAYLIGHT
							-			-										-		
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.382112	-87.6511544	9.28	9/12/2009	755						1	1	0 1	CLOUDY	DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & GRADE	DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3818999 37.3817438	-87.6517129 -87.6520843	9.313 9.336	2/8/2010							1	1	0 0	3 SAND/SOIL/DIF CLEAR	SNOW/SLUSH N DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH) RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE SINGLE VEHICLE	STRAIGHT & LEVEL CURVE & LEVEL	DARK-HWY NOT LIGHTED DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3817739	-87.652092	9.336	8/30/2009	2009						2	2	0 1	CLEAR	DRY N	REAR END IN TRAFFIC ONE VEHICLE STOPPED	REAR END	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3817105	-87.6524286	9.355	11/26/2009	410						1	1	0 1	CLOUDY	DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	CURVE & LEVEL	DARK-HWY NOT LIGHTED
			•		-					1												
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3811867	-87.6540288	9.449	1/12/2009							2	2	0 0	CLEAR	DRY N	COLLISION WITH NON-FIXED OBJECT	SIDESWIPE-OPPOSITE DIRECTION		DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3813248 37.3814654	-87.6587181 -87.6630982	9.723 9.963	2/15/2010 10/27/2010							1	1	0 4	SAND/SOIL/DIF	SNOW/SLUSH N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH) OVERTURNED IN ROADWAY	SINGLE VEHICLE SIDESWIPE-SAME DIRECTION	CURVE & LEVEL STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A US0041A	NEBO NEBO	37.3814654	-87.6651459	10.075	1/26/2009							4	4	0 0	SI FET/HAII	ICE N	OVERTORNED IN ROADWAY COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	CURVE & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3820875	-87.6688653	10.281	5/4/2009	710						1	1	0 0	CLOUDY	WET N	OTHER COLLISIONS ON SHOULDER	SINGLE VEHICLE	STRAIGHT & GRADE	DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3835467 37.3852081	-87.6750109 -87.6819853	10.64 11.038	8/19/2008 4/21/2009							1	1	0 1	CLEAR CLEAR	DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH) RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE SINGLE VEHICLE	STRAIGHT & LEVEL CURVE & LEVEL	DAWN DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3859003	-87.6837927	11.148	3/27/2009	2035						2	2	0 0	CLOUDY	WET N	SIDESWIPE COLLISION - OPPOSITE DIRECTION	SIDESWIPE-OPPOSITE DIRECTION	CURVE & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3877 37.3879923	-87.6870667 -87.687701	11.365 11.404	11/14/2008 9/22/2010							1	1	0 0	RAINING CLOUDY	WET N DRY N	COLLISION WITH ANIMAL COLLISION WITH ANIMAL	SINGLE VEHICLE SINGLE VEHICLE	CURVE & LEVEL STRAIGHT & HILLCREST	DARK-HWY NOT LIGHTED DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3891013	-87.6895216	11.531	8/5/2010	1720						1	1	0 0	CLEAR	DRY N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & HILLCREST	DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3896657 37.3901063	-87.6908341 -87.6913094	11.612 11.65	3/27/2009	1310 1233						2	2	0 0	RAINING RAINING	WET N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END REAR END	STRAIGHT & HILLCREST STRAIGHT & LEVEL	DAYLIGHT DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS	US0041A US0041A	NEBO NEBO	37.3907123 37.391566	-87.6925979 -87.6941052	11.732 11.833	9/3/2008	1718 1346						2	2	0 1 0 2	CLEAR	DRY N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING RAN OFF ROADWAY (1 VEHICLE WITH/FARTH EMBANKMENT/DITCH)	REAR END SINGLE VEHICLE	STRAIGHT & HILLCREST STRAIGHT & GRADE	
																0 2			COLLISION WITH FIXED OBJECT NON - INTERSECTION -			
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3920706 37.392083	-87.6947754 -87.6950306	11.883 11.895	9/7/2008 8/1/2008	120 857						1	1	0 2	CLOUDY	DRY N DRY N	FIRST EVENT COLLISION 09 - 32 EXCLUDING 16 OTHER COLLISIONS ON SHOULDER	SINGLE VEHICLE SINGLE VEHICLE	STRAIGHT & LEVEL STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED DAYLIGHT
																				*		,

CRASHES FROM JANUARY 1, 2008 TO DECEMBER 31, 2010

											I						_			COLLISION WITH FIXED OBJECT NON - INTERSECTION -			
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3925839	-87.6959666	11.956	4/14/2009	940					1	1	0	0	CLOUDY	DRY	N	FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3927031	-87.6962243	11.972	5/9/2008	1210					2	2	0	0	CLEAR	DRY	N	SIDESWIPE COLLISION - SAME DIRECTION	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.395068	-87.7008732	12.274	11/26/2010	1805					1	1	0	0	CLEAR	DRY	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3953054	-87.7015269	12.312	12/26/2008	100					1	1	0	0	CLEAR	DRY	N	COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	CURVE & GRADE	DARK-HWY NOT LIGHTED
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3974322	-87.7088075	12.738	8/1/2008	1023			LUTONTOWN	GIBSON JACKSON	2	2	0	0	CLEAR	DRY	N	1 VEHICLE PARKED POSITION (NOT PARKING LOT/DRIVEWAY)	REAR END	STRAIGHT & GRADE	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3974326	-87.7094328	12.771	10/12/2008	110					1	1	0	2	CLEAR	DRY	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3978059	-87.7116158	12.893	10/27/2009	1600					2	2	0	0	RAINING	WET	N	SIDESWIPE COLLISION - SAME DIRECTION	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3979255	-87.7116392	12.896	7/10/2009	1521					1	1	0	0	CLOUDY	DRY	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3978905	-87.7119611	12.913	2/21/2010	1918					1	1	0	0	RAINING	WET	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	STRAIGHT & GRADE	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 16	WEBSTER	US0041A	US41 ALT	37.3993956	-87.7207862	0.162	5/16/2008	1030					2	2	0	0	CLEAR	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & GRADE	DAYLIGHT
KY STATE POLICE, POST 02	WEBSTER	US0041A	US41 ALT	37.399608	-87.7218757	0.22	12/18/2009	445					1	1	0	0	CLEAR	DRY	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	CURVE & GRADE	DAYLIGHT
KY STATE POLICE, POST 02	WEBSTER	US0041A	US41 ALT	37.3998671	-87.7226355	0.262	6/23/2010	135					1	1	0	0	CLEAR	DRY	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	CURVE & LEVEL	DARK-HWY NOT LIGHTED
																				COLLISION WITH FIXED OBJECT NON - INTERSECTION -			
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4000427	-87.7238215	0.325	3/29/2010	908					1	1	0	0	CLEAR	DRY	N	FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	STRAIGHT & GRADE	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4001925	-87.7248063	0.377	3/25/2008	710					1	1	0	0	CLEAR	DRY	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4008235	-87.7264087	0.47	3/7/2010	1419					2	2	0	0	CLOUDY	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	CURVE & LEVEL	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4020683	-87.7278589	0.578	3/1/2009	1300					2	2	0	0	CLOUDY	WET	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DUSK
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4024811	-87.7280817	0.613	12/5/2008	1700					2	2	0	0	CLEAR	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DUSK
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4033076	-87.7287035	0.68	2/28/2009	1420					2	2	0	0	RAINING	WET	N	OTHER ROADWAY OR MID-BLOCK COLLISION	REAR TO REAR	STRAIGHT & GRADE	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4067748	-87.7311581	0.957	7/29/2009	531					1	1	0	0	CLOUDY	WET	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	STRAIGHT & LEVEL	DAWN
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4093802	-87.7329942	1.164	7/23/2009	1633					2	2	0	0	CLEAR	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4095317	-87.7329475	1,172	7/24/2009	1113					2	2	0	0	CLEAR	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.409718	-87.7330683	1.186	9/3/2008	907					2	2	0	0	CLEAR	DRY	N	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4097323	-87.7331145	1 188	10/15/2008						2	2	0	1	CLEAR	DRY	N	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGI F	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4097788	-87.733117	1.191	7/29/2010	1713					2	2	0	0	CLEAR	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4097949	-87.7331957	1.194	1/4/2008	1211	KY0120	WESTERFIELD			2	2	0	0	CLOUDY	DRY	N	OPPOSITE DIRECTION - BOTH VEHICLES GOING STRAIGHT AHEAD	HEAD ON	STRAIGHT & LEVEL	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4097992	-87.733184	1.194		.=		WEGIET EED			2	2	0	0	CLOUDY	DRY	N	OTHER ROADWAY OR MID-BLOCK COLLISION	OPPOSING LEFT TURN	STRAIGHT & LEVEL	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4099861	-87.7333259	1.209	12/11/2009			1			2	2	0	0	CLOUDY	DRY	N	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
PROVIDENCE POLICE DEPARTMENT		US0041A	US41 ALT	37.4101229	-87.7333795	1.219		2010					2	2	0	0	CLEAR	DRY	N	SIDESWIPE COLLISION - SAME DIRECTION	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DUSK
THE THE POLICE DEPARTMENT	WEDSTER	330041A	JOH I ALT	37.94101228	-01.1333183	1.219	9/2/12/09	2010							0		OLLAN	DIVI	14	SECOND E SCEEDION - SAME DIRECTION	SIDEOTTI E-DAVIE DIRECTION	OTTAKOTT & ELVEL	DOGN
																							+
																							+
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4110015	-87.7335353	1 277	8/2/2008	2241					2	2	0	0	CLEAR	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
				37.4110015	-87.7335353 -87.7334898	1.277		1725					4	1	0	0	CLEAR	DRY	N N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE		
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4113351	-87.7334898	1.299	11/26/2010	1/25					1	1	U	U	CLEAR	DRY	N	COLLISION WITH FIXED OBJECT IN INTERSECTION -	SINGLE VEHICLE	CURVE & LEVEL	DARK-HWY LIGHTED/ON
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4116544	-87.7336324	1.321	10/2/2009	19	KY0670	MARTIN LUTHER KING JR			1	1	0	0	RAINING	WET	N	FIRST EVENT COLLISION 09 - 32	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/OFF

												CRASHES FRO	M JANUARY	1, 2011 TO DE	CEMBER 31, 2	2011									
	COUNTY	ROADWAY	ROADWAY	GPS LATITUDE (GPS LONGITUDE	MILEPOINT	COLLISION	COLLISION	INTERSECTION	INTERSECTION	BETWEEN STREET	BETWEEN STREET	BETWEEN STREET	BETWEEN STREET	MOTOR VEHICLES	UNITS				ROADWAY	HIT & RUN				
INVESTIGATING AGENCY	NAME	NUMBER	NAME	DECIMAL	DECIMAL	DERIVED	DATE	TIME	ROADWAY #	ROADWAY NAME	ROADWAY # 1	ROADWAY NAME 1	ROADWAY # 2	ROADWAY NAME 2	INVOLVED	INVOLVED	KILLED II	MILIBED	WEATHER	CONDITION	INDICATOR	DIRECTIONAL ANALYSIS	MANNER OF COLLISION	ROADWAY CHARACTER	LIGHT CONDITION
MADISONVILLE POLICE DEPT.	HOPKINS	US0041A	NEBO	37.3575976	-87.5501213	3.274		1520	NOADWAI #	INDUSTRIAL	NOADWAI#1	NOADWAT NAME I	NOADWAI #2	NOADWAT NAME 2	2	2	0	0	CLEAR	DRY	N	REAR END - ONE VEHICLE STOPPED	REAR END	STRAIGHT & LEVEL	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3590623	-87.5556512	3.594		1650							2	2	0	0	CLOUDY	WET	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3635528	-87.5673217	4.314		1313							2	2	0	0	CLEAR	DRY	N	SIDESWIPE COLLISION - OPPOSITE DIRECTION	SIDESWIPE-OPPOSITE DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3692825	-87.5770561	4.982	5/18/2011	1155							1	1	0	1	CLOUDY	DRY	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, CVE	HOPKINS	US0041A	NEBO	37.370222	-87.5784893	5.083	5/18/2011	1222							2	2	0	0	CLOUDY	DRY	N	SIDESWIPE COLLISION - SAME DIRECTION	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3708136	-87.579372	5.145	9/13/2011	705		WEBSTER					2	2	0	3	CLEAR	DRY	N	ANGLE COLLISION - ONE VEHICLE TURNING LEFT	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3712019	-87.5799485	5.186	6/25/2011	300			KY0630	MANITOU		WEBSTER	1	1	0	1	CLEAR	DRY	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3748192	-87.5865615	5.627	1/21/2011	945							1	1	0	0	CLEAR	ICE	N	OTHER COLLISIONS ON SHOULDER	SINGLE VEHICLE	STRAIGHT & HILLCREST	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3761488	-87.5908169	5.875		1044							2	2	0	1	CLEAR	DRY	N	HEAD-ON COLLISION	HEAD ON	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, CVE	HOPKINS	US0041A	NEBO	37.3767027	-87.5928324	5.991		1406							1	1	0	0	CLOUDY	DRY	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	CURVE & LEVEL	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3772371	-87.5959694	6.163	11/1/2011	727				J E ELLIS	KY0630	MANITOU	1	1	0	0	CLOUDY	DRY	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	CURVE & HILLCREST	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3773154	-87.5960489	6.169	4/5/2011	444							1	1	0	0	CLEAR	DRY	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	CURVE & GRADE	DARK-HWY NOT LIGHTED
																						COLLISION WITH FIXED OBJECT NON - INTERSECTION -			
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3778601	-87.5986434	6.315	5/14/2011	1337							1	1	0	0	RAINING	WET	N	FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	CURVE & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3784437	-87.5999125	6.395	10/21/2011	1015							1	1	0	0	CLEAR	DRY	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3787875	-87.6019183	6.506	10/31/2011	1608							2	2	0	2	CLEAR	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3809045	-87.6093945	6.942	6/3/2011	1247							3	3	0	0	CLEAR	DRY	N	COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SIDESWIPE-SAME DIRECTION	CURVE & GRADE	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3812749	-87.6149255	7.264	4/5/2011	1615							1	1	0	1	CLEAR	DRY	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3816855	-87.6191075	7.495	10/24/2011	2251							1	1	0	0	CLEAR	DRY	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3825127	-87.6280435	7.99		1843							2	-	0	0	CLEAR	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & GRADE	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.383592	-87.6406373	8.685		1938							2	2	0	0	CLEAR	DRY	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.383784	-87.6426038	8.794	2/17/2011	923	KY0502	BERNARD					2	2	0	2	CLOUDY	DRY	N	ANGLE COLLISION - ONE VEHICLE TURNING LEFT COLLISION WITH FIXED OBJECT NON - INTERSECTION -	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, CVE	HOPKINS	US0041A	NEBO	37.3838772	-87.6453569	8.946	6/17/2011	706							1	1	0	0	CLOUDY	DRY	N	FIRST EVENT COLLISION 09 - 32 EXCLUDING 16	SINGLE VEHICLE	CURVE & HILLCREST	DAYLIGHT
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3813061	-87.653405	9.414	2/7/2011	842			KY1089	DONALDSON	KY0502	BERNARD	2	2	0	2	SNOWING	SNOW/SLUSH	N	HEAD-ON COLLISION	HEAD ON	CURVE & HILLCREST	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3812615	-87.6584218	9.706		53							2	2	0	0	CLEAR	DRY	Υ	SIDESWIPE COLLISION - OPPOSITE DIRECTION	SIDESWIPE-OPPOSITE DIRECTION	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.381521	-87.6615085		10/28/2011	1245							1	1	-	0	CLEAR	DRY	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A	NEBO	37.3814653	-87.6637852	10		132							1	1	0	2	CLEAR	DRY	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3814771	-87.6665346	10.151		1350							2	2	0	0	CLEAR	DRY	N	SIDESWIPE COLLISION - OPPOSITE DIRECTION	SIDESWIPE-OPPOSITE DIRECTION	CURVE & GRADE	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3843636	-87.6772442			1010							1	1		0	CLEAR	DRY	N	COLLISION WITH ANIMAL	SINGLE VEHICLE	CURVE & GRADE	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3852158	-87.6819571	11.037		1045							2	2	0	0	CLEAR	ICE	N	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	STRAIGHT & LEVEL	DAYLIGHT
KY STATE POLICE, POST 02	HOPKINS	US0041A	NEBO	37.3852153	-87.6819999	11.039		1250					-		1	1	0	0	CLOUDY	WET	N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	CURVE & GRADE	DAYLIGHT
KY STATE POLICE, POST 02 KY STATE POLICE, POST 02	HOPKINS HOPKINS	US0041A US0041A	NEBO NEBO	37.3858105 37.3976352	-87.6836242 -87.7107383	11.137		820 2034							1	1	0	0	CLOUDY	DRY	N N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH) COLLISION WITH ANIMAL	SINGLE VEHICLE SINGLE VEHICLE	STRAIGHT & GRADE STRAIGHT & GRADE	DAYLIGHT DARK-HWY NOT LIGHTED
HOPKINS COUNTY SHERIFF DEPT.	HOPKINS	US0041A US0041A	NEBO	37.3976352 37.3979069	-87.7107383 -87.712513	12.844		1623				GIBSON JACKSON		LUTONTOWN	1	1	0	2	CLEAR	DRY	N N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE SINGLE VEHICLE	CURVE & HILLCREST	DAYLIGHT DAYLIGHTED
PROVIDENCE POLICE DEPARTMENT	WERSTER	US0041A US0041A	US41 ALT	37.3979069	-87.712513 -87.7283737	0.643		200				GIDOUN JACKOUN		LUTUNTOWN	1	1	0	0	RAINING	WFT	N N	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH) RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT DARK-HWY NOT LIGHTED
PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A	US41 ALT	37.4038457	-87.7291538	0.724		715							2	2	0	0	CLEAR	DRY	N	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE VEHICLE	STRAIGHT & GRADE	DAYLIGHT
	WEDOTER	J30041A	JOHI ALT	37.4055304	-87.7291536	0.724	9/13/2011	710							2	-	0	0	OLEAN	DRY		COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION 09 - 32 EXCLUDING 16			DAWN
PROVIDENCE POLICE DEPARTMENT PROVIDENCE POLICE DEPARTMENT	WEBSTER	US0041A US0041A	US41 ALT	37.4055304 37.4098436	-87.7302448 -87.7332283	0.856	6/15/2011	552 1045	KY0120	WESTERFIELD					1	2	0	0	CLEAR	DRY	N	OPPOSITE DIRECTION - BOTH VEHICLES GOING STRAIGHT AHEAD	SINGLE VEHICLE SIDESWIPE-OPPOSITE DIRECTION	STRAIGHT & LEVEL	DAWN
PROVIDENCE POLICE DEPARTMENT	WEBSTER	USUU41A	US41 ALI	37.4098436	-87.7332283	1.198	6/15/2011	1045	KYU120	WESTERFIELD					2	2	U	U	CLEAR	DRY	N	OPPOSITE DIRECTION - BOTH VEHICLES GOING STRAIGHT AHEAD	SIDESWIPE-OPPOSITE DIRECTION	STRAIGHT & GRADE	DAYLIGHT

APPENDIX A

TURNING MOVEMENTS

ITEM NUMBER:
MARS NUMBER:
REQUEST DATE:
ANALYST:
JJL

SCENARIO: 2011 ADT and Design Hour Volumes

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2008 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

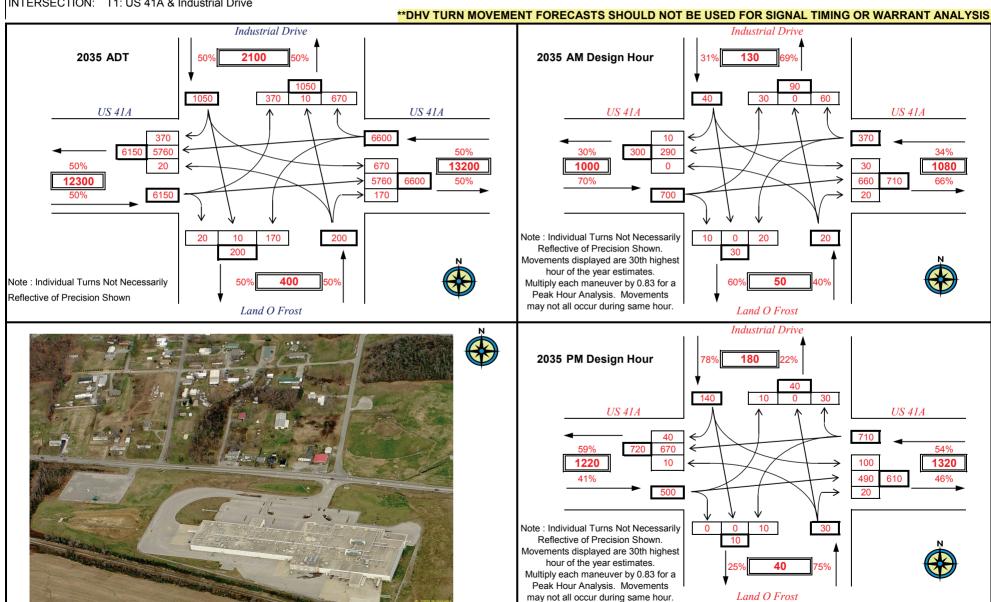
INTERSECTION: T1: US 41A & Industrial Drive **DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS Industrial Drive Industrial Drive 2011 ADT 2011 AM Design Hour 1520 US 41A US 41A US 41A US 41A 50% 200 34% 9200 695 20 740 460 8600 4020 4600 50% 70% 66% 50% Note: Individual Turns Not Necessarily 100 10 Reflective of Precision Shown. 120 Movements displayed are 30th highest hour of the year estimates. 240 25 Note : Individual Turns Not Necessarily Multiply each maneuver by 0.83 for a Peak Hour Analysis. Movements Reflective of Precision Shown may not all occur during same hour. Land O Frost Land O Frost Industrial Drive 2011 PM Design Hour 130 US 41A US 41A 470 54% 855 70 915 340 41% 46% Note: Individual Turns Not Necessarily 0 0 Reflective of Precision Shown. Movements displayed are 30th highest hour of the year estimates. Multiply each maneuver by 0.83 for a Peak Hour Analysis. Movements may not all occur during same hour. Land O Frost

ITEM NUMBER: MARS NUMBER: 0 REQUEST DATE: 1/0/1900

ANALYST: JJL

SCENARIO: 2035 ADT and Design Hour Volumes

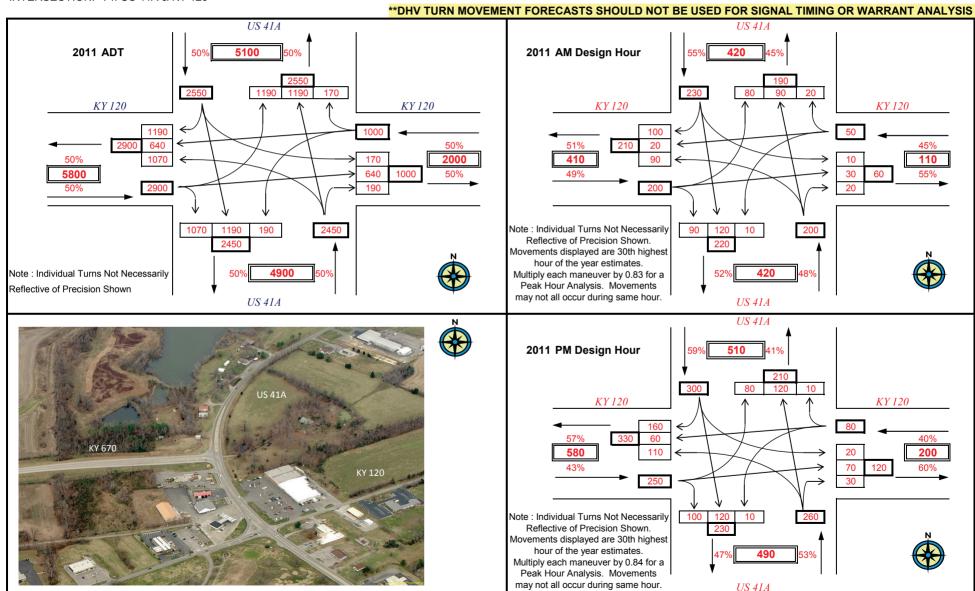
INTERSECTION: T1: US 41A & Industrial Drive



ITEM NUMBER:
MARS NUMBER:
REQUEST DATE:
ANALYST: JJL

SCENARIO: 2011 ADT and Design Hour Volumes

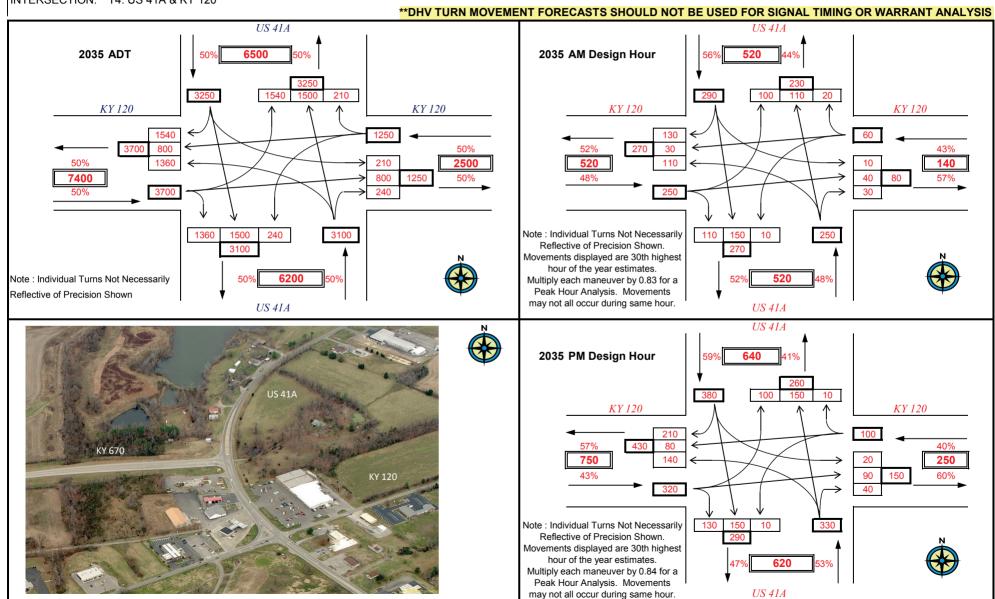
INTERSECTION: T4: US 41A & KY 120



ITEM NUMBER: 0
MARS NUMBER: 0
REQUEST DATE: 1/0/1900
ANALYST: JJL

SCENARIO: 2035 ADT and Design Hour Volumes

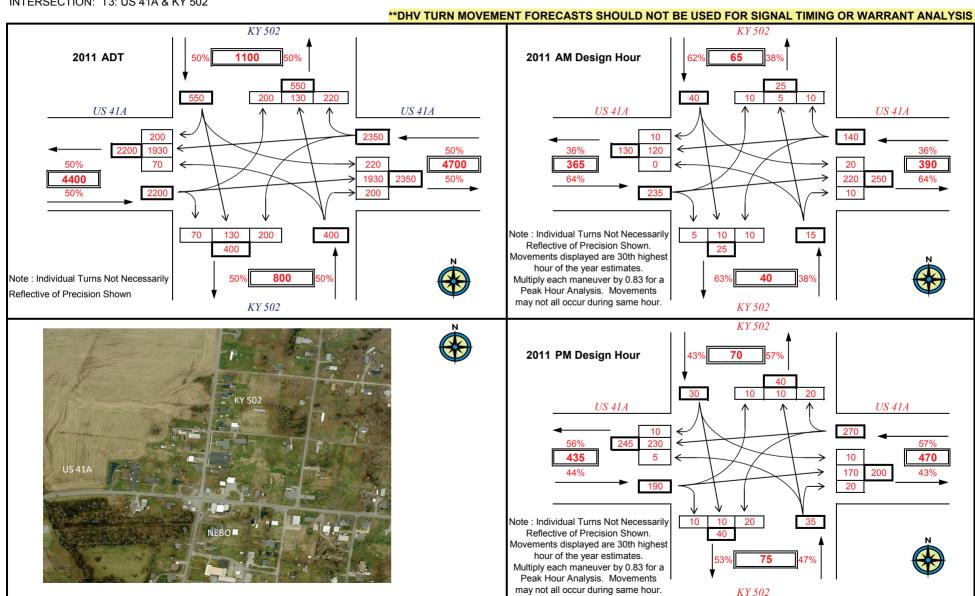
INTERSECTION: T4: US 41A & KY 120



ITEM NUMBER: MARS NUMBER: REQUEST DATE: ANALYST: JJL

SCENARIO: 2011 ADT and Design Hour Volumes

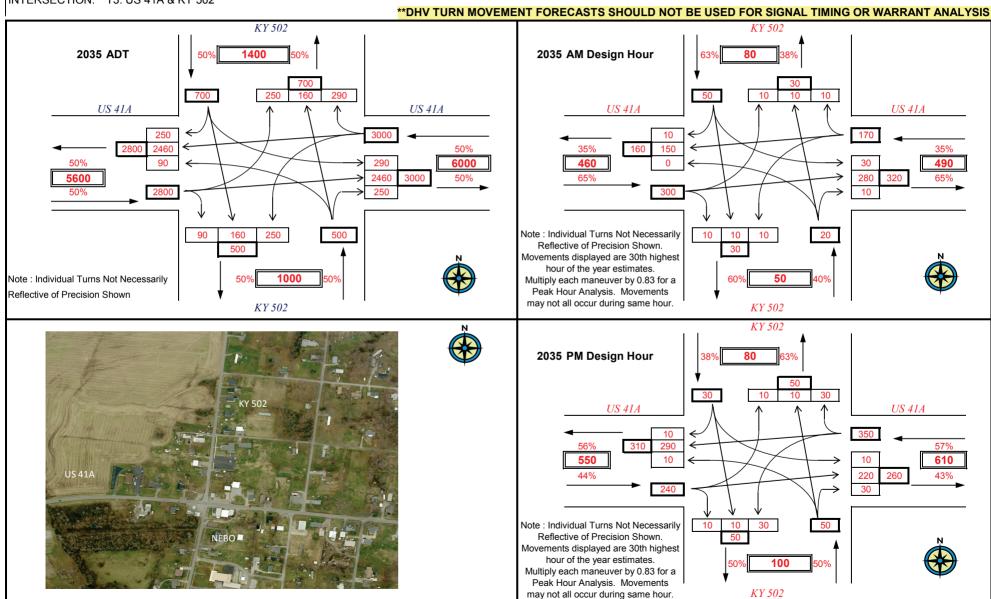
INTERSECTION: T3: US 41A & KY 502



ITEM NUMBER: 0
MARS NUMBER: 0
REQUEST DATE: 1/0/1900
ANALYST: JJL

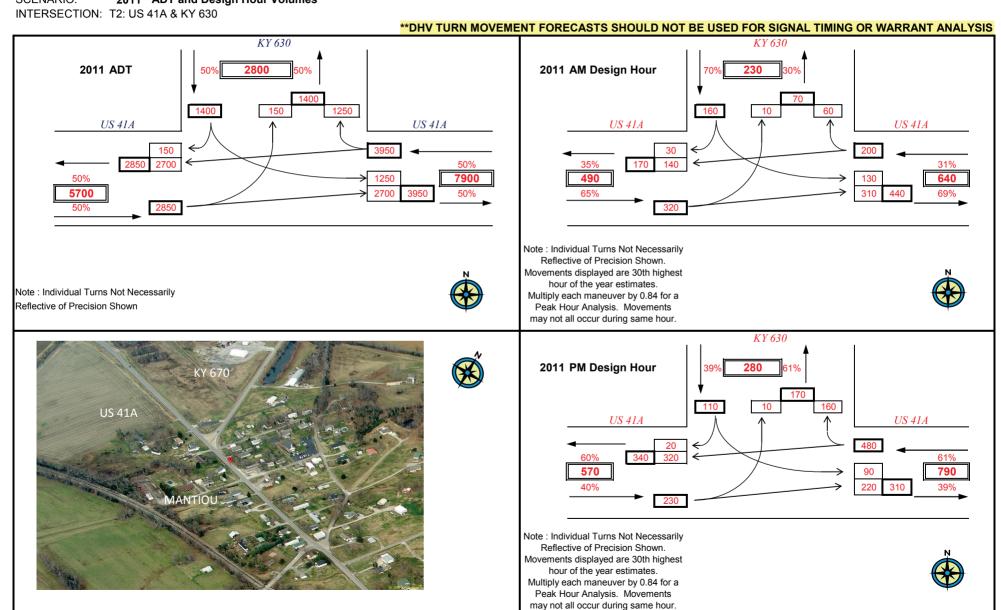
SCENARIO: 2035 ADT and Design Hour Volumes

INTERSECTION: T3: US 41A & KY 502



ITEM NUMBER: 0
MARS NUMBER: 0
REQUEST DATE: 1/0/1900

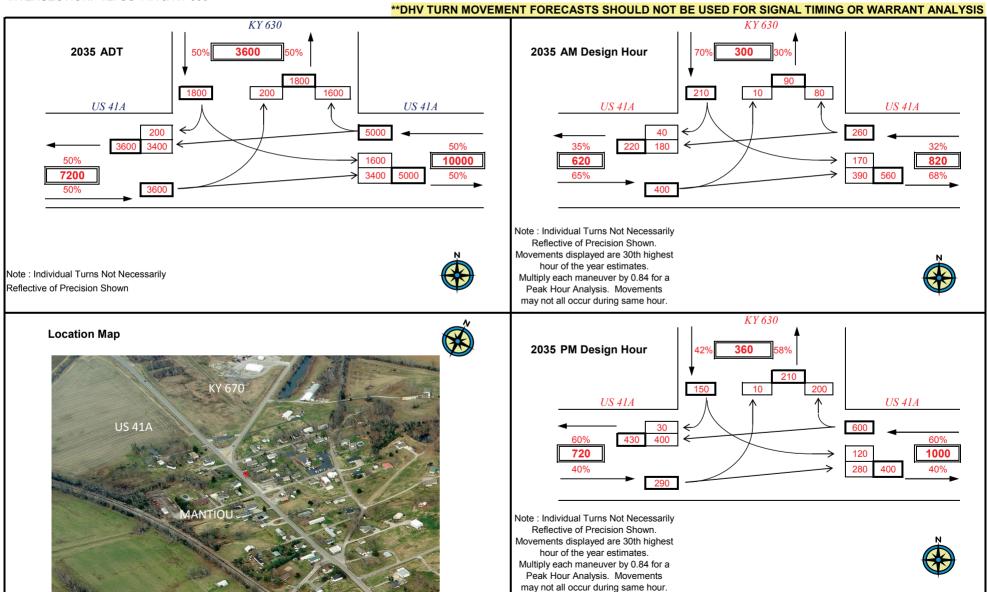
ANALYST: JJL SCENARIO: 2011 ADT and Design Hour Volumes



ITEM NUMBER: 0
MARS NUMBER: 0
REQUEST DATE: 1/0/1900
ANALYST: JJL

SCENARIO: 2035 ADT and Design Hour Volumes

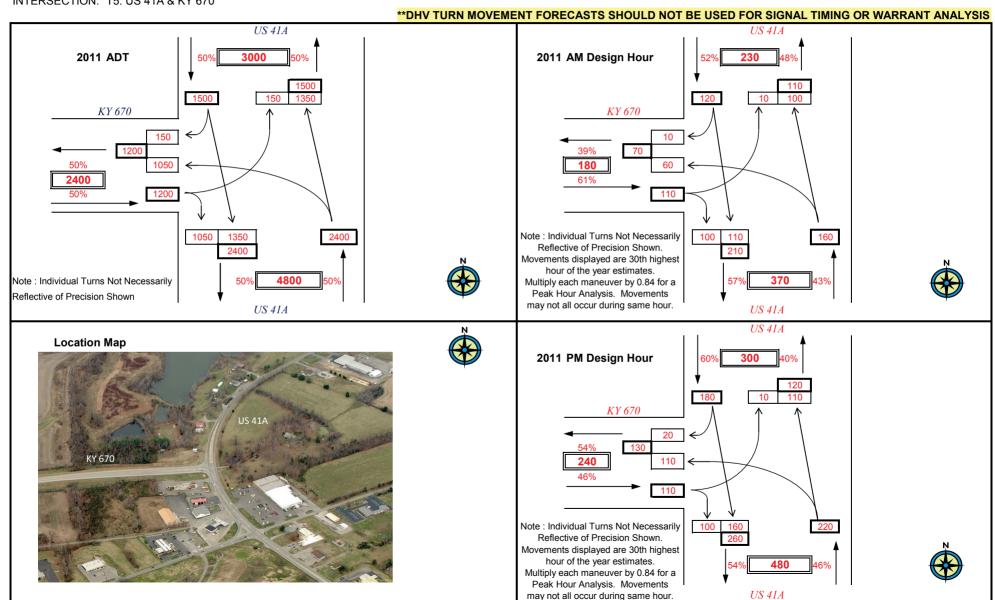
INTERSECTION: T2: US 41A & KY 630



ITEM NUMBER: 0 MARS NUMBER: 0 REQUEST DATE: 1/0/1900 ANALYST: JJL

SCENARIO: 2011 ADT and Design Hour Volumes

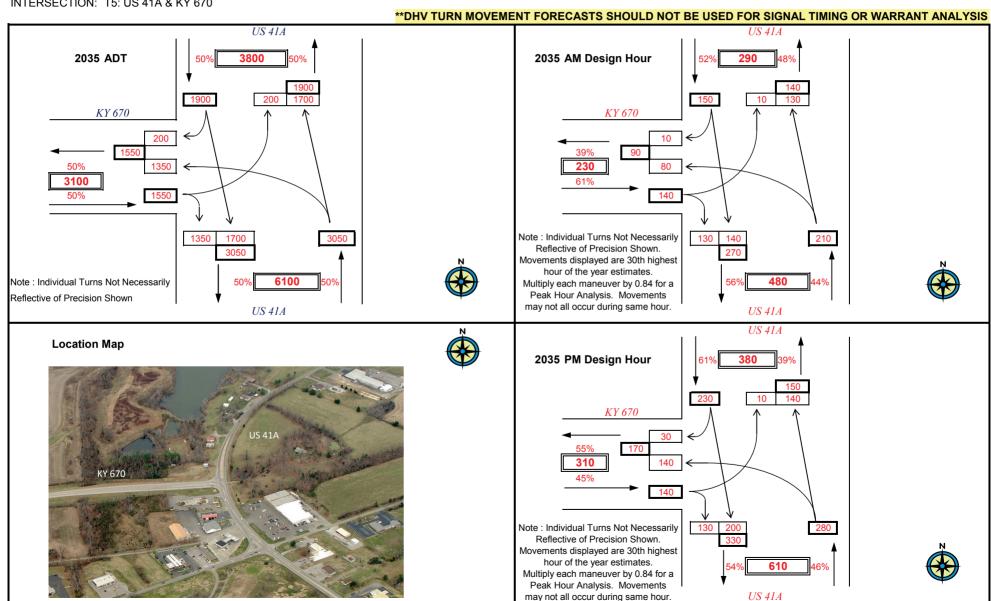
INTERSECTION: T5: US 41A & KY 670



ITEM NUMBER: 0 MARS NUMBER: 0 REQUEST DATE: 1/0/1900 ANALYST: JJL

SCENARIO: 2035 ADT and Design Hour Volumes

INTERSECTION: T5: US 41A & KY 670



APPENDIX A

TURN LANE WARRANTS

AM Peak Hour PM Peak Hour

		Left Turn Lane Currently Present or	Right Turn Lane Currently	Left Turn Lane Currently Present or	Right Turn Lane Currently Present
Travel Direction on US 41A	Intersecting Roadway	Warranted in 2035?	Present of Warranted in 2035?	Warranted in 2035?	of Warranted in 2035?
WB Toward Providence	KY 670 in Providence	NO	N/A	YES	N/A
WB Toward Providence	KY 120 in Providence	NO	NO	YES	NO
EB Toward Madisonville	KY 120 in Providence	NO	NO	NO	NO
WB Toward Providence	KY 502 in Nebo	NO	NO	NO	NO
EB Toward Madisonville	KY 502 in Nebo	NO	NO	NO	NO
WB Toward Providence	KY 630N in Manitou		NO		NO
EB Toward Madisonville	KY 630N in Manitou	NO		NO	
EB Toward Madisonville	KY 630S in Manitou				
WB Toward Providence	Industrial Drive east of Manitou	NO	NO	NO	NO
EB Toward Madisonville	Industrial Drive east of Manitou	YES	NO	NO	NO
<u>Other</u>					
KY 502 SB	US 41A	NO	NO	NO	NO
KY 502 NB	US 41A	NO	NO	NO	NO
KY 630 NB	US 41A	NO	NO	NO	NO

