

**APPENDIX F**  
**LEVEL OF SERVICE ANALYSIS**



## Capacity and Level of Service Analysis

Output from HCS+

No-Build Scenario with Year 2007 Traffic Volumes



Phone: Fax:  
E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 5/9/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 16.34 to MP 19.115  
Jurisdiction Simpson County  
Analysis Year 2007  
Description No-Build Alternative

-----Input Data-----

Highway class	Class 2				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.88	
Lane width	10.0	ft	% Trucks and buses	12	%
Segment length	2.8	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	42	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			
Two-way hourly volume, V	308	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.847	
Two-way flow rate, (note-1) vp	582	pc/h
Highest directional split proportion (note-2)	372	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	2.4	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	55.1	mi/h
Adjustment for no-passing zones, fnp	2.5	mi/h
Average travel speed, ATS	48.1	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.912	
Two-way flow rate,(note-1) vp	498	pc/h
Highest directional split proportion (note-2)	319	
Base percent time-spent-following, BPTSF	35.5	%
Adj.for directional distribution and no-passing zones, fd/np	16.4	
Percent time-spent-following, PTSF	51.8	%

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Level of Service and Other Performance Measures

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Level of service, LOS	B	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	245	veh-mi
Peak-hour vehicle-miles of travel, VMT60	862	veh-mi
Peak 15-min total travel time, TT15	5.1	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: Fax:  
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-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 5/9/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 0 to MP 3.339  
Jurisdiction Allen County  
Analysis Year 2007  
Description No-Build Alternative

-----Input Data-----

Highway class	Class 2				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.88	
Lane width	9.0	ft	% Trucks and buses	12	%
Segment length	3.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	79	%
Grade: Length		mi	Access points/mi	16	/mi
Up/down		%			
Two-way hourly volume, V	308	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.847	
Two-way flow rate, (note-1) vp	582	pc/h
Highest directional split proportion (note-2)	372	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	3.5	mi/h
Adj. for access points, fA	4.0	mi/h
Free-flow speed, FFS	47.5	mi/h
Adjustment for no-passing zones, fnp	3.4	mi/h
Average travel speed, ATS	39.6	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.912	
Two-way flow rate,(note-1) vp	498	pc/h
Highest directional split proportion (note-2)	319	
Base percent time-spent-following, BPTSF	35.5	%
Adj.for directional distribution and no-passing zones, fd/np	20.9	
Percent time-spent-following, PTSF	56.3	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	289	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1016	veh-mi
Peak 15-min total travel time, TT15	7.3	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.



Phone: Fax:  
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-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 5/9/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 3.339 to MP 6.586  
Jurisdiction Allen County  
Analysis Year 2007  
Description No-Build Alternative

-----Input Data-----

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.88	
Lane width	10.0	ft	% Trucks and buses	12	%
Segment length	3.2	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	71	%
Grade: Length		mi	Access points/mi	12	/mi
Up/down		%			
Two-way hourly volume, V	265	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.847	
Two-way flow rate, (note-1) vp	500	pc/h
Highest directional split proportion (note-2)	320	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	3.7	mi/h
Adj. for access points, fA	3.0	mi/h
Free-flow speed, FFS	48.3	mi/h
Adjustment for no-passing zones, fnp	3.5	mi/h
Average travel speed, ATS	41.0	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.912	
Two-way flow rate,(note-1) vp	429	pc/h
Highest directional split proportion (note-2)	275	
Base percent time-spent-following, BPTSF	31.4	%
Adj.for directional distribution and no-passing zones, fd/np	21.3	
Percent time-spent-following, PTSF	52.7	%

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Level of Service and Other Performance Measures

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Level of service, LOS	B	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	241	veh-mi
Peak-hour vehicle-miles of travel, VMT60	848	veh-mi
Peak 15-min total travel time, TT15	5.9	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: Fax:  
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-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 5/9/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 6.586 to MP 10.228  
Jurisdiction Allen County  
Analysis Year 2007  
Description No-Build Alternative