Input Fields Left Turn Volume (vph) 20 Speed Limit (mph) 45 Advancing Volume (vph) 370 No. of through lanes 1 Percent Heavy Vehicles (decimal percent) 0.1

Left Turn Lane Warrants



370

Input Fields

Right Turn Volume (vph) 60

Speed Limit (mph) 45

Advancing Volume (vph)



Input Fields

Right Turn Volume (vph) 130 Special Sp

Speed Limit (mph) 45



Left Turn Lane Warrants Input Fields 10 45 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 290 lanes Percent Heavy Vehicles 0.09 Opposing Volume (vph) 250 (decimal percent)



45

Input Fields

Right Turn Volume (vph) 210 Speed Limit (mph)

Advancing Volume (vph) 380



Left Turn Lane Warrants Input Fields 20 45 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 380 lanes Percent Heavy Vehicles 0.09 Opposing Volume (vph) 330 (decimal percent)



Right Turn Volume (vph) 30

Advancing Volume (vph) 250

Input Fields

Speed Limit (mph) 45



Right Turn Volume (vph) 40

Advancing Volume (vph) 330

Input Fields

Speed Limit (mph) 45



Input Fields Left Turn Volume (vph) 140 Speed Limit (mph) 45 Advancing Volume (vph) 330 No. of through lanes 1 Percent Heavy Vehicles (decimal percent) 0.09

Left Turn Lane Warrants



60

Input Fields

Right Turn Volume (vph)

Speed Limit (mph) 45

Advancing Volume (vph)



Left Turn Lane Warrants Input Fields 10 45 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 60 lanes Percent Heavy Vehicles 0.09 Opposing Volume (vph) 250 (decimal percent)



60

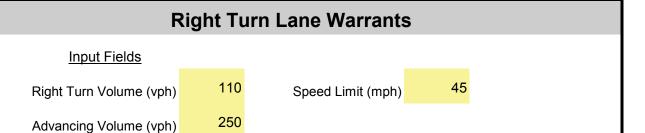
Input Fields

Right Turn Volume (vph)

Speed Limit (mph) 45

Advancing Volume (vph)







Left Turn Lane Warrants Input Fields 100 45 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 250 lanes Percent Heavy Vehicles 0.09 Opposing Volume (vph) 60 (decimal percent)



Input Fields

Right Turn Volume (vph) 130 Sp

Advancing Volume (vph) 320

Speed Limit (mph) 45



Left Turn Lane Warrants Input Fields 100 45 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 320 lanes Percent Heavy Vehicles 0.09 Opposing Volume (vph) 100 (decimal percent)



Right Turn Volume (vph) 10

Advancing Volume (vph) 30

Input Fields

Speed Limit (mph) 55



Left Turn Lane Warrants Input Fields Left Turn Volume (vph) 10 Speed Limit (mph) 55 Advancing Volume (vph) 30 No. of through lanes Opposing Volume (vph) 50 Percent Heavy Vehicles (decimal percent)



Input Fields

Right Turn Volume (vph)

Advancing Volume (vph)

50

Speed Limit (mph) 55



Left Turn Lane Warrants Input Fields 30 55 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 50 lanes Percent Heavy Vehicles 0.072 Opposing Volume (vph) 20 (decimal percent)



Right Turn Volume (vph) 10

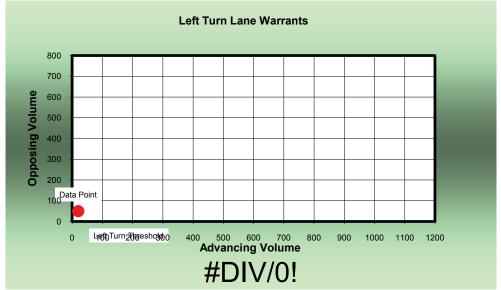
Advancing Volume (vph) 20

Input Fields

Speed Limit (mph) 55



Left Turn Lane Warrants Input Fields 0 55 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 20 lanes Percent Heavy Vehicles 0.072 Opposing Volume (vph) 50 (decimal percent)



Input Fields

Right Turn Volume (vph)

Advancing Volume (vph) 50

Speed Limit (mph) 55



Left Turn Lane Warrants Input Fields 10 55 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 50 lanes Percent Heavy Vehicles 0.072 Opposing Volume (vph) 30 (decimal percent)



Right Turn Volume (vph) 10

Advancing Volume (vph) 300

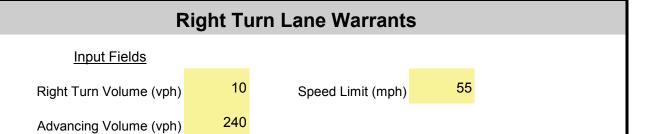
Input Fields

Speed Limit (mph) 55



Left Turn Lane Warrants Input Fields 10 55 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 300 lanes Percent Heavy Vehicles 0.072 Opposing Volume (vph) 170 (decimal percent)







Left Turn Lane Warrants Input Fields 10 55 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 240 lanes Percent Heavy Vehicles 0.072 Opposing Volume (vph) 350 (decimal percent)



Input Fields

Right Turn Volume (vph) 10

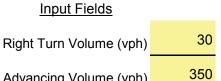
Advancing Volume (vph) 170

Speed Limit (mph) 55



Left Turn Lane Warrants Input Fields 10 55 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 170 lanes Percent Heavy Vehicles 0.072 Opposing Volume (vph) 300 (decimal percent)





Advancing Volume (vph)

55 Speed Limit (mph)



Left Turn Lane Warrants Input Fields 30 55 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 350 lanes Percent Heavy Vehicles 0.072 Opposing Volume (vph) 240 (decimal percent)



160

Input Fields

Right Turn Volume (vph)

Speed Limit (mph) 55

Advancing Volume (vph)





160

Input Fields

Right Turn Volume (vph)

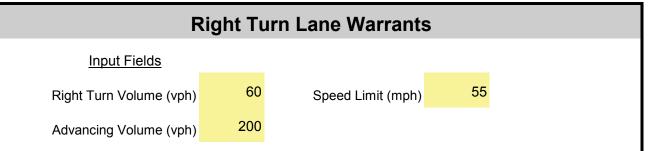
Speed Limit (mph) 55

Advancing Volume (vph)



Left Turn Lane Warrants | Input Fields | 90 | Speed Limit (mph) | 55 | | Advancing Volume (vph) | 110 | Percent Heavy | Vehicles (decimal percent) | 0.1 |







Input Fields Left Turn Volume (vph) 10 Speed Limit (mph) 55 Advancing Volume (vph) 320 No. of through lanes 1 Percent Heavy Vehicles (decimal percent) 0.1

Left Turn Lane Warrants



Input Fields

Right Turn Volume (vph) 60

Advancing Volume (vph) 200

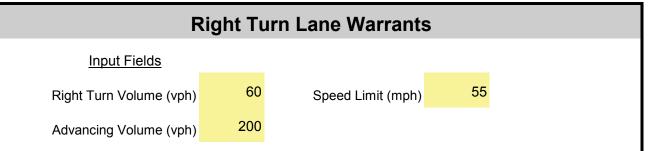
Speed Limit (mph) 55



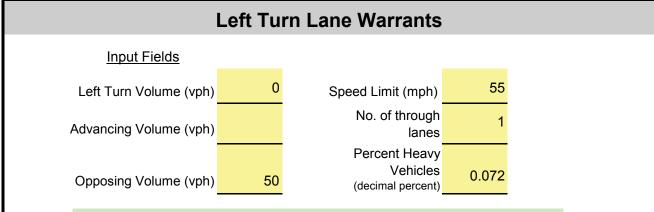
Input Fields Left Turn Volume (vph) 10 Speed Limit (mph) 55 Advancing Volume (vph) 230 No. of through lanes 1 Percent Heavy Vehicles (decimal percent) 0.1

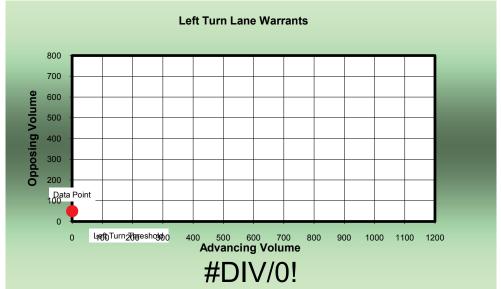
Left Turn Lane Warrants











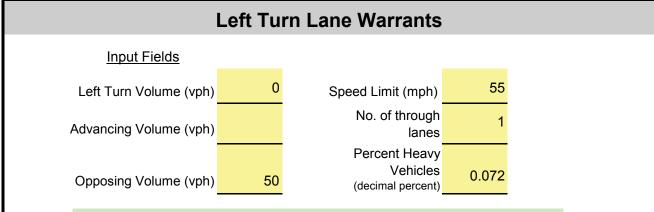
Input Fields

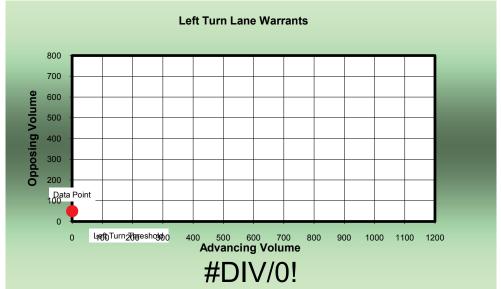
Right Turn Volume (vph)

160
Speed Limit (mph)

55
Advancing Volume (vph)







45

Input Fields

Right Turn Volume (vph) 130 Speed Limit (mph)
Advancing Volume (vph) 140



Left Turn Lane Warrants | Input Fields | 10 | Speed Limit (mph) | 45 | | Advancing Volume (vph) | 140 | No. of through lanes | 1 | | Opposing Volume (vph) | 0 | Vehicles (decimal percent) | 0.09 |



45

Input Fields

Right Turn Volume (vph) 130 Speed Limit (mph)
Advancing Volume (vph) 140



Left Turn Lane Warrants | Input Fields | 10 | Speed Limit (mph) | 45 | | Advancing Volume (vph) | 140 | No. of through lanes | 1 | | Opposing Volume (vph) | 0 | Vehicles (decimal percent) | 0.09 |



160

Input Fields

Right Turn Volume (vph)

Speed Limit (mph) 55

Advancing Volume (vph)



Left Turn Lane Warrants Input Fields 80 45 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 210 lanes Percent Heavy Vehicles 0.09 Opposing Volume (vph) 150 (decimal percent)



Right Turn Lane Warrants

160

Input Fields

Right Turn Volume (vph)

Speed Limit (mph) 55

Advancing Volume (vph)



Input Fields Left Turn Volume (vph) 140 Speed Limit (mph) 45 Advancing Volume (vph) 280 No. of through lanes 1 Opposing Volume (vph) 230 Percent Heavy Vehicles (decimal percent) 0.09

Left Turn Lane Warrants



Right Turn Lane Warrants

710

Input Fields

Right Turn Volume (vph)

Speed Limit (mph) 45

Advancing Volume (vph)

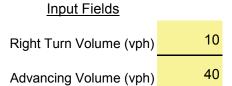
Right Turn Lane Warrants 1200 1000 Advancing Volume Data Point 800 600 400 200 0 0.00 0.10 0.20 0.40 0.50 0.30 **Percent Right Turn** Right Turn Lane NOT Warranted

Input Fields Left Turn Volume (vph) 10 Speed Limit (mph) 45 Advancing Volume (vph) 710 No. of through lanes 1 Percent Heavy Vehicles (decimal percent) 0.1

Left Turn Lane Warrants



Right Turn Lane Warrants



Speed Limit (mph) 45



Left Turn Lane Warrants Input Fields 30 45 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 40 lanes Percent Heavy Vehicles 0.1 Opposing Volume (vph) 20 (decimal percent)



Right Turn Lane Warrants

Input Fields

Right Turn Volume (vph) 40 S

Advancing Volume (vph) 140

Speed Limit (mph) 45



Left Turn Lane Warrants Input Fields 100 45 Left Turn Volume (vph) Speed Limit (mph) No. of through Advancing Volume (vph) 140 lanes Percent Heavy Vehicles 0.1 Opposing Volume (vph) 30 (decimal percent)



Left Turn Lane Warrants Input Fields Left Turn Volume (vph) 1 Speed Limit (mph) 45 Advancing Volume (vph) 20 No. of through lanes Percent Heavy Vehicles (decimal percent) 0.1



Right Turn Lane Warrants

Input Fields

Right Turn Volume (vph)

Advancing Volume (vph)

700

Speed Limit (mph) 45



Input Fields Left Turn Volume (vph) 30 Speed Limit (mph) 45 Advancing Volume (vph) 700 No. of through lanes 1 Percent Heavy Vehicles (decimal percent) 0.1

Left Turn Lane Warrants



	Turn Lane Length										
Input Fields											
Turn Volume	30	Calculated Turn L	ane Length (ft)								
Speed Limit	45	Desirable	220								
Cycle Length (Enter 0 for Uncontrolled, 60 for Stop Controlled)	45	Minimum	190								
Approach Percent Grade (G)	1										
Is this a Rural Arterial (Y or N)	у										

Input Fields Left Turn Volume (vph) 10 Speed Limit (mph) 45 Advancing Volume (vph) 500 No. of through lanes 1 Percent Heavy Vehicles (decimal percent) 0.1

Left Turn Lane Warrants



APPENDIX A INTERSECTIONS CAPACITY

General Information Intersection Information Qk4 Duration, h 0.25 Agency JJL Analysis Date Aug 1, 2011 Other Analyst Area Type KYTC AM Peak Hour PHF Jurisdiction Time Period 0.90 Intersection US 41A & Inudustrial Dr Analysis Year 2011 **Analysis Period** 1> 7:00 File Name Industrial Dr AM 2011.xus **Project Description** AM Existing 2011 **Demand Information** EΒ **WB** NB SB Т Т Approach Movement L R L R L Т R L Т R 20 10 Demand (v), veh/h 460 5 10 200 40 0 0 10 20 0 Ж. Signal Information Cycle, s 111.1 Reference Phase 2 Offset, s 0 Reference Point End Green 90.0 10.0 0.0 0.0 0.0 0.0 Uncoordinated Yes Simult. Gap E/W On Yellow 5.0 3.5 0.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S On Red 1.0 1.6 0.0 0.0 0.0 0.0 **WBL WBT** Timer Results **EBL EBT NBL NBT** SBL SBT Assigned Phase 2 6 6 8 8 4 4 5.0 5.0 6.0 6.0 7.0 7.0 8.0 8.0 Case Number Phase Duration, s 96.0 96.0 96.0 96.0 15.1 15.1 15.1 15.1 Change Period, (Y+Rc), s 6.0 6.0 6.0 6.0 5.1 5.1 5.1 5.1 2.9 3.2 Max Allow Headway (MAH), s 2.9 2.9 2.9 3.2 3.2 3.2 Queue Clearance Time (gs), s 10.3 10.3 10.7 10.7 2.7 2.7 4.9 4.9 Green Extension Time (g_e) , s 1.4 1.4 1.4 1.4 0.1 0.1 0.1 0.1 Phase Call Probability 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Max Out Probability **Movement Group Results** EΒ **WB** NB SB R L R R L Approach Movement L Т Т L Т Т R Assigned Movement 5 2 12 1 6 16 3 8 18 7 4 14 22 Adjusted Flow Rate (v), veh/h 511 6 11 0 267 0 0 11 33 0 0 Adjusted Saturation Flow Rate (s), veh/h/ln 1076 1810 1533 860 0 1757 0 1533 994 0 0 1810 0.1 0.7 Queue Service time (g_s) , s 0.5 8.3 0.4 0.0 3.8 0.0 0.0 1.9 0.0 0.0 8.7 Cycle Queue Clearance Time (gc), s 4.3 8.3 0.1 0.0 0.0 0.0 0.7 2.9 0.0 0.0 3.8 1242 1423 144 Capacity (c), veh/h 900 1466 697 163 138 0.232 Volume-to-Capacity Ratio (X) 0.025 0.349 0.004 0.016 0.000 0.187 0.000 0.000 0.080 0.000 0.000 Available Capacity (ca), veh/h 900 1466 1242 697 1423 489 414 308 Back of Queue (Q), veh/In 0.1 1.6 0.0 0.1 0.7 0.0 0.3 0.9 Overflow Queue (Q3), veh/ln 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Queue Storage Ratio (RQ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Uniform Delay (d1), s/veh 2.8 2.0 3.9 2.4 0.0 46.3 47.1 2.8 Incremental Delay (d2), s/veh 0.0 0.3 0.3 0.0 0.0 0.1 0.7 0.0 0.0 0.0 0.0 0.1 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 2.9 3.4 2.0 4.0 2.7 0.0 46.4 47.4 Level of Service (LOS) Α Α Α Α Α D D Approach Delay, s/veh / LOS 3.4 Α 2.7 Α 46.4 D 47.4 D 5.4 Α Intersection Delay s/veh / LOS MultiModal Results EΒ WB NB SB Pedestrian LOS Score / LOS 2.2 В 2.0 В 2.3 В 2.5 В

2010 HCS Signalized Intersection Results Summary

Bicycle LOS Score / LOS

0.9

Α

1.4

Α

0.5

Α

0.5

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Α

General Information Intersection Information Qk4 Duration, h 0.25 Agency JJL Analysis Date Aug 1, 2011 Other Analyst Area Type KYTC AM Peak Hour PHF Jurisdiction Time Period 0.90 Intersection US 41A & Inudustrial Dr Analysis Year 2011 **Analysis Period** 1> 7:00 File Name Industrial Dr AM 2035.xus **Project Description** AM Existing 2035 **Demand Information** EΒ **WB** NB SB Т Approach Movement L Τ R L R L Т R L Т R 30 10 Demand (v), veh/h 660 10 20 290 60 0 0 20 30 0 Ж. Signal Information Cycle, s 111.1 Reference Phase 2 Offset, s 0 Reference Point End Green 90.0 10.0 0.0 0.0 0.0 0.0 Uncoordinated Yes Simult. Gap E/W On Yellow 5.0 3.5 0.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S On Red 1.0 1.6 0.0 0.0 0.0 0.0 **WBL WBT** Timer Results **EBL EBT NBL NBT** SBL SBT Assigned Phase 2 6 6 8 8 4 4 5.0 5.0 6.0 6.0 7.0 7.0 8.0 8.0 Case Number Phase Duration, s 96.0 96.0 96.0 96.0 15.1 15.1 15.1 15.1 Change Period, (Y+Rc), s 6.0 6.0 6.0 6.0 5.1 5.1 5.1 5.1 2.9 Max Allow Headway (MAH), s 2.9 2.9 2.9 3.2 3.2 3.2 3.2 Queue Clearance Time (gs), s 16.4 16.4 17.6 17.6 3.5 3.5 6.7 6.7 Green Extension Time (g_e) , s 2.3 2.3 2.3 2.3 0.1 0.1 0.1 0.1 Phase Call Probability 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Max Out Probability **Movement Group Results** EΒ **WB** NB SB R L R R L Approach Movement L Т Т L Т Т R Assigned Movement 5 2 12 1 6 16 3 8 18 7 4 14 22 Adjusted Flow Rate (v), veh/h 33 733 11 22 0 389 0 0 44 0 0 Adjusted Saturation Flow Rate (s), veh/h/ln 962 1810 1533 700 0 1755 0 1533 929 0 0 1810 0.2 1.2 Queue Service time (g_s) , s 1.0 14.4 0.0 6.0 0.0 0.0 1.5 4.1 0.0 0.0 7.0 0.2 Cycle Queue Clearance Time (gc), s 14.4 15.6 0.0 6.0 0.0 0.0 1.5 4.7 0.0 0.0 541 1422 138 140 Capacity (c), veh/h 792 1466 1242 163 Volume-to-Capacity Ratio (X) 0.042 0.500 0.009 0.041 0.000 0.273 0.000 0.000 0.161 0.317 0.000 0.000 Available Capacity (ca), veh/h 792 1466 1242 541 1422 489 414 297 Back of Queue (Q), veh/In 0.1 2.8 0.0 0.2 1.1 0.0 0.6 1.2 Overflow Queue (Q3), veh/ln 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Queue Storage Ratio (RQ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Uniform Delay (d1), s/veh 3.4 3.4 5.9 2.6 0.0 46.7 47.9 2.0 Incremental Delay (d2), s/veh 0.5 0.5 0.0 0.0 0.1 1.2 0.0 0.1 0.0 0.0 0.0 0.2 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 3.5 4.6 2.0 6.0 3.0 0.0 46.9 48.4 Level of Service (LOS) Α Α Α Α Α D D Approach Delay, s/veh / LOS 4.5 Α 3.2 Α 46.9 D 48.4 D Α Intersection Delay s/veh / LOS 6.4 MultiModal Results EΒ WB NB SB Pedestrian LOS Score / LOS 2.2 В 2.0 В 2.3 В 2.5 В

2010 HCS Signalized Intersection Results Summary

Bicycle LOS Score / LOS

1.2

Α

1.8

Α

0.5

Α

0.6

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Α

General Information Intersection Information Qk4 Duration, h 0.25 Agency JJL Analysis Date Aug 1, 2011 Other Analyst Area Type KYTC PM Peak Hour PHF Jurisdiction Time Period 0.90 US 41A & Inudustrial Dr Intersection Analysis Year 2011 **Analysis Period** 1> 7:00 File Name Industrial Dr PM 2011.xus **Project Description** PM Existing 2011 **Demand Information** EΒ **WB** NB SB Т Approach Movement L Τ R L R L Т R L Т R 5 470 30 Demand (v), veh/h 10 340 0 20 5 0 10 70 0 Ж. Signal Information Cycle, s 116.7 Reference Phase 2 Offset, s 0 Reference Point End Green 90.0 15.6 0.0 0.0 0.0 0.0 Uncoordinated Yes Simult. Gap E/W On Yellow 5.0 3.5 0.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S On Red 1.0 1.6 0.0 0.0 0.0 0.0 **WBL WBT** Timer Results **EBL EBT NBL NBT** SBL SBT Assigned Phase 2 6 6 8 8 4 4 5.0 5.0 6.0 6.0 7.0 7.0 8.0 8.0 Case Number Phase Duration, s 96.0 96.0 96.0 96.0 20.7 20.7 20.7 20.7 Change Period, (Y+Rc), s 6.0 6.0 6.0 6.0 5.1 5.1 5.1 5.1 2.9 3.2 Max Allow Headway (MAH), s 2.9 2.9 2.9 3.2 3.2 3.2 15.4 Queue Clearance Time (gs), s 14.1 14.1 13.6 13.6 2.7 2.7 15.4 Green Extension Time (g_e) , s 1.6 1.6 1.6 1.6 0.2 0.2 0.2 0.2 Phase Call Probability 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Max Out Probability 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 **Movement Group Results** EΒ **WB** NB SB R L R R L Approach Movement L Т Т L Т Т R Assigned Movement 5 2 12 1 6 16 3 8 18 7 4 14 544 6 0 Adjusted Flow Rate (v), veh/h 11 378 0 6 0 11 111 0 0 Adjusted Saturation Flow Rate (s), veh/h/ln 834 1810 1533 972 0 1796 1189 0 1533 940 0 0 0.0 0.7 Queue Service time (g_s) , s 0.5 7.0 0.2 0.0 11.6 0.0 0.0 12.6 0.0 0.0 7.0 7.2 Cycle Queue Clearance Time (gc), s 12.1 0.0 0.0 11.6 0.4 0.0 0.7 13.4 0.0 0.0 753 1385 221 205 178 Capacity (c), veh/h 622 1395 1183 Volume-to-Capacity Ratio (X) 0.018 0.271 0.000 0.007 0.000 0.393 0.025 0.000 0.054 0.624 0.000 0.000 Available Capacity (ca), veh/h 622 1395 1183 753 1385 308 394 288 Back of Queue (Q), veh/In 0.1 1.8 0.0 0.0 3.0 0.1 0.3 3.2 Overflow Queue (Q3), veh/ln 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Queue Storage Ratio (RQ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Uniform Delay (d1), s/veh 6.4 3.9 0.0 4.9 4.4 44.0 44.1 49.3 Incremental Delay (d2), s/veh 0.0 0.0 0.0 1.3 0.0 0.0 0.1 0.5 0.0 0.0 8.0 0.0 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 6.4 4.3 0.0 4.9 5.2 44.0 44.1 50.6 Level of Service (LOS) Α Α Α Α D D D Approach Delay, s/veh / LOS 4.4 Α 5.2 Α 44.1 D 50.6 D 10.3 В Intersection Delay s/veh / LOS MultiModal Results EΒ WB NB SB Pedestrian LOS Score / LOS 2.2 В 2.0 В 2.3 В 2.5 В

2010 HCS Signalized Intersection Results Summary

Bicycle LOS Score / LOS

1.4

Α

0.5

Α

0.7

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General Information Intersection Information Qk4 Duration, h 0.25 Agency JJL Analysis Date Aug 1, 2011 Other Analyst Area Type KYTC PM Peak Hour PHF Jurisdiction Time Period 0.90 Intersection US 41A & Inudustrial Dr Analysis Year 2011 **Analysis Period** 1> 7:00 File Name Industrial Dr PM 2035.xus **Project Description** PM Existing 2035 **Demand Information** EΒ **WB** NB SB Т Т Approach Movement L R L R L Т R L Т R 40 Demand (v), veh/h 10 490 0 10 670 30 10 0 20 100 0 Ж. Signal Information Cycle, s 124.1 Reference Phase 2 Offset, s 0 Reference Point End Green 90.0 23.0 0.0 0.0 0.0 0.0 Uncoordinated Yes Simult. Gap E/W On Yellow 5.0 3.5 0.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S On Red 1.0 1.6 0.0 0.0 0.0 0.0 **WBL WBT** Timer Results **EBL EBT NBL NBT** SBL SBT Assigned Phase 2 6 6 8 8 4 4 5.0 5.0 6.0 6.0 7.0 7.0 8.0 8.0 Case Number Phase Duration, s 96.0 96.0 96.0 96.0 28.1 28.1 28.1 28.1 Change Period, (Y+Rc), s 6.0 6.0 6.0 6.0 5.1 5.1 5.1 5.1 2.9 3.2 Max Allow Headway (MAH), s 2.9 2.9 2.9 3.2 3.2 3.2 Queue Clearance Time (gs), s 29.0 29.0 28.0 28.0 3.5 3.5 22.8 22.8 Green Extension Time (g_e) , s 2.6 2.6 2.6 2.6 0.3 0.3 0.2 0.2 Phase Call Probability 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.02 0.02 Max Out Probability 0.00 **Movement Group Results** EΒ **WB** NB SB R L R R L Approach Movement L Т Т L Т Т R Assigned Movement 5 2 12 1 6 16 3 8 18 7 4 14 778 0 22 156 Adjusted Flow Rate (v), veh/h 11 544 0 11 0 11 0 0 Adjusted Saturation Flow Rate (s), veh/h/ln 671 1810 1533 834 0 1796 1235 0 1533 910 0 0 0.0 0.7 Queue Service time (g_s) , s 1.0 14.7 0.0 26.0 0.0 0.0 1.5 19.9 0.0 0.0 Cycle Queue Clearance Time (gc), s 27.0 14.7 0.0 15.3 0.0 26.0 0.0 1.5 20.8 0.0 0.0 0.9 565 284 Capacity (c), veh/h 404 1313 1113 1303 287 218 Volume-to-Capacity Ratio (X) 0.027 0.415 0.000 0.020 0.000 0.597 0.039 0.000 0.078 0.713 0.000 0.000 Available Capacity (ca), veh/h 404 1313 1113 565 1303 326 371 268 Back of Queue (Q), veh/In 0.2 4.6 0.0 0.1 8.2 0.3 0.6 4.9 Overflow Queue (Q3), veh/ln 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Queue Storage Ratio (RQ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Uniform Delay (d1), s/veh 14.8 6.7 0.0 9.7 8.2 41.6 41.8 49.4 Incremental Delay (d2), s/veh 0.0 0.0 4.5 0.0 0.0 0.1 1.0 0.0 0.1 0.0 2.0 0.0 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 14.9 7.6 0.0 9.7 10.3 41.6 41.8 53.8 Level of Service (LOS) В Α Α В D D D Approach Delay, s/veh / LOS 7.8 Α 10.3 В 41.8 D 53.8 D 14.5 В Intersection Delay s/veh / LOS MultiModal Results EΒ WB NB SB Pedestrian LOS Score / LOS 2.2 В 2.1 В 2.3 В 2.5 В

2010 HCS Signalized Intersection Results Summary

Bicycle LOS Score / LOS

1.8

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0.5

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0.7

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General Information Intersection Information Qk4 Duration, h 0.25 Agency JJL Analysis Date Aug 1, 2011 Other Analyst Area Type KYTC AM Peak Hour PHF Jurisdiction Time Period 0.90 Intersection US 41A & KY 120 Analysis Year 2011 **Analysis Period** 1> 7:00 File Name KY 120 AM 2011.xus **Project Description** AM Existing 2011 **Demand Information** EΒ **WB** NB SB Т Τ Τ Approach Movement L Τ R L R L R L R 80 90 100 Demand (v), veh/h 30 10 20 20 90 90 20 10 120 Ж. Signal Information Cycle, s 51.3 Reference Phase 2 Offset, s 0 Reference Point End Green 20.0 20.0 0.0 0.0 0.0 0.0 Uncoordinated Yes Simult. Gap E/W On Yellow 4.3 3.5 0.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S On Red 1.5 2.0 0.0 0.0 0.0 0.0 **WBL WBT** Timer Results **EBL EBT NBL NBT** SBL SBT Assigned Phase 2 6 6 8 8 4 4 7.0 7.0 8.0 8.0 6.0 5.0 5.0 Case Number 6.0 Phase Duration, s 25.8 25.8 25.8 25.8 25.5 25.5 25.5 25.5 Change Period, (Y+Rc), s 5.8 5.8 5.8 5.8 5.5 5.5 5.5 5.5 3.1 Max Allow Headway (MAH), s 3.2 3.2 3.2 3.2 3.1 3.1 3.1 4.3 Queue Clearance Time (gs), s 4.3 3.1 3.1 7.4 7.4 4.6 4.6 Green Extension Time (g_e) , s 0.5 0.5 0.5 0.5 8.0 8.0 8.0 8.0 Phase Call Probability 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Max Out Probability 0.00 **Movement Group Results** EΒ **WB** NB SB R L R L R L Approach Movement L Т Т Т Т R Assigned Movement 5 2 12 1 6 16 3 8 18 7 4 14 122 100 0 122 133 Adjusted Flow Rate (v), veh/h 0 56 0 0 100 11 111 Adjusted Saturation Flow Rate (s), veh/h/ln 1004 0 1533 1443 0 0 1276 0 1752 1289 1810 1610 0.0 0.3 2.5 2.3 Queue Service time (g_s) , s 0.0 0.0 2.2 0.0 0.0 2.9 0.0 2.3 2.3 2.3 Cycle Queue Clearance Time (gc), s 0.0 2.2 1.1 0.0 0.0 0.0 2.3 2.6 2.5 5.4 598 647 576 584 705 627 Capacity (c), veh/h 513 683 Volume-to-Capacity Ratio (X) 0.238 0.000 0.167 0.086 0.000 0.000 0.174 0.000 0.179 0.019 0.189 0.177 Available Capacity (ca), veh/h 684 897 902 825 1025 836 1059 942 Back of Queue (Q), veh/In 8.0 0.6 0.3 0.7 0.7 0.1 0.7 0.6 Overflow Queue (Q3), veh/ln 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Queue Storage Ratio (RQ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Uniform Delay (d1), s/veh 10.2 10.2 9.9 12.1 10.3 11.1 10.3 10.3 Incremental Delay (d2), s/veh 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 10.3 10.3 9.9 12.1 10.3 11.1 10.4 10.3 Level of Service (LOS) В В Α В В В В В Approach Delay, s/veh / LOS 10.3 В 9.9 11.1 В 10.4 В Α 10.5 В Intersection Delay s/veh / LOS MultiModal Results EΒ WB NB SB Pedestrian LOS Score / LOS 2.2 В 2.4 В 2.1 В 2.2 В Bicycle LOS Score / LOS Α

2010 HCS Signalized Intersection Results Summary

0.6

0.9

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0.9

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General Information Intersection Information Qk4 Duration, h 0.25 Agency JJL Analysis Date Aug 1, 2011 Other Analyst Area Type KYTC AM Peak Hour PHF Jurisdiction Time Period 0.90 Intersection US 41A & KY 120 Analysis Year 2011 **Analysis Period** 1> 7:00 File Name KY 120 AM 2035.xus **Project Description** AM 2035 **Demand Information** EΒ **WB** NB SB Т Т Т Approach Movement L Τ R L R L R L R 100 130 Demand (v), veh/h 40 110 10 30 20 110 110 30 10 150 Ж. Signal Information Cycle, s 51.1 Reference Phase 2 Offset, s 0 Reference Point End Green 20.0 19.8 0.0 0.0 0.0 0.0 Uncoordinated Yes Simult. Gap E/W On Yellow 4.3 3.5 0.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S On Red 1.5 2.0 0.0 0.0 0.0 0.0 **WBL WBT** Timer Results **EBL EBT NBL NBT** SBL SBT Assigned Phase 2 6 6 8 8 4 4 7.0 7.0 8.0 8.0 6.0 5.0 5.0 Case Number 6.0 Phase Duration, s 25.8 25.8 25.8 25.8 25.3 25.3 25.3 25.3 Change Period, (Y+Rc), s 5.8 5.8 5.8 5.8 5.5 5.5 5.5 5.5 Max Allow Headway (MAH), s 3.2 3.2 3.2 3.2 3.1 3.1 3.1 3.1 Queue Clearance Time (gs), s 7.1 7.1 3.3 3.3 8.9 8.9 5.4 5.4 Green Extension Time (g_e) , s 0.7 0.7 0.7 0.7 1.1 1.1 1.1 1.1 Phase Call Probability 1.00 1.00 1.00 1.00 0.98 0.98 0.99 0.99 0.00 0.00 0.00 0.00 0.00 0.00 Max Out Probability 0.00 0.00 **Movement Group Results** EΒ **WB** NB SB R L R R L Approach Movement L Т Т L Т Т R Assigned Movement 5 2 12 1 6 16 3 8 18 7 4 14 122 122 0 156 167 144 Adjusted Flow Rate (v), veh/h 156 0 67 0 0 11 Adjusted Saturation Flow Rate (s), veh/h/ln 939 0 1533 1506 0 0 1238 0 1742 1251 1810 1610 0.0 0.3 3.2 Queue Service time (g_s) , s 3.8 0.0 2.7 0.0 0.0 3.8 0.0 3.1 3.1 3.2 Cycle Queue Clearance Time (gc), s 5.1 0.0 2.7 1.3 0.0 0.0 0.0 3.1 3.4 3.1 6.9 488 600 672 675 550 701 624 Capacity (c), veh/h 544 Volume-to-Capacity Ratio (X) 0.318 0.000 0.204 0.099 0.000 0.000 0.225 0.000 0.230 0.020 0.238 0.232 Available Capacity (ca), veh/h 661 900 938 791 1023 800 1062 945 Back of Queue (Q), veh/In 1.1 0.7 0.4 0.9 0.9 0.1 1.0 8.0 Overflow Queue (Q3), veh/ln 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Queue Storage Ratio (RQ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Uniform Delay (d1), s/veh 10.7 10.3 9.8 12.9 10.5 11.7 10.6 10.5 Incremental Delay (d2), s/veh 0.1 0.0 0.1 0.1 0.0 0.0 0.0 0.1 0.0 0.0 0.1 0.1 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 10.9 10.3 9.9 13.0 10.6 11.7 10.6 10.6 Level of Service (LOS) В В Α В В В В В Approach Delay, s/veh / LOS 10.6 В 9.9 11.6 В 10.7 В Α 10.9 В Intersection Delay s/veh / LOS MultiModal Results EΒ WB NB SB Pedestrian LOS Score / LOS 2.2 В 2.4 В 2.1 В 2.2 В Bicycle LOS Score / LOS

2010 HCS Signalized Intersection Results Summary

0.6

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0.9

Α

1.0

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General Information Intersection Information Qk4 Duration, h 0.25 Agency JJL Analysis Date Aug 1, 2011 Other Analyst Area Type KYTC PM Peak Hour PHF Jurisdiction Time Period 0.90 Intersection US 41A & KY 120 Analysis Year 2011 **Analysis Period** 1> 7:00 File Name KY 120 PM 2011.xus **Project Description** PM Existing 2011 **Demand Information** EΒ **WB** NB SB Т Т Τ Τ Approach Movement L R L R L R L R 80 160 Demand (v), veh/h 70 100 10 60 10 110 120 30 20 120 Ж. Signal Information Cycle, s 51.1 Reference Phase 2 Offset, s 0 Reference Point End Green 20.0 19.8 0.0 0.0 0.0 0.0 Uncoordinated Yes Simult. Gap E/W On Yellow 4.3 3.5 0.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S On Red 1.5 2.0 0.0 0.0 0.0 0.0 **WBL WBT** Timer Results **EBL EBT NBL NBT** SBL SBT Assigned Phase 2 6 6 8 8 4 4 7.0 7.0 8.0 8.0 6.0 6.0 5.0 5.0 Case Number Phase Duration, s 25.8 25.8 25.8 25.8 25.3 25.3 25.3 25.3 Change Period, (Y+Rc), s 5.8 5.8 5.8 5.8 5.5 5.5 5.5 5.5 Max Allow Headway (MAH), s 3.2 3.2 3.2 3.2 3.1 3.1 3.1 3.1 Queue Clearance Time (gs), s 6.5 6.5 3.6 3.6 8.1 8.1 5.9 5.9 Green Extension Time (g_e) , s 0.7 0.7 0.7 0.7 1.1 1.1 1.1 1.1 Phase Call Probability 1.00 1.00 1.00 1.00 0.98 0.98 0.99 0.99 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Max Out Probability **Movement Group Results** EΒ **WB** NB SB R L R R L Approach Movement L Т Т L Т Т R Assigned Movement 5 2 12 1 6 16 3 8 18 7 4 14 122 0 167 22 133 178 Adjusted Flow Rate (v), veh/h 167 0 111 89 0 0 Adjusted Saturation Flow Rate (s), veh/h/ln 1072 0 1533 1627 0 0 1276 0 1747 1238 1810 1610 0.6 2.5 Queue Service time (g_s) , s 2.8 0.0 2.4 0.0 0.0 0.0 3.6 0.0 3.3 3.9 Cycle Queue Clearance Time (gc), s 4.5 0.0 2.4 1.6 0.0 0.0 0.0 3.3 3.9 2.5 3.9 6.1 527 600 716 574 541 702 624 Capacity (c), veh/h 677 Volume-to-Capacity Ratio (X) 0.316 0.000 0.185 0.124 0.000 0.000 0.213 0.000 0.246 0.041 0.190 0.285 Available Capacity (ca), veh/h 723 900 1004 828 1025 788 1062 945 Back of Queue (Q), veh/ln 1.1 0.7 0.5 0.9 1.0 0.1 0.7 1.0 Overflow Queue (Q3), veh/ln 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Queue Storage Ratio (RQ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Uniform Delay (d1), s/veh 10.6 10.2 10.0 12.3 10.6 11.9 10.3 10.8 Incremental Delay (d2), s/veh 0.1 0.1 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.1 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 10.7 10.3 10.0 12.4 10.7 11.9 10.4 10.9 Level of Service (LOS) В В В В В В В В Approach Delay, s/veh / LOS 10.6 В 10.0 В 11.4 В 10.7 В 10.8 В Intersection Delay s/veh / LOS MultiModal Results EΒ WB NB SB Pedestrian LOS Score / LOS 2.2 В 2.4 В 2.1 В 2.2 В

2010 HCS Signalized Intersection Results Summary

Bicycle LOS Score / LOS

0.6

Α

0.9

Α

Α

1.0

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General Information Intersection Information Qk4 0.25 Agency Duration, h JJL Analysis Date Aug 1, 2011 Other Analyst Area Type KYTC PM Peak Hour PHF Jurisdiction Time Period 0.90 Intersection US 41A & KY 120 Analysis Year 2011 **Analysis Period** 1> 7:00 KY 120 PM 2035.xus File Name **Project Description** PM 2035 **Demand Information** EΒ **WB** NB SB Т Τ Τ Approach Movement L Τ R L R L R L R 100 210 Demand (v), veh/h 90 130 10 80 10 140 150 40 20 150 Ж. Signal Information Cycle, s 51.3 Reference Phase 2 Offset, s 0 Reference Point End Green 20.0 20.0 0.0 0.0 0.0 0.0 Uncoordinated Yes Simult. Gap E/W On Yellow 4.3 3.5 0.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S On Red 1.5 2.0 0.0 0.0 0.0 0.0 **WBL WBT** Timer Results **EBL EBT NBL NBT** SBL SBT Assigned Phase 2 6 6 8 8 4 4 7.0 7.0 8.0 8.0 6.0 5.0 5.0 Case Number 6.0 Phase Duration, s 25.8 25.8 25.8 25.8 25.5 25.5 25.5 25.5 Change Period, (Y+Rc), s 5.8 5.8 5.8 5.8 5.5 5.5 5.5 5.5 3.1 Max Allow Headway (MAH), s 3.2 3.2 3.2 3.2 3.1 3.1 3.1 10.1 Queue Clearance Time (gs), s 8.2 8.2 4.1 4.1 10.1 7.3 7.3 Green Extension Time (g_e) , s 0.9 0.9 0.9 0.9 1.5 1.5 1.5 1.5 Phase Call Probability 1.00 1.00 1.00 1.00 0.99 0.99 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Max Out Probability 0.00 **Movement Group Results** EΒ **WB** NB SB R L R R L Approach Movement L Т Т L Т Т R Assigned Movement 5 2 12 1 6 16 3 8 18 7 4 14 0 144 0 22 167 233 Adjusted Flow Rate (v), veh/h 211 111 0 0 156 211 Adjusted Saturation Flow Rate (s), veh/h/ln 1082 0 1533 1671 0 0 1238 0 1743 1189 1810 1610 0.7 3.2 5.3 Queue Service time (g_s) , s 4.2 0.0 3.2 0.0 0.0 0.0 5.0 0.0 4.3 2.1 3.2 Cycle Queue Clearance Time (gc), s 6.2 0.0 3.2 0.0 0.0 0.0 4.3 5.0 5.3 8.1 598 729 546 679 503 704 627 Capacity (c), veh/h 529 Volume-to-Capacity Ratio (X) 0.399 0.000 0.241 0.152 0.000 0.000 0.285 0.000 0.311 0.044 0.237 0.372 Available Capacity (ca), veh/h 724 898 1026 789 1021 737 1059 942 Back of Queue (Q), veh/ln 1.5 0.9 0.7 1.2 1.3 0.1 1.0 1.4 Overflow Queue (Q3), veh/ln 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Queue Storage Ratio (RQ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Uniform Delay (d1), s/veh 10.5 10.2 13.3 10.9 12.6 10.5 11.2 11.1 Incremental Delay (d2), s/veh 0.2 0.0 0.1 0.0 0.0 0.1 0.0 0.0 0.1 0.0 0.1 0.1 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 11.3 10.6 10.2 13.4 11.0 12.6 10.6 11.3 Level of Service (LOS) В В В В В В В В Approach Delay, s/veh / LOS 11.0 В 10.2 В 12.0 В 11.1 В В Intersection Delay s/veh / LOS 11.3 MultiModal Results EΒ WB NB SB Pedestrian LOS Score / LOS 2.2 В 2.4 В 2.1 В 2.2 В

2010 HCS Signalized Intersection Results Summary

Bicycle LOS Score / LOS

0.7

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1.1

Α

1.1

Α

1.2

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APPENDIX A SEGMENT CAPACITY ANALYSIS EXISTING AND NO BUILD

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins Industrial Rd to KY 630 From/To Jurisdiction KYTC Analysis Year 2011 Description US 41A Madisonville to ProvidencüÔ _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 2.0 ft % Trucks and buses 10 10.0 ft % Trucks crawling 0.0
4.7 mi Truck crawl speed 0.0
Level % Recreational vehicles 0 Lane width Segment length mi/hr Terrain type mi % No-passing zones 60Access point density 8 Grade: Length Up/down /mi Analysis direction volume, Vd 840 veh/h Opposing direction volume, Vo 560 veh/h _____Average Travel Speed_____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.0 1.1 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 1.000 0.990 1.00 Grade adj. factor,(note-1) fg 1.00 933 pc/h Directional flow rate, (note-2) vi 629 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed,(note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 54.3 mi/h mi/h Adjustment for no-passing zones, fnp 1.5

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

40.7

74.9

mi/h

Percent Time	-Spent-Followi	.ng		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV	Analysis(d) 1.0 1.0 1.000	Oj	pposing 1.0 1.0 1.000	
Grade adjustment factor, (note-1) fg Directional flow rate, (note-2) vi Base percent time-spent-following, (no Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd	933 pc te-4) BPTSFd	2/h 71.9 % 23.0 85.7 %	1.00 622	pc/h
Level of Service and	Other Performa	ance Meas	ures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, Peak-hour vehicle-miles of travel, VM Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity		3948 27.0 1700	veh-mi veh-mi veh-h veh/h veh/h	
Passing	Lane Analysis_			
Total length of analysis segment, Lt Length of two-lane highway upstream of Length of passing lane including tape Average travel speed, ATSd (from above Percent time-spent-following, PTSFd (Level of service, LOSd (from above)	rs, Lpl e)	lane, Lu	4.7 0.0 0.5 40.7 85.7	mi mi mi mi/h
Average Travel Spe	ed with Passi	ng Lane_		
Downstream length of two-lane highway length of passing lane for average Length of two-lane highway downstream	e travel speed of effective	l, Lde		mi
length of the passing lane for av Adj. factor for the effect of passing on average speed, fpl Average travel speed including passing	lane	speed, Ld	2.50 1.11 41.9	mi
Percent Time-Spent-Fo	llowing with F	assing L	ane	
Downstream length of two-lane highway of passing lane for percent time-	spent-followin	ng, Lde	4.07	mi
Length of two-lane highway downstream the passing lane for percent time Adj. factor for the effect of passing on percent time-spent-following,	-spent-followi		0.13	mi
Percent time-spent-following including passing lane, PTSFpl			68.1	%
Level of Service and Other Perf	ormance Measur	es with	Passing	Lane
Level of service including passing la Peak 15-min total travel time, TT15	ne, LOSpl	D 26.2	veh-h	

______ Bicycle Level of Service _____

```
Phone:
                                      Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                       JJL
Agency/Co.
                       Qk4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Hopkins
                      KY 630 to kY 1089
From/To
                       KYTC
Jurisdiction
Analysis Year
                       2011
Description US 41A Madisonville to Providencé-§B
                 _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 1
Shoulder width 2.0 ft
                                  % Trucks and buses
                                                         4
                  10.0 ft % Trucks crawling 0.0
4.7 mi Truck crawl speed 0.0
Level % Recreational vehicles 0
Lane width
Segment length
                                                                 mi/hr
Terrain type
                   - mi % No-passing zones 55
- % Access point density 8
Grade: Length
       Up/down
                                                                 /mi
Analysis direction volume, Vd 440
                                    veh/h
Opposing direction volume, Vo 290
                                    veh/h
               _____Average Travel Speed_____
Direction
                                    Analysis(d) Opposing (o)
PCE for trucks, ET
                                        1.2
                                                           1.4
PCE for RVs, ER
                                        1.0
                                                           1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.992
                                                          0.984
                                       1.00
Grade adj. factor,(note-1) fg
                                                           1.00
                                        493 pc/h
Directional flow rate, (note-2) vi
                                                           327 pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                     mi/h
Observed total demand, (note-3) V
                                                     veh/h
Estimated Free-Flow Speed:
Base free-flow speed,(note-3) BFFS
                                            60.0
                                                     mi/h
Adj. for lane and shoulder width, (note-3) fLS 3.7
                                                     mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                     mi/h
Free-flow speed, FFSd
                                             54.3
                                                     mi/h
                                                     mi/h
Adjustment for no-passing zones, fnp
                                             2.6
```

45.3

83.5

mi/h

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

Percent Time-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV 1.000		Opposing 1.1 1.0 0.996	
Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 489 possible Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd	36.9	1.00 324	pc/h
Level of Service and Other Perform	ance Mea	sures	
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Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	-	veh-h	

______ Bicycle Level of Service _____

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster KY 814 to KY 120 From/To KYTC Jurisdiction Analysis Year 2011 Description US 41A Madisonville to Providencý _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 3.0 ft % Trucks and buses 9 10.0 ft % Trucks crawling 0.0 4.7 mi Truck crawl speed 0.0 Level % Recreational vehicles 0 0.0 Lane width Segment length 0.0 mi/hr Terrain type mi % No-passing zones 75Access point density 16 Grade: Length Access point density 16 /mi Up/down Analysis direction volume, Vd 380 veh/h Opposing direction volume, Vo 250 veh/h ______Average Travel Speed_____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.974 0.965 1.00 Grade adj. factor,(note-1) fg 1.00 433 pc/h Directional flow rate, (note-2) vi 288 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 50.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd 42.3 mi/h mi/h Adjustment for no-passing zones, fnp 3.1

33.6

79.5

mi/h

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

Analysis(d) Opposing (o) CCE for trucks, ET 1.0 1.1 CCE for RVB, ER 1.0 1.0 CET for RVB, ER 1.000 0.991 CET for RVB, ER 1.000 CET for RVB, CET FOR C	ng			
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on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur Level of service including passing lane, LOSpl		41.7 45.6 69.1 nce Me C 0.25 496 1786 14.7 1700 1700 2830 lane, ng Lan ive , Lde peed, assing ive legg, Lde length	/h 41.7 % 45.6 69.1 % nce Measur C 0.25 496 ve 1786 ve 14.7 ve 14.7 ve 1700 ve 2830 ve lane, Lu ng Lane ive , Lde peed, Ld assing Lar ive length g, Lde length of	Opposing

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Qk4 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster KY 120 to KY 670 From/To KYTC Jurisdiction Analysis Year 2011 Description US 41A Madisonville to ProvidencPÅ _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 3.0 ft % Trucks and buses 9 13.0 ft % Trucks crawling 0.0 4.7 mi Truck crawl speed 0.0 Level % Recreational vehicles 0 0.0 Lane width Segment length 0.0 mi/hr Terrain type mi % No-passing zones 65Access point density 16 Grade: Length Access point density 16 /mi Up/down Analysis direction volume, Vd 510 veh/h Opposing direction volume, Vo 340 veh/h ______Average Travel Speed_____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1 1.3 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.991 0.974 1.00 Grade adj. factor,(note-1) fg 1.00 572 pc/h Directional flow rate, (note-2) vi 388 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed,(note-3) BFFS 45.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 2.6 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd 38.4 mi/h mi/h Adjustment for no-passing zones, fnp 2.2

28.8

74.9

mi/h

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

Percent Time-Spent-Followi	ng			
Direction Analysis(d)		Opp	posing	(0)
PCE for trucks, ET 1.0			1.1	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			0.991	_
Grade adjustment factor,(note-1) fg 1.00			1.00	
	/h		381	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%		1 - /
	35.7	v		
5	74.4	%		
Level of Service and Other Performa	nce Me	asuı	ces	
Level of service, LOS	D			
	0.34			
±			- la'	
•	666		eh-mi	
·	2397		eh-mi	
·	23.2		eh-h	
	1700		eh/h	
	1700	Ve	eh/h	
Directional Capacity	2853	ve	eh/h	
Passing Lane Analysis_				
Cotal length of analysis segment, Lt			4.7	mi
ength of two-lane highway upstream of the passing	lane,	Lu	_	mi
ength of passing lane including tapers, Lpl	,		_	mi
Average travel speed, ATSd (from above)			28.8	mi/h
Percent time-spent-following, PTSFd (from above)			74.4	1111
Level of service, LOSd (from above)			D D	
level of service, hosa (from above)			D	
Average Travel Speed with Passi	ng Lan	ıe		
Downstream length of two-lane highway within effect				
length of passing lane for average travel speed Length of two-lane highway downstream of effective	, Lde		_	mi
length of the passing lane for average travel s	need	T.A	_	mi
	peeu,	ша		шт
Adj. factor for the effect of passing lane				
on average speed, fpl average travel speed including passing lane, ATSpl			_	
		_		
Percent Time-Spent-Following with P	assing	, Lar	ne	
Downstream length of two-lane highway within effect			n	
of passing lane for percent time-spent-followin			-	mi
Length of two-lane highway downstream of effective				
	na. La	l	_	mi
the passing lane for percent time-spent-followi	,			
	119, 10			
dj. factor for the effect of passing lane	119, 10		_	
dj. factor for the effect of passing lane on percent time-spent-following, fpl	119, 10		-	
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	119, 10		-	%
Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following		.h Pa	- - assing	
Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur		:h Pa	- - assing	
Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur Level of service including passing lane, LOSpl				
on percent time-spent-following, fpl ercent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFplLevel of Service and Other Performance Measur			- - assing eh-h	

___TWO-WAY STOP CONTROL SUMMARY___

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/28/2011
Analysis Time Period: AM Design Hour
Intersection: US 41A & KY 502

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2011

Project ID: US 41A Madisonville to Providence

East/West Street: US 41A North/South Street: KY 502 Intersection Orientation: EW

Study period (hrs): 0.25

Vehi	cle Vol	umes an	ıd Adjus	tments				
Major Street: Approach	Eas	stbound	l		West	tboun	.d	
Movement	1	2	3	4		5	6	
	L	T	R	L		Т	R	
Volume	10	220	5	10		120	10	
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.	90	0.90	0.90	
Hourly Flow Rate, HFR	11	244	5	11		133	11	
Percent Heavy Vehicles	5			5				
Median Type/Storage	Undiv	ided		/				
RT Channelized?								
Lanes	0	1	0		0	1	0	
Configuration	L'	ΓR			LTF	₹.		
Upstream Signal?		No				No		
Minor Street: Approach	No:	Northbound			 Sout	 thbou	 .nd	
Movement	7	8	9	10		11	12	
	L	T	R	L		Т	R	
Volume	0	5 5	10	20		10	10	
Peak Hour Factor, PHF	0.90	0.90	0.90	0.	90	0.90	0.90	
Hourly Flow Rate, HFR	0	5	11	22		11	11	
Percent Heavy Vehicles	5	5	5	5		5	5	
Percent Grade (%)		0				0		
Flared Approach: Exists?	/Storage		No	/			No	/
Lanes	0	1	0		0	1	0	
Configuration		LTR				LTR		

	_Delay,	Queue Le	ength,	and Lev	el of	Service		
Approach	EB	WB	No	orthboun	d	Sc	d	
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR		ĺ	LTR	
v (vph)	11	11		16			44	
C(m) (vph)	1420	1299		667			568	
v/c	0.01	0.01		0.02			0.08	
95% queue length	0.02	0.03		0.07			0.25	
Control Delay	7.6	7.8		10.5			11.9	
LOS	A	A		В			В	
Approach Delay				10.5			11.9	
Approach LOS				В			В	

___TWO-WAY STOP CONTROL SUMMARY___

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/28/2011
Analysis Time Period: AM Design Hour
Intersection: US 41A & KY 502

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2035

Project ID: US 41A Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 502
Intersection Orientation: EW

Intersection Orientation: EW Study period (hrs): 0.25

Major Street: Approach	Eas	stbound	f					
Movement	1	2	3		4	stboun 5	6	
	L	Т	R	İ	L	Т	R	
 Volume	10	280	10		10	150	10	
Peak-Hour Factor, PHF	0.90	0.90	0.90		0.90	0.90	0.90	
Hourly Flow Rate, HFR	11	311	11		11	166	11	
Percent Heavy Vehicles	5				5			
Median Type/Storage	Undiv	ided			/			
RT Channelized?								
Lanes	0	1	0		0	1	0	
Configuration	L:	ΓR			L:	ΓR		
Upstream Signal?		No				No		
 Minor Street: Approach	 No:	 rthbour	 nd		 Sot	 ıthbou	 nd	
Movement	7	8	9		10	11	12	
	L	T	R	İ	L	Т	R	
 Volume	0	10	10		30	10	10	
Peak Hour Factor, PHF	0.90	0.90	0.90		0.90	0.90	0.90	
Hourly Flow Rate, HFR	0	11	11		33	11	11	
Percent Heavy Vehicles	5	5	5		5	5	5	
Percent Grade (%)		0				0		
Flared Approach: Exists?	/Storage		No	/			No	/
Lanes	0	1	0		0	1	0	
Configuration		LTR				LTR		

	_Delay,	Queue Le	ngth, an	id Leve	l of	Servic	e			
Approach	EB	WB	Nort	hbound		Southbound				
Movement	1	4	7	8	9	10	11	12		
Lane Config	LTR	LTR		LTR		İ	LTR			
v (vph)	11	11		22			55			
C(m) (vph)	1381	1221		543			474			
v/c	0.01	0.01		0.04			0.12			
95% queue length	0.02	0.03		0.13			0.39			
Control Delay	7.6	8.0		11.9			13.6			
LOS	A	A		В			В			
Approach Delay				11.9			13.6			
Approach LOS				В			В			

___TWO-WAY STOP CONTROL SUMMARY___

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/28/2011
Analysis Time Period: PM Design Hour
Intersection: US 41A & KY 502

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2011

Project ID: US 41A Madisonville to Providence

East/West Street: US 41A North/South Street: KY 502 Intersection Orientation: EW

Study period (hrs): 0.25

Vehic	le Volu	ımes and	l Adjus	tme	nts			
Major Street: Approach	Eas	stbound			Wes	tbound		
Movement	1	2	3		4	5	6	
	L	Т	R	İ	L	Т	R	
Volume	10	170	10		20	230	20	
Peak-Hour Factor, PHF	0.90	0.90	0.90		0.90	0.90	0.90	
Hourly Flow Rate, HFR	11	188	11		22	255	22	
Percent Heavy Vehicles	5				5			
Median Type/Storage	Undivi	ided			/			
RT Channelized?								
Lanes	0	1 0)		0	1 0)	
Configuration	LT	r.			LT	'R		
Upstream Signal?		No				No		
Minor Street: Approach	Northbound				Sou	thbound	 l	
Movement	7	8	9		10	11	12	
	L	Т	R	İ	L	T	R	
Volume	 5	10	20		10	10	10	
Peak Hour Factor, PHF	0.90	0.90	0.90		0.90	0.90	0.90	
Hourly Flow Rate, HFR	5	11	22		11	11	11	
Percent Heavy Vehicles	5	5	5		5	5	5	
Percent Grade (%)		0				0		
Flared Approach: Exists?/S	torage		No	/			No	/
Lanes	0	1 0)		0	1 0)	
Configuration		LTR				LTR		

	_Delay,	Queue Le	ngth, an	nd Leve	l of	Servi	ce		
Approach	EB	WB	Nor	thbound			d		
Movement	1	4	7	8	9	1	_0	11	12
Lane Config	LTR	LTR		LTR				LTR	
v (vph)	11	22		38				33	
C(m) (vph)	1269	1356		600				501	
v/c	0.01	0.02		0.06				0.07	
95% queue length	0.03	0.05		0.20				0.21	
Control Delay	7.9	7.7		11.4				12.7	
LOS	A	A		В				В	
Approach Delay				11.4				12.7	
Approach LOS				В				В	

___TWO-WAY STOP CONTROL SUMMARY___

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/28/2011
Analysis Time Period: PM Design Hour
Intersection: US 41A & KY 502

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2035

Project ID: US 41A Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 502
Intersection Orientation: EW

Intersection Orientation: EW Study period (hrs): 0.25

Major Street: Approach	Eastbound				Wes	d				
Movement	1	2	3		4	5	6			
	L	Т	R		L	Т	R			
 Volume	10	220	10		30	290	30			
Peak-Hour Factor, PHF	0.90	0.90	0.90		0.90	0.90	0.90			
Hourly Flow Rate, HFR	11	244	11		33	322	33			
Percent Heavy Vehicles	5				5					
Median Type/Storage	Undiv	ided			/					
RT Channelized?										
Lanes	0	1	0		0	1	0			
Configuration	L.	LTR				LTR				
Upstream Signal?		No				No				
 Minor Street: Approach	No:	rthbou	 nd		Soı	ıthbou	 nd			
Movement	7	8	9		10	11	12			
	L	Т	R		L	Т	R			
Volume	10	10	30		10	10	10			
Peak Hour Factor, PHF	0.90	0.90	0.90		0.90	0.90	0.90			
Hourly Flow Rate, HFR	11	11	33		11	11	11			
Percent Heavy Vehicles	5	5	5		5	5	5			
Percent Grade (%)		0				0				
Flared Approach: Exists?/	Storage		No	/			No	/		
Lanes	0	1	0		0	1	0			
Configuration		LTR				LTR				

	Delay,	Queue Le	ngth, ar	nd Level	l of	Service		
Approach	EB	WB Northbound			Southbound			
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR		Ì	LTR	
v (vph)	11	33		55			33	
C(m) (vph)	1187	1293		514			404	
v/c	0.01	0.03		0.11			0.08	
95% queue length	0.03	0.08		0.36			0.27	
Control Delay	8.1	7.9		12.8			14.7	
LOS	A	A		В			В	
Approach Delay				12.8			14.7	
Approach LOS				В			В	

__TWO-WAY STOP CONTROL SUMMARY__

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/29/2011
Analysis Time Period: AM Design Hour
Intersection: US 41A & KY 630

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2011

Project ID: US 41A from Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 630
Intersection Orientation: EW

Approach LOS

Intersection Orientation: EW Study period (hrs): 0.25

Major Street:	Approach	icle Vol Ea	stbound	_			stboun	.d	
	Movement	1	2	3		4	5	6	
		L	T	R	İ	L	T	R	
Volume		10	130				140	60	
Peak-Hour Fact	or, PHF	0.90	0.90				0.90	0.90)
Hourly Flow Ra	te, HFR	11	144				155	66	
Percent Heavy	Vehicles	5							
Median Type/St	-	Undiv	ided			/			
RT Channelized	.?	1	1					Yes	
Lanes		1_	1				1	_1	
Configuration	3.0	L	=					R	
Jpstream Signa	13		No				No		
Minor Street:	Approach	 No	rthbour	 nd		 Sot	ıthbou	.nd	
	Movement	7	8	9		10	11	12	
		L	Т	R		L	T	R	
 /olume						130		30	
Peak Hour Fact	or, PHF					0.90		0.90)
Hourly Flow Ra	te, HFR					144		33	
Percent Heavy	Vehicles					5		5	
Percent Grade	(%)		0				0		
Flared Approac	h: Exists?	/Storage			/				/
Lanes						1		1	
Configuration						L		R	
		Queue Le				f Serv			
Approach	EB	WB		thboun				thbound	
Movement	1	4	7	8	9	!	10	11	12
Lane Config	L					1			R
v (vph)	11						144		33
C(m) (vph)	1407					(561		883
7/C	0.01					(0.22		0.04
95% queue leng	th 0.02					(0.83		0.12
Control Delay	7.6					-	12.0		9.2
	7						В		70
LOS	A						ь		A

В

__TWO-WAY STOP CONTROL SUMMARY__

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/29/2011
Analysis Time Period: AM Design Hour
Intersection: US 41A & KY 630

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2035

Project ID: US 41A from Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 630

Movement			cle Volu		l Adjus	tmer	nts			
L T R L T R	Major Street: A	pproach	Eas	stbound			Wes	stbound		
Volume Peak-Hour Factor, PHF	M	ovement	1	2	3		4	5	6	
Peak Hour Factor PHF			L	Т	R		L	Т	R	
Hourly Flow Rate, HFR 11 433 200 88 Percent Heavy Vehicles 5	Volume		10	390				180		
Percent Heavy Vehicles 5	Peak-Hour Factor	, PHF	0.90	0.90				0.90	0.90	
Median Type/Storage Undivided / RT Channelized? Yes Lanes 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Hourly Flow Rate	, HFR	11	433				200	88	
RT Channelized? Lanes	Percent Heavy Ve	hicles	5							
Lanes	Median Type/Stor	age	Undivi	lded		,	/			
T R No No No No No No No No No No No No No	RT Channelized?							Υe	es	
No	Lanes		1	1				1 1	_	
No	Configuration		L	T				T R		
Movement 7 8 9 10 11 12 L T R L T R Volume Peak Hour Factor, PHF 0.90 0.90 Hourly Flow Rate, HFR 188 44 Percent Heavy Vehicles 5 5 Percent Grade (%) 0 0 0 Flared Approach: Exists?/Storage / / Lanes 1 1 Configuration L R Delay, Queue Length, and Level of Service Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L R V (vph) 11 C(m) (vph) 1354 423 833 V/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 LOS A Approach Delay 18.1	Upstream Signal?			No				No		
Movement 7 8 9 10 11 12 L T R L T R Volume Peak Hour Factor, PHF 0.90 0.90 Hourly Flow Rate, HFR 188 44 Percent Heavy Vehicles 5 5 Percent Grade (%) 0 0 0 Flared Approach: Exists?/Storage / / Lanes 1 1 Configuration L R Delay, Queue Length, and Level of Service Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L R V (vph) 11 C(m) (vph) 1354 423 833 V/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 LOS A Approach Delay 18.1	Minor Street: A	 pproach	 Non	thbound	 [Soi	 ithbound	 l	
L T R L T R L T R D Delay Queue Length And Level of Service Delay Cm L R Delay Cm Cm Cm Cm Cm Cm Cm C						ı				
Volume	1.1	o v cincii c								
Peak Hour Factor, PHF										
Hourly Flow Rate, HFR Percent Heavy Vehicles Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Heavy Vehicles O O O Flared Approach: Exists?/Storage I I I I I I I I I I I I	Volume						170		40	
Percent Heavy Vehicles Percent Grade (%) Percent Grade (%) Flared Approach: Exists?/Storage Lanes Delay, Queue Length, and Level of Service Approach BB WB Northbound Movement 1 4 7 8 9 10 11 12 Lane Config L R V (vph) 11 188 44 C(m) (vph) 1354 423 833 V/c 0.01 95% queue length 0.02 2.23 0.17 Control Delay Approach Delay Approach Delay Approach Delay 18.1	Peak Hour Factor	, PHF					0.90		0.90	
Percent Grade (%) 0	Hourly Flow Rate	, HFR					188		44	
Percent Grade (%) 0	Percent Heavy Ve	hicles					5		5	
Delay, Queue Length, and Level of Service Delay, Queue Length, and Level of Service Delay, Queue Length, and Level of Service Delay, Queue Length, and Level of Service Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Dela				0				0		
Delay, Queue Length, and Level of Service Delay, Queue Length, and Level of Service Delay, Queue Length, and Level of Service Delay, Queue Length, and Level of Service Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Delay Dela	Flared Approach:	Exists?/	Storage			/				/
Delay, Queue Length, and Level of Service Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L 188 44 C(m) (vph) 11 188 44 C(m) (vph) 1354 423 833 v/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 A Approach Delay 18.1	Lanes		J				1	1	_	
Delay, Queue Length, and Level of Service Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L 188 44 C(m) (vph) 11 188 44 C(m) (vph) 1354 423 833 v/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 A Approach Delay 18.1	Configuration							R		
Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L 188 44 C(m) (vph) 1354 423 833 v/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 A Approach Delay 18.1										
Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L 188 44 C(m) (vph) 1354 423 833 v/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 A Approach Delay 18.1		Delav. O	ueue Ler	ngth, an	d Leve	1 01	E Servi	ce		
Movement 1 4 7 8 9 10 11 12 Lane Config L L 1 188 9 10 11 12 V (vph) 11 188 44 C(m) (vph) 1354 423 833 V/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 Approach Delay 18.1	Approach	_							bound	
Lane Config L L R v (vph) 11 188 44 C(m) (vph) 1354 423 833 v/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 A C A Approach Delay 18.1		1					1			
v (vph) 11 188 44 C(m) (vph) 1354 423 833 v/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 LOS A C A Approach Delay 18.1			-	,			!	-	-	
C(m) (vph) 1354 423 833 v/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 LOS A C A Approach Delay 18.1			 							
v/c 0.01 0.44 0.05 95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 LOS A C A Approach Delay 18.1	v (vph)						1	88		44
95% queue length 0.02 2.23 0.17 Control Delay 7.7 20.1 9.6 LOS A C A Approach Delay 18.1	C(m) (vph)	1354					4	123		833
Control Delay 7.7 20.1 9.6 LOS A C A Approach Delay 18.1	V/C	0.01					(.44		0.05
LOS A C A A Approach Delay 18.1	95% queue length	0.02					2	2.23		0.17
LOS A C A A Approach Delay 18.1	Control Delay	7.7					2	20.1		9.6
	LOS	A						C		A
	Approach Delay							1	8.1	
	Approach LOS								С	

__TWO-WAY STOP CONTROL SUMMARY___

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/29/2011
Analysis Time Period: PM Design Hour
Intersection: US 41A & KY 630

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2011

Project ID: US 41A from Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 630
Intersection Orientation: EW

Major Street: Ap	proach	icle Volu Eas	stbound	. 5			tboun	 d	
_	vement	1	2	3	- 1	4	5	6	
		L	T	R	İ	L	T	R	
 Volume		10	220				320	160	
Peak-Hour Factor,	PHF	0.90	0.90				0.90	0.90	
Hourly Flow Rate,	HFR	11	244				355	177	
Percent Heavy Veh	icles	5							
Median Type/Stora	.ge	Undivi	ded			/			
RT Channelized?								Yes	
Lanes		1	1				1	1	
Configuration		L	T				T	R	
Upstream Signal?			No				No		
 Minor Street: Ap	proach	Nor	thbound	 l		Sou	thbou	 nd	
Mo	vement	7	8	9		10	11	12	
		L	Т	R	İ	L	T	R	
 Volume						90		20	
Peak Hour Factor,	PHF					0.90		0.90	
Hourly Flow Rate,	HFR					100		22	
Percent Heavy Veh						5		5	
Percent Grade (%)			0				0		
Flared Approach:	Exists?	/Storage			/				/
Lanes						1		1	
Configuration						L		R	
	Delay (Queue Ler	oath an	d Tava	1 0	f Carvi			
 Approach	Delay, y B	WB	_	hbound		r pervi		thbound	
Movement	1	4	7	8	9	1	.0	11	12
Lane Config	L	-	,	O	9	1		т т	R
v (vph)	11					1	0.0		22
C(m) (vph)	1187					4	42		682
	0.01					0	.23		0.03
v/c						O	.86		0.10
v/c 95% queue length	0.03								
·	0.03 8.1					1	5.5		10.5
95% queue length						1	5.5 C		10.5 B
95% queue length Control Delay	8.1					1		14.6	

__TWO-WAY STOP CONTROL SUMMARY___

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/29/2011
Analysis Time Period: PM Design Hour
Intersection: US 41A & KY 630

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2035

Project ID: US 41A from Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 630
Intersection Orientation: EW

	Vehi	cle Volu	mes and	Adjus	tme	nts			
Major Street:	Approach	Eas	tbound			7	Westbou	.nd	
	Movement	1	2	3		4	5	6	
		L	Т	R	İ	L	Т	R	
Volume		10	280				400	200)
Peak-Hour Facto	r, PHF	0.90	0.90				0.9	0 0.9	0 0
Hourly Flow Rat	e, HFR	11	311				444	222	2
Percent Heavy V	ehicles	5							
Median Type/Sto	rage	Undivi	.ded			/			
RT Channelized?	_							Yes	
Lanes		1	1				1	1	
Configuration		L	Т				Т	R	
Upstream Signal	?		No				No		
Minor Street:	Approach	 Nor	thbound				 Southbo	und	
	Movement	7	8	9	- 1	10	11	12	
	110 / 00110	L L	T	R	i	L	T	R	
Volume						120		30	
Peak Hour Facto	r, PHF					0.90	0	0.9	0 0
Hourly Flow Rat	e, HFR					133		33	
Percent Heavy V	ehicles					5		5	
Percent Grade (웅)		0				0		
Flared Approach	: Exists?/	Storage			/				/
Lanes							1	1	
Configuration							L	R	
	Delay, Q				1 0				
Approach	Delay, Q ЕВ	WB		hbound		I Sel		uthbour	
Movement	1	wь 4		8	. 9	1	10	11	12
	L	4	/	0	9		L	ТТ	r
Lane Config	ь	l				l	Ъ		R
v (vph)	11						133		33
C(m) (vph)	1100						357		608
V/C	0.01						0.37		0.05
95% queue lengt							1.68		0.17
Control Delay	8.3						20.9		11.3
LOS	A						С		В
Approach Delay								19.0	
Approach LOS								C	

_____TWO-WAY STOP CONTROL SUMMARY__

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/29/2011

Analysis Time Period:

Intersection: US 41A & KY 630

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2011

Project ID: US 41A from Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 630

Major Street: Approach Movement Eastbound 1 Westbound 2 Westbound 3 4 5 6 6 Volume 130 60 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 </th <th></th> <th>Veh</th> <th>nicle Vol</th> <th>umes ar</th> <th>nd Adju</th> <th>ıstmer</th> <th>nts.</th> <th></th> <th></th> <th></th>		Veh	nicle Vol	umes ar	nd Adju	ıstmer	nts.			
Movement	Major Street:	Approach	Eas	stbound	i.			Westbound		
Volume		Movement	1	2	3		4	5	6	
Peak Hour Factor PHF			L	T	R	İ	L	T	R	
Hourly Flow Rate, HFR	Volume			130				60		
Percent Heavy Vehicles	Peak-Hour Fact	or, PHF		0.90				0.90		
Median Type/Storage Undivided / RT Channelized? 1 1 Lanes 1 1 Configuration T T Upstream Signal? No No Minor Street: Approach Northbound Southbound Minor Street: Approach Northbound Southbound Movement 7 8 9 10 11 12 Volume 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 11 12 12 10 11 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12	Hourly Flow Ra	te, HFR		144				66		
RT Channelized? Lanes	Percent Heavy	Vehicles								
Configuration		_	Undiv	ided		/	/			
No No No No No Ninternal Signal? No No No No No No No No No No No No No	Lanes			1				1		
No No No No No Ninternal Signal? No No No No No No No No No No No No No	Configuration			Т				Т		
Movement 7 8 9 10 11 12 L T R L T R Volume 10 Peak Hour Factor, PHF 0.90 Hourly Flow Rate, HFR 11 Percent Heavy Vehicles 0 Percent Grade (%) 0 0 Flared Approach: Exists?/Storage / / / Lanes 1 Configuration L Delay, Queue Length, and Level of Service Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L v (vph) 11 C(m) (vph) 783 v/c 0.01 95% queue length 0.04 Control Delay 9.7 LOS Approach Delay 9.7 A	_	1?		No				No		
L T R L T R	Minor Street:	Approach	No	rthbour	 nd			Southbound	 i	
Volume 10 Peak Hour Factor, PHF 0.90 Hourly Flow Rate, HFR 11 Percent Heavy Vehicles 0 Percent Grade (%) 0 0 Flared Approach: Exists?/Storage / / Lanes 1 Configuration L		Movement	7	8	9		10	11	12	
Peak Hour Factor, PHF 0.90 Hourly Flow Rate, HFR 11 Percent Heavy Vehicles 0 Percent Grade (%) 0 Flared Approach: Exists?/Storage / Lanes 1 Configuration L			L	T	R		L	Т	R	
Hourly Flow Rate, HFR 11 Percent Heavy Vehicles 0 Percent Grade (%) 0 0 Flared Approach: Exists?/Storage / / Lanes 1 Configuration L										
Percent Heavy Vehicles 0 Percent Grade (%) 0 0 Flared Approach: Exists?/Storage / / Lanes 1 Configuration L Delay, Queue Length, and Level of Service Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L v (vph) 11 C(m) (vph) 783 v/c 0.01 95% queue length 0.04 Control Delay 9.7 LOS A Approach Delay 9.7			0.90							
Percent Grade (%) 0 0 Flared Approach: Exists?/Storage / Lanes 1 Configuration L	_		11							
Flared Approach: Exists?/Storage / / / / / / / / Lanes	Percent Heavy	Vehicles	0							
Lanes 1 Configuration L Delay, Queue Length, and Level of Service Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L v (vph) 11 C(m) (vph) 783 v/c 0.01 95% queue length 0.04 Control Delay 9.7 LOS A Approach Delay 9.7				0				0		
Delay, Queue Length, and Level of Service	Flared Approac	h: Exists?	?/Storage			/				/
			1							
Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L L	Configuration		L							
Approach EB WB Northbound Southbound Movement 1 4 7 8 9 10 11 12 Lane Config L L		Delay	Oueue I e	agth s	and Lev		·			
Movement 1 4 7 8 9 10 11 12 Lane Config 1 L 11 V (vph) 11 C(m) (vph) 783 v/c 0.01 95% queue length 0.04 Control Delay 9.7 LOS A Approach Delay 9.7	Approach	_								
Lane Config L v (vph) 11 C(m) (vph) 783 v/c 0.01 95% queue length 0.04 Control Delay 9.7 LOS A Approach Delay 9.7										
C(m) (vph) 783 v/c 0.01 95% queue length 0.04 Control Delay 9.7 LOS A Approach Delay 9.7			T		O	,		10 .	L <u>T</u>	12
C(m) (vph) 783 v/c 0.01 95% queue length 0.04 Control Delay 9.7 LOS A Approach Delay 9.7	v (vph)			11						
<pre>v/c</pre>	_			783						
Control Delay 9.7 LOS A Approach Delay 9.7	_			0.01						
Control Delay 9.7 LOS A Approach Delay 9.7	95% queue leng	th		0.04						
LOS A Approach Delay 9.7				9.7						
	_									
	Approach Delay				9.7					
TIPPI OUCH HOD TO	Approach LOS				A					

___TWO-WAY STOP CONTROL SUMMARY__

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/29/2011
Analysis Time Period: AM Design Hour
Intersection: US 41A & KY 630

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2035

Project ID: US 41A from Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 630
Intersection Orientation: EW

		nicle Vol		_	stme				
Major Street:	Approach		astbound		1		Westboun		
	Movement	1	2	3		4	5	6	
		L	Т	R	l	L	Т	R	
Volume			170				80		
Peak-Hour Fact	or, PHF		0.90				0.90		
Hourly Flow Ra	te, HFR		188				88		
Percent Heavy	Vehicles								
Median Type/St RT Channelized		Undi	vided			/			
Lanes			1				1		
Configuration			Т				Т		
Upstream Signa	1?		No				No		
 Minor Street:	Approach	 No	rthboun	 .d			 Southbou	 nd	
	Movement	7	8	9		10	11	12	
		L	Т	R	İ	L	Т	R	
 Volume		10							
Peak Hour Fact		0.90							
Hourly Flow Ra	te, HFR	11							
Percent Heavy		0							
Percent Grade			0				0		
Flared Approac	h: Exists	?/Storage	2		/				/
Lanes		1							
Configuration]							
	Delay	Queue Le	angth a	nd Lev		f 90	rviae		
 Approach	BCIQY, EB	WB		thboun		I DC.		 thboun	
Movement	1	4	7	8	9	1	10	11	12
Lane Config	1	I	L	O	,		10	11	12
v (vph)			11						
C(m) (vph)			718						
v/c			0.02						
95% queue leng	th		0.05						
			10.1						
Control Delay									
Control Delay LOS			В						
			В	10.1					

__TWO-WAY STOP CONTROL SUMMARY__

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/29/2011
Analysis Time Period: PM Design Hour
Intersection: US 41A & KY 630

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2011

Project ID: US 41A from Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 630

Major Street: Approach		umes an stbound			1	Westbound	1	
Movement	1	2	. 3		4	5	6	
110 V 00110	L	T	R		L	T	R	
		90				160		
Peak-Hour Factor, PHF		0.90				0.90		
Hourly Flow Rate, HFR		100				177		
Percent Heavy Vehicles								
Median Type/Storage	Undiv	rided			/			
RT Channelized?								
anes		1				1		
Configuration		Т				Т		
Jpstream Signal?		No				No		
<u> </u>		-						
Minor Street: Approach	Nc	rthboun	 .d			Southbour	 nd	
Movement	7	8	9		10	11	12	
	L	Т	R	i	L	Т	R	
				'				
volume	10							
Peak Hour Factor, PHF	0.90							
Hourly Flow Rate, HFR	11							
Percent Heavy Vehicles	0							
Percent Grade (%)		0				0		
Flared Approach: Exists	:?/Storage	2		/				/
lanes	1			•				•
Configuration	_ 							
		<u>.</u>						
Delav	Queue Le	ength, a	nd Lev	el o	f Se	rvice		
Approach EB	WB		thboun				hboun	 .d
Novement 1	4	7	8	9	1	10	11	12
ane Config	-	L	Ü		i			
	ı	_			ı			
/ (vph)		11						
C(m) (vph)		717						
7/C		0.02						
95% queue length		0.05						
		10.1						
Control Delay								
Control Delay LOS		В	10 1					
Control Delay			10.1 B					

__TWO-WAY STOP CONTROL SUMMARY__

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/29/2011
Analysis Time Period: PM Design Hour
Intersection: US 41A & KY 630

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2035

Project ID: US 41A from Madisonville to Providence

East/West Street: US 41A
North/South Street: KY 630
Intersection Orientation: EW

Major Street:	Approach	nicle Vol Ea	stbound			_	Westbound	 d	
.10.502 20200	Movement	1	2	3		4	5	6	
		L	T	R	İ	L	T	R	
 Volume			120				200		
Peak-Hour Fact	or, PHF		0.90				0.90		
Hourly Flow Ra	te, HFR		133				222		
Percent Heavy	Vehicles								
Median Type/St RT Channelized	orage	Undiv	rided			/			
ki channerized Lanes	•		1				1		
Configuration			T				T		
	10		_				_		
Upstream Signa	Τ;		No				No		
Minor Street:	Approach	No	rthbour	id			Southbour	nd	
	Movement	7	8	9		10	11	12	
		L	T	R		L	T	R	
 Volume		10							
Peak Hour Fact	or, PHF	0.90							
Hourly Flow Ra	te, HFR	11							
Percent Heavy	Vehicles	0							
Percent Grade	(%)		0				0		
Flared Approac	h: Exists?	?/Storage	2		/				/
Lanes		1							
Configuration		I	_						
		Queue Le				f S			
	EB	WB	_	thboun				thboun	
Approach		4	7	8	9		10	11	12
Movement	1								
	1	į	L						
Movement Lane Config v (vph)	1	<u> </u> 	11				l 		
Movement Lane Config	1						l 		
Movement Lane Config v (vph)	1	<u> </u>	11				l 		
Movement Lane Config v (vph) C(m) (vph)		 	11 647				l 		
Movement Lane Config v (vph) C(m) (vph) v/c		 	11 647 0.02				l 		
Movement Lane Config v (vph) C(m) (vph) v/c 95% queue leng			11 647 0.02 0.05				l 		
Movement Lane Config v (vph) C(m) (vph) v/c 95% queue leng Control Delay	th	<u> </u> 	11 647 0.02 0.05 10.7	10.7			l 		

__TWO-WAY STOP CONTROL SUMMARY_____

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/28/2011
Analysis Time Period: AM Design Hour
Intersection: US 41A & KY 670

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2011

Project ID: US 41A Madisonville to Providence

East/West Street: KY 670
North/South Street: US 41A
Intersection Orientation: EW

Approach Delay

Approach LOS

Intersection Orientation: EW Study period (hrs): 0.25

Major Street: A	pproach	Eas	stbound				Westbound	i .	
	ovement	1	2	3		4	5	6	
		L	T	R	İ	L	Т	R	
		10		100					
Peak-Hour Factor	, PHF	0.90		0.90					
Hourly Flow Rate	, HFR	11		111					
Percent Heavy Vel	hicles	5							
Median Type/Stor	age	Undivi	ided			/			
RT Channelized?				No					
Lanes		1		1					
Configuration		L	R						
Upstream Signal?			No				No		
Minor Street: A	 pproach	 No:	 rthboun	 d			Southbour	 nd	
	ovement	7	8	9		10	11	12	
		L	Т	R	İ	L	T	R	
 Volume		60	100				110	10	
Peak Hour Factor	, PHF	0.90	0.90				0.90	0.90)
Hourly Flow Rate	, HFR	66	111				122	11	
Percent Heavy Vel	hicles	5	5				5	5	
Percent Grade (%)		0				0		
Flared Approach:	Exists?	/Storage			/				/
Lanes		1	1				1	1	
Configuration		L	Т				T F	{	
		_	~+h ~:	nd Torro	1 0	f Se	rvice		
	Delay,		_						
Approach	EB	WB	Nor	thbound			Sout	hbound	
Movement	EB 1		Nor	thbound 8				11	12
Movement	EB	WB	Nor	thbound			Sout		
Movement Lane Config (vph)	EB 1 L	WB	Nor 7 L	thbound 8 T 111			Sout	11 T	12 R 11
Movement Lane Config (vph)	EB 1 L 11 1604	WB	Nor 7 L 666 767	thbound 8 T ———— 111 860			Sout	11 T 122 747	12 R
Movement Lane Config v (vph) C(m) (vph)	EB 1 L 11 1604 0.01	WB	Nor 7 L	thbound 8 T 111			Sout	11 T	12 R 11
Movement Lane Config v (vph) C(m) (vph) v/c 95% queue length	EB 1 L 11 1604 0.01	WB	Nor 7 L 666 767	thbound 8 T ———— 111 860			Sout	11 T 122 747	12 R 11 1076
Movement Lane Config v (vph) C(m) (vph)	EB 1 L 11 1604 0.01	WB	Nor 7 L 66 767 0.09	thbound 8 T 111 860 0.13			Sout	11 T 122 747 0.16	12 R 11 1076 0.01

9.9

Α

10.6

В

__TWO-WAY STOP CONTROL SUMMARY__

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/28/2011
Analysis Time Period: AM Design Hour
Intersection: US 41A & KY 670

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2035

Project ID: US 41A Madisonville to Providence

East/West Street: KY 670
North/South Street: US 41A

Major Street: Ap	proach	cle Volu Eas	tbound	J			Westbound		
Mo	vement	1	2	3		4	5	6	
		L	Т	R		L	Т	R	
Volume		10		130					
Peak-Hour Factor,	PHF	0.90		0.90					
Hourly Flow Rate,	HFR	11		144					
Percent Heavy Veh	icles	5							
Median Type/Stora	ıge	Undivi	.ded			/			
RT Channelized?				No					
Lanes		1	1						
Configuration		L	R						
Upstream Signal?			No				No		
Minor Street: Ap	proach	Nor	thbound				Southbound		
Mc	vement	7	8	9		10	11	12	
		L	Т	R	ĺ	L	Т	R	
 /olume		80	130				140	10	
Peak Hour Factor,	PHF	0.90	0.90				0.90	0.90	
Hourly Flow Rate,	HFR	88	144				155	11	
Percent Heavy Veh	icles	5	5				5	5	
Percent Grade (%)			0				0		
Flared Approach:	Exists?/	Storage			/				/
Lanes		1	1				1 1		
Configuration		L	Т				T R		

	Delay,	Queue	Length, a	and Lev	el of	Service		
Approach	EB	WB	Noi	thboun	d	So	uthbound	f
Movement	1	4	7	8	9	10	11	12
Lane Config	L		L	Т		İ	T	R
v (vph)	11		88	144			 155	11
C(m) (vph)	1604		712	860			716	1076
v/c	0.01		0.12	0.17			0.22	0.01
95% queue length	0.02		0.42	0.60			0.82	0.03
Control Delay	7.3		10.8	10.0+			11.4	8.4
LOS	A		В	В			В	A
Approach Delay				10.3			11.2	
Approach LOS				В			В	

____TWO-WAY STOP CONTROL SUMMARY_____

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/28/2011
Analysis Time Period: PM Design Hour
Intersection: US 41A & KY 670
Jurisdiction: KYTC

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2011

Project ID: US 41A Madisonville to Providence

East/West Street: KY 670
North/South Street: US 41A
Intersection Orientation: FW

Major Street:	ven Approach		stbound	_	stments W	 estboun		
_	Movement	1	2	3	4	5	6	
		L	T	R	L	T	R	
 Volume		10		100				
Peak-Hour Facto:		0.90		0.90				
Hourly Flow Rate	e, HFR	11		111				
Percent Heavy V	ehicles	5						
Median Type/Sto:	rage	Undiv	ided		/			
RT Channelized?				No				
Lanes		1		1				
Configuration		L	I	5				
Upstream Signal	?		No			No		
Minor Street:	 Approach	No:	 rthbour	 nd		 outhbou	 .nd	
]	Movement	7	8	9	10	11	12	
		L	Т	R	L	Т	R	
 Volume		110	110			160	20	
Peak Hour Facto	r, PHF	0.90	0.90			0.90	0.90)
Hourly Flow Rate	e, HFR	122	122			177	22	
Percent Heavy V	ehicles	5	5			5	5	
Percent Grade (%)		0			0		
Flared Approach	: Exists?	/Storage			/			/
Lanes		1	1			1	1	
Configuration		L	T			T	R	
	_				el of Ser			
Approach	EB	WB		rthbound	_		thbound	
Movement	1	4	7	8	9	10	11	12
Lane Config	L		L	T	l		Т	R
v (vph)	11		122	122			177	22
C(m) (vph)	1604		674	860			747	1076
v/c	0.01		0.18	0.14			0.24	0.02
95% queue lengtl	h 0.02		0.66	0.49			0.92	0.06
Control Delay	7.3		11.5	9.9			11.3	8.4
	7		В	A			В	A
LOS	A		D	7-7				
	A		ъ	10.7			11.0	

__TWO-WAY STOP CONTROL SUMMARY___

Analyst: JJL Agency/Co.: Qk4

Date Performed: 7/28/2011
Analysis Time Period: PM Design Hour
Intersection: US 41A & KY 670

Jurisdiction: KYTC Units: U. S. Customary Analysis Year: 2035

Project ID: US 41A Madisonville to Providence

East/West Street: KY 670
North/South Street: US 41A
Intersection Orientation: FW

Major Street: A	pproach	icle Vol [.] Ea	stbound				Westboun		
_	ovement	1	2	3	- 1	4	5	6	
	0 (00110	L	T	R	İ	L	T	R	
 Volume		10		130					
Peak-Hour Factor	, PHF	0.90		0.90					
Hourly Flow Rate	, HFR	11		144					
Percent Heavy Vel	hicles	5							
Median Type/Stora	age	Undiv	ided			/			
RT Channelized?				No					
Lanes		1		1					
Configuration		L	F	2					
Upstream Signal?			No				No		
Minor Street: A	pproach	No	rthbour	 nd			Southbou	 nd	
Mo	ovement	7	8	9		10	11	12	
		L	T	R	ĺ	L	T	R	
 Volume		140	140				200	30	
Peak Hour Factor	, PHF	0.90	0.90				0.90	0.90)
Hourly Flow Rate	, HFR	155	155				222	33	
Percent Heavy Vel	hicles	5	5				5	5	
Percent Grade (%)		0				0		
Flared Approach:	Exists?	/Storage			/				/
Lanes		1	1				1	1	
Configuration		L	Т				T	R	
	Delay	Queue Le:	nath s	and Leve		f 9			
 Approach	встау, ЕВ	WB	_	thbound		ı D		 thbound	
Movement	1	4 l	7	8	9		10	11	12
Lane Config	L	- I	/ L	o T	פ		l +0	T	ı∠ R
v (vph)	11		155	155				222	33
	1604		594	860				716	1076
C(m) (vph)			0.26	0.18				0.31	0.03
_	0.01		0.20						_
C(m) (vph) v/c	0.01		1.04	0.65				1.32	0.09
C(m) (vph) v/c 95% queue length	0.02		1.04						
C(m) (vph) v/c 95% queue length Control Delay	0.02 7.3		1.04 13.2	10.1				12.3	8.5
C(m) (vph) v/c 95% queue length	0.02		1.04						

APPENDIX A ALTERNATIVE CAPACITY SUMMARY

Phone:

Fax:

E-mail:

_____OPERATIONAL ANALYSIS_____

Analyst: JJL Agency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour Highway: US 41A

From/To: Industrial Rd to KY 630

Jurisdiction: KYTC Analysis Year: 2035

Project ID: US 41A Existing Alignment

FREE-FLOW SPEED					
Direction	1		2		
Lane width	12.0	ft	12.0	ft	
Lateral clearance:					
Right edge	6.0	ft	6.0	ft	
Left edge	6.0	ft	6.0	ft	
Total lateral clearance	12.0	ft	12.0	ft	
Access points per mile	8		8		
Median type	Divided		Divided		
Free-flow speed:	Base		Base		
FFS or BFFS	60.0	mph	60.0	mph	
Lane width adjustment, FLW	0.0	mph	0.0	mph	
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph	
Median type adjustment, FM	0.0	mph	0.0	mph	
Access points adjustment, FA	2.0	mph	2.0	mph	
Free-flow speed	58.0	mph	58.0	mph	
	VOLUME				
Direction	1		2		
Volume, V	840	vph	560	vph	
Peak-hour factor, PHF	0.90	· L	0.90		
Peak 15-minute volume, v15	233		156		
Trucks and buses	10	%	10	%	
Recreational vehicles	0	%	0	%	
Terrain type	Level		Level		
Grade	0.00	%	0.00	%	
Segment length	0.00	mi	0.00	mi	
Number of lanes	2		2		
Driver population adjustment, fP	1.00		1.00		
Trucks and buses PCE, ET	1.5		1.5		
Recreational vehicles PCE, ER	1.2		1.2		
Heavy vehicle adjustment, fHV	0.952		0.952		
Flow rate, vp	490	pcphpl		pcphpl	
	RESULTS				

Direction	1		2	
Flow rate, vp	490	pcphpl	326	pcphpl
Free-flow speed, FFS	58.0	mph	58.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	A		A	
Density, D	8.2	pc/mi/ln	5.4	pc/mi/ln
Bicycle	Level of S	Service		
Posted speed limit, Sp	55		55	
Percent of segment with occupied				
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	466.7		311.1	
Effective width of outside lane, We	e 24.00		24.00	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	5.06		4.85	
Bicycle LOS	E		E	

Phone:

Fax:

E-mail:

_____OPERATIONAL ANALYSIS_____

Analyst: JJLAgency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour

Highway: US 41A

From/To: KY 630 to KY 1089

Jurisdiction: KYTC Analysis Year: 2035 Project ID: US 41A

FREE-FLOW SPEED					
Direction	1		2		
Lane width	12.0	ft	12.0	ft	
Lateral clearance:					
Right edge	6.0	ft	6.0	ft	
Left edge	6.0	ft	6.0	ft	
Total lateral clearance	12.0	ft	12.0	ft	
Access points per mile	8		8		
Median type	Divided		Divided		
Free-flow speed:	Base		Base		
FFS or BFFS	60.0	mph	60.0	mph	
Lane width adjustment, FLW	0.0	mph	0.0	mph	
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph	
Median type adjustment, FM	0.0	mph	0.0	mph	
Access points adjustment, FA	2.0	mph	2.0	mph	
Free-flow speed	58.0	mph	58.0	mph	
	VOLUME				
Direction	1		2		
Volume, V	440	vph	290	vph	
Peak-hour factor, PHF	0.90		0.90		
Peak 15-minute volume, v15	122		81		
Trucks and buses	10	%	10	%	
Recreational vehicles	0	%	0	%	
Terrain type	Level		Level		
Grade	0.00	%	0.00	%	
Segment length	0.00	mi	0.00	mi	
Number of lanes	2		2		
Driver population adjustment, fP	1.00		1.00		
Trucks and buses PCE, ET	1.5		1.5		
Recreational vehicles PCE, ER	1.2		1.2		
Heavy vehicle adjustment, fHV	0.952		0.952		
Flow rate, vp	256	pcphpl	169	pcphpl	

______RESULTS_____

Direction	1		2	
Flow rate, vp	256	pcphpl	169	pcphpl
Free-flow speed, FFS	58.0	mph	58.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	A		A	
Density, D	4.3	pc/mi/ln	2.8	pc/mi/ln
Diarrala	Internal of Co			
Bicycle	Level of Se	ervice		
Posted speed limit, Sp			55	
Percent of segment with occupied				
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	244.4		161.1	
Effective width of outside lane, We	24.00		24.00	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	4.73		4.52	
Bicycle LOS	E		E	

Phone: E-mail: Fax:

_____OPERATIONAL ANALYSIS_____

Analyst: JJLAgency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour

Highway: US 41A

From/To: KY 1089 to KY 814

Jurisdiction: KYTC Analysis Year: 2035 Project ID: US 41A

FREE-FLOW SPEED							
Direction	1		2				
Lane width	12.0	ft	12.0	ft			
Lateral clearance:							
Right edge	6.0	ft	6.0	ft			
Left edge	6.0	ft	6.0	ft			
Total lateral clearance	12.0	ft	12.0	ft			
Access points per mile	8		8				
Median type	Divided		Divided				
Free-flow speed:	Base		Base				
FFS or BFFS	60.0	mph	60.0	mph			
Lane width adjustment, FLW	0.0	mph	0.0	mph			
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph			
Median type adjustment, FM	0.0	mph	0.0	mph			
Access points adjustment, FA	2.0	mph	2.0	mph			
Free-flow speed	58.0	mph	58.0	mph			
VOLUME							
Direction	1		2				
Volume, V	350	vph	230	vph			
Peak-hour factor, PHF	0.90	-	0.90	-			
Peak 15-minute volume, v15	97		64				
Trucks and buses	10	%	10	%			
Recreational vehicles	0	%	0	%			
Terrain type	Level		Level				
Grade	0.00	%	0.00	%			
Segment length	0.00	mi	0.00	mi			
Number of lanes	2		2				
Driver population adjustment, fP	1.00		1.00				
Trucks and buses PCE, ET	1.5		1.5				
Recreational vehicles PCE, ER	1.2		1.2				
Heavy vehicle adjustment, fHV	0.952		0.952				
Flow rate, vp	204	pcphpl	134	pcphpl			
	RESULTS						

Ι	Direction	1		2	
Flow rate, vp		204	pcphpl	134	pcphpl
Free-flow speed, FFS	5	58.0	mph	58.0	mph
Avg. passenger-car t	cravel speed, S	60.0	mph	60.0	mph
Level of service, LO)S	A		A	
Density, D		3.4	pc/mi/ln	2.2	pc/mi/ln
	Bicycle L	evel of Se	rvice		
Posted speed limit,	Sp			55	
Percent of segment w	-				
on-highway parking		0		0	
Pavement rating, P		3		3	
Flow rate in outside	e lane, vOL	194.4		127.8	
Effective width of o	outside lane, We	24.00		24.00	
Effective speed fact	tor, St	4.79		4.79	
Bicycle LOS Score, E	BLOS	4.61		4.40	
Bicycle LOS		E		D	

Phone: E-mail: Fax:

_____OPERATIONAL ANALYSIS_____

Analyst: JJL Agency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour Highway: US 41A

From/To: KY 814 to KY 120

Jurisdiction: KYTC
Analysis Year: 2035
Project ID: US 41A

FREE-FLOW SPEED					
Direction	1		2		
Lane width	12.0	ft	12.0	ft	
Lateral clearance:					
Right edge	6.0	ft	6.0	ft	
Left edge	6.0	ft	6.0	ft	
Total lateral clearance	12.0	ft	12.0	ft	
Access points per mile	8		8		
Median type	Divided		Divided		
Free-flow speed:	Base		Base		
FFS or BFFS	50.0	mph	50.0	mph	
Lane width adjustment, FLW	0.0	mph	0.0	mph	
Lateral clearance adjustment, FLC		mph	0.0	mph	
Median type adjustment, FM	0.0	mph	0.0	mph	
Access points adjustment, FA	2.0	mph	2.0	mph	
Free-flow speed	48.0	mph		mph	
-		_		_	
	VOLUME				
Direction	1		2		
Volume, V	380	vph	250	vph	
Peak-hour factor, PHF	0.90		0.90		
Peak 15-minute volume, v15	106		69		
Trucks and buses	10	%	10	%	
Recreational vehicles	0	용	0	%	
Terrain type	Level		Level		
Grade	0.00	%	0.00	%	
Segment length	0.00	mi	0.00	mi	
Number of lanes	2		2		
Driver population adjustment, fP	1.00		1.00		
Trucks and buses PCE, ET	1.5		1.5		
Recreational vehicles PCE, ER	1.2		1.2		
Heavy vehicle adjustment, fHV	0.952		0.952		
Flow rate, vp	221	pcphpl	145	pcphpl	

______RESULTS_____

Direction	1		2	
Flow rate, vp	221	pcphpl	145	pcphpl
Free-flow speed, FFS	48.0	mph	48.0	mph
Avg. passenger-car travel speed, S	50.0	mph	50.0	mph
Level of service, LOS	A		A	
Density, D	4.4	pc/mi/ln	2.9	pc/mi/ln
Bicycle	Level of Se	rvice		
Breyere	never or be	.1 V100		
Posted speed limit, Sp			55	
Percent of segment with occupied				
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	211.1		138.9	
Effective width of outside lane, We	24.00		24.00	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	4.65		4.44	
Bicycle LOS	E		D	

Phone: Fax:

E-mail:

_OPERATIONAL ANALYSIS____

Analyst: JJL Agency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour

Highway: US 41A

From/To: KY 120 to KY 670

Jurisdiction: KYTC
Analysis Year: 2035
Project ID: US 41A

FRE	E-FLOW SPE	ED		
Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	8		8	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	2.0	mph	2.0	mph
Free-flow speed	43.0	mph	43.0	mph
	VOLUME			
Direction	1		2	
Volume, V	510	vph	340	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	142		94	
Trucks and buses	10	%	10	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.952		0.952	
Flow rate, vp	297	pcphpl	198	pcphpl
	RESULTS_			

Direction	1		2	
Flow rate, vp	297	pcphpl	198	pcphpl
Free-flow speed, FFS	43.0	mph	43.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	6.6	pc/mi/ln	4.4	pc/mi/ln
Bicycle I	Level of Se	ervice		
Posted speed limit, Sp			55	
Percent of segment with occupied				
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	283.3		188.9	
Effective width of outside lane, We	24.00		24.00	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	4.80		4.60	
Bicycle LOS	E		E	

Phone: E-mail: Fax:

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_____OPERATIONAL ANALYSIS_____

Analyst: JJL Agency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour

Highway: US 41A

From/To: KY 670 to the West

Jurisdiction: KYTC
Analysis Year: 2035
Project ID: US 41A

FREE-FLOW SPEED					
Direction	1		2		
Lane width	12.0	ft	12.0	ft	
Lateral clearance:					
Right edge	6.0	ft	6.0	ft	
Left edge	6.0	ft	6.0	ft	
Total lateral clearance	12.0	ft	12.0	ft	
Access points per mile	8		8		
Median type	Divided		Divided		
Free-flow speed:	Base		Base		
FFS or BFFS	60.0	mph	60.0	mph	
Lane width adjustment, FLW	0.0	mph	0.0	mph	
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph	
Median type adjustment, FM	0.0	mph	0.0	mph	
Access points adjustment, FA	2.0	mph	2.0	mph	
Free-flow speed	58.0	mph	58.0	mph	
	VOLUME				
Direction	1		2		
Volume, V	180	vph	120	vph	
Peak-hour factor, PHF	0.90	_	0.90	_	
Peak 15-minute volume, v15	50		33		
Trucks and buses	10	%	10	%	
Recreational vehicles	0	%	0	%	
Terrain type	Level		Level		
Grade	0.00	%	0.00	%	
Segment length	0.00	mi	0.00	mi	
Number of lanes	2		2		
Driver population adjustment, fP	1.00		1.00		
Trucks and buses PCE, ET	1.5		1.5		
Recreational vehicles PCE, ER	1.2		1.2		
Heavy vehicle adjustment, fHV	0.952		0.952		
Flow rate, vp	105	pcphpl	70	pcphpl	

_____RESULTS_____

Direction	1		2	
Flow rate, vp	105	pcphpl	70	pcphpl
Free-flow speed, FFS	58.0	mph	58.0	mph
Avg. passenger-car travel speed,	S 60.0	mph	60.0	mph
Level of service, LOS	A		A	
Density, D	1.8	pc/mi/ln	1.2	pc/mi/ln
Bicyc	cle Level of	Service		
Posted speed limit, Sp			55	
Percent of segment with occupied	l			
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	100.0		66.7	
Effective width of outside lane,	We 24.00		31.20	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	4.28		2.09	
Bicycle LOS	D		В	

Phone:

Fax:

E-mail:

_____OPERATIONAL ANALYSIS_____

Analyst: JJL Agency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour Highway: US 41A

From/To: US 41A to KY 630

Jurisdiction: KYTC Analysis Year: 2035

Project ID: US 41A 4-Lane Ex with Bypasses

FREE-FLOW SPEED							
Direction	1		2				
Lane width	12.0	ft	12.0	ft			
Lateral clearance:							
Right edge	6.0	ft	6.0	ft			
Left edge	6.0	ft	6.0	ft			
Total lateral clearance	12.0	ft	12.0	ft			
Access points per mile	8		8				
Median type	Divided		Divided				
Free-flow speed:	Base		Base				
FFS or BFFS	60.0	mph	60.0	mph			
Lane width adjustment, FLW	0.0	mph	0.0	mph			
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph			
Median type adjustment, FM	0.0	mph	0.0	mph			
Access points adjustment, FA	2.0	mph	2.0	mph			
Free-flow speed		mph		mph			
	VOLUME						
Direction	1		2				
Volume, V	520	vph	350	vph			
Peak-hour factor, PHF	0.90	-	0.90	-			
Peak 15-minute volume, v15	144		97				
Trucks and buses	10	%	10	%			
Recreational vehicles	0	%	0	%			
Terrain type	Level		Level				
Grade	0.00	%	0.00	%			
Segment length	0.00	mi	0.00	mi			
Number of lanes	2		2				
Driver population adjustment, fP	1.00		1.00				
Trucks and buses PCE, ET	1.5		1.5				
Recreational vehicles PCE, ER	1.2		1.2				
Heavy vehicle adjustment, fHV	0.952		0.952				
Flow rate, vp	303	pcphpl	204	pcphpl			
	RESULTS						

	Direction	1		2	
Flow rate, vp		303	pcphpl	204	pcphpl
Free-flow speed, F	FS	58.0	mph	58.0	mph
Avg. passenger-car	travel speed, S	60.0	mph	60.0	mph
Level of service,	LOS	A		A	
Density, D		5.1	pc/mi/ln	3.4	pc/mi/ln
	Bicycle L	evel of Se	rvice		
Posted speed limit	, Sp	55		55	
Percent of segment	with occupied				
on-highway parking		0		0	
Pavement rating, P		3		3	
Flow rate in outside	de lane, vOL	288.9		194.4	
Effective width of	outside lane, We	24.00		24.00	
Effective speed fa	ctor, St	4.79		4.79	
Bicycle LOS Score,	BLOS	4.81		4.61	
Bicycle LOS		E		E	

Phone: E-mail: Fax:

_____OPERATIONAL ANALYSIS_____

Analyst: JJL Agency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour

Highway: US 41A

From/To: KY 630 to US 41A

Jurisdiction: KYTC
Analysis Year: 2035
Project ID: US 41A

FREE-FLOW SPEED						
Direction	1		2			
Lane width	12.0	ft	12.0	ft		
Lateral clearance:						
Right edge	6.0	ft	6.0	ft		
Left edge	6.0	ft	6.0	ft		
Total lateral clearance	12.0	ft	12.0	ft		
Access points per mile	8		8			
Median type	Divided		Divided			
Free-flow speed:	Base		Base			
FFS or BFFS	60.0	mph	60.0	mph		
Lane width adjustment, FLW	0.0	mph	0.0	mph		
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph		
Median type adjustment, FM	0.0	mph	0.0	mph		
Access points adjustment, FA	2.0	mph	2.0	mph		
Free-flow speed	58.0	mph	58.0	mph		
	VOLUME					
Direction	1		2			
Volume, V	340	vph	220	vph		
Peak-hour factor, PHF	0.90	-	0.90	-		
Peak 15-minute volume, v15	94		61			
Trucks and buses	10	%	10	%		
Recreational vehicles	0	%	0	%		
Terrain type	Level		Level			
Grade	0.00	%	0.00	%		
Segment length	0.00	mi	0.00	mi		
Number of lanes	2		2			
Driver population adjustment, fP	1.00		1.00			
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicles PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.952		0.952			
Flow rate, vp	198	pcphpl	128	pcphpl		
	RESULTS					

Direction	1		2		
Flow rate, vp	198	pcphpl	128	pcphpl	
Free-flow speed, FFS	58.0	mph	58.0	mph	
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph	
Level of service, LOS	A		A		
Density, D	3.3	pc/mi/ln	2.1	pc/mi/ln	
Bicycle Level of Service					
Posted speed limit, Sp			55		
Percent of segment with occupied					
on-highway parking	0		0		
Pavement rating, P	3		3		
Flow rate in outside lane, vOL	188.9		122.2		
Effective width of outside lane, We	24.00		24.00		
Effective speed factor, St	4.79		4.79		
Bicycle LOS Score, BLOS	4.60		4.38		
Bicycle LOS	E		D		

Phone: E-mail: Fax:

_____OPERATIONAL ANALYSIS_____

Analyst: JJL Agency/Co: Qk4

Date: 10/27/2011
Analysis Period: Design Hour

Highway: US 41A

From/To: US 41A to US 41A

Jurisdiction: KYTC
Analysis Year: 2035
Project ID: US 41A

FREE-FLOW SPEED						
Direction	1		2			
Lane width	12.0	ft	12.0	ft		
Lateral clearance:						
Right edge	6.0	ft	6.0	ft		
Left edge	6.0	ft	6.0	ft		
Total lateral clearance	12.0	ft	12.0	ft		
Access points per mile	8		8			
Median type	Divided		Divided			
Free-flow speed:	Base		Base			
FFS or BFFS	60.0	mph	60.0	mph		
Lane width adjustment, FLW	0.0	mph	0.0	mph		
Lateral clearance adjustment, FLC		mph	0.0	mph		
Median type adjustment, FM	0.0	mph	0.0	mph		
Access points adjustment, FA	2.0	mph	2.0	mph		
Free-flow speed	58.0	mph	58.0	mph		
	VOLUME					
Direction	1		2			
Volume, V	270	vph	180	vph		
Peak-hour factor, PHF	0.90		0.90			
Peak 15-minute volume, v15	75		50			
Trucks and buses	10	%	10	%		
Recreational vehicles	0	%	0	%		
Terrain type	Level		Level			
Grade	0.00	%	0.00	%		
Segment length	0.00	mi	0.00	mi		
Number of lanes	2		2			
Driver population adjustment, fP	1.00		1.00			
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicles PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.952		0.952			
Flow rate, vp	157	pcphpl	105	pcphpl		
	DEGIII EG					

______RESULTS_____

Direction	1		2	
Flow rate, vp	157	pcphpl	105	pcphpl
Free-flow speed, FFS	58.0	mph	58.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	A		A	
Density, D	2.6	pc/mi/ln	1.8	pc/mi/ln
Bicycle	Level of Se	ervice		
Posted speed limit, Sp			55	
Percent of segment with occupied				
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	150.0		100.0	
Effective width of outside lane, We	24.00		24.00	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	4.48		4.28	
Bicycle LOS	D		D	

Phone: E-mail: Fax:

_____OPERATIONAL ANALYSIS_____

Analyst: JJLAgency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour Highway: US 41A

From/To: US 41A to US 41A

Jurisdiction: KYTC Analysis Year: 2035

Project ID: US 41A 4-Lane Ex with Bypasses

FREE-FLOW SPEED						
Direction	1		2			
Lane width	12.0	ft	12.0	ft		
Lateral clearance:						
Right edge	6.0	ft	6.0	ft		
Left edge	6.0	ft	6.0	ft		
Total lateral clearance	12.0	ft	12.0	ft		
Access points per mile	8		8			
Median type	Divided		Divided			
Free-flow speed:	Base		Base			
FFS or BFFS	60.0	mph	60.0	mph		
Lane width adjustment, FLW	0.0	mph	0.0	mph		
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph		
Median type adjustment, FM	0.0	mph	0.0	mph		
Access points adjustment, FA	2.0	mph	2.0	mph		
Free-flow speed	58.0	mph	58.0	mph		
	VOLUME					
Direction	1		2			
Volume, V	120	vph	80	vph		
Peak-hour factor, PHF	0.90	· F	0.90	. 1		
Peak 15-minute volume, v15	33		22			
Trucks and buses	10	%	10	%		
Recreational vehicles	0	%	0	%		
Terrain type	Level		Level			
Grade	0.00	%	0.00	%		
Segment length	0.00	mi	0.00	mi		
Number of lanes	2		2			
Driver population adjustment, fP	1.00		1.00			
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicles PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.952		0.952			
Flow rate, vp	70	pcphpl	46	pcphpl		
	RESULTS					

Direction	1		2	
Flow rate, vp	70	pcphpl	46	pcphpl
Free-flow speed, FFS	58.0	mph	58.0	mph
Avg. passenger-car travel speed,	S 60.0	mph	60.0	mph
Level of service, LOS	A		A	
Density, D	1.2	pc/mi/ln	0.8	pc/mi/ln
Bicycl	e Level of S	ervice		
Posted speed limit, Sp	55		55	
Percent of segment with occupied				
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	66.7		44.4	
Effective width of outside lane,	We 31.20		34.80	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	2.09		0.68	
Bicycle LOS	В		A	

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_____OPERATIONAL ANALYSIS______

Analyst: JJLAgency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour Highway: US 41A

From/To: Industrial Rd to Manitou Bypas

Jurisdiction: KYTC Analysis Year: 2035 Project ID: US 41A

FREE-FLOW SPEED					
Direction		1		2	
Lane width	1	2.0	ft	12.0	ft
Lateral clearance:					
Right edge	6	5.0	ft	6.0	ft
Left edge	6	5.0	ft	6.0	ft
Total lateral clearance	1	.2.0	ft	12.0	ft
Access points per mile	8	}		8	
Median type	Ε	ivided		Divided	
Free-flow speed:	Е	Base		Base	
FFS or BFFS	6	0.0	mph	60.0	mph
Lane width adjustment, FLW	C	0.0	mph	0.0	mph
Lateral clearance adjustment,	FLC C	0.0	mph	0.0	mph
Median type adjustment, FM		0.0	mph	0.0	mph
Access points adjustment, FA	2	2.0	mph	2.0	mph
Free-flow speed	5	8.0	_	58.0	mph
	VC	LUME			
Direction		1		2	
Volume, V	8	340	vph	560	vph
Peak-hour factor, PHF	C	.90	-	0.90	-
Peak 15-minute volume, v15	2	233		156	
Trucks and buses	1	. 0	%	10	%
Recreational vehicles	C)	%	0	%
Terrain type	I	evel		Level	
Grade	C	.00	%	0.00	%
Segment length	C	.00	mi	0.00	mi
Number of lanes	2)		2	
Driver population adjustment,	fP 1	.00		1.00	
Trucks and buses PCE, ET		5		1.5	
Recreational vehicles PCE, ER		2		1.2	
Heavy vehicle adjustment, fHV		0.952		0.952	
Flow rate, vp		90	pcphpl	326	pcphpl

_____RESULTS_____

Direction Flow rate, vp Free-flow speed, FFS Avg. passenger-car travel speed, S Level of service, LOS	1 490 58.0 60.0 A	pcphpl mph mph	2 326 58.0 60.0 A	pcphpl mph mph	
Density, D	8.2	pc/mi/ln	5.4	pc/mi/ln	
Bicycle Level of Service Posted speed limit, Sp 55					
Percent of segment with occupied	0		0		
on-highway parking	3		3		
Pavement rating, P	3 466.7		311.1		
Flow rate in outside lane, vOL Effective width of outside lane, We Effective speed factor, St Bicycle LOS Score, BLOS Bicycle LOS			24.00 4.79 4.85		

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_____OPERATIONAL ANALYSIS_____

Analyst: JJLAgency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour Highway: US 41A

Manitou Bypass to Nebo Bypass From/To:

Jurisdiction: KYTC Analysis Year: 2035 Project ID: US 41A

FREE-FLOW SPEED						
Direction	1		2			
Lane width	12.0	ft	12.0	ft		
Lateral clearance:						
Right edge	6.0	ft	6.0	ft		
Left edge	6.0	ft	6.0	ft		
Total lateral clearance	12.0	ft	12.0	ft		
Access points per mile	8		8			
Median type	Divided		Divided			
Free-flow speed:	Base		Base			
FFS or BFFS	60.0	mph	60.0	mph		
Lane width adjustment, FLW	0.0	mph	0.0	mph		
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph		
Median type adjustment, FM	0.0	mph	0.0	mph		
Access points adjustment, FA	2.0	mph	2.0	mph		
Free-flow speed	58.0	mph	58.0	mph		
	VOLUME					
Direction	1		2			
Volume, V	440	vph	290	vph		
Peak-hour factor, PHF	0.90		0.90			
Peak 15-minute volume, v15	122		81			
Trucks and buses	10	%	10	%		
Recreational vehicles	0	%	0	%		
Terrain type	Level		Level			
Grade	0.00	%	0.00	%		
Segment length	0.00	mi	0.00	mi		
Number of lanes	2		2			
Driver population adjustment, fP	1.00		1.00			
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicles PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.952		0.952			
Flow rate, vp	256	pcphpl	169	pcphpl		

_____RESULTS_____

Direction	1		2	
Flow rate, vp	256	pcphpl	169	pcphpl
Free-flow speed, FFS	58.0	mph	58.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	A		A	
Density, D	4.3	pc/mi/ln	2.8	pc/mi/ln
Diarrala	Internal of Co			
Bicycle	Level of Se	ervice		
Posted speed limit, Sp			55	
Percent of segment with occupied				
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	244.4		161.1	
Effective width of outside lane, We	24.00		24.00	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	4.73		4.52	
Bicycle LOS	E		E	

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: E-mail: Fax:

_____OPERATIONAL ANALYSIS_____

Analyst: JJLAgency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour Highway: US 41A

From/To: Nebo Bypass to KY 1089

Jurisdiction: KYTC Analysis Year: 2035 Project ID: US 41A

FREI	E-FLOW SPE	ED		
Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	8		8	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	2.0	mph	2.0	mph
Free-flow speed	58.0	mph	58.0	mph
	VOLUME			
Direction	1		2	
Volume, V	440	vph	290	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	122		81	
Trucks and buses	10	%	10	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.952		0.952	
Flow rate, vp	256	pcphpl	169	pcphpl

_____RESULTS_____

Direction	1		2	
Flow rate, vp	256	pcphpl	169	pcphpl
Free-flow speed, FFS	58.0	mph	58.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	A		A	
Density, D	4.3	pc/mi/ln	2.8	pc/mi/ln
Diarrala	Internal of Co			
Bicycle	Level of Se	ervice		
Posted speed limit, Sp			55	
Percent of segment with occupied				
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	244.4		161.1	
Effective width of outside lane, We	24.00		24.00	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	4.73		4.52	
Bicycle LOS	E		E	

Overall results are not computed when free-flow speed is less than 45 mph.

Phone:

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E-mail:

_____OPERATIONAL ANALYSIS_____

Analyst: JJLAgency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour Highway: US 41A

From/To: KY 1089 to Providence Bypass

Jurisdiction: KYTC Analysis Year: 2035 Project ID: US 41A

FRE	E-FLOW SPE	ED		
Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	8		8	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	50.0	mph	50.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	2.0	mph	2.0	mph
Free-flow speed	48.0	mph	48.0	mph
	VOLUME			
Direction	1		2	
Volume, V	350	vph	120	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	97		33	
Trucks and buses	10	8	10	%
Recreational vehicles	0	8	0	%
Terrain type	Level		Level	
Grade	0.00	8	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.952		0.952	
Flow rate, vp	204	pcphpl	70	pcphpl

_____RESULTS_____

Direction		1		2	
Flow rate, vp		204	pcphpl	70	pcphpl
Free-flow speed, FFS		48.0	mph	48.0	mph
Avg. passenger-car travel spee	d, S	50.0	mph	50.0	mph
Level of service, LOS		A		A	
Density, D		4.1	pc/mi/ln	1.4	pc/mi/ln
Bic	ycle L	evel of Se	rvice		
Posted speed limit, Sp				55	
Percent of segment with occupi	ed				
on-highway parking		0		0	
Pavement rating, P		3		3	
Flow rate in outside lane, vOL		194.4		66.7	
Effective width of outside lan	e, We	24.00		31.20	
Effective speed factor, St		4.79		4.79	
Bicycle LOS Score, BLOS		4.61		2.09	
Bicycle LOS		E		В	

Overall results are not computed when free-flow speed is less than 45 mph.

Phone:

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_____OPERATIONAL ANALYSIS_____

Analyst: JJL Agency/Co: Qk4

Date: 10/27/2011 Analysis Period: Design Hour

Highway: US 41A

From/To: KY 670 to the West

Jurisdiction: KYTC
Analysis Year: 2035
Project ID: US 41A

FREE-FLOW SPEED				
Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	8		8	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, Fl		mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	2.0	mph	2.0	mph
Free-flow speed	58.0	mph	58.0	mph
	VOLUME			
Direction	1		2	
Volume, V	180	vph	120	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	50		33	
Trucks and buses	10	%	10	96
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	96
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fl	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.952		0.952	
Flow rate, vp	105	pcphpl	70	pcphpl

______RESULTS_____

Direction	1		2	
Flow rate, vp	105	pcphpl	70	pcphpl
Free-flow speed, FFS	58.0	mph	58.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	A		A	
Density, D	1.8	pc/mi/ln	1.2	pc/mi/ln
Ricycle	Level of Se	rvice		
Bicycle	Hevel of be	.1 V100		
Posted speed limit, Sp			55	
Percent of segment with occupied				
on-highway parking	0		0	
Pavement rating, P	3		3	
Flow rate in outside lane, vOL	100.0		66.7	
Effective width of outside lane, We	24.00		31.20	
Effective speed factor, St	4.79		4.79	
Bicycle LOS Score, BLOS	4.28		2.09	
Bicycle LOS	D		В	

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins Manitou Bypass to KY 630 From/To Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 2 Shoulder width 2.0 ft % Trucks and buses 5 10.0 ft 4.7 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed
% Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 60 Access point density 8 Grade: Length - mi Up/down % /mi Analysis direction volume, Vd 320 veh/h Opposing direction volume, Vo 210 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.5 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.985 0.976 Grade adj. factor, (note-1) fg 1.00 1.00 361 pc/h Directional flow rate, (note-2) vi 239 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 54.3 mi/h mi/h Adjustment for no-passing zones, fnp 3.3

46.4

85.4

mi/h

Average travel speed, ATSd

Percent Time	-Spent-Follow:	ing		
Direction PCE for trucks, ET PCE for RVs, ER	Analysis(d) 1.1 1.0	(Opposing 1.1 1.0	(0)
Heavy-vehicle adjustment factor, fHV			0.995	5
Grade adjustment factor, (note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	357 pc	c/h	235	pc/h
Base percent time-spent-following, (no	te-4) BPTSFd	35.2	%	
Adjustment for no-passing zones, fnp		50.9		
Percent time-spent-following, PTSFd		65.9	%	
Level of Service and	Other Performa	ance Mea	sures	
		_		
Level of service, LOS		C		
Volume to capacity ratio, v/c		0.21		
Peak 15-min vehicle-miles of travel,		418	veh-mi	
Peak-hour vehicle-miles of travel, VM'	T. P O	1504	veh-mi	
Peak 15-min total travel time, TT15		9.0	veh-h	
Capacity from ATS, CdATS Capacity from PTSF, CdPTSF		1700 1700	veh/h veh/h	
Directional Capacity		2819	ven/n veh/h	
Passing	Lane Analysis			
Total length of analysis segment, Lt			4.7	mi
Length of two-lane highway upstream of	f the nagging	lane I.		mi
Length of passing lane including tape:		ranc, n	<u> </u>	mi
Average travel speed, ATSd (from above	_		46.4	mi/h
Percent time-spent-following, PTSFd (65.9	/
Level of service, LOSd (from above)	,		С	
Average Travel Spec	ed with Pass:	ing Lane		
		5 .		
Downstream length of two-lane highway				
length of passing lane for average	e travel speed	d, Lde	_	mi
Length of two-lane highway downstream	of effective			
length of the passing lane for ave		speed, L	d -	mi
Adj. factor for the effect of passing	lane			
on average speed, fpl			_	
Average travel speed including passing	g lane, ATSpl		_	
Percent Time-Spent-Fo	llowing with 1	Passing :	Lane	
	_	_		
Downstream length of two-lane highway			gth	
of passing lane for percent time-	_	_	_	mi
Length of two-lane highway downstream			of	
the passing lane for percent time		ing, Ld	_	mi
Adj. factor for the effect of passing				
on percent time-spent-following,	tpl		_	
Percent time-spent-following				٥.
including passing lane, PTSFpl			_	%
Level of Service and Other Perf	ormance Measu	res with	Passing	Lane
Tayal of carvide including pagging la	na IOSmi	_		
Level of service including passing lar Peak 15-min total travel time, TT15	ne, noshi	_	veh-h	
100% 10 min cocar craver cime, 1115			A C11-11	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To KY 630 to Manitou Bypass Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 2.0 ft % Trucks and buses 4 10.0 ft 4.7 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 55 Grade: Length mi Access point density 16 Up/down 용 /mi Analysis direction volume, Vd 100 veh/h Opposing direction volume, Vo 70 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.9 1.9 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.965 0.965 Grade adj. factor,(note-1) fg 1.00 1.00 115 pc/h Directional flow rate, (note-2) vi 81 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd mi/h 52.3 mi/h Adjustment for no-passing zones, fnp 1.8

49.0

93.7

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow:	ing		
Direction Analysis(d) PCE for trucks, ET 1.1 PCE for RVs, ER 1.0 Heavy-vehicle adjustment factor, fHV 0.996		Opposing 1.1 1.0 0.996	
Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 112 pc Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd		1.00 78 %	pc/h
Level of Service and Other Performa	ance Me	easures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	A 0.07 131 470 2.7 1700 1700 2897	veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane,	4.7 Lu - - 49.0 41.5 A	mi mi mi mi/h
Average Travel Speed with Pass:	ing Lan	ıe	
Downstream length of two-lane highway within effect length of passing lane for average travel speed Length of two-lane highway downstream of effective	d, Lde	-	mi
<pre>length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	speed,	Ld - - -	mi
Percent Time-Spent-Following with I	Daggino	r Lane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	tive le ng, Lde	ength	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow: Adj. factor for the effect of passing lane on percent time-spent-following, fpl			mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measur	res wit	h Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	
Bicycle Level of Service	e		

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins Nebo Bypass to Nebo Bypass From/To Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 2.0 ft % Trucks and buses 4 10.0 ft 4.7 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 55 Grade: Length mi Access point density 16 Up/down % /mi Analysis direction volume, Vd 170 veh/h Opposing direction volume, Vo 120 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.5 1.8 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.980 0.969 Grade adj. factor, (note-1) fg 1.00 1.00 193 pc/h Directional flow rate, (note-2) vi 138 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd mi/h 52.3 2.3 mi/h Adjustment for no-passing zones, fnp

47.5

90.8

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Grade adjustment factor, (note-1) fq Analysis(d) 1.1 0.996		Opposing 1.1 1.0 0.996 1.00	
	c/h 20.6 50.9 50.4	134	pc/h
Level of Service and Other Perform	ance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	B 0.11 222 799 4.7 1700 1700 2915	veh-mi veh-mi veh-h veh/h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane, I	4.7 Lu – 47.5 50.4 B	mi mi mi mi/h
Average Travel Speed with Pass	ing Lane	2	
Downstream length of two-lane highway within effectives length of passing lane for average travel speet Length of two-lane highway downstream of effectives	d, Lde	-	mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	speed, I	_d - - -	mi
Percent Time-Spent-Following with		T.ane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	tive ler		mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl			mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu	res with	n Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	-	veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster From/To Providence Bypass to KY 814 Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 3.0 ft % Trucks and buses 9 10.0 ft 4.7 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 75 Grade: Length - mi Access point density 16 Up/down % /mi Analysis direction volume, Vd 230 veh/h Opposing direction volume, Vo 160 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.4 1.6 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.965 0.949 Grade adj. factor, (note-1) fg 1.00 1.00 265 pc/h Directional flow rate, (note-2) vi 187 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd mi/h 52.3 mi/h Adjustment for no-passing zones, fnp 3.6 Average travel speed, ATSd 45.2 mi/h

86.4

Percent Time-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Grade adjustment factor, (note-1) fg Analysis(d) 1.1 0.991 1.00		Opposing 1.1 1.0 0.991 1.00	
	c/h 26.7 55.0 59.2	1.00	pc/h
Level of Service and Other Perform	ance Mea	sures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	B 0.16 300 1081 6.6 1700 1700 2899	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane, I	4.7 - - 45.2 59.2 B	mi mi mi mi/h
Average Travel Speed with Pass	ing Lane	<u>. </u>	
Downstream length of two-lane highway within effection length of passing lane for average travel spectruments of two-lane highway downstream of effective	d, Lde	-	mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	speed, I	.d - - -	mi
Percent Time-Spent-Following with		Lane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	tive len		mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl		of - -	mi
Percent time-spent-following including passing lane, PTSFpl		_	%
Level of Service and Other Performance Measu	res with	n Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	

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Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                      KY 814 to KY 120
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 3.0
                          ft
                                 % Trucks and buses
                                                         9
                  10.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                                                                 왕
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                              % No-passing zones 75
Grade: Length
                   - mi
                                Access point density 16
       Up/down
                          %
                                                               /mi
Analysis direction volume, Vd 260
                                    veh/h
Opposing direction volume, Vo 170
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.4
                                                          1.5
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.965
                                                         0.957
                                      1.00
Grade adj. factor,(note-1) fg
                                                         1.00
                                       299 pc/h
Directional flow rate, (note-2) vi
                                                         197
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            50.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 3.7
                                                   mi/h
Adj. for access point density, (note-3) fA
                                           4.0
                                                   mi/h
Free-flow speed, FFSd
                                            42.3
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            3.6
```

34.9

82.4

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow	wing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Grade adjustment factor, (note-1) fg Analysis(d) 1.1 0.991		Opposing 1.1 1.0 0.991 1.00	
	29.5 53.4 61.7	191	pc/h
Level of Service and Other Perform	mance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	C 0.18 339 1222 9.7 1700 1700 2820	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis	5		
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	g lane, 1	4.7 Lu – - 34.9 61.7 C	mi mi mi mi/h
Average Travel Speed with Pass	sing Lane	e	
Downstream length of two-lane highway within effectives length of passing lane for average travel spectruments of two-lane highway downstream of effectives	ed, Lde	-	mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>		Ld - - -	mi
Percent Time-Spent-Following with		I.ane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	ctive leming, Lde	ngth -	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl			mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu	ures with	n Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	

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Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 120 to Providence Bypass
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                 Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 3.0
                          ft
                                 % Trucks and buses
                                                         9
                  13.0 ft
4.7 mi
                                 % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                               % No-passing zones 65
Grade: Length
                   - mi
                                Access point density 16
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 350
                                    veh/h
Opposing direction volume, Vo 230
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.3
                                                          1.4
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.974
                                                         0.965
Grade adj. factor,(note-1) fg
                                      1.00
                                                         1.00
                                       399 pc/h
Directional flow rate, (note-2) vi
                                                         265
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            45.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 2.6
                                                   mi/h
Adj. for access point density, (note-3) fA
                                            4.0
                                                   mi/h
Free-flow speed, FFSd
                                            38.4
                                                   mi/h
                                            2.9
                                                   mi/h
Adjustment for no-passing zones, fnp
```

30.3

79.0

mi/h

Average travel speed, ATSd

	ng			
Direction Analysis(d)		0pp	osing	(0)
PCE for trucks, ET 1.1			1.1	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 0.991			0.991	L
Grade adjustment factor,(note-1) fg 1.00			1.00	
	/h		258	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%		<u>.</u> .
	48.1			
	67.6	%		
Level of Service and Other Performa	nce Me	asur	es	
Level of service, LOS	С			
•	0.23			
<u> </u>	457	376	h-mi	
·	1645		h-mi	
	15.1		:11-1111 :h-h	
	1700		h/h	
·	1700		h/h	
Directional Capacity	2829	ve	h/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			4.7	mi
ength of two-lane highway upstream of the passing	lane.	T.11	_	mi
ength of passing lane including tapers, Lpl	ranc,	_	_	mi
verage travel speed, ATSd (from above)			30.3	mi/h
Percent time-spent-following, PTSFd (from above)			67.6	1111/11
evel of service, LOSd (from above)			C 7.0	
Level of service, Losd (from above)			C	
Average Travel Speed with Passi	ng Lan	.e		
Downstream length of two-lane highway within effect	ive			
length of passing lane for average travel speed	, Lde		_	mi
Length of two-lane highway downstream of effective		T -3		4
length of the passing lane for average travel s	peea,	ьα	_	mı
Adj. factor for the effect of passing lane				
			_	
on average speed, fpl				
			_	
	assing	Lar	- ıe	
Average travel speed including passing lane, ATSplPercent Time-Spent-Following with P	_			
average travel speed including passing lane, ATSplPercent Time-Spent-Following with P	ive le	ngth		mi
verage travel speed including passing lane, ATSpl Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin	ive le g, Lde	ngth		
verage travel speed including passing lane, ATSpl Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective	ive le g, Lde length	ngth of		
verage travel speed including passing lane, ATSpl Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin	ive le g, Lde length	ngth of		mi
Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane	ive le g, Lde length	ngth of		mi
Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl	ive le g, Lde length	ngth of		mi
Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followin Adj. factor for the effect of passing lane on percent time-spent-following, fpl	ive le g, Lde length	ngth of		mi
Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	ive le g, Lde length ng, Ld	ngth of	- -	mi mi
Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followin Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	ive le g, Lde length ng, Ld	ngth of	- -	mi mi
Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Bength of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur Level of service including passing lane, LOSpl	ive le g, Lde length ng, Ld	ngth of h Pa	l - - - ussing	mi mi
Percent Time-Spent-Following with P Oownstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followin adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	ive le g, Lde length ng, Ld	ngth of h Pa	- -	mi mi

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To Industrial Rd to KY 630 KYTC Jurisdiction Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 2.0 ft % Trucks and buses 10 10.0 4.7 % Trucks crawling Lane width ft 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 60
Access point density 8 Grade: Length mi Up/down % /mi Analysis direction volume, Vd 840 veh/h Opposing direction volume, Vo 560 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.0 1.1 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 1.000 0.990 Grade adj. factor,(note-1) fg 1.00 1.00 933 pc/h Directional flow rate, (note-2) vi 629 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 54.3 mi/h mi/h Adjustment for no-passing zones, fnp 1.5

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

40.7

74.9

mi/h

Dimontion			
Direction Analysis(d) PCE for trucks, ET 1.0 PCE for RVs, ER 1.0 Heavy-vehicle adjustment factor, fHV 1.000 Grade adjustment factor, (note-1) fg 1.00	0	pposing 1.0 1.0 1.000 1.000	
Directional flow rate, (note-2) vi 933 pc/ Base percent time-spent-following, (note-4) BPTSFd 7 Adjustment for no-passing zones, fnp 2		622	pc/h
Level of Service and Other Performan	ce Meas	ures	
Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF 1	.55 097 948 7.0 700	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing l Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	ane, Lu	4.7 - - 40.7 85.7 E	mi mi mi mi/h
Average Travel Speed with Passin	g Lane_		
Downstream length of two-lane highway within effecti length of passing lane for average travel speed, Length of two-lane highway downstream of effective		-	mi
<pre>length of the passing lane for average travel sp Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	eed, Ld	- - -	mi
Percent Time-Spent-Following with Pa	aaina I	200	
Downstream length of two-lane highway within effecti	ve leng		
of passing lane for percent time-spent-following Length of two-lane highway downstream of effective 1 the passing lane for percent time-spent-followin	ength o	f -	mi mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following		-	0
including passing lane, PTSFpl			% -
Level of Service and Other Performance Measure	s with	Passing	Lane
Level of service including passing lane, LOSpl - Peak 15-min total travel time, TT15 -		veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To KY 630 to kY 1089 Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 4.0 ft % Trucks and buses 4 11.0 ft 4.7 mi % Trucks crawling Lane width mi Truck crawl speed
% Recreational vehi 0.0 Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length - mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 440 veh/h Opposing direction volume, Vo 290 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.2 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.992 0.984 1.00 Grade adj. factor,(note-1) fg 1.00 493 pc/h Directional flow rate, (note-2) vi 327 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 1.7 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 56.3 mi/h mi/h Adjustment for no-passing zones, fnp 2.1

47.8

84.9

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow	ving		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV 1.000		Opposing 1.1 1.0 0.996	
Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 489 g Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd	47.7 33.0 67.5	1.00 324 %	pc/h
Level of Service and Other Perform	nance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	D 0.29 574 2068 12.0 1700 1700 2827	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis	5		
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	g lane, 1	4.7 Lu – - 47.8 67.5 D	mi mi mi mi/h
Average Travel Speed with Pass	sing Lane	e	
Downstream length of two-lane highway within effectives length of passing lane for average travel spectruments of two-lane highway downstream of effectives	ed, Lde	-	mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	speed, 1	Ld – – –	mi
Percent Time-Spent-Following with		Lane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	ctive le lng, Lde	ngth -	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following			mi
including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu	ares with	n Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	-	veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster From/To KY 1089 to KY 814 Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 3.0 ft % Trucks and buses 9 10.0 ft 4.7 mi % Trucks crawling Lane width mi Truck crawl speed
% Recreational vehi 0.0 Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length - mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 350 veh/h Opposing direction volume, Vo 240 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.974 0.965 1.00 Grade adj. factor,(note-1) fg 1.00 399 pc/h Directional flow rate, (note-2) vi 276 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 54.3 mi/h mi/h Adjustment for no-passing zones, fnp 2.2

46.9

86.4

mi/h

Average travel speed, ATSd

Percent Time-Sp	pent-Following		
Direction And PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV	nalysis(d) 1.1 1.0 0.991	Opposing 1.1 1.0 0.991	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	392 pc/h	269	pc/h
Base percent time-spent-following, (note-	-	%	PC/11
Adjustment for no-passing zones, fnp	41.1	0	
Percent time-spent-following, PTSFd	64.5	%	
referre time spent forfowing, fibra	01.5	0	
Level of Service and Oth	ner Performance Me	asures	
I areal of garrier I of	С		
Level of service, LOS			
Volume to capacity ratio, v/c	0.23	, ,	
Peak 15-min vehicle-miles of travel, VM		veh-mi	
Peak-hour vehicle-miles of travel, VMT60		veh-mi	
Peak 15-min total travel time, TT15	9.7	veh-h	
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	2875	veh/h	
Passing Lar	ne Analysis		
		. –	
Total length of analysis segment, Lt		4.7	mi
Length of two-lane highway upstream of t	_	Lu –	mi
Length of passing lane including tapers	, Lpl	_	mi
Average travel speed, ATSd (from above)		46.9	mi/h
Percent time-spent-following, PTSFd (fro	om above)	64.5	
Level of service, LOSd (from above)		С	
Average Travel Speed	with Passing Lan	e	
	_		
Downstream length of two-lane highway w	ithin effective		
length of passing lane for average t	ravel speed, Lde	_	mi
Length of two-lane highway downstream of	f effective		
length of the passing lane for avera	age travel speed,	Ld -	mi
Adj. factor for the effect of passing la			
on average speed, fpl		_	
Average travel speed including passing ?	lane, ATSpl	-	
		_	
Percent Time-Spent-Follo	owing with Passing	Lane	
Downstream length of two-lane highway w	ithin effective le	ngth	
of passing lane for percent time-spe			mi
Length of two-lane highway downstream of			-
the passing lane for percent time-sp			mi
Adj. factor for the effect of passing la			
on percent time-spent-following, fp.		_	
	L	_	
Percent time-spent-following			ે
including passing lane, PTSFpl		-	6
Level of Service and Other Perform	mance Measures wit	h Passing	Lane
Level of service including passing lane	I Ognl		
Peak 15-min total travel time, TT15	- , порът –	veh-h	
ICAN IS MIN COCAL CLAVEL CIME, 1115	_	^ C11_11	
,			

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster From/To KY 814 to KY 120 Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 4.0 ft % Trucks and buses 9 12.0 4.7 % Trucks crawling Lane width ft 0.0 mi Truck crawl speed
% Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 65 Grade: Length - mi Access point density 16 Up/down % /mi Analysis direction volume, Vd 380 veh/h Opposing direction volume, Vo 250 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.974 0.965 Grade adj. factor,(note-1) fg 1.00 1.00 433 pc/h Directional flow rate, (note-2) vi 288 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 50.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 1.3 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd 44.7 mi/h mi/h Adjustment for no-passing zones, fnp 2.8

36.3

81.3

mi/h

Average travel speed, ATSd

Percent Time-S	pent-Following		
Direction A PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV	nalysis(d) 1.0 1.0 1.000	Opposing 1.1 1.0 0.991	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	422 pc/h	280	pc/h
Base percent time-spent-following, (note	-4) BPTSFd 41.7	%	
Adjustment for no-passing zones, fnp	44.9		
Percent time-spent-following, PTSFd	68.7	%	
Level of Service and Ot	her Performance Mea	asures	
Level of service, LOS	С		
Volume to capacity ratio, v/c	0.25		
Peak 15-min vehicle-miles of travel, VM		veh-mi	
•			
Peak-hour vehicle-miles of travel, VMT6		veh-mi	
Peak 15-min total travel time, TT15	13.7	veh-h	
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	2830	veh/h	
Passing La	ne Analysis		
Total length of analysis segment, Lt		4.7	mi
	-b		
Length of two-lane highway upstream of			mi
Length of passing lane including tapers	, грт	-	mi
Average travel speed, ATSd (from above)		36.3	mi/h
Percent time-spent-following, PTSFd (fr	om above)	68.7	
Level of service, LOSd (from above)		С	
Average Travel Speed	with Passing Lane	<u></u>	
Downstream length of two-lane highway w	ithin effective		
length of passing lane for average		_	mi
Length of two-lane highway downstream o	-		шт
		٦	m i
length of the passing lane for aver-		ıα –	mı
Adj. factor for the effect of passing l	ane		
on average speed, fpl		_	
Average travel speed including passing	lane, ATSpl	_	
Percent Time-Spent-Foll	owing with Passing	Lane	
Downstream length of two-lane highway w	ithin Affective ler	nath	
		19 (11	m i
of passing lane for percent time-sp	_	-	mi
Length of two-lane highway downstream o		ΟĬ	
the passing lane for percent time-s		-	mi
Adj. factor for the effect of passing 1			
on percent time-spent-following, fp	1	_	
Percent time-spent-following			
including passing lane, PTSFpl		-	%
Level of Service and Other Perform	mance Measures with	n Passing	Lane
Torrol of goverigo including pagaine land	I Ocal		
Level of service including passing lane	, порът –	rrob b	
Peak 15-min total travel time, TT15	_	veh-h	

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Phone:
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E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 120 to KY 670
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 3.0
                          ft
                                 % Trucks and buses
                                                        9
                  13.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                              % No-passing zones 65
Grade: Length
                   - mi
                                Access point density 16
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 510
                                    veh/h
Opposing direction volume, Vo 340
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.1
                                                          1.3
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.991
                                                         0.974
Grade adj. factor,(note-1) fg
                                       1.00
                                                         1.00
                                       572 pc/h
Directional flow rate, (note-2) vi
                                                         388
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            45.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 2.6
                                                   mi/h
Adj. for access point density, (note-3) fA
                                           4.0
                                                   mi/h
Free-flow speed, FFSd
                                            38.4
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            2.2
```

28.8

74.9

mi/h

Average travel speed, ATSd

Percent Time-Spent-Followi	ng			
Direction Analysis(d)		Opp	posing	(0)
PCE for trucks, ET 1.0			1.1	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			0.991	_
Grade adjustment factor,(note-1) fg 1.00			1.00	
	/h		381	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%		L - '
	35.7	Ū		
5	74.4	%		
Level of Service and Other Performa	nce Me	asuı	res	
Level of service, LOS	D			
	0.34			
<u> </u>			eh-mi	
·	666			
•	2397		eh-mi	
·	23.2		eh-h	
	1700		eh/h	
	1700		eh/h	
Directional Capacity	2853	V	eh/h	
Passing Lane Analysis_				
Cotal length of analysis segment, Lt			4.7	mi
ength of two-lane highway upstream of the passing	lane,	Lu	_	mi
length of passing lane including tapers, Lpl			_	mi
Average travel speed, ATSd (from above)			28.8	mi/h
Percent time-spent-following, PTSFd (from above)			74.4	,
Level of service, LOSd (from above)			D	
Average Travel Speed with Passi	ng Lan	e		
Downstream length of two-lane highway within effect				
length of passing lane for average travel speed	, Lde		_	mi
Length of two-lane highway downstream of effective				
length of the passing lane for average travel s	peed,	Ld	_	mi
Adj. factor for the effect of passing lane	,			
on average speed, fpl			_	
average travel speed including passing lane, ATSpl			_	
Percent Time-Spent-Following with P	assing	Lar	ne	
Downstream length of two-lane highway within effect	ive la	na+1	2	
of passing lane for percent time-spent-followin			_	mi
or bassing rame for berceme cime-sheme-intentioning			-	шт
onath of two land highway days at the set of the		OT		4
the passing lane for percent time-spent-followi			_	mi
the passing lane for percent time-spent-followindj. factor for the effect of passing lane			_	mı
the passing lane for percent time-spent-following. dj. factor for the effect of passing lane on percent time-spent-following, fpl			_	m1
the passing lane for percent time-spent-following. factor for the effect of passing lane on percent time-spent-following, fpl			-	mı
the passing lane for percent time-spent-following. factor for the effect of passing lane on percent time-spent-following, fpl			- -	m1 %
the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	ng, Ld		- - - assing	%
Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl	ng, Ld		- - assing	ે
the passing lane for percent time-spent-following. Adj. factor for the effect of passing lane on percent time-spent-following, fplercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	ng, Ld	h Pa	- - - assing	ે

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Phone:
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E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                       JJL
Agency/Co.
                       Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 670 to KY 270
Jurisdiction
                      KYTC
Analysis Year
                       2011
Description
                      _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 1
Shoulder width 3.0
                          ft
                                  % Trucks and buses
                                                         15
                  10.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                           mi Truck crawl speed
% Recreational vehi
                                                         0.0
                                                     0.0
Segment length
                                                                mi/hr
                  Level
                                  % Recreational vehicles 0
Terrain type
                               % No-passing zones 20
Access point density 8
Grade: Length
                   - mi
       Up/down
                          %
                                                                 /mi
Analysis direction volume, Vd 230
                                     veh/h
Opposing direction volume, Vo 160
                                   veh/h
                _____Average Travel Speed____
Direction
                                    Analysis(d) Opposing (o)
PCE for trucks, ET
                                        1.4
                                                           1.6
PCE for RVs, ER
                                                           1.0
                                        1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.943
                                                          0.917
Grade adj. factor,(note-1) fg
                                       1.00
                                                          1.00
                                       271 pc/h
Directional flow rate, (note-2) vi
                                                          194
                                                                 pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                    mi/h
Observed total demand, (note-3) V
                                                    veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            60.0
                                                    mi/h
Adj. for lane and shoulder width, (note-3) fLS 3.7
                                                    mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                    mi/h
Free-flow speed, FFSd
                                            54.3
                                                    mi/h
                                                    mi/h
Adjustment for no-passing zones, fnp
                                            1.4
```

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

49.3

90.8

mi/h

ase percent time-spent-following,(note-4) BPTSFd djustment for no-passing zones, fnp		Opp	posing 1.1	(0)
CE for trucks, ET CE for RVs, ER 1.0 eavy-vehicle adjustment factor, fHV rade adjustment factor,(note-1) fg irectional flow rate,(note-2) vi ase percent time-spent-following,(note-4) BPTSFd djustment for no-passing zones, fnp		- 1		• •
CE for RVs, ER eavy-vehicle adjustment factor, fHV rade adjustment factor,(note-1) fg irectional flow rate,(note-2) vi ase percent time-spent-following,(note-4) BPTSFd djustment for no-passing zones, fnp				
rade adjustment factor,(note-1) fg 1.00 irectional flow rate,(note-2) vi 259 p ase percent time-spent-following,(note-4) BPTSFd djustment for no-passing zones, fnp			1.0	
rirectional flow rate,(note-2) vi 259 p ase percent time-spent-following,(note-4) BPTSFd djustment for no-passing zones, fnp			0.985	5
ase percent time-spent-following,(note-4) BPTSFd djustment for no-passing zones, fnp			1.00	
djustment for no-passing zones, fnp	c/h		180	pc/h
	26.8	%		
The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	36.7			
ercent time-spent-following, PTSFd	48.5	%		
Level of Service and Other Perform	ance Me	easuı	ces	
evel of service, LOS	С			
olume to capacity ratio, v/c	0.16			
eak 15-min vehicle-miles of travel, VMT15	300	ve	eh-mi	
eak-hour vehicle-miles of travel, VMT60	1081	ve	eh-mi	
eak 15-min total travel time, TT15	6.1	ve	eh-h	
apacity from ATS, CdATS	1700		eh/h	
apacity from PTSF, CdPTSF	1700		eh/h	
irectional Capacity	2916	ve	eh/h	
Passing Lane Analysis				
otal length of analysis segment, Lt			4.7	mi
ength of two-lane highway upstream of the passing	lane,	Lu	_	mi
ength of passing lane including tapers, Lpl	,		_	mi
verage travel speed, ATSd (from above)			49.3	mi/h
ercent time-spent-following, PTSFd (from above)			48.5	,
evel of service, LOSd (from above)			С	
Average Travel Speed with Pass	ing Lar	ne		
ownstream length of two-lane highway within effec	tive			
length of passing lane for average travel spee			_	mi
ength of two-lane highway downstream of effective				
length of the passing lane for average travel	speed,	Ld	_	mi
dj. factor for the effect of passing lane				
on average speed, fpl			_	
verage travel speed including passing lane, ATSpl			-	
Percent Time-Spent-Following with	Passing	g Lar	ne	
ownstream length of two-lane highway within effec	tive le	engtl	ı	
of passing lane for percent time-spent-followi	ng, Lde	<u> </u>	_	mi
ength of two-lane highway downstream of effective				
the passing lane for percent time-spent-follow	ing, Lo	ſ	_	mi
dj. factor for the effect of passing lane				
on percent time-spent-following, fpl			_	
ercent time-spent-following				
including passing lane, PTSFpl			_	%
Level of Service and Other Performance Measu	res wit	ch Pa	assing	Lane
evel of service including passing lane, LOSpl	-			
eak 15-min total travel time, TT15	_	ve	eh-h	
Bicycle Level of Servic	A			

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To Industrial Rd to KY 630 KYTC Jurisdiction Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 2.0 ft % Trucks and buses 10 10.0 4.7 % Trucks crawling Lane width ft 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 60
Access point density 8 Grade: Length mi Up/down % /mi Analysis direction volume, Vd 840 veh/h Opposing direction volume, Vo 560 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.0 1.1 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 1.000 0.990 Grade adj. factor,(note-1) fg 1.00 1.00 933 pc/h Directional flow rate, (note-2) vi 629 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 54.3 mi/h mi/h Adjustment for no-passing zones, fnp 1.5

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

40.7

74.9

mi/h

Dimontion			
Direction Analysis(d) PCE for trucks, ET 1.0 PCE for RVs, ER 1.0 Heavy-vehicle adjustment factor, fHV 1.000 Grade adjustment factor, (note-1) fg 1.00	0	pposing 1.0 1.0 1.000 1.000	
Directional flow rate, (note-2) vi 933 pc/ Base percent time-spent-following, (note-4) BPTSFd 7 Adjustment for no-passing zones, fnp 2		622	pc/h
Level of Service and Other Performan	ce Meas	ures	
Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF 1	.55 097 948 7.0 700	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing l Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	ane, Lu	4.7 - - 40.7 85.7 E	mi mi mi mi/h
Average Travel Speed with Passin	g Lane_		
Downstream length of two-lane highway within effecti length of passing lane for average travel speed, Length of two-lane highway downstream of effective		-	mi
<pre>length of the passing lane for average travel sp Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	eed, Ld	- - -	mi
Percent Time-Spent-Following with Pa	aaina I	200	
Downstream length of two-lane highway within effecti	ve leng		
of passing lane for percent time-spent-following Length of two-lane highway downstream of effective 1 the passing lane for percent time-spent-followin	ength o	f -	mi mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following		-	0
including passing lane, PTSFpl			% -
Level of Service and Other Performance Measure	s with	Passing	Lane
Level of service including passing lane, LOSpl - Peak 15-min total travel time, TT15 -		veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To KY 630 to kY 1089 Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 4.0 ft % Trucks and buses 4 11.0 ft 4.7 mi % Trucks crawling Lane width mi Truck crawl speed
% Recreational vehi 0.0 Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length - mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 440 veh/h Opposing direction volume, Vo 290 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.2 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.992 0.984 1.00 Grade adj. factor,(note-1) fg 1.00 493 pc/h Directional flow rate, (note-2) vi 327 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 1.7 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 56.3 mi/h mi/h Adjustment for no-passing zones, fnp 2.1

47.8

84.9

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow	ving		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV 1.000		Opposing 1.1 1.0 0.996	
Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 489 g Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd	47.7 33.0 67.5	1.00 324 %	pc/h
Level of Service and Other Perform	nance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	D 0.29 574 2068 12.0 1700 1700 2827	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis	5		
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	g lane, 1	4.7 Lu – - 47.8 67.5 D	mi mi mi mi/h
Average Travel Speed with Pass	sing Lane	e	
Downstream length of two-lane highway within effectives length of passing lane for average travel spectruments of two-lane highway downstream of effectives	ed, Lde	-	mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	speed, 1	Ld – – –	mi
Percent Time-Spent-Following with		Lane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	ctive le lng, Lde	ngth -	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following			mi
including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu	ares with	n Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	-	veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster From/To KY 1089 to KY 814 Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 4.0 ft % Trucks and buses 9 12.0 4.7 % Trucks crawling Lane width ft 0.0 mi Truck crawl speed
% Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length - mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 350 veh/h Opposing direction volume, Vo 240 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.974 0.965 1.00 Grade adj. factor,(note-1) fg 1.00 399 pc/h Directional flow rate, (note-2) vi 276 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 1.3 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 56.7 mi/h 2.3 mi/h Adjustment for no-passing zones, fnp

49.1

86.7

mi/h

Average travel speed, ATSd

Percent Time-S	Spent-Follow:	ing			
Direction PCE for trucks, ET PCE for RVs, ER	Analysis(d) 1.1 1.0		0pp	osing 1.1 1.0	(0)
Heavy-vehicle adjustment factor, fHV	0.991			0.991	L
Grade adjustment factor,(note-1) fg Directional flow rate,(note-2) vi	1.00 392 po	c/h		1.00 269	pc/h
Base percent time-spent-following, (note	_	40.1	%		<u>-</u>
Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd		41.1 64.5	%		
Level of Service and Ot	her Perform			es	
			Jabar	CD	
Level of service, LOS Volume to capacity ratio, v/c		C 0.23			
Peak 15-min vehicle-miles of travel, VM	T15	457	ve	h-mi	
Peak-hour vehicle-miles of travel, VMT6		1645		h-mi	
Peak 15-min total travel time, TT15		9.3		h-h	
Capacity from ATS, CdATS		1700		h/h	
Capacity from PTSF, CdPTSF		1700	ve:	h/h	
Directional Capacity		2875	ve:	h/h	
Passing La	ane Analysis				
Total length of analysis segment, Lt				4.7	mi
Length of two-lane highway upstream of	the nagging	lane		- -	mi
Length of passing lane including tapers		ranc,		_	mi
Average travel speed, ATSd (from above)				49.1	mi/h
Percent time-spent-following, PTSFd (fr				64.5	
Level of service, LOSd (from above)	•			С	
Average Travel Speed	l with Pass:	ing Lar	ne		
Downstream length of two-lane highway w	ithin effect	tive			
length of passing lane for average Length of two-lane highway downstream of	travel speed	d, Lde		-	mi
length of the passing lane for aver Adj. factor for the effect of passing l	age travel s		Ld	_	mi
on average speed, fpl				_	
Average travel speed including passing	lane, ATSpl			_	
Percent Time-Spent-Foll	owing with I	Passing	g Lan	e	
Downstream length of two-lane highway w	vithin effect	tive le	ength		
of passing lane for percent time-sp		_		_	mi
Length of two-lane highway downstream of					
the passing lane for percent time-s	_	ing, Lo	i	_	mi
Adj. factor for the effect of passing]					
on percent time-spent-following, fr	ΣŢ			_	
Percent time-spent-following including passing lane, PTSFpl				_	%
Level of Service and Other Perfor	rmance Measu	res wit	h Pa	ssing	Lane
T1 .6 in in 1 11	T 0 0 - 1				
Level of service including passing lane Peak 15-min total travel time, TT15	e, LOSpl	_	ve ⁻	h-h	
			v C.		
Bicycle Leve	el of Service	e			

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster From/To KY 814 to KY 120 Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 4.0 ft % Trucks and buses 9 12.0 4.7 % Trucks crawling Lane width ft 0.0 mi Truck crawl speed
% Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 65 Grade: Length - mi Access point density 16 Up/down % /mi Analysis direction volume, Vd 380 veh/h Opposing direction volume, Vo 250 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.974 0.965 Grade adj. factor,(note-1) fg 1.00 1.00 433 pc/h Directional flow rate, (note-2) vi 288 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 50.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 1.3 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd 44.7 mi/h mi/h Adjustment for no-passing zones, fnp 2.8

36.3

81.3

mi/h

Average travel speed, ATSd

Percent Time-S	pent-Following		
Direction A PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV	nalysis(d) 1.0 1.0 1.000	Opposing 1.1 1.0 0.991	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	422 pc/h	280	pc/h
Base percent time-spent-following, (note	-4) BPTSFd 41.7	%	
Adjustment for no-passing zones, fnp	44.9		
Percent time-spent-following, PTSFd	68.7	%	
Level of Service and Ot	her Derformance Mea	aciiroc	
	iler refrormance mee	ibuicb	
Level of service, LOS	С		
Volume to capacity ratio, v/c	0.25		
Peak 15-min vehicle-miles of travel, VM	T15 496	veh-mi	
Peak-hour vehicle-miles of travel, VMT6	0 1786	veh-mi	
Peak 15-min total travel time, TT15	13.7	veh-h	
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	2830	veh/h	
Passing La	ne Analysis		
Total length of analysis segment, Lt		4.7	mi
Length of two-lane highway upstream of	the passing lane, I	Lu –	mi
Length of passing lane including tapers		_	mi
Average travel speed, ATSd (from above)	_	36.3	mi/h
Percent time-spent-following, PTSFd (fr		68.7	·
Level of service, LOSd (from above)	,	С	
Average Travel Speed	with Passing Lane	<u> </u>	
Downstream length of two-lane highway w	ithin effective		
length of passing lane for average		_	mi
Length of two-lane highway downstream o	-		шт
		. 4	m i
length of the passing lane for aver		_a –	mı
Adj. factor for the effect of passing 1	ane		
on average speed, fpl	1 250	_	
Average travel speed including passing	lane, ATSpl	_	
Percent Time-Spent-Foll	owing with Passing	Lane	
		. 1	
Downstream length of two-lane highway w		ngth	
of passing lane for percent time-sp		_	mi
Length of two-lane highway downstream o		of	
the passing lane for percent time-s		_	mi
Adj. factor for the effect of passing l	ane		
on percent time-spent-following, fp	1	_	
Percent time-spent-following			
including passing lane, PTSFpl		-	%
Level of Service and Other Perfor	mance Measures with	n Passing	Lane
Level of service including passing lane	I OSpl		
Peak 15-min total travel time, TT15	, повът –	veh-h	
rear 15-min total travel time, 1115	_	ve11-11	

______ Bicycle Level of Service _____

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Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 120 to KY 670
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 3.0
                          ft
                                 % Trucks and buses
                                                        9
                  13.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                              % No-passing zones 65
Grade: Length
                   - mi
                                Access point density 16
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 510
                                    veh/h
Opposing direction volume, Vo 340
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.1
                                                          1.3
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.991
                                                         0.974
Grade adj. factor,(note-1) fg
                                       1.00
                                                         1.00
                                       572 pc/h
Directional flow rate, (note-2) vi
                                                         388
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            45.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 2.6
                                                   mi/h
Adj. for access point density, (note-3) fA
                                           4.0
                                                   mi/h
Free-flow speed, FFSd
                                            38.4
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            2.2
```

28.8

74.9

mi/h

Average travel speed, ATSd

Percent Time-Spent-Followi	ng			
Direction Analysis(d)		Opp	posing	(0)
PCE for trucks, ET 1.0			1.1	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			0.991	_
Grade adjustment factor,(note-1) fg 1.00			1.00	
	/h		381	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%		1 - /
	35.7	v		
5	74.4	%		
Level of Service and Other Performa	nce Me	asuı	ces	
Level of service, LOS	D			
	0.34			
±			- la'	
•	666		eh-mi	
·	2397		eh-mi	
·	23.2		eh-h	
	1700		eh/h	
	1700	Ve	eh/h	
Directional Capacity	2853	ve	eh/h	
Passing Lane Analysis_				
Cotal length of analysis segment, Lt			4.7	mi
ength of two-lane highway upstream of the passing	lane,	Lu	_	mi
ength of passing lane including tapers, Lpl	,		_	mi
Average travel speed, ATSd (from above)			28.8	mi/h
Percent time-spent-following, PTSFd (from above)			74.4	1111
Level of service, LOSd (from above)			D D	
level of service, hosa (from above)			D	
Average Travel Speed with Passi	ng Lan	ıe		
Downstream length of two-lane highway within effect				
length of passing lane for average travel speed Length of two-lane highway downstream of effective	, Lde		_	mi
length of the passing lane for average travel s	need	T.A	_	mi
	peeu,	ша		шт
Adj. factor for the effect of passing lane				
on average speed, fpl average travel speed including passing lane, ATSpl			_	
		_		
Percent Time-Spent-Following with P	assing	, Lar	ne	
Downstream length of two-lane highway within effect			n	
of passing lane for percent time-spent-followin			-	mi
Length of two-lane highway downstream of effective				
	na. La	l	_	mi
the passing lane for percent time-spent-followi	,			
	119, 10			
dj. factor for the effect of passing lane	119, 10		_	
dj. factor for the effect of passing lane on percent time-spent-following, fpl	119, 10		-	
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	119, 10		-	%
Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following		.h Pa	- - assing	
Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur		:h Pa	- - assing	
Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur Level of service including passing lane, LOSpl				
on percent time-spent-following, fpl ercent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFplLevel of Service and Other Performance Measur			- - assing eh-h	

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Phone:
                                      Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                       JJL
Agency/Co.
                       Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 670 to KY 270
Jurisdiction
                      KYTC
Analysis Year
                       2011
Description
                      _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 1
Shoulder width 3.0
                          ft
                                  % Trucks and buses
                                                         15
                  10.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                           mi Truck crawl speed
% Recreational vehi
                                                         0.0
                                                     0.0
Segment length
                                                                mi/hr
                  Level
                                  % Recreational vehicles 0
Terrain type
                               % No-passing zones 20
Access point density 8
Grade: Length
                   - mi
       Up/down
                          %
                                                                 /mi
Analysis direction volume, Vd 230
                                     veh/h
Opposing direction volume, Vo 160
                                   veh/h
                _____Average Travel Speed____
Direction
                                    Analysis(d) Opposing (o)
PCE for trucks, ET
                                        1.4
                                                           1.6
PCE for RVs, ER
                                                           1.0
                                        1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.943
                                                          0.917
Grade adj. factor,(note-1) fg
                                       1.00
                                                          1.00
                                       271 pc/h
Directional flow rate, (note-2) vi
                                                          194
                                                                 pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                    mi/h
Observed total demand, (note-3) V
                                                    veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            60.0
                                                    mi/h
Adj. for lane and shoulder width, (note-3) fLS 3.7
                                                    mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                    mi/h
Free-flow speed, FFSd
                                            54.3
                                                    mi/h
                                                    mi/h
Adjustment for no-passing zones, fnp
                                            1.4
```

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

49.3

90.8

mi/h

PCE for trucks, ET	Percent Time-Spe	nt-Followi	.ng			
PCE for trucks, ET	Direction Ana	lysis(d)		Opr	osing	(0)
DCE for RVS, ER Heavy-vehicle adjustment factor, fHV 0,985 0,985 Grade adjustment factor, (note-1) fg 1.00 1.00 Directional flow rate, (note-2) vi 259 pc/h 180 pc/h Base percent time-spent-following, (note-4) BPTSFd 26.8 % Adjustment for no-passing zones, fnp 36.7 Percent time-spent-following, PTSFd 48.5 % Level of Service and Other Performance Measures Level of service, LOS Volume to capacity ratio, v/c 0.16 Peak 15-min vehicle-miles of travel, VMT60 1081 veh-mi Peak 15-min total travel time, TT15 6.1 veh-h Capacity from ATS, CdATS 1700 veh/h Directional Capacity Passing Lane Analysis Capacity from PTSF, CdPTSF 1700 veh/h Directional Capacity Passing Lane Analysis Total length of analysis segment, Lt Length of passing lane including tapers, Lpl - mi Average travel speed, ATSd (from above) 49.3 mi/h Percent time-spent-following, PTSFd (from above) 49.3 mi/h Percent time-spent-following, PTSFd (from above) 48.5 Level of service, LOSd (from above) C Average Travel Speed with Passing Lane Downstream length of two-lane highway within effective Length of passing lane for average travel speed, Ld - mi Adj. factor for the effect of passing lane, ATSpl - Average travel speed including passing lane Downstream length of two-lane highway within effective Length of passing lane for percent time-spent-following, Lde - mi Adj. factor for the effect of passing lane, ATSpl - Average travel speed including passing lane, ATSpl - Average travel speed including passing lane, ATSpl - Average travel speed including passing lane, ATSpl - Average travel speed including passing lane, ATSpl - Average travel speed including passing lane, ATSpl - Average travel speed including passing lane, ATSpl - Average travel speed including passing lane, ATSpl - Average travel speed including passing lane, ATSpl - Average travel speed including passing lane, ATSpl - Average travel speed, Ld - mi Adj. factor for the effect of passing lane Downstream length of two-lane highway downstream of effective length of the passing lane for percent tim					_	•
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evel of service including passing lane, LOSpl -	Level of Service and Other Performa	nce Measur	es wit	h Pa	ssing	Lane
	evel of service including passing lane,	LOSpl	_			
Peak 15-min total travel time, TT15 - veh-h		_	-	ve	eh-h	
Bicycle Level of Service	Riavale Level	of Service	<u> </u>			

County	Route	Beg Mpt	End Mpt	Beg Mpt Description	End Mpt Description	2011 ADT	2035 ADT	Truck %	Number of Lanes	Lane Width	Shoulder Width	POPSD	Functional Classification	K Factor	Speed Limit	2011 LOS	2011 V/C Ratio	2035 LOS	2035 V/C Ratio
Webster	KY 120	5.260	6.723	KY 293	US 41A	5900	7500	13.9%	2	11	1	0%	Rural Major Collector	11.1%	55	D	0.27	D	0.33
Webster	KY 120	6.723	11.194	US 41A	KY 2836	670	850	12.8%	2	9	3	40%	Rural Minor Collector	11.7%	55	В	0.04	В	0.04
Hopkins	KY 502	0.000	8.348	KY 109	US 41A	360	460	n/a	2	9	2	45%	Rural Local	10.0%	55	В	0.01	В	0.02
Hopkins	KY 502	8.348	10.235	US 41A	Old Morganfield Rd	1080	1400	n/a	2	9	3	45%	Rural Local	10.0%	55	В	0.05	В	0.05
Hopkins	KY 630	0.000	2.040	KY 262	US 41A	650	830	n/a	2	10	2	20%	Rural Local	10.0%	55	В	0.03	В	0.03
Hopkins	KY 630	2.040	3.909	US 41A	Wolf Hollow Rd	2600	3300	n/a	2	9	2	40%	Rural Minor Collector	11.7%	55	С	0.12	С	0.15
Webster	KY 670	0.000	2.712	KY 109	US 41A	2500	3200	12.0%	2	12	10	65%	Rural Minor Arterial	12.2%	55	В	0.12	С	0.16
Hopkins	US 41A	3.275	5.010	Industrial Road	KY 630	12300	15600	10.0%	2	10	2	35%	Rural Minor Arterial	9.0%	55	E	0.44	E	0.55
Hopkins	US 41A	5.010	9.685	KY 630	KY 1089	6400	8100	4.4%	2	10	2	45%	Rural Minor Arterial	9.0%	55	D	0.23	D	0.29
Hopkins	US 41A	9.685	13.278	KY 1089	KY 814	5100	6500	8.9%	2	9	2	45%	Rural Minor Arterial	9.0%	55	С	0.19	D	0.24
Webster	US 41A	0.470	1.194	KY 814	KY 120	5500	7000	8.9%	2	10	3	25%	Rural Minor Arterial	9.0%	45	С	0.2	С	0.25
Webster	US 41A	1.194	1.324	KY 120	KY 670	7500	9500	8.9%	2	13	3	15%	Rural Minor Arterial	9.0%	35	С	0.27	D	0.34
Webster	US 41A	1.324	5.203	KY 670	KY 270	2700	3400	8.9%	2	10	3	15%	Rural Minor Arterial	9.0%	55	В	0.11	В	0.13

Note: The build traffic was not expected to generate any new traffic above that which is done through regular forecasts.

ALTERNATIVES 1A AND 1B - SUPER 2 ON EXISTING ALIGNMENT BUILD CAPACITY SUMMARY

						2035	Truck	Speed	2035	2035
County	Route	Beg Mpt	End Mpt	Beg Mpt Description	End Mpt Description	ADT	Percentage	Limit	LOS	v/c Ratio
Hopkins	US 41A	3.275	5.010	Industrial Road	KY 630	15600	10.0%	55	Е	0.55
Hopkins	US 41A	5.010	9.685	KY 630	KY 1089	8100	4.4%	55	D	0.29
Hopkins	US 41A	9.685	13.278	KY 1089	KY 814	6500	8.9%	55	С	0.24
Webster	US 41A	0.470	1.194	KY 814	KY 120	7000	8.9%	45	В	0.25
Webster	US 41A	1.194	1.324	KY 120	KY 670	9500	8.9%	35	С	0.34
Webster	US 41A	1.324	5.203	KY 670	KY 270	3400	8.9%	55	Α	0.13

Assumptions

12 foot lanes (max HCS benefit) 6 foot shoulders (max HCS benefit) 60% passing speed limits remain the same

ALTERNATIVE 2 - FOUR LANES ON EXISTING ALIGNMENT **BUILD CAPACITY SUMMARY** Beg Mpt **End Mpt** Speed 2035 2035 **Description** Description V/C Ratio 2035 ADT Limit LOS County Route Beg Mpt **End Mpt** Truck % Α 0.20 US 41A Hopkins 3.275 5.010 ndustrial Roac KY 630 15600 10.0% 55 0.10 Hopkins US 41A 5.010 9.685 KY 630 KY 1089 8100 4.4% 55 Α 80.0 **Hopkins** US 41A 9.685 13.278 KY 1089 **KY 814** 6500 8.9% 55 Α 0.09 Webster US 41A 0.470 1.194 KY 814 **KY 120** 7000 8.9% 45 Α

KY 670

KY 270

9500

3400

8.9%

8.9%

35

55

0.12

0.04

Α

Α

Assumptions

Webster

Webster

12 foot lanes (max HCS benefit) 6 foot shoulders (max HCS benefit) speed limits remain the same

US 41A

US 41A

1.194

1.324

1.324

5.203

KY 120

KY 670

ALTERNATIVE 3 AND 3A - FOUR LANES WITH BYPASSES OF NEBO, MANITOU AND PROVIDENCE BUILD CAPACITY SUMMARY

County	Route	Beg Mpt	End Mpt	Beg Mpt Description	End Mpt Description	2035 ADT	Truck %	Speed Limit	2035 LOS	2035 V/C Ratio
Hopkins	US 41A	3.275	5.010	Industrial Road	Manitou Bypass	15600	10.0%	55	Α	0.20
Hopkins	US 41A	3.275	5.010	Manitou Bypass	KY 630	5900	5.0%	55	С	0.21
Hopkins	US 41A	5.010	9.685	KY 630	Manitou Bypass	1900	5.0%	55	Α	0.07
Hopkins	US 41A	5.010	9.685	Manitou Bypass	Nebo Bypass	8100	4.4%	55	Α	0.10
Hopkins	US 41A	5.010	9.685	Nebo Bypass	Nebo Bypass	3200	5.0%	55	В	0.11
Hopkins	US 41A	5.010	9.685	Nebo Bypass	KY 1089	8100	4.4%	55	А	0.10
Hopkins	US 41A	9.685	13.278	KY 1089	Providence Bypass	6500	8.9%	55	Α	0.08
Hopkins	US 41A	9.685	13.278	Providence Bypass	KY 814	4300	5.0%	55	В	0.16
Webster	US 41A	0.470	1.194	KY 814	KY 120	4800	5.0%	45	С	0.18
Webster	US 41A	1.194	1.324	KY 120	KY 670	6400	5.0%	35	С	0.23
Webster	US 41A	1.324	5.203	KY 670	KY 270	3400	8.9%	55	Α	0.04
Hopkins	Manitou Bypass	n/a	n/a	US 41A	KY 630	9700	10.0%	55	Α	0.12
Hopkins	Manitou Bypass	n/a	n/a	KY 630	US 41A	6200	10.0%	55	А	0.08
Hopkins	Nebo Bypass (S)	n/a	n/a	US 41A	US 41A	4900	10%	55	Α	0.06
Webster	Providence Bypass	n/a	n/a	US 41A	US 41A	2200	10%	55	Α	0.03

Residual Traffic

New Alignment

Assumptions

12 foot lanes (max HCS benefit) 6 foot shoulders (max HCS benefit) speed limits remain the same 10% trucks on new alignments 5% trucks on residual sections Residual Segments are Class III roads

ALTERNATIVE 4 - SUPER 2 WITH PASSING LANES BUILD CAPACITY SUMMARY

County	Route	Beg Mpt	End Mpt	Beg Mpt Description	End Mpt Description	2035 ADT	Truck %	Speed Limit	2035 LOS	2035 V/C Ratio
Hopkins	US 41A	3.275	5.010	Industrial Road	Manitou Bypass	15600	10.0%	55	E	0.55
Hopkins	US 41A	3.275	5.010	Manitou Bypass	KY 630	5900	5.0%	55	В	0.22
Hopkins	US 41A	5.010	9.685	KY 630	Manitou Bypass	1900	5.0%	55	Α	0.07
Hopkins	US 41A	5.010	9.685	Manitou Bypass	KY 1089	8100	4.4%	55	D	0.29
Hopkins	US 41A	9.685	13.278	KY 1089	KY 814	6500	8.9%	55	С	0.24
Webster	US 41A	0.470	1.194	KY 814	KY 120	7000	8.9%	45	В	0.25
Webster	US 41A	1.194	1.324	KY 120	KY 670	9500	8.9%	35	С	0.34
Webster	US 41A	1.324	5.203	KY 670	KY 270	3400	8.9%	55	Α	0.13
Hopkins	Manitou Bypass	n/a	n/a	US 41A	KY 630	9700	10.0%	55	С	0.34
Hopkins	Manitou Bypass	n/a	n/a	KY 630	US 41A	6200	10.0%	55	С	0.22

Residual Traffic

New Alignment

Assumptions

12 foot lanes (max HCS benefit) 6 foot shoulders (max HCS benefit) 60% passing speed limits remain the same Residual Segments are Class III roads

ALTERNATIVES 5 - SPOTS A, B AND C Κ **End Mpt** 2035 2035 Beg Mpt Description Description **Speed Limit** LOS V/C Ratio County Route Beg Mpt **End Mpt** 2035 ADT Truck % Factor Hopkins US 41A 3.275 5.010 Industrial Road KY 630 15600 9.0% 55 Ε 0.55 10.0% Hopkins US 41A 9.685 KY 630 KY 1089 55 D 0.29 5.010 8100 4.4% 9.0% Hopkins US 41A 9.685 13.278 KY 1089 KY 814 6500 8.9% 9.0% 55 С 0.24 Webster US 41A 0.470 1.194 KY 814 KY 120 7000 8.9% 9.0% 45 0.25 Webster US 41A 1.194 1.324 KY 120 KY 670 9500 8.9% 9.0% 35 D 0.34 Webster US 41A 1.324 5.203 KY 670 KY 270 3400 8.9% 9.0% 55 В 0.13

Assumptions

% of Passing was raised for sections with Spot Improvements

				ALTERNA	TIVES 5 -	SPOTS 1,	2, and 3				
County	Route	Beg Mpt	End Mpt	Beg Mpt Description	End Mpt Description	2035 ADT	Truck %	K Factor	Speed Limit	2035 LOS	2035 V/C Ratio
Hopkins	US 41A	3.275	5.010	ndustrial Roac	KY 630	15600	10.0%	9.0%	55	Е	0.55
Hopkins	US 41A	5.010	9.685	KY 630	KY 1089	8100	4.4%	9.0%	55	D	0.29
Hopkins	US 41A	9.685	13.278	KY 1089	KY 814	6500	8.9%	9.0%	55	С	0.24
Webster	US 41A	0.470	1.194	KY 814	KY 120	7000	8.9%	9.0%	45	С	0.25
Webster	US 41A	1.194	1.324	KY 120	KY 670	9500	8.9%	9.0%	35	D	0.34
Webster	US 41A	1.324	5.203	KY 670	KY 270	3400	8.9%	9.0%	55	В	0.13

Assumptions

% of Passing was raised for sections with Spot Improvements

	ALTERNATIVES 6 - SHARED FOUR LANES NO BYPASSES											
County	Route	Beg Mpt	End Mpt	Beg Mpt Description	End Mpt Description	2035 ADT	Truck %	Speed Limit	2035 LOS	2035 V/C Ratio		
Hopkins	US 41A	3.275	5.010	Industrial Road	KY 630	15600	10.0%	55	D	0.55		
Hopkins	US 41A	5.010	9.685	KY 630	KY 1089	8100	4.4%	55	С	0.29		
Hopkins	US 41A	9.685	0.470	KY 1089	KY 814	6500	8.9%	55	С	0.24		
Webster	US 41A	0.470	1.194	KY 814	KY 120	7000	5.0%	45	В	0.25		
Webster	US 41A	1.194	1.324	KY 120	KY 670	9500	5.0%	35	С	0.34		
Webster	US 41A	1.324	5.203	KY 670	KY 270	3400	8.9%	55	Α	0.13		

Assumptions

12 foot lanes (max HCS benefit)

6 foot shoulders (max HCS benefit)

speed limits remain the same

10% trucks on new alignments

5% trucks on residual sections

Residual Segments are Class III roads

ALTERNATIVES 7 AND 7A - SUPER 2 WITH BYPASSES OF NEBO, MANITOU AND PROVIDENCE BUILD CAPACITY SUMMARY

County	Route	Beg Mpt	End Mpt	Beg Mpt Description	End Mpt Description	2035 ADT	Truck %	Speed Limit	2035 LOS	2035 V/C Ratio
Hopkins	US 41A	3.275	5.010	Industrial Road	Manitou Bypass	15600	10.0%	55	E	0.55
Hopkins	US 41A	3.275	5.010	Manitou Bypass	KY 630	5900	5.0%	55	С	0.21
Hopkins	US 41A	5.010	9.685	KY 630	Manitou Bypass	1900	5.0%	55	Α	0.07
Hopkins	US 41A	5.010	9.685	Manitou Bypass	Nebo Bypass	8100	4.4%	55	D	0.29
Hopkins	US 41A	5.010	9.685	Nebo Bypass	Nebo Bypass	2600	5.0%	55	Α	0.09
Hopkins	US 41A	5.010	9.685	Nebo Bypass	KY 1089	8100	4.4%	55	D	0.29
Hopkins	US 41A	9.685	13.278	KY 1089	Providence Bypass	6500	8.9%	55	D	0.23
Hopkins	US 41A	9.685	13.278	Providence Bypass	KY 814	4300	5.0%	55	В	0.16
Webster	US 41A	0.470	1.194	KY 814	KY 120	4800	5.0%	45	С	0.18
Webster	US 41A	1.194	1.324	KY 120	KY 670	6400	5.0%	35	С	0.23
Webster	US 41A	1.324	5.203	KY 670	KY 270	3400	8.9%	55	А	0.13
Hopkins	Manitou Bypass	n/a	n/a	US 41A	KY 630	9700	10.0%	55	D	0.34
Hopkins	Manitou Bypass	n/a	n/a	KY 630	US 41A	6200	10.0%	55	С	0.22
Hopkins	Nebo Bypass (N)	n/a	n/a	US 41A	US 41A	5500	10%	55	С	0.2
Webster	Providence Bypass	n/a	n/a	US 41A	US 41A	2200	10%	55	В	0.08

Residual Traffic

New Alignment

Assumptions

12 foot lanes (max HCS benefit) 6 foot shoulders (max HCS benefit) speed limits remain the same 10% trucks on new alignments 5% trucks on residual sections Residual Segments are Class III roads No Passing Lanes

ALTERNATIVES 8 AND 8A - SHARED FOUR LANES WITH BYPASSES OF NEBO, MANITOU AND PROVIDENCE BUILD CAPACITY SUMMARY

County	Route	Beg Mpt	End Mpt	Beg Mpt Description	End Mpt Description	2035 ADT	Truck %	Speed Limit	2035 LOS	2035 V/C Ratio
Hopkins	US 41A	3.275	5.010	Industrial Road	Manitou Bypass	15600	10.0%	55	D	0.55
Hopkins	US 41A	3.275	5.010	Manitou Bypass	KY 630	5900	5.0%	55	С	0.21
Hopkins	US 41A	5.010	9.685	KY 630	Manitou Bypass	1900	5.0%	55	Α	0.07
Hopkins	US 41A	5.010	9.685	Manitou Bypass	Nebo Bypass	8100	4.4%	55	С	0.29
Hopkins	US 41A	5.010	9.685	Nebo Bypass	Nebo Bypass	2600	5.0%	55	Α	0.09
Hopkins	US 41A	5.010	9.685	Nebo Bypass	KY 1089	8100	4.4%	55	С	0.29
Hopkins	US 41A	9.685	13.278	KY 1089	Providence Bypass	6500	8.9%	55	С	0.23
Hopkins	US 41A	9.685	13.278	Providence Bypass	KY 814	4300	5.0%	55	В	0.16
Webster	US 41A	0.470	1.194	KY 814	KY 120	4800	5.0%	45	С	0.18
Webster	US 41A	1.194	1.324	KY 120	KY 670	6400	5.0%	35	С	0.23
Webster	US 41A	1.324	5.203	KY 670	KY 270	3400	8.9%	55	Α	0.13
Hopkins	Manitou Bypass	n/a	n/a	US 41A	KY 630	9700	10.0%	55	С	0.34
Hopkins	Manitou Bypass	n/a	n/a	KY 630	US 41A	6200	10.0%	55	С	0.22
Hopkins	Nebo Bypass (N)	n/a	n/a	US 41A	US 41A	5500	10%	55	С	0.2
Webster	Providence Bypass	n/a	n/a	US 41A	US 41A	2200	10%	55	В	0.08

Residual Traffic

New Alignment

Assumptions

12 foot lanes (max HCS benefit) 6 foot shoulders (max HCS benefit) speed limits remain the same 10% trucks on new alignments 5% trucks on residual sections Residual Segments are Class III roads

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To Industrial Rd to KY 630 KYTC Jurisdiction Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 6.0 ft % Trucks and buses 10 12.0 4.7 % Trucks crawling Lane width ft 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length - mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 840 veh/h Opposing direction volume, Vo 560 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.0 1.1 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 1.000 0.990 Grade adj. factor,(note-1) fg 1.00 1.00 933 pc/h Directional flow rate, (note-2) vi 629 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 58.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.2

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

44.7

77.1

mi/h

Percent Time	-Spent-Follow:	ing		
Direction PCE for trucks, ET	Analysis(d) 1.0		Opposing 1.0	(0)
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.00	0
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	933 po	c/h	622	pc/h
Base percent time-spent-following, (no	te-4) BPTSFd	71.9	%	
Adjustment for no-passing zones, fnp		20.4		
Percent time-spent-following, PTSFd		84.1	%	
Level of Service and	Other Performa	ance Me	easures	
Level of service, LOS		E		
Volume to capacity ratio, v/c		0.55		
Peak 15-min vehicle-miles of travel,	VMT15	1097	veh-mi	
Peak-hour vehicle-miles of travel, VM	T60	3948	veh-mi	
Peak 15-min total travel time, TT15		24.5		
Capacity from ATS, CdATS		1700		
Capacity from PTSF, CdPTSF		1700		
Directional Capacity		2846	veh/h	
Passing	Lane Analysis			
Total length of analysis segment, Lt			4.7	mi
Length of two-lane highway upstream of	f the nagging	lane		mi
Length of passing lane including tape:		ranc,		mi
Average travel speed, ATSd (from above			44.7	mi/h
Percent time-spent-following, PTSFd (84.1	111 / 11
Level of service, LOSd (from above)	erom above,		E	
Average Travel Spe	ed with Pass	ing Lan	ıe	
Downstream length of two-lane highway	within effect	tive		
length of passing lane for average Length of two-lane highway downstream	e travel speed	d, Lde	-	mi
length of the passing lane for avoidable. Factor for the effect of passing	erage travel :		Ld -	mi
on average speed, fpl	14116		_	
Average travel speed including passing	g lane, ATSpl		_	
Percent Time-Spent-Fo	llowing with 1	Passing	J Lane	
Downstream length of two-lane highway	within effect	tive le	nath	
of passing lane for percent time-				mi
Length of two-lane highway downstream	_			шт
the passing lane for percent time				mi
Adj. factor for the effect of passing	-	тид, по	. –	шт
on percent time-spent-following,			_	
Percent time-spent-following				
including passing lane, PTSFpl			-	%
Level of Service and Other Perf	ormance Measu	res wit	h Passing	Lane
Level of service including passing la	ne IMSnl	_		
Peak 15-min total travel time, TT15	ле, повът	_	veh-h	
Bicycle Le	vel of Service	e		

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins KY 630 to kY 1089 From/To KYTC Jurisdiction Analysis Year 2011 Description US 41A Super 2 on Existing Alignment _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 6.0 ft % Trucks and buses 4 12.0 ft % Trucks crawling 0.0 4.7 mi Truck crawl speed 0.0 Level % Recreational vehicles 0 Lane width 0.0 Segment length 0.0 mi/hr Terrain type - mi % No-passing zones 40 - % Access point density 8 Grade: Length Up/down /mi Analysis direction volume, Vd 440 veh/h Opposing direction volume, Vo 290 veh/h ______Average Travel Speed_____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.2 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.992 0.984 1.00 Grade adj. factor,(note-1) fg 1.00 493 pc/h Directional flow rate, (note-2) vi 327 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed,(note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 58.0 mi/h 2.2 mi/h Adjustment for no-passing zones, fnp

49.4

85.2

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow:	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV 1.000		Opposing 1.1 1.0 0.996	
Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 489 pc Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd	2/h 47.7 33.0 67.5	1.00	pc/h
Level of Service and Other Performa	ance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	D 0.29 574 2068 11.6 1700 1700 2827	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane, I	4.7 - - 49.4 67.5 D	mi mi mi mi/h
Average Travel Speed with Pass:	ing Lane	<u> </u>	
Downstream length of two-lane highway within effect length of passing lane for average travel speed Length of two-lane highway downstream of effective		-	mi
<pre>length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	speed, I	_d - _ _	mi
Percent Time-Spent-Following with F	Passing	Lane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	tive ler ng, Lde	ngth -	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follows Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following		of - -	mi
including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measur	res with	n Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	

______ Bicycle Level of Service _____

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster KY 1089 to KY 814 From/To KYTC Jurisdiction Analysis Year 2011 Description US 41A Super 2 on Existing Align N§B _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 3.0 ft % Trucks and buses 9 10.0 ft % Trucks crawling 0.0 4.7 mi Truck crawl speed 0.0 Level % Recreational vehicles 0 Lane width 0.0 Segment length 0.0 mi/hr Terrain type - mi % No-passing zones 75 - % Access point density 16 Grade: Length Access point density 16 /mi Up/down Analysis direction volume, Vd 350 veh/h Opposing direction volume, Vo 240 veh/h ______Average Travel Speed_____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.974 0.965 1.00 Grade adj. factor,(note-1) fg 1.00 399 pc/h Directional flow rate, (note-2) vi 276 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd 52.3 mi/h mi/h Adjustment for no-passing zones, fnp 3.3

43.8

83.7

mi/h

Average travel speed, ATSd

Direction Analysis(d)		qqO	osing	(0)
PCE for trucks, ET 1.1			1.1	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 0.991			0.991	L
Grade adjustment factor, (note-1) fg 1.00			1.00	
	/h		269	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%		P 0 / 11
	48.7	Ü		
	69.0	%		
Level of Service and Other Performa	nce Me	asur	es	
Level of service, LOS	В			
	0.23			
	457	776	eh-mi	
•	1645		eh-mi	
	10.4		en-mi eh-h	
	1700		eh/h	
·	1700		eh/h	
Directional Capacity	2875	V€	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			4.7	mi
ength of two-lane highway upstream of the passing	lane	T.11	_	mi
ength of passing lane including tapers, Lpl	raire,		_	mi
verage travel speed, ATSd (from above)			43.8	mi/h
Percent time-spent-following, PTSFd (from above)			69.0	1111/11
evel of service, LOSd (from above)			В	
Level of Service, Losd (from above)			Ь	
Average Travel Speed with Passi	ng Lan	e		
Downstream length of two-lane highway within effect	ive			
length of passing lane for average travel speed	, Lde		-	mi
	peed,	Ld	-	mi
ength of two-lane highway downstream of effective length of the passing lane for average travel s	peed,	Ld	-	mi
ength of two-lane highway downstream of effective length of the passing lane for average travel s	peed,	Ld	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel sadj. factor for the effect of passing lane on average speed, fpl	peed,	Ld	- - -	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel sadj. factor for the effect of passing lane on average speed, fpl			_ _	
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P	assing	Lar	- - ne	
Length of two-lane highway downstream of effective length of the passing lane for average travel stadional states of the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect	assing	Lar ngtl	- - ne	
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl. Leverage travel speed including passing lane, ATSpl. Percent Time-Spent-Following with P. Downstream length of two-lane highway within effect of passing lane for percent time-spent-following.	assing ive le g, Lde	Lar ngth	- - ne	
dength of two-lane highway downstream of effective length of the passing lane for average travel sold. factor for the effect of passing lane on average speed, fpl. Everage travel speed including passing lane, ATSpl. Percent Time-Spent-Following with Pownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective	assing ive le g, Lde length	Lar ngth	- - ne	mi
length of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following with passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following travels and the passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lane for percent time-spent-following travels are passing lan	assing ive le g, Lde length	Lar ngth	- - ne	
Length of two-lane highway downstream of effective length of the passing lane for average travel stadional distribution of the effect of passing lane on average speed, fplus distribution of the effect of passing lane, ATSplus percent Time-Spent-Following with Proposition of passing lane for percent time-spent-following distribution of two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following distribution for the effect of passing lane	assing ive le g, Lde length	Lar ngth	- - ne	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadional factor for the effect of passing lane on average speed, fpl. Leaverage travel speed including passing lane, ATSpl. Percent Time-Spent-Following with Properties of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following landing, factor for the effect of passing lane on percent time-spent-following, fpl	assing ive le g, Lde length	Lar ngth	- - ne	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following landj. factor for the effect of passing lane on percent time-spent-following, fpl	assing ive le g, Lde length	Lar ngth	- - ne	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl. Leverage travel speed including passing lane, ATSpl. Percent Time-Spent-Following with P. Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following land factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following	assing ive le g, Lde length ng, Ld	Lar ngth of	- ne	mi mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadional factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	assing ive le g, Lde length ng, Ld	Lar ngth of	- ne	mi mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadional factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl	assing ive le g, Lde length ng, Ld	Lar ngth of	- nen - - -	mi mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadional factor for the effect of passing lane on average speed, fpl. Average travel speed including passing lane, ATSpl. Percent Time-Spent-Following with P. Oownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following factor for the effect of passing lane on percent time-spent-following, fpl. Percent time-spent-following including passing lane, PTSFpl.	assing ive le g, Lde length ng, Ld	Lar ngth of	- ne	mi mi

```
Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                      KY 814 to KY 120
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                 Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 6.0
                          ft
                                 % Trucks and buses
                                                        9
                  12.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                               % No-passing zones 40
Grade: Length
                   - mi
                                Access point density 8
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 380
                                    veh/h
Opposing direction volume, Vo 250
                                   veh/h
                _____Average Travel Speed____
Direction
                                    Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.3
                                                          1.4
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.974
                                                         0.965
Grade adj. factor,(note-1) fg
                                      1.00
                                                         1.00
                                       433 pc/h
Directional flow rate, (note-2) vi
                                                         288
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            50.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                   mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                   mi/h
Free-flow speed, FFSd
                                            48.0
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            1.5
```

40.9

85.1

mi/h

Average travel speed, ATSd

Direction Analysis(d)		0pr	osing	(0)
PCE for trucks, ET 1.0			1.1	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			0.991	_
Grade adjustment factor,(note-1) fg 1.00			1.00	
	c/h		280	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%		P 0 / 11
Adjustment for no-passing zones, fnp	38.4	Ü		
Percent time-spent-following, PTSFd	64.8	%		
Level of Service and Other Performa	ance Me	easur	es	
Level of service, LOS	В			
Volume to capacity ratio, v/c	0.25			
Peak 15-min vehicle-miles of travel, VMT15	496	37.6	eh-mi	
Peak 15-min vehicle-miles of travel, VMI15	496 1786		en-mi eh-mi	
Peak 15-min total travel time, TT15	12.1		eh-h	
Capacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700		eh/h	
Directional Capacity	2830	ve	eh/h	
Passing Lane Analysis_				
Total length of analysis segment, Lt			4.7	mi
Length of two-lane highway upstream of the passing	lane.	T.11	_	mi
ength of passing lane including tapers, Lpl			_	mi
Average travel speed, ATSd (from above)			40.9	mi/h
Percent time-spent-following, PTSFd (from above)			64.8	1111111
Level of service, LOSd (from above)			В	
Jevel of Service, hosa (from above)			Б	
Average Travel Speed with Passi	ing Lan	1e		
Downstream length of two-lane highway within effect	tive			
length of passing lane for average travel speed	d, Lde		_	mi
Length of two-lane highway downstream of effective				
length of the passing lane for average travel s	speed,	Ld	_	mi
Adj. factor for the effect of passing lane				
on average speed, fpl			_	
Average travel speed including passing lane, ATSpl			_	
Percent Time-Spent-Following with I	Passing	j Lar	ne	
Downstream length of two-lane highway within effect	tivo lo	na+h	,	
of passing lane for percent time-spent-followin			_	mi
Length of two-lane highway downstream of effective			-	шт
the passing lane for percent time-spent-follows	rug, Lo	l	_	mi
dj. factor for the effect of passing lane				
on percent time-spent-following, fpl			-	
			_	ે
Percent time-spent-following including passing lane, PTSFpl				
	res wit	h Pa	assing	Lane
including passing lane, PTSFplLevel of Service and Other Performance Measur	res wit -	h Pa	assing	Lane
including passing lane, PTSFpl	res wit - -		assing eh-h	Lane

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Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 120 to KY 670
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                 Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 6.0
                         ft
                                 % Trucks and buses
                                                        9
                  13.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                       0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                              % No-passing zones
Grade: Length
                   - mi
                                                        40
                                Access point density 16
       Up/down
                          %
                                                               /mi
Analysis direction volume, Vd 510
                                    veh/h
Opposing direction volume, Vo 340
                                   veh/h
               _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.1
                                                          1.3
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.991
                                                         0.974
                                       1.00
Grade adj. factor,(note-1) fg
                                                         1.00
                                      572 pc/h
Directional flow rate, (note-2) vi
                                                         388
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            45.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                   mi/h
Adj. for access point density, (note-3) fA
                                           4.0
                                                   mi/h
Free-flow speed, FFSd
                                            41.0
                                                   mi/h
                                            0.6
                                                   mi/h
Adjustment for no-passing zones, fnp
```

33.0

80.4

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follows	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Grade adjustment factor, (note-1) fg 1.00 1.000 1.000		Opposing 1.1 1.0 0.991	
Directional flow rate, (note-2) vi 567 po Base percent time-spent-following, (note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd		381	pc/h
Level of Service and Other Performa	ance Me	easures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	C 0.34 666 2397 20.2 1700 1700 2853	veh-h veh/h veh/h	
Passing Lane Analysis_			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane,	4.7 Lu - - 33.0 71.3 C	mi mi mi mi/h
Average Travel Speed with Pass	ing Lar	ne	
Downstream length of two-lane highway within effect length of passing lane for average travel speed Length of two-lane highway downstream of effective	d, Lde	-	mi
length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl	speed,	Ld -	mi
Average travel speed including passing lane, ATSpl		_	
Percent Time-Spent-Following with F			
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective	ng, Lde	–	mi
the passing lane for percent time-spent-follows Adj. factor for the effect of passing lane on percent time-spent-following, fpl	ing, Lo	d – –	mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measur	res wit	ch Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	_ _	veh-h	
Bicycle Level of Service	<u> </u>		

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Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 670 to KY 270
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 6.0
                          ft
                                 % Trucks and buses
                                                        9
                  12.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                               % No-passing zones 20
Grade: Length
                   - mi
                                Access point density 8
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 180
                                    veh/h
Opposing direction volume, Vo 120
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.5
                                                          1.8
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.957
                                                         0.933
                                       1.00
Grade adj. factor,(note-1) fg
                                                         1.00
                                       209 pc/h
Directional flow rate, (note-2) vi
                                                         143
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            60.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                   mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                   mi/h
Free-flow speed, FFSd
                                            58.0
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            1.1
```

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

54.2

93.4

mi/h

Percent Time-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV 0.991		Opposing 1.1 1.0 0.991	
Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 202 pc Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd	34.4	1.00 135 %	pc/h
Level of Service and Other Performa	ance Mea	sures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	A 0.12 235 846 4.3 1700 1700 2863	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane, L	4.7 u - 54.2 42.3 A	mi mi mi mi/h
Average Travel Speed with Pass	ing Lane		
Downstream length of two-lane highway within effective length of passing lane for average travel speed Length of two-lane highway downstream of effective	d, Lde	-	mi
<pre>length of the passing lane for average travel a Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>		d - - -	mi
Percent Time-Spent-Following with		Lane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	tive len	gth -	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow. Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following		of - -	mi
including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu:	res with	Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	

______ Bicycle Level of Service _____

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis_____ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To US 41A to KY 630 Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 6.0 ft % Trucks and buses 10 12.0 ft % Trucks crawing
10.0 mi Truck crawl speed
7 ovel % Recreational vehi Lane width 0.0 0.0 Segment length mi/hr % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length - mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 520 veh/h Opposing direction volume, Vo 350 veh/h _____Average Travel Speed_____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1 1.3 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.990 0.971 Grade adj. factor,(note-1) fg 1.00 1.00 584 pc/h Directional flow rate, (note-2) vi 401 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 58.0 mi/h mi/h Adjustment for no-passing zones, fnp 2.0 Average travel speed, ATSd 48.4 mi/h

83.4

Percent Time-Spent-Follo	owing		
Direction Analysis(d))	Opposing	(0)
PCE for trucks, ET 1.0		1.1	(-)
PCE for RVs, ER 1.0		1.0	
Heavy-vehicle adjustment factor, fHV 1.000		0.990	1
Grade adjustment factor, (note-1) fg 1.00		1.00	•
	pc/h	393	pc/h
	_		pc/II
Base percent time-spent-following, (note-4) BPTSFo		&	
Adjustment for no-passing zones, fnp	30.3	•	
Percent time-spent-following, PTSFd	72.6	%	
Level of Service and Other Perfor	rmance Me	easures	
Level of service, LOS	D		
Volume to capacity ratio, v/c	0.34		
Peak 15-min vehicle-miles of travel, VMT15	1444	veh-mi	
		veh-mi	
Peak-hour vehicle-miles of travel, VMT60	5200		
Peak 15-min total travel time, TT15	29.8	veh-h	
Capacity from ATS, CdATS	1700		
Capacity from PTSF, CdPTSF	1700		
Directional Capacity	2867	veh/h	
Passing Lane Analysi	İs		
Total length of analysis segment, Lt		10.0	mi
Length of two-lane highway upstream of the passir	na lane		mi
Length of two lane highway apstream of the passif Length of passing lane including tapers, Lpl	ig rane,	0.7	mi
Average travel speed, ATSd (from above)		48.4	mi/h
Percent time-spent-following, PTSFd (from above)		72.6	
Level of service, LOSd (from above)		D	
Average Travel Speed with Pas	ssing Lar	ne	
Downstream length of two-lane highway within effe	ective		
length of passing lane for average travel spe		1.70	mi
Length of two-lane highway downstream of effective		1.70	1111
length of the passing lane for average travel		T A 7 40	m i
	speed,	La 7.40	mi
Adj. factor for the effect of passing lane		1 10	
on average speed, fpl	-	1.10	
Average travel speed including passing lane, ATSp	ΣŢ	49.1	
Percent Time-Spent-Following with	n Passing	g Lane	
Downstream length of two-lane highway within effe	ective le	ength	
of passing lane for percent time-spent-follow		_	mi
Length of two-lane highway downstream of effective			
the passing lane for percent time-spent-follo			mi
	умтіт д, п(4 4.44	III.±
Adj. factor for the effect of passing lane		0 61	
on percent time-spent-following, fpl		0.61	
Percent time-spent-following including passing lane, PTSFpl		61.2	%
including passing lane, Fistpi		01.2	િ
Level of Service and Other Performance Meas	sures wit	ch Passing	Lane
Level of service including passing lane, LOSpl	С		
Peak 15-min total travel time, TT15	29.4	veh-h	
Bicycle Level of Servi	rce		

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Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Hopkins
From/To
                     KY 630 to US 41A
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                     _____Input Data_____
                                 Peak hour factor, PHF 0.90
Highway class Class 1
Shoulder width 6.0
                          ft
                                 % Trucks and buses
                                                        4
                  12.0 ft
10.0 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed % Recreational vehi
Segment length
                                                     0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                              % No-passing zones 40
Grade: Length
                   - mi
                                Access point density 8
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 340
                                    veh/h
Opposing direction volume, Vo 220
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.3
                                                          1.5
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.988
                                                         0.980
Grade adj. factor,(note-1) fg
                                      1.00
                                                         1.00
                                       382 pc/h
Directional flow rate, (note-2) vi
                                                         249
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            60.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                   mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                   mi/h
Free-flow speed, FFSd
                                            58.0
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            2.5
```

50.6

87.2

mi/h

Average travel speed, ATSd

Percent Tim	ne-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER	Analysis(d) 1.1 1.0	(Opposing 1.1 1.0	(0)
Heavy-vehicle adjustment factor, fHV			0.996	5
Grade adjustment factor, (note-1) fg		43	1.00	
Directional flow rate, (note-2) vi	_	oc/h	245	pc/h
Base percent time-spent-following, (r			o o	
Adjustment for no-passing zones, fnr)	42.3 64.1	8	
Percent time-spent-following, PTSFd		04.1	6	
Level of Service and	d Other Perform	ance Meas	sures	
Torrel of governo TOS		a		
Level of service, LOS		C 0.22		
Volume to capacity ratio, v/c	77Mm1 E		veh-mi	
Peak 15-min vehicle-miles of travel,		944		
Peak-hour vehicle-miles of travel, V	/W.T.P.O	3400	veh-mi	
Peak 15-min total travel time, TT15		18.7	veh-h	
Capacity from ATS, CdATS		1700	veh/h	
Capacity from PTSF, CdPTSF		1700	veh/h	
Directional Capacity		2808	veh/h	
Passing	g Lane Analysis	·		
Total length of analysis segment, Lt	-		10.0	mi
Length of two-lane highway upstream		r lana I		mi
Length of passing lane including tap	_	Tane, In	0.7	mi
Average travel speed, ATSd (from abo	_		50.6	mi/h
Percent time-spent-following, PTSFd			64.1	1111 / 11
Level of service, LOSd (from above)	(IIOm above)		04.1 C	
Level of Service, Losd (from above)			C	
Average Travel Sp	eed with Pass	ing Lane		
Downstream length of two-lane highwa	ay within effec	tive		
length of passing lane for avera	-		1.70	mi
Length of two-lane highway downstrea				
length of the passing lane for a	_	speed, Lo	d 7.40	mı
Adj. factor for the effect of passir	ig lane			
on average speed, fpl	1 7 7 7		1.10	
Average travel speed including passi	ng lane, ATSpl		51.3	
Percent Time-Spent-F	ollowing with	Passing 1	Lane	
Downstroom longth of two long higher	vy within offer	ıtimo losa	~+ h	
Downstream length of two-lane highway	_			- -
of passing lane for percent time			8.84	mi
Length of two-lane highway downstrea		_		4
the passing lane for percent tim	_	ing, La	0.26	mi
Adj. factor for the effect of passing			0 60	
on percent time-spent-following,	Ipl		0.60	
Percent time-spent-following			F1 0	0
including passing lane, PTSFpl			51.0	%
Level of Service and Other Per	formance Measu	res with	Passing	Lane
Level of service including passing l	ane I.Ocni	С		
Peak 15-min total travel time, TT15	тапе, порът	18.4	veh-h	
ican is min cocar craver crime, illis		10.1	A CII - II	
_				

______ Bicycle Level of Service _____

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Analysis Time Period Design Hour Highway US 41A Hopkins From/To Industrial Rd to Manitou Bypas Jurisdiction KYTC Analysis Year 2035 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 6.0 ft % Trucks and buses 10 12.0 4.7 % Trucks crawling Lane width ft 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 840 veh/h Opposing direction volume, Vo 560 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.0 1.1 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 1.000 0.990 Grade adj. factor, (note-1) fg 1.00 1.00 933 pc/h Directional flow rate, (note-2) vi 629 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 58.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.2

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

44.7

77.1

mi/h

Percent Time	-Spent-Follow:	ing		
Direction PCE for trucks, ET	Analysis(d) 1.0		Opposing 1.0	(0)
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.00	0
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	933 po	c/h	622	pc/h
Base percent time-spent-following, (no	te-4) BPTSFd	71.9	%	
Adjustment for no-passing zones, fnp		20.4		
Percent time-spent-following, PTSFd		84.1	%	
Level of Service and	Other Performa	ance Me	easures	
Level of service, LOS		E		
Volume to capacity ratio, v/c		0.55		
Peak 15-min vehicle-miles of travel,	VMT15	1097	veh-mi	
Peak-hour vehicle-miles of travel, VM	T60	3948	veh-mi	
Peak 15-min total travel time, TT15		24.5		
Capacity from ATS, CdATS		1700		
Capacity from PTSF, CdPTSF		1700		
Directional Capacity		2846	veh/h	
Passing	Lane Analysis			
Total length of analysis segment, Lt			4.7	mi
Length of two-lane highway upstream of	f the nagging	lane		mi
Length of passing lane including tape:		ranc,		mi
Average travel speed, ATSd (from above			44.7	mi/h
Percent time-spent-following, PTSFd (84.1	111 / 11
Level of service, LOSd (from above)	erom above,		E	
Average Travel Spe	ed with Pass	ing Lan	ıe	
Downstream length of two-lane highway	within effect	tive		
length of passing lane for average Length of two-lane highway downstream	e travel speed	d, Lde	-	mi
length of the passing lane for avoidable. Factor for the effect of passing	erage travel :		Ld -	mi
on average speed, fpl	14116		_	
Average travel speed including passing	g lane, ATSpl		_	
Percent Time-Spent-Fo	llowing with 1	Passing	J Lane	
Downstream length of two-lane highway	within effect	tive le	nath	
of passing lane for percent time-				mi
Length of two-lane highway downstream	_			шт
the passing lane for percent time				mi
Adj. factor for the effect of passing	-	тид, по	. –	шт
on percent time-spent-following,			_	
Percent time-spent-following				
including passing lane, PTSFpl			-	%
Level of Service and Other Perf	ormance Measu	res wit	h Passing	Lane
Level of service including passing la	ne IMSnl	_		
Peak 15-min total travel time, TT15	ле, повът	_	veh-h	
Bicycle Le	vel of Service	e		

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins Manitou Bypass to kY 1089 From/To Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 6.0 ft % Trucks and buses 4 12.0 ft 4.7 mi % Trucks crawling Lane width mi Truck crawl speed
% Recreational vehi 0.0 Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length - mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 440 veh/h Opposing direction volume, Vo 290 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.2 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.992 0.984 1.00 Grade adj. factor,(note-1) fg 1.00 493 pc/h Directional flow rate, (note-2) vi 327 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed,(note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 58.0 mi/h 2.2 mi/h Adjustment for no-passing zones, fnp

49.4

85.2

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follows	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV 1.000		Opposing 1.1 1.0 0.996	
Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 489 pc Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd	2/h 47.7 33.0 67.5	1.00	pc/h
Level of Service and Other Performa	ance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	D 0.29 574 2068 11.6 1700 1700 2827	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane, I	4.7 - - 49.4 67.5 D	mi mi mi mi/h
Average Travel Speed with Pass	ing Lane	<u></u>	
Downstream length of two-lane highway within effect length of passing lane for average travel speed Length of two-lane highway downstream of effective		-	mi
length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl	speed, I	_d - _ _	mi
Percent Time-Spent-Following with F	Passing	Lane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	tive len	ngth -	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follows Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following		of - -	mi
including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measur	res with	n Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster From/To KY 1098 to KY 814 Jurisdiction KYTC Analysis Year 2035 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 3.0 ft % Trucks and buses 9 10.0 ft 4.7 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed
% Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 75 Grade: Length - mi Access point density 16 Up/down % /mi Analysis direction volume, Vd 350 veh/h Opposing direction volume, Vo 240 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.974 0.965 1.00 Grade adj. factor, (note-1) fg 1.00 399 pc/h Directional flow rate, (note-2) vi 276 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd mi/h 52.3 3.3 mi/h Adjustment for no-passing zones, fnp

43.8

83.7

mi/h

Average travel speed, ATSd

Base percent time-spent-following, (note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF	48.7 69.0 nce Me B 0.23 457 1645 10.4 1700 1700 2875	% asur ve	posing 1.1 1.0 0.993 1.00 269 ces	l pc/h
CCE for trucks, ET CCE for RVs, ER Reavy-vehicle adjustment factor, fHV Crade adjustment factor, (note-1) fg Crade adjustment factor, (note-1) fg Crade adjustment factor, (note-2) vi Crade adjustment flow rate, (note-2) vi Crade adjustment for no-passing zones, fnp Creat time-spent-following, (note-4) Creat time-spent-following, PTSFd Creat time-spent-following, PTSFd Creat 15-min vehicle-miles of travel, VMT15 Creak 15-min vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-hour vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-nour vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-nour vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-nour vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-nour vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-nour vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-nour vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-nour vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-nour vehicle-miles of travel, VMT60 Creak 15-min total travel time, TT15 Creak-nour vehicle-miles of travel, VMT60 Creak-nour vehicle-miles of travel, VMT60 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of travel, VMT15 Creak-nour vehicle-miles of trave	40.1 48.7 69.0 nce Me B 0.23 457 1645 10.4 1700 1700 2875	% asur ve	1.1 1.0 0.993 1.00 269	l pc/h
Acce for RVs, ER Reavy-vehicle adjustment factor, fHV Reavy-vehicle adjustment factor, fHV Reavy-vehicle adjustment factor, fHV Reavy-vehicle adjustment factor, fHV Reavy-vehicle adjustment for 0.991 Reavel of lime-spent-following, (note-4) Recent time-spent-following, (note-4) Recent time-spent-following, PTSFd Revel of Service and Other Performa Revel of service, LOS Rolume to capacity ratio, v/c Reak 15-min vehicle-miles of travel, VMT15 Reak-hour vehicle-miles of travel, VMT60 Reak 15-min total travel time, TT15 Repacity from ATS, CdATS Rapacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Rotal length of analysis segment, Lt Rength of two-lane highway upstream of the passing Rength of passing lane including tapers, Lpl Reverage travel speed, ATSd (from above) Recent time-spent-following, PTSFd (from above)	40.1 48.7 69.0 nce Me B 0.23 457 1645 10.4 1700 1700 2875	% ve	0.995 1.00 269 ces	pc/h
Reavy-vehicle adjustment factor, fHV 0.991 Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 392 pc Rase percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Fotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	40.1 48.7 69.0 nce Me B 0.23 457 1645 10.4 1700 1700 2875	% ve	1.00 269 ces	pc/h
Grade adjustment factor, (note-1) fg 1.00 Directional flow rate, (note-2) vi 392 pc Base percent time-spent-following, (note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Tolume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Fotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	40.1 48.7 69.0 nce Me B 0.23 457 1645 10.4 1700 1700 2875	% ve	269 ces eh-mi eh-mi	pc/h
Directional flow rate, (note-2) vi 392 pc Base percent time-spent-following, (note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Fotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	40.1 48.7 69.0 nce Me B 0.23 457 1645 10.4 1700 1700 2875	% ve	269 ces eh-mi eh-mi	pc/h
Base percent time-spent-following, (note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Fotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	40.1 48.7 69.0 nce Me B 0.23 457 1645 10.4 1700 1700 2875	% ve	ces eh-mi eh-mi	
Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Yolume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Fotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	48.7 69.0 nce Me B 0.23 457 1645 10.4 1700 1700 2875	% ve	eh-mi eh-mi	
Level of Service and Other Performa Level of Service and Other Performa Level of service, LOS Yolume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Fotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	69.0 nce Me B 0.23 457 1645 10.4 1700 1700 2875	ve ve ve ve	eh-mi eh-mi	
Level of Service and Other Performa Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Fotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	nce Me B 0.23 457 1645 10.4 1700 1700 2875	V 6 V 6 V 6 V 6	eh-mi eh-mi	
Level of service, LOS Yolume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Fotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	B 0.23 457 1645 10.4 1700 1700 2875	V 6 V 6 V 6 V 6	eh-mi eh-mi	
Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, Passing Lane Analysis Pength of analysis segment, Lt Pength of two-lane highway upstream of the passing Pength of passing lane including tapers, Lpl Percent time-spent-following, PTSFd (from above) Percent time-spent-following, PTSFd (from above)	0.23 457 1645 10.4 1700 1700 2875	ve ve ve	eh-mi	
Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, TT15 Peak 15-min total travel time, Passing Lane Analysis Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-miles of travel, VMT16 Peak 15-min vehicle-mil	457 1645 10.4 1700 1700 2875	ve ve ve	eh-mi	
Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Cotal length of analysis segment, Lt Cength of two-lane highway upstream of the passing Cength of passing lane including tapers, Lpl Capacity Percent time-spent-following, PTSFd (from above)	1645 10.4 1700 1700 2875	ve ve ve	eh-mi	
Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Cotal length of analysis segment, Lt Cength of two-lane highway upstream of the passing Cength of passing lane including tapers, Lpl Caverage travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	10.4 1700 1700 2875	ve ve		
Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Total length of analysis segment, Lt Cength of two-lane highway upstream of the passing Cength of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	1700 1700 2875	ve ve	≥h – h	
Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Cotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	1700 2875	ve ve		
Capacity from PTSF, CdPTSF Directional Capacity Passing Lane Analysis Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	1700 2875	ve	eh/h	
Passing Lane Analysis_ Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	2875		eh/h	
Cotal length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Leverage travel speed, ATSd (from above) Dercent time-spent-following, PTSFd (from above)		V€	eh/h	
Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)				
ength of two-lane highway upstream of the passing length of passing lane including tapers, Lpl verage travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)			4 👨	
Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above)	_		4.7	mi
verage travel speed, ATSd (from above) ercent time-spent-following, PTSFd (from above)	lane,	Lu	-	mi
ercent time-spent-following, PTSFd (from above)			-	mi
			43.8	mi/h
devel of service, LOSd (from above)			69.0	
			В	
Average Travel Speed with Passi	ng Lan	.e		
Downstream length of two-lane highway within effect	i 170			
length of passing lane for average travel speed				- -
	, шае		_	mi
Length of two-lane highway downstream of effective	_			
length of the passing lane for average travel s	peed,	Ld	-	mi
dj. factor for the effect of passing lane				
on average speed, fpl			-	
verage travel speed including passing lane, ATSpl			-	
Percent Time-Spent-Following with P	assing	Lar	ne	
Downstream length of two-lane highway within effect	ive le	nath	ı	
of passing lane for percent time-spent-followin			_	mi
ength of two-lane highway downstream of effective				1
				m i
the passing lane for percent time-spent-followi	иу, ьа		_	mi
dj. factor for the effect of passing lane				
on percent time-spent-following, fpl			_	
Percent time-spent-following				
including passing lane, PTSFpl			-	%
Level of Service and Other Performance Measur	es wit	h Pa	assing	Lane
evel of service including passing lane, LOSpl				
Peak 15-min total travel time, TT15	_	ve	eh-h	
	_ _			

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Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                      KY 814 to KY 120
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                 Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 6.0
                          ft
                                 % Trucks and buses
                                                        9
                  12.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                               % No-passing zones 40
Grade: Length
                   - mi
                                Access point density 8
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 380
                                    veh/h
Opposing direction volume, Vo 250
                                   veh/h
                _____Average Travel Speed____
Direction
                                    Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.3
                                                          1.4
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.974
                                                         0.965
Grade adj. factor,(note-1) fg
                                      1.00
                                                         1.00
                                       433 pc/h
Directional flow rate, (note-2) vi
                                                         288
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            50.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                   mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                   mi/h
Free-flow speed, FFSd
                                            48.0
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            1.5
```

85.1

mi/h

Average travel speed, ATSd

	ng			
Direction Analysis(d)		qqO	osing	(0)
PCE for trucks, ET 1.0			1.1	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			0.991	_
Grade adjustment factor, (note-1) fg 1.00			1.00	
	/h		280	pc/h
Base percent time-spent-following, (note-4) BPTSFd		%	200	P 0 / 11
-	38.4	0		
	64.8	%		
Level of Service and Other Performa	nce Me	asuı	es	
Level of service, LOS	В			
	0.25			
<u> </u>	496	376	eh-mi	
·	1786		eh-mi	
	12.1		eh-h	
	1700		eh/h	
	1700		eh/h	
Directional Capacity	2830	V	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			4.7	mi
ength of two-lane highway upstream of the passing	lane.	T.11	_	mi
ength of passing lane including tapers, Lpl	raire,	_	_	mi
verage travel speed, ATSd (from above)			40.9	mi/h
Percent time-spent-following, PTSFd (from above)			64.8	1111
			B	
Level of service, LOSd (from above)			Ь	
Average Travel Speed with Passi	ng Lan	e		
Downstream length of two-lane highway within effect	ive			
1	, Lde		_	mi
length of passing lane for average travel speed				
Length of two-lane highway downstream of effective				
ength of two-lane highway downstream of effective length of the passing lane for average travel s	peed,	Ld	-	mi
ength of two-lane highway downstream of effective length of the passing lane for average travel s	peed,	Ld	_	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel so adj. factor for the effect of passing lane on average speed, fpl	peed,	Ld	_	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel so adj. factor for the effect of passing lane on average speed, fpl	peed,	Ld	- - -	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel so adj. factor for the effect of passing lane on average speed, fpl			_ _	
Length of two-lane highway downstream of effective length of the passing lane for average travel so adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P	assing	Lar	- - ne	
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect	assing ive le	Lar ngtl	- - ne	
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin	assing ive le g, Lde	Lar ngtl	- - ne	
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent Time-Spent-Following with Pownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective	assing ive le g, Lde length	Lar ngtl of	- - ne	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadional states of the effect of passing lane on average speed, fpl. Leverage travel speed including passing lane, ATSpl. Percent Time-Spent-Following with P. Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-f	assing ive le g, Lde length	Lar ngtl of	- - ne	
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following lange for the effect of passing lane	assing ive le g, Lde length	Lar ngtl of	- - ne	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl	assing ive le g, Lde length	Lar ngtl of	- - ne	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadional factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following factor for the effect of passing lane on percent time-spent-following, fpl	assing ive le g, Lde length	Lar ngtl of	- - ne	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following land factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following, fpl	assing ive le g, Lde length ng, Ld	Lar ngtl of	- nen - -	mi mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following. Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	assing ive le g, Lde length ng, Ld	Lar ngtl of	- nen - -	mi mi
Length of two-lane highway downstream of effective length of the passing lane for average travel stadj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl	assing ive le g, Lde length ng, Ld	Lar ngth of	- nen - - -	mi mi
Level of Service and Other Performance Measur Length of two-lane highway downstream of effective length of the passing lane for average travel stadional states and including passing lane on average speed, fpl Level of Service and Other Performance Measur	assing ive le g, Lde length ng, Ld	Lar ngth of	- nen - -	mi mi

```
Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 120 to KY 670
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                 Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 6.0
                         ft
                                 % Trucks and buses
                                                        9
                  13.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                       0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                              % No-passing zones
Grade: Length
                   - mi
                                                        40
                                Access point density 16
       Up/down
                          %
                                                               /mi
Analysis direction volume, Vd 510
                                    veh/h
Opposing direction volume, Vo 340
                                   veh/h
               _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.1
                                                          1.3
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.991
                                                         0.974
                                       1.00
Grade adj. factor,(note-1) fg
                                                         1.00
                                      572 pc/h
Directional flow rate, (note-2) vi
                                                         388
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            45.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                   mi/h
Adj. for access point density, (note-3) fA
                                           4.0
                                                   mi/h
Free-flow speed, FFSd
                                            41.0
                                                   mi/h
                                            0.6
                                                   mi/h
Adjustment for no-passing zones, fnp
```

80.4

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follows	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Grade adjustment factor, (note-1) fg 1.00 1.000 1.000		Opposing 1.1 1.0 0.991 1.00	
Directional flow rate, (note-2) vi 567 po Base percent time-spent-following, (note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd		381	pc/h
Level of Service and Other Performa	ance Me	easures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	C 0.34 666 2397 20.2 1700 1700 2853	veh-h veh/h veh/h	
Passing Lane Analysis_			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane,	4.7 Lu - - 33.0 71.3 C	mi mi mi mi/h
Average Travel Speed with Pass	ing Lar	ne	
Downstream length of two-lane highway within effect length of passing lane for average travel speed Length of two-lane highway downstream of effective	d, Lde	-	mi
length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl	speed,	Ld -	mi
Average travel speed including passing lane, ATSpl		_	
Percent Time-Spent-Following with F			
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective	ng, Lde	–	mi
the passing lane for percent time-spent-follows Adj. factor for the effect of passing lane on percent time-spent-following, fpl	ing, Lo	d – –	mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measur	res wit	ch Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	_ _	veh-h	
Bicycle Level of Service	<u> </u>		

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins Manitou Bypass to KY 630 From/To Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 6.0 ft % Trucks and buses 10 12.0 ft 4.7 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed
% Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length - mi Access point density 16 Up/down % /mi Analysis direction volume, Vd 320 veh/h Opposing direction volume, Vo 210 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.5 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.971 0.952 1.00 Grade adj. factor, (note-1) fg 1.00 366 pc/h Directional flow rate, (note-2) vi 245 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd 56.0 mi/h mi/h Adjustment for no-passing zones, fnp 2.4

48.9

87.3

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follo	owing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Grade adjustment factor, (note-1) fg Analysis(d) 1.1 0.990 1.00)	Opposing 1.1 1.0 0.990 1.00	
	_	236	pc/h
Level of Service and Other Perfor	cmance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	B 0.22 418 1504 8.5 1700 1700 2837	veh-mi veh-h veh/h veh/h veh/h	
Passing Lane Analysi	is		
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	ng lane, 1	4.7 Lu – - 48.9 61.7 B	mi mi mi mi/h
Average Travel Speed with Pas	ssing Lane	e	
Downstream length of two-lane highway within effective length of passing lane for average travel spectrum of two-lane highway downstream of effective	eed, Lde	-	mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSp</pre>		Ld - - -	mi
Percent Time-Spent-Following with		Lane	
Downstream length of two-lane highway within effective of passing lane for percent time-spent-follow	ective le wing, Lde	ngth -	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-following. Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following			mi
including passing lane, PTSFpl		-	%
Level of Service and Other Performance Meas	sures witl	h Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To KY 630 to Manitou Bypass Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 6.0 ft % Trucks and buses 4 12.0 ft 4.7 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length mi Access point density 16 Up/down % /mi Analysis direction volume, Vd 100 veh/h Opposing direction volume, Vo 70 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.9 1.9 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.965 0.965 Grade adj. factor,(note-1) fg 1.00 1.00 115 pc/h Directional flow rate, (note-2) vi 81 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd 56.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.3 Average travel speed, ATSd 53.2 mi/h

95.0

Percent Time-Spent-	Following		
Direction Analys PCE for trucks, ET 1. PCE for RVs, ER 1. Heavy-vehicle adjustment factor, fHV 0.	1	Opposing 1.1 1.0 0.996	
Grade adjustment factor, (note-1) fg 1. Directional flow rate, (note-2) vi 11 Base percent time-spent-following, (note-4) B Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd	2 pc/h	1.00 78 %	pc/h
Level of Service and Other P			
Level of service, LOS	A		
Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	0.07 131 470 2.5 1700 1700 2897	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane An	alysis		
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	-	4.7 - 53.2 37.2 A	mi mi mi mi/h
Average Travel Speed wit	n Passing Lane	<u> </u>	
Downstream length of two-lane highway within length of passing lane for average trave Length of two-lane highway downstream of effects.	l speed, Lde	-	mi
length of the passing lane for average to Adj. factor for the effect of passing lane on average speed, fpl	ravel speed, I	ıd - -	mi
Average travel speed including passing lane,	ATSpl	_	
Percent Time-Spent-Following	with Passing	Lane	
Downstream length of two-lane highway within of passing lane for percent time-spent-function to two-lane highway downstream of effective to the state of the state of two-lane highway downstream of effective transfer to the state of two-lane highway downstream of effective transfer to the state of two-lane highway downstream of the state of two-lane highway within the state of two-lane highway within the state of two-lane highway within the state of two-lane highway within the state of two-lane highway within the state of two-lane highway within the state of two-lane highway within the state of two-lane highway within the state of two-lane highway within the state of two-lane highway within the state of two-lane highway within the state of two-lane highway downstream of two-lane highway downstream of two-lane highway within the state of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway downstream of two-lane highway dow	ollowing, Lde	_	mi
the passing lane for percent time-spent- Adj. factor for the effect of passing lane on percent time-spent-following, fpl		-	mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance	Measures with	n Passing	Lane
Level of service including passing lane, LOS Peak 15-min total travel time, TT15	ol - -	veh-h	
Bicycle Level of	Service		

```
Phone:
                                      Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis_____
Analyst
                       JJL
Agency/Co.
                       Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Hopkins
From/To
                      US 41A to KY 630
Jurisdiction
                      KYTC
Analysis Year
                       2011
Description
                      _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 1
Shoulder width 6.0
                          ft
                                  % Trucks and buses
                                                         10
                  12.0 ft % Trucks crawing
10.0 mi Truck crawl speed
7 ovel % Recreational vehi
Lane width
                                                         0.0
                                                     0.0
Segment length
                                                                mi/hr
                                  % Recreational vehicles 0
Terrain type
                               % No-passing zones 40
Grade: Length
                   - mi
                                 Access point density 8
       Up/down
                          %
                                                                 /mi
Analysis direction volume, Vd 520
                                     veh/h
Opposing direction volume, Vo 350
                                    veh/h
               _____Average Travel Speed_____
Direction
                                    Analysis(d) Opposing (o)
PCE for trucks, ET
                                        1.1
                                                           1.3
PCE for RVs, ER
                                                           1.0
                                        1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.990
                                                          0.971
Grade adj. factor,(note-1) fg
                                       1.00
                                                          1.00
                                       584 pc/h
Directional flow rate, (note-2) vi
                                                          401
                                                                 pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                    mi/h
Observed total demand, (note-3) V
                                                    veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            60.0
                                                    mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                    mi/h
Adj. for access point density, (note-3) fA
                                             2.0
                                                    mi/h
Free-flow speed, FFSd
                                            58.0
                                                    mi/h
                                                    mi/h
Adjustment for no-passing zones, fnp
                                             2.0
```

83.4

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Analysis(d) 1.0 1.0 1.00		Opposing 1.1 1.0 0.990	
Grade adjustment factor, (note-1) fg 1.00 Directional flow rate, (note-2) vi 578 pg Base percent time-spent-following, (note-4) BPTSFd Adjustment for no-passing zones, fnp	c/h 54.6 30.3	1.00	pc/h
Percent time-spent-following, PTSFd	72.6	%	
Level of Service and Other Perform	ance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60	D 0.34 1444 5200	veh-mi veh-mi	
Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	29.8 1700 1700 2867	veh-h veh/h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane, I	10.0 Eu – 48.4 72.6 D	mi mi mi mi/h
Average Travel Speed with Pass	ing Lane	=	
Downstream length of two-lane highway within effective length of passing lane for average travel speed Length of two-lane highway downstream of effective	d, Lde	-	mi
<pre>length of the passing lane for average travel a Adj. factor for the effect of passing lane on average speed, fpl</pre>	speed, I		mi
Average travel speed including passing lane, ATSpl		_	
Percent Time-Spent-Following with	Passing	Lane	
Downstream length of two-lane highway within effective of passing lane for percent time-spent-following Length of two-lane highway downstream of effective	ng, Lde	-	mi
the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl			mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu:	res with	n Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	

```
Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Hopkins
From/To
                     KY 630 to US 41A
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                     _____Input Data_____
                                 Peak hour factor, PHF 0.90
Highway class Class 1
Shoulder width 6.0
                          ft
                                 % Trucks and buses
                                                        4
                  12.0 ft
10.0 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed % Recreational vehi
Segment length
                                                     0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                              % No-passing zones 40
Grade: Length
                   - mi
                                Access point density 8
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 340
                                    veh/h
Opposing direction volume, Vo 220
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.3
                                                          1.5
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.988
                                                         0.980
Grade adj. factor,(note-1) fg
                                      1.00
                                                         1.00
                                       382 pc/h
Directional flow rate, (note-2) vi
                                                         249
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            60.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                   mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                   mi/h
Free-flow speed, FFSd
                                            58.0
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            2.5
```

87.2

mi/h

Average travel speed, ATSd

Percent Time-	-Spent-Follow:	ing		
Direction PCE for trucks, ET	Analysis(d) 1.1		Opposing	(0)
PCE for RVs, ER Heavy-vehicle adjustment factor, fHV	1.0		1.0 0.99	6
Grade adjustment factor, (note-1) fg			1.00	
Directional flow rate, (note-2) vi	379 pc	c/h		pc/h
Base percent time-spent-following, (not	-			I - /
Adjustment for no-passing zones, fnp		42.3		
Percent time-spent-following, PTSFd		64.1	%	
Level of Service and (Other Performa	ance Me	easures	
Level of service, LOS		С		
Volume to capacity ratio, v/c		0.22		
Peak 15-min vehicle-miles of travel, \	/MT15	944	veh-mi	
Peak-hour vehicle-miles of travel, VMT	760	3400	veh-mi	
Peak 15-min total travel time, TT15		18.7	veh-h	
Capacity from ATS, CdATS		1700	•	
Capacity from PTSF, CdPTSF		1700		
Directional Capacity		2808	veh/h	
Passing I	Lane Analysis			
Total length of analysis segment, Lt			10.0	mi
Length of two-lane highway upstream of	the passing	lane.		mi
Length of passing lane including taper				mi
Average travel speed, ATSd (from above			50.6	mi/h
Percent time-spent-following, PTSFd (f			64.1	
Level of service, LOSd (from above)			С	
Average Travel Spec	ed with Pass:	ing Lar	ne	
Downstream length of two-lane highway	within effect	tive		
length of passing lane for average Length of two-lane highway downstream	of effective			mi
length of the passing lane for ave Adj. factor for the effect of passing		speed,	Ld -	mi
on average speed, fpl			_	
Average travel speed including passing	g lane, ATSpl		_	
Percent Time-Spent-Fol	llowing with I	Passing	g Lane	
Downstream length of two-lane highway	within effect	tive le	ength	
of passing lane for percent time-s				mi
Length of two-lane highway downstream				
the passing lane for percent time-	-spent-follow:	ing, La	- f	mi
Adj. factor for the effect of passing				
on percent time-spent-following, f	pl		_	
Percent time-spent-following including passing lane, PTSFpl			_	%
Level of Service and Other Perfo	ormance Measu	res wit	th Passing	
			3.2 2 1119	
Level of service including passing lar	ne, LOSpl	-	veh-h	
Peak 15-min total travel time, TT15		_	veii-ii	
Bicycle Lev	vel of Service	e		

```
Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Hopkins
From/To
                      US 41A to US 41A
                      KYTC
Jurisdiction
Analysis Year
                      2011
Description
                     _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 1
Shoulder width 6.0
                          ft
                                 % Trucks and buses
                                                        4
                  12.0 ft
10.0 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed % Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                               % No-passing zones 40
Grade: Length
                   - mi
                                Access point density 8
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 300
                                    veh/h
Opposing direction volume, Vo 200
                                   veh/h
               _____Average Travel Speed____
Direction
                                    Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.4
                                                          1.5
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.984
                                                         0.980
Grade adj. factor, (note-1) fg
                                       1.00
                                                         1.00
                                       339 pc/h
Directional flow rate, (note-2) vi
                                                          227
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                    mi/h
Observed total demand, (note-3) V
                                                    veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            60.0
                                                    mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                    mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                    mi/h
Free-flow speed, FFSd
                                            58.0
                                                    mi/h
                                                    mi/h
Adjustment for no-passing zones, fnp
                                            2.6
```

87.9

mi/h

Average travel speed, ATSd

Percent Time-	-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER	Analysis(d) 1.1 1.0		Opposing 1.1 1.0	
Heavy-vehicle adjustment factor, fHV	0.996		0.996	5
Grade adjustment factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	_	c/h	223	pc/h
Base percent time-spent-following, (not	te-4) BPTSFa		%	
Adjustment for no-passing zones, fnp		44.2 60.5	%	
Percent time-spent-following, PTSFd		00.5	6	
Level of Service and (Other Perform	ance Mea	asures	
Lovel of gomeine LOG		С		
Level of service, LOS Volume to capacity ratio, v/c		0.20		
Peak 15-min vehicle-miles of travel,	7MT 1 5	833	veh-mi	
Peak-hour vehicle-miles of travel, VM		3000	ven-mi	
Peak 15-min total travel time, TT15	100	16.3	ven-mi veh-h	
Capacity from ATS, CdATS		1700	ven n veh/h	
Capacity from PTSF, CdPTSF		1700	veh/h	
Directional Capacity		2838	veh/h	
	Lane Analysis			
	Lanc Analysis			
Total length of analysis segment, Lt			10.0	mi
Length of two-lane highway upstream of	f the passing	lane, I	Lu –	mi
Length of passing lane including taper	cs, Lpl		_	mi
Average travel speed, ATSd (from above			51.0	mi/h
Percent time-spent-following, PTSFd (from above)		60.5	
Level of service, LOSd (from above)			С	
Average Travel Spec	ed with Pass	ing Lane		
Downstream length of two-lane highway				
length of passing lane for average	_		_	mi
Length of two-lane highway downstream			· .a	4
length of the passing lane for ave		speed, 1	_a -	mı
Adj. factor for the effect of passing	Talle			
on average speed, fpl Average travel speed including passing	r lane ATCnl		_	
Average traver speed including passing	g lane, Albpi			
Percent Time-Spent-Fo	llowing with	Passing	Lane	
Downstream length of two-lane highway	within effor	tive lor	nath	
of passing lane for percent time-			- 19 CII	mi
Length of two-lane highway downstream	_	_	of.	шт
the passing lane for percent time-			_	mi
Adj. factor for the effect of passing		тиу, ша		шт
on percent time-spent-following,			_	
Percent time-spent-following	-r -			
including passing lane, PTSFpl			_	96
Level of Service and Other Perfo	ormance Measu	res with	n Passing	Lane _
		-	5	
Level of service including passing lar	ne, LOSpl	-	, ,	
Peak 15-min total travel time, TT15		_	veh-h	

```
Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Hopkins
From/To
                      US 41A to US 41A
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                     _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 1
Shoulder width 6.0
                          ft
                                 % Trucks and buses
                                                        4
                  12.0 ft
10.0 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed % Recreational vehi
Segment length
                                                     0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                               % No-passing zones 40
Grade: Length
                   - mi
                                Access point density 8
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 120
                                   veh/h
Opposing direction volume, Vo 80
                                   veh/h
               _____Average Travel Speed____
Direction
                                    Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.8
                                                          1.9
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.969
                                                         0.965
Grade adj. factor,(note-1) fg
                                      1.00
                                                         1.00
                                       138 pc/h
Directional flow rate, (note-2) vi
                                                         92
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            60.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                   mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                   mi/h
Free-flow speed, FFSd
                                            58.0
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            1.5
                                            54.7
Average travel speed, ATSd
                                                   mi/h
```

	ng			
Direction Analysis(d)		ra0	posing	(0)
PCE for trucks, ET 1.1			1.1	(- /
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 0.996			0.996	5
Grade adjustment factor, (note-1) fg 1.00			1.00	
	/h		89	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%		F 0 / 11
-	41.4	U		
	40.1	%		
Level of Service and Other Performa	nce Me	asuı	ces	
Level of service, LOS	В			
	0.08			
	333	376	eh-mi	
·	1200		eh-mi	
	1200 6.1		eh-h	
	0.1 1700		eh/h	
	1700		eh/h	
Directional Capacity	2833	V	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			10.0	mi
Length of two-lane highway upstream of the passing	lane.	Lu	_	mi
Length of passing lane including tapers, Lpl	_ , ,		_	mi
Average travel speed, ATSd (from above)			54.7	mi/h
Percent time-spent-following, PTSFd (from above)			40.1	
Level of service, LOSd (from above)			В	
Average Travel Speed with Passi	ng Lan	.e		
Downstream length of two-lane highway within effect.	ive			
length of passing lane for average travel speed	, Lde		_	mi
Length of two-lane highway downstream of effective		_		
	peed,	Ld	_	mi
length of the passing lane for average travel s	peed,	Ld	_	mi
length of the passing lane for average travel syndj. factor for the effect of passing lane	peed,	Ld	_	mi
length of the passing lane for average travel space. Adj. factor for the effect of passing lane on average speed, fpl	peed,	Ld	- - -	mi
length of the passing lane for average travel space. Adj. factor for the effect of passing lane on average speed, fpl			- -	
length of the passing lane for average travel spandj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with Page 1	assing	Lar	- - ne	
length of the passing lane for average travel spandj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with Passing lane, before the passing lane, and passing lane, at the passing lane, at the passing lane, at the passing lane, at the passing lane, at the passing lane, at the passing lane, at the passing lane are larger to the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passing lane at the passi	assing	Lar ngtl	- - ne	
length of the passing lane for average travel space, adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSplPercent Time-Spent-Following with Passing lane for percent time-spent-following speed of passing lane for percent time-spent-following speed of passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-spent-following speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane for percent time-speed and passing lane f	assing ive le g, Lde	Lar ngtl	- - ne	
length of the passing lane for average travel space, adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSplPercent Time-Spent-Following with Passing lane for percent time-spent-following dength of two-lane highway within effect for passing lane for percent time-spent-following dength of two-lane highway downstream of effective is sent to the spent of two-lane highway downstream of effective is sent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to the spent to	assing ive le g, Lde length	Lar ngtl	- - ne	mi
length of the passing lane for average travel space. Adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent Time-Spent-Following with Passing lane for percent time-spent-following are for passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-f	assing ive le g, Lde length	Lar ngtl	- - ne	
length of the passing lane for average travel special. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent Time-Spent-Following with Passing lane for percent time-spent-following and of two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following adj. factor for the effect of passing lane	assing ive le g, Lde length	Lar ngtl	- - ne	mi
length of the passing lane for average travel space, adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent Time-Spent-Following with Passing lane for percent time-spent-following are the passing lane for percent time-spent-following the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl	assing ive le g, Lde length	Lar ngtl	- - ne	mi
length of the passing lane for average travel space. Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with Passing lane for percent time-spent-following lane for percent time-spent-following the passing lane for percent time-spent-following lane for percent time-spent-following lane for percent time-spent-following factor for the effect of passing lane on percent time-spent-following, fpl	assing ive le g, Lde length	Lar ngtl	- - ne	mi
length of the passing lane for average travel space, factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent Time-Spent-Following with Passing lane for percent time-spent-following and two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	assing ive le g, Lde length ng, Ld	Lar ngtl of	- nen - -	mi mi
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent Time-Spent-Following with Passing lane for percent time-spent-following langth of two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure	assing ive le g, Lde length ng, Ld	Lar ngtl of	- nen - -	mi mi
length of the passing lane for average travel space. Adj. factor for the effect of passing lane on average speed, fpl. Average travel speed including passing lane, ATSpl. Percent Time-Spent-Following with Passing lane for percent time-spent-following. Sength of two-lane highway downstream of effective the passing lane for percent time-spent-following. Adj. factor for the effect of passing lane on percent time-spent-following, fpl. Percent time-spent-following including passing lane, PTSFpl.	assing ive le g, Lde length ng, Ld	Lar ngth of	- nen - -	mi mi

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Analysis Time Period Design Hour Highway US 41A Hopkins From/To Industrial Rd to Manitou Bypas Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 6.0 ft % Trucks and buses 10 12.0 ft 10.0 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length - mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 840 veh/h Opposing direction volume, Vo 560 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.0 1.1 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 1.000 0.990 Grade adj. factor, (note-1) fg 1.00 1.00 933 pc/h Directional flow rate, (note-2) vi 629 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 58.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.2 44.7 Average travel speed, ATSd mi/h

77.1

Direction Analysis(d)				
		0pr	osing	(0)
PCE for trucks, ET 1.0			1.0	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Frade adjustment factor,(note-1) fg 1.00			1.00	
	c/h		622	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%	022	PC/11
Adjustment for no-passing zones, fnp	20.4	0		
Percent time-spent-following, PTSFd	84.1	%		
Level of Service and Other Performa	ance Me	easur	es	
Level of service, LOS	E			
	0.55			
Volume to capacity ratio, v/c			الساما	
Peak 15-min vehicle-miles of travel, VMT15	2333		eh-mi	
Peak-hour vehicle-miles of travel, VMT60	8400		eh-mi	
Peak 15-min total travel time, TT15	52.2		eh-h	
Capacity from ATS, CdATS	1700		h/h	
Capacity from PTSF, CdPTSF	1700		eh/h	
Directional Capacity	2846	ve	eh/h	
Passing Lane Analysis				
Cotal length of analysis segment, Lt			10.0	mi
ength of two-lane highway upstream of the passing	lane,	Lu	_	mi
ength of passing lane including tapers, Lpl	,		_	mi
verage travel speed, ATSd (from above)			44.7	mi/h
Percent time-spent-following, PTSFd (from above)			84.1	1111
evel of service, LOSd (from above)			E	
level of service, Losa (from above)			Ŀ	
Average Travel Speed with Pass:	ing Lar	ne		
Downstream length of two-lane highway within effect	tive			
length of passing lane for average travel speed			_	mi
ength of two-lane highway downstream of effective				
length of the passing lane for average travel a	speed,	Ld	-	mi
dj. factor for the effect of passing lane				
on average speed, fpl			-	
average travel speed including passing lane, ATSpl			_	
Percent Time-Spent-Following with	Passing	g Lar	ne	
Downstream length of two-lane highway within effect	tive le	ength	1	
of passing lane for percent time-spent-following			_	mi
ength of two-lane highway downstream of effective				
the passing lane for percent time-spent-follow:			_	mi
Adj. factor for the effect of passing lane	-119, IIC	•		
on percent time-spent-following, fpl			_	
			_	
Percent time-spent-following including passing lane, PTSFpl			_	%
	rog wit	h Pa	ssing	Lane
Level of Service and Other Performance Measu	TES MIC			
	res wit			
Level of service including passing lane, LOSpl	-		, ,	
	- -	ve	eh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To Manitou Bypass to Nebo Bypass Jurisdiction KYTC Analysis Year 2011 Description _____Input Data____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 6.0 ft % Trucks and buses 4 12.0 ft % Trucks crawing
10.0 mi Truck crawl speed
7 ovel % Recreational vehi Lane width 0.0 Segment length 0.0 mi/hr % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length – mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 440 veh/h Opposing direction volume, Vo 290 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.2 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.992 0.984 Grade adj. factor,(note-1) fg 1.00 1.00 493 pc/h Directional flow rate, (note-2) vi 327 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 58.0 mi/h 2.2 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 49.4 mi/h

85.2

Percent Time-	-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV	Analysis(d) 1.0 1.0 1.0		Opposing 1.1 1.0 0.990	
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	489 p	c/h	324	pc/h
Base percent time-spent-following, (not	te-4) BPTSFd	47.7	%	_
Adjustment for no-passing zones, fnp		33.0		
Percent time-spent-following, PTSFd		67.5	%	
·				
Level of Service and (Other Perform	ance Mea	asures	
Level of service, LOS		D		
Volume to capacity ratio, v/c		0.29		
Peak 15-min vehicle-miles of travel, V	7МТ15	1222	veh-mi	
Peak-hour vehicle-miles of travel, VM			veh-mi	
Peak 15-min total travel time, TT15	100	4400	ven-mi veh-h	
		24.7		
Capacity from ATS, CdATS		1700	veh/h	
Capacity from PTSF, CdPTSF		1700	veh/h	
Directional Capacity		2827	veh/h	
Passing I	Lane Analysis			
motel length of analysis assume T			10 0	-
Total length of analysis segment, Lt		, .	10.0	mi
Length of two-lane highway upstream of		lane,		mi
Length of passing lane including taper	_		-	mi
Average travel speed, ATSd (from above			49.4	mi/h
Percent time-spent-following, PTSFd (f	from above)		67.5	
Level of service, LOSd (from above)			D	
Average Travel Spec	ed with Pass	ing Lane	e	
Downstream length of two lengthickness	thin offer	+		
Downstream length of two-lane highway				
length of passing lane for average	-		_	mi
Length of two-lane highway downstream			_	
length of the passing lane for ave		speed, 1	Ld -	mi
Adj. factor for the effect of passing	lane			
on average speed, fpl			-	
Average travel speed including passing	g lane, ATSpl		-	
Percent Time-Spent-Fol	llowing with	Passing	Lane	
	_			
Downstream length of two-lane highway			ngth	
of passing lane for percent time-s	spent-followi:	ng, Lde	_	mi
Length of two-lane highway downstream	of effective	length	of	
the passing lane for percent time-				mi
Adj. factor for the effect of passing				
on percent time-spent-following, f			_	
Percent time-spent-following	-			
including passing lane, PTSFpl			_	%
Level of Service and Other Perfo	ormance Measu	res with	n Passing	Lane
Level of service including passing lar	ne, LOSpl	_		
Peak 15-min total travel time, TT15	_	_	veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins Nebo Bypass to KY 1089 From/To Jurisdiction KYTC Analysis Year 2011 Description _____Input Data____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 6.0 ft % Trucks and buses 4 12.0 ft % Trucks crawing
10.0 mi Truck crawl speed
7 ovel % Recreational vehi Lane width 0.0 왕 Segment length 0.0 mi/hr % Recreational vehicles 0 Terrain type % No-passing zones 40 Grade: Length – mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 440 veh/h Opposing direction volume, Vo 290 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.2 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.992 0.984 Grade adj. factor,(note-1) fg 1.00 1.00 493 pc/h Directional flow rate, (note-2) vi 327 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 58.0 mi/h 2.2 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 49.4 mi/h

85.2

Percent Time-S	pent-Following		
Direction A: PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV	nalysis(d) 1.0 1.0 1.000	Opposing 1.1 1.0 0.996	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	489 pc/h	324	pc/h
Base percent time-spent-following, (note	-4) BPTSFd 47.7	%	_
Adjustment for no-passing zones, fnp	33.0		
Percent time-spent-following, PTSFd	67.5	%	
·			
Level of Service and Ot	her Performance Mea	asures	
Level of service, LOS	D		
Volume to capacity ratio, v/c	0.29		
Peak 15-min vehicle-miles of travel, VM'		veh-mi	
Peak-hour vehicle-miles of travel, VMT6		ven-mi	
Peak 15-min total travel time, TT15		ven-mi veh-h	
	24.7		
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	2827	veh/h	
Passing La	ne Analysis		
Total langth of analysis seemant It		10.0	mi
Total length of analysis segment, Lt	the measing lene I		
Length of two-lane highway upstream of			mi
Length of passing lane including tapers	, црт	-	mi
Average travel speed, ATSd (from above)	1	49.4	mi/h
Percent time-spent-following, PTSFd (from	om above)	67.5	
Level of service, LOSd (from above)		D	
Average Travel Speed	with Passing Lane	<u> </u>	
Downstream length of two-lane highway w	ithin effective		
length of passing lane for average		_	mi
Length of two-lane highway downstream of	-		
length of the passing lane for average		· d _	mi
Adj. factor for the effect of passing la		1a –	шт
	alle		
on average speed, fpl] 7 mg]	_	
Average travel speed including passing	lane, ATSpl	_	
Percent Time-Spent-Foll	owing with Passing	Lane	
Downstream length of two-lane highway w	ithin offoatiwo lo	agt h	
		19 (11	m i
of passing lane for percent time-spe	_	-	mi
Length of two-lane highway downstream of			
the passing lane for percent time-s		-	mi
Adj. factor for the effect of passing la			
on percent time-spent-following, fp	T	-	
Percent time-spent-following			
including passing lane, PTSFpl		-	%
Level of Service and Other Perform	mance Measures with	n Passing	Lane
	T O G = 1		
Level of service including passing lane	, LOSpI -	- 1- 1	
Peak 15-min total travel time, TT15	_	veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster From/To KY 1089 to Providence Bypass Jurisdiction KYTC Analysis Year 2011 Description _____Input Data____ Peak hour factor, PHF 0.90 Highway class Class 1 Shoulder width 6.0 ft % Trucks and buses 9 12.0 ft % Trucks crawl speed
10.0 mi Truck crawl speed
Recreational vehi Lane width 0.0 Segment length 0.0 mi/hr % Recreational vehicles 0 Terrain type % No-passing zones 75 Grade: Length – mi Access point density 8 Up/down % /mi Analysis direction volume, Vd 350 veh/h Opposing direction volume, Vo 240 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.4 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.974 0.965 1.00 Grade adj. factor,(note-1) fg 1.00 399 pc/h Directional flow rate, (note-2) vi 276 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 58.0 mi/h mi/h Adjustment for no-passing zones, fnp 3.4 Average travel speed, ATSd 49.4 mi/h

85.1

Percent Time-Spent-Follow	wing		
Direction Analysis(d)		Opposing	(o)
PCE for trucks, ET 1.1		1.1	(0)
PCE for RVs, ER 1.0		1.0	
Heavy-vehicle adjustment factor, fHV 0.991		0.991	
Grade adjustment factor, (note-1) fg 1.00		1.00	•
	og/h	269	ng/h
-	pc/h		pc/h
Base percent time-spent-following, (note-4) BPTSFd		%	
Adjustment for no-passing zones, fnp	48.7	•	
Percent time-spent-following, PTSFd	69.0	%	
Level of Service and Other Perform	mance Me	easures	
Level of service, LOS	D		
Volume to capacity ratio, v/c	0.23		
Peak 15-min vehicle-miles of travel, VMT15	972	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	3500	veh-mi	
Peak 15-min total travel time, TT15	19.7	veh-h	
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	2875	veh/h	
Passing Lane Analysis	5		
Total length of analysis segment, Lt		10.0	mi
Length of two-lane highway upstream of the passing	r lane		mi
Length of passing lane including tapers, Lpl	j idiic,	1.0	mi
Average travel speed, ATSd (from above)		49.4	mi/h
Percent time-spent-following, PTSFd (from above)		69.0	1111 / 11
Level of service, LOSd (from above)		D	
Average Travel Speed with Pass	sing Lar	ne	
Downstream length of two-lane highway within effect	ctive		
length of passing lane for average travel spec		1.70	mi
Length of two-lane highway downstream of effective		_,,,	
length of the passing lane for average travel		T.d 7 20	mi
Adj. factor for the effect of passing lane	bpcca,	La 7.20	шт
on average speed, fpl		1.10	
	1		
Average travel speed including passing lane, ATSpl	L	50.2	
Percent Time-Spent-Following with	Passing	g Lane	
Downstream length of two-lane highway within effect	ctive le	ength	
of passing lane for percent time-spent-follows		-	mi
Length of two-lane highway downstream of effective			
the passing lane for percent time-spent-follow			mi
Adj. factor for the effect of passing lane	, т.т.у , шС	. 0.54	
		0 60	
on percent time-spent-following, fpl		0.60	
Percent time-spent-following including passing lane, PTSFpl		54.7	%
Level of Service and Other Performance Measu	ıres wit	th Passing	Lane
	W T C	400 - 119	
Level of service including passing lane, LOSpl	C		
Peak 15-min total travel time, TT15	19.4	veh-h	
Digualo Lovol of Commis	7.0		
Bicycle Level of Service	JC		

```
Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 670 to KY 270
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 6.0
                          ft
                                 % Trucks and buses
                                                        9
                  12.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                               % No-passing zones 20
Grade: Length
                   - mi
                                Access point density 8
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 180
                                    veh/h
Opposing direction volume, Vo 120
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.5
                                                          1.8
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.957
                                                         0.933
                                       1.00
Grade adj. factor,(note-1) fg
                                                         1.00
                                       209 pc/h
Directional flow rate, (note-2) vi
                                                         143
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            60.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0
                                                   mi/h
Adj. for access point density, (note-3) fA
                                            2.0
                                                   mi/h
Free-flow speed, FFSd
                                            58.0
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            1.1
```

Average travel speed, ATSd

Percent Free Flow Speed, PFFS

54.2

93.4

mi/h

Percent Time-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV 0.991		Opposing 1.1 1.0 0.991	
Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 202 pc Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd	34.4	1.00 135 %	pc/h
Level of Service and Other Performa	ance Mea	sures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	A 0.12 235 846 4.3 1700 1700 2863	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane, L	4.7 u - 54.2 42.3 A	mi mi mi mi/h
Average Travel Speed with Pass	ing Lane		
Downstream length of two-lane highway within effective length of passing lane for average travel speed Length of two-lane highway downstream of effective	d, Lde	-	mi
<pre>length of the passing lane for average travel a Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>		d - - -	mi
Percent Time-Spent-Following with		Lane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	tive len	gth -	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow. Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following		of - -	mi
including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu:	res with	Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins Manitou Bypass to KY 630 From/To Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 2 Shoulder width 2.0 ft % Trucks and buses 5 10.0 ft 4.7 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed
% Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 60 Access point density 8 Grade: Length - mi Up/down % /mi Analysis direction volume, Vd 320 veh/h Opposing direction volume, Vo 210 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.3 1.5 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.985 0.976 Grade adj. factor, (note-1) fg 1.00 1.00 361 pc/h Directional flow rate, (note-2) vi 239 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 2.0 mi/h Free-flow speed, FFSd 54.3 mi/h mi/h Adjustment for no-passing zones, fnp 3.3

46.4

85.4

mi/h

Average travel speed, ATSd

Percent Time	-Spent-Follow:	ing		
Direction PCE for trucks, ET PCE for RVs, ER	Analysis(d) 1.1 1.0	(Opposing 1.1 1.0	(0)
Heavy-vehicle adjustment factor, fHV			0.995	5
Grade adjustment factor, (note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	357 pc	c/h	235	pc/h
Base percent time-spent-following, (no	te-4) BPTSFd	35.2	%	
Adjustment for no-passing zones, fnp		50.9		
Percent time-spent-following, PTSFd		65.9	%	
Level of Service and	Other Performa	ance Mea	sures	
		_		
Level of service, LOS		C		
Volume to capacity ratio, v/c		0.21		
Peak 15-min vehicle-miles of travel,		418	veh-mi	
Peak-hour vehicle-miles of travel, VM'	T. P O	1504	veh-mi	
Peak 15-min total travel time, TT15		9.0	veh-h	
Capacity from ATS, CdATS Capacity from PTSF, CdPTSF		1700 1700	veh/h veh/h	
Directional Capacity		2819	ven/n veh/h	
Passing	Lane Analysis			
Total length of analysis segment, Lt			4.7	mi
Length of two-lane highway upstream of	f the nagging	lane I.		mi
Length of passing lane including tape:		ranc, n	<u> </u>	mi
Average travel speed, ATSd (from above	_		46.4	mi/h
Percent time-spent-following, PTSFd (65.9	/
Level of service, LOSd (from above)	,		С	
Average Travel Spec	ed with Pass:	ing Lane		
		5 .		
Downstream length of two-lane highway				
length of passing lane for average	e travel speed	d, Lde	_	mi
Length of two-lane highway downstream	of effective			
length of the passing lane for ave		speed, L	d -	mi
Adj. factor for the effect of passing	lane			
on average speed, fpl			_	
Average travel speed including passing	g lane, ATSpl		_	
Percent Time-Spent-Fo	llowing with 1	Passing :	Lane	
	_	_		
Downstream length of two-lane highway			gth	
of passing lane for percent time-	_	_	_	mi
Length of two-lane highway downstream			of	
the passing lane for percent time		ing, Ld	_	mi
Adj. factor for the effect of passing				
on percent time-spent-following,	tpl		_	
Percent time-spent-following				٥.
including passing lane, PTSFpl			_	%
Level of Service and Other Perf	ormance Measu	res with	Passing	Lane
Torol of gorrigo including pageing la	no IOC~1			
Level of service including passing lar Peak 15-min total travel time, TT15	ne, noshi	_	veh-h	
ICAN ID MIN COCAL CLAVEL CIME, 1115			A C11-11	

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Hopkins From/To KY 630 to Manitou Bypass Jurisdiction KYTC Analysis Year 2011 Description _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 2.0 ft % Trucks and buses 4 10.0 ft 4.7 mi % Trucks crawling Lane width 0.0 mi Truck crawl speed % Recreational vehi Segment length 0.0 mi/hr Level % Recreational vehicles 0 Terrain type % No-passing zones 55 Grade: Length mi Access point density 16 Up/down 용 /mi Analysis direction volume, Vd 100 veh/h Opposing direction volume, Vo 70 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.9 1.9 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.965 0.965 Grade adj. factor,(note-1) fg 1.00 1.00 115 pc/h Directional flow rate, (note-2) vi 81 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd mi/h 52.3 mi/h Adjustment for no-passing zones, fnp 1.8

49.0

93.7

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow	ing		
Direction Analysis(d) PCE for trucks, ET 1.1 PCE for RVs, ER 1.0 Heavy-vehicle adjustment factor, fHV 0.996		Opposing 1.1 1.0 0.996	
Grade adjustment factor,(note-1) fg 1.00 Directional flow rate,(note-2) vi 112 p Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd		1.00 78 %	pc/h
Level of Service and Other Perform	ance Me	easures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	A 0.07 131 470 2.7 1700 1700 2897	veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane,	4.7 Lu - - 49.0 41.5 A	mi mi mi mi/h
Average Travel Speed with Pass	ing Lar	ne	
Downstream length of two-lane highway within effection length of passing lane for average travel speet Length of two-lane highway downstream of effective	d, Lde	-	mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>		Ld - - -	mi
Percent Time-Spent-Following with		a Lane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followi	ng, Lde	-	mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl			mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu	res wit	ch Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	
Bicycle Level of Servic	e		

```
Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Analysis Time Period Design Hour
Highway
                     US 41A Hopkins
From/To
                     Nebo Bypass to Nebo Bypass
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                     _____Input Data_____
                                 Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 2.0 ft
                                 % Trucks and buses
                                                        4
                  10.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                       0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                       0.0
                                                              mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                              % No-passing zones 55
Grade: Length
                        mi
                                Access point density 16
       Up/down
                          %
                                                              /mi
Analysis direction volume, Vd 140
                                  veh/h
Opposing direction volume, Vo 90
                                  veh/h
               _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                      1.7
                                                         1.9
PCE for RVs, ER
                                                         1.0
                                      1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.973
                                                        0.965
                                      1.00
Grade adj. factor,(note-1) fg
                                                        1.00
                                      160 pc/h
Directional flow rate, (note-2) vi
                                                        104
                                                               pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                           60.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 3.7
                                                   mi/h
Adj. for access point density, (note-3) fA
                                           4.0
                                                   mi/h
Free-flow speed, FFSd
                                                   mi/h
                                           52.3
                                                   mi/h
Adjustment for no-passing zones, fnp
                                           1.8
```

92.6

mi/h

Average travel speed, ATSd

Percent Time	e-Spent-Followi	ing		
Direction PCE for trucks, ET	Analysis(d) 1.1		Opposing	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV			0.9	
Grade adjustment factor,(note-1) fg Directional flow rate,(note-2) vi	1.00 156 pc	ı/h	1.0	pc/h
Base percent time-spent-following, (no	_			pc/II
Adjustment for no-passing zones, fnp	occ 4) bribra	49.0	•	
Percent time-spent-following, PTSFd		47.3	%	
Level of Service and	Other Performa	ance Me	asures	
Level of service, LOS		A		
Volume to capacity ratio, v/c		0.09		
Peak 15-min vehicle-miles of travel,	УМТ 15	183	veh-mi	
Peak-hour vehicle-miles of travel, VM		658		
Peak 15-min total travel time, TT15	1100	3.8		
Capacity from ATS, CdATS		1700		
Capacity from PTSF, CdPTSF		1700		
Directional Capacity		2805	veh/h	
Passing	Lane Analysis_			
Total langth of analysis services It			4.7	m :
Total length of analysis segment, Lt	of the pecaina	lano		mi mi
Length of two-lane highway upstream of Length of passing lane including tape		rane,	Lu – –	mi mi
Average travel speed, ATSd (from above			48.4	
Percent time-spent-following, PTSFd (47.3	
Level of service, LOSd (from above)	illom above,		A	
Average Travel Spe	eed with Passi	ing Lan	e	
Downstream length of two-lane highway	v within effect	tive		
length of passing lane for average Length of two-lane highway downstream	ge travel speed	d, Lde	-	mi
length of the passing lane for av Adj. factor for the effect of passing	verage travel s		Ld -	mi
on average speed, fpl			_	
Average travel speed including passir	ng lane, ATSpl		-	
Percent Time-Spent-Fo	ollowing with B	Passing	Lane	
Downstream length of two-lane highway	v within effect	cive le	nath	
of passing lane for percent time-				mi
Length of two-lane highway downstream		_		
the passing lane for percent time				mi
Adj. factor for the effect of passing	g lane			
on percent time-spent-following,	fpl		-	
Percent time-spent-following				0.
including passing lane, PTSFpl			_	%
Level of Service and Other Perf	formance Measur	res wit	h Passin	g Lane
Level of service including passing la	ane, LOSpl	_		
Peak 15-min total travel time, TT15		-	veh-h	
Bicycle Le	avel of Corrigo	2		
bicycle Le	sver or pervice	=		

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst JJLAgency/Co. Ok4 Date Performed 6/30/2011
Analysis Time Period Design Hour Highway US 41A Webster Providence Bypass to KY 814 From/To Jurisdiction KYTC Analysis Year 2011 Description US 41A Super 2 with Bypasses _____Input Data_____ Peak hour factor, PHF 0.90 Highway class Class 3 Shoulder width 3.0 ft % Trucks and buses 9 10.0 ft % Trucks crawling 0.0 4.7 mi Truck crawl speed 0.0 Level % Recreational vehicles 0 Lane width 0.0 Segment length 0.0 mi/hr Terrain type - mi % No-passing zones 75 - % Access point density 16 Grade: Length Access point density 16 /mi Up/down Analysis direction volume, Vd 230 veh/h Opposing direction volume, Vo 160 veh/h ______Average Travel Speed_____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.4 1.6 PCE for RVs, ER 1.0 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.965 0.949 1.00 Grade adj. factor,(note-1) fg 1.00 265 pc/h Directional flow rate, (note-2) vi 187 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 60.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 3.7 mi/h Adj. for access point density, (note-3) fA 4.0 mi/h Free-flow speed, FFSd 52.3 mi/h mi/h Adjustment for no-passing zones, fnp 3.6

45.2

86.4

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Grade adjustment factor, (note-1) fg Analysis(d) 1.1 0.991 1.00		Opposing 1.1 1.0 0.991 1.00	
	c/h 26.7 55.0 59.2	179	pc/h
Level of Service and Other Perform	ance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	B 0.16 300 1081 6.6 1700 1700 2899	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane, I	4.7 Lu – - 45.2 59.2 B	mi mi mi mi/h
Average Travel Speed with Pass	ing Lane	e	
Downstream length of two-lane highway within effec length of passing lane for average travel spee Length of two-lane highway downstream of effective	d, Lde	-	mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	speed, I	Ld – – –	mi
Percent Time-Spent-Following with		T.ane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	tive ler		mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl	length		mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu	res with	n Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	-	veh-h	

```
Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                      KY 814 to KY 120
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                  Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 3.0
                          ft
                                 % Trucks and buses
                                                         9
                  10.0 ft
4.7 mi
                                % Trucks crawling
Lane width
                                                        0.0
                                                                 왕
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                              % No-passing zones 75
Grade: Length
                   - mi
                                Access point density 16
       Up/down
                          %
                                                               /mi
Analysis direction volume, Vd 260
                                    veh/h
Opposing direction volume, Vo 170
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.4
                                                          1.5
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.965
                                                         0.957
                                      1.00
Grade adj. factor,(note-1) fg
                                                         1.00
                                       299 pc/h
Directional flow rate, (note-2) vi
                                                         197
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            50.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 3.7
                                                   mi/h
Adj. for access point density, (note-3) fA
                                           4.0
                                                   mi/h
Free-flow speed, FFSd
                                            42.3
                                                   mi/h
                                                   mi/h
Adjustment for no-passing zones, fnp
                                            3.6
```

82.4

mi/h

Average travel speed, ATSd

Percent Time-Spent-Follow	ing		
Direction PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Grade adjustment factor, (note-1) fg 1.0 1.0 1.00		Opposing 1.1 1.0 0.991 1.00	
	29.5 53.4 61.7	191	pc/h
Level of Service and Other Perform	ance Mea	asures	
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 Capacity from ATS, CdATS Capacity from PTSF, CdPTSF Directional Capacity	C 0.18 339 1222 9.7 1700 1700 2820	veh-mi veh-mi veh-h veh/h veh/h	
Passing Lane Analysis			
Total length of analysis segment, Lt Length of two-lane highway upstream of the passing Length of passing lane including tapers, Lpl Average travel speed, ATSd (from above) Percent time-spent-following, PTSFd (from above) Level of service, LOSd (from above)	lane, l	4.7 Lu – 34.9 61.7 C	mi mi mi mi/h
Average Travel Speed with Pass	ing Lane	e	·———————
Downstream length of two-lane highway within effection length of passing lane for average travel speet Length of two-lane highway downstream of effective	d, Lde	-	mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	speed, 1	Ld – – –	mi
Percent Time-Spent-Following with		T.ane	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	tive le		mi
Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl			mi
Percent time-spent-following including passing lane, PTSFpl		-	%
Level of Service and Other Performance Measu	res witl	h Passing	Lane
Level of service including passing lane, LOSpl Peak 15-min total travel time, TT15	- -	veh-h	

```
Phone:
                                     Fax:
E-Mail:
        _____Directional Two-Lane Highway Segment Analysis______
Analyst
                      JJL
Agency/Co.
                      Ok4
Date Performed
                      6/30/2011
Date Performed 6/30/2011
Analysis Time Period Design Hour
Highway
                      US 41A Webster
From/To
                     KY 120 to Providence Bypass
Jurisdiction
                      KYTC
Analysis Year
                      2011
Description
                      _____Input Data_____
                                 Peak hour factor, PHF 0.90
Highway class Class 3
Shoulder width 3.0
                          ft
                                 % Trucks and buses
                                                         9
                  13.0 ft
4.7 mi
                                 % Trucks crawling
Lane width
                                                        0.0
                          mi Truck crawl speed
% Recreational vehi
Segment length
                                                        0.0
                                                               mi/hr
                  Level
                                 % Recreational vehicles 0
Terrain type
                               % No-passing zones 65
Grade: Length
                   - mi
                                Access point density 16
       Up/down
                          %
                                                                /mi
Analysis direction volume, Vd 350
                                    veh/h
Opposing direction volume, Vo 230
                                   veh/h
                _____Average Travel Speed____
Direction
                                   Analysis(d) Opposing (o)
PCE for trucks, ET
                                       1.3
                                                          1.4
PCE for RVs, ER
                                                          1.0
                                       1.0
Heavy-vehicle adj. factor,(note-5) fHV 0.974
                                                         0.965
Grade adj. factor,(note-1) fg
                                      1.00
                                                         1.00
                                       399 pc/h
Directional flow rate, (note-2) vi
                                                         265
                                                                pc/h
Free-Flow Speed from Field Measurement:
Field measured speed, (note-3) S FM
                                                   mi/h
Observed total demand, (note-3) V
                                                   veh/h
Estimated Free-Flow Speed:
Base free-flow speed, (note-3) BFFS
                                            45.0
                                                   mi/h
Adj. for lane and shoulder width, (note-3) fLS 2.6
                                                   mi/h
Adj. for access point density, (note-3) fA
                                            4.0
                                                   mi/h
Free-flow speed, FFSd
                                            38.4
                                                   mi/h
                                            2.9
                                                   mi/h
Adjustment for no-passing zones, fnp
```

79.0

mi/h

Average travel speed, ATSd

	ng			
Direction Analysis(d)		0pp	osing	(0)
PCE for trucks, ET 1.1			1.1	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 0.991			0.991	L
Grade adjustment factor,(note-1) fg 1.00			1.00	
	/h		258	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%		<u>.</u> .
	48.1			
	67.6	%		
Level of Service and Other Performa	nce Me	asur	es	
Level of service, LOS	С			
•	0.23			
<u> </u>	457	376	h-mi	
·	1645		h-mi	
	15.1		:11-1111 :h-h	
	1700		h/h	
·	1700		h/h	
Directional Capacity	2829	ve	h/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			4.7	mi
ength of two-lane highway upstream of the passing	lane.	T.11	_	mi
ength of passing lane including tapers, Lpl	ranc,	_	_	mi
verage travel speed, ATSd (from above)			30.3	mi/h
Percent time-spent-following, PTSFd (from above)			67.6	1111/11
evel of service, LOSd (from above)			C 7.0	
Level of service, Losd (from above)			C	
Average Travel Speed with Passi	ng Lan	.e		
Downstream length of two-lane highway within effect	ive			
length of passing lane for average travel speed	, Lde		_	mi
Length of two-lane highway downstream of effective		T -3		4
length of the passing lane for average travel s	peea,	ьα	_	mı
Adj. factor for the effect of passing lane				
			_	
on average speed, fpl				
			_	
	assing	Lar	- ıe	
Average travel speed including passing lane, ATSplPercent Time-Spent-Following with P	_			
average travel speed including passing lane, ATSplPercent Time-Spent-Following with P	ive le	ngth		mi
verage travel speed including passing lane, ATSpl Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin	ive le g, Lde	ngth		
verage travel speed including passing lane, ATSpl Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective	ive le g, Lde length	ngth of		
verage travel speed including passing lane, ATSpl Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin	ive le g, Lde length	ngth of		mi
Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane	ive le g, Lde length	ngth of		mi
Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl	ive le g, Lde length	ngth of		mi
Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followin Adj. factor for the effect of passing lane on percent time-spent-following, fpl	ive le g, Lde length	ngth of		mi
Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	ive le g, Lde length ng, Ld	ngth of	- -	mi mi
Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followin Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	ive le g, Lde length ng, Ld	ngth of	- -	mi mi
Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Bength of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur Level of service including passing lane, LOSpl	ive le g, Lde length ng, Ld	ngth of h Pa	l - - - ussing	mi mi
Percent Time-Spent-Following with P Oownstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followin adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	ive le g, Lde length ng, Ld	ngth of h Pa	- -	mi mi