-----Input Data-----

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.88	
Lane width	10.0	ft	% Trucks and buses	12	%
Segment length	3.6	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	86	%
Grade: Length		mi	Access points/mi	15	/mi
Up/down		%			
Two-way hourly volume, V	296	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.847	
Two-way flow rate, (note-1) vp	559	pc/h
Highest directional split proportion (note-2)	358	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	50.0	mi/h
Adj. for lane and shoulder width, fLS	3.7	mi/h
Adj. for access points, fA	3.8	mi/h
Free-flow speed, FFS	42.5	mi/h
Adjustment for no-passing zones, fnp	3.7	mi/h
Average travel speed, ATS	34.6	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.912	
Two-way flow rate,(note-1) vp	479	pc/h
Highest directional split proportion (note-2)	307	
Base percent time-spent-following, BPTSF	34.4	%
Adj.for directional distribution and no-passing zones, fd/np	21.4	
Percent time-spent-following, PTSF	55.7	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	303	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1066	veh-mi
Peak 15-min total travel time, TT15	8.8	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
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-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
 Agency/Co. KYTC Planning  
 Date Performed 5/9/2007  
 Analysis Time Period  
 Highway KY 100  
 From/To MP 10.228 to MP 12.654  
 Jurisdiction Allen County  
 Analysis Year 2007  
 Description No-Build Alternative

-----Input Data-----

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.88	
Lane width	10.0	ft	% Trucks and buses	12	%
Segment length	2.4	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	74	%
Grade: Length		mi	Access points/mi	26	/mi
Up/down		%			

Two-way hourly volume, V 407 veh/h  
 Directional split 64 / 36 %

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	551	pc/h
Highest directional split proportion (note-2)	353	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	3.7	mi/h
Adj. for access points, fA	6.5	mi/h
Free-flow speed, FFS	44.8	mi/h
Adjustment for no-passing zones, fnp	3.4	mi/h
Average travel speed, ATS	37.1	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	522	pc/h
Highest directional split proportion (note-2)	334	
Base percent time-spent-following, BPTSF	36.8	%
Adj.for directional distribution and no-passing zones, fd/np	20.4	
Percent time-spent-following, PTSF	57.2	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	278	veh-mi
Peak-hour vehicle-miles of travel, VMT60	977	veh-mi
Peak 15-min total travel time, TT15	7.5	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

## Capacity and Level of Service Analysis

Output from HCS+

No-Build Scenario with Year 2030 Traffic Volumes





Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
 Agency/Co. KYTC Planning  
 Date Performed 5/9/2007  
 Analysis Time Period  
 Highway KY 100  
 From/To MP 16.34 to MP 19.115  
 Jurisdiction Simpson County  
 Analysis Year 2030  
 Description No-Build Scenario

-----Input Data-----

Highway class	Class 2				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.88	
Lane width	10.0	ft	% Trucks and buses	12	%
Segment length	2.8	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	42	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			
Two-way hourly volume, V	641	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	868	pc/h
Highest directional split proportion (note-2)	556	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	2.4	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	55.1	mi/h
Adjustment for no-passing zones, fnp	1.8	mi/h
Average travel speed, ATS	46.5	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	821	pc/h
Highest directional split proportion (note-2)	525	
Base percent time-spent-following, BPTSF	51.4	%
Adj.for directional distribution and no-passing zones, fd/np	10.5	
Percent time-spent-following, PTSF	61.9	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	510	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1795	veh-mi
Peak 15-min total travel time, TT15	11.0	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: Fax:  
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-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 5/9/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 0 to MP 3.339  
Jurisdiction Allen County  
Analysis Year 2030  
Description No-Build Scenario

-----Input Data-----

Highway class	Class 2				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.88	
Lane width	9.0	ft	% Trucks and buses	12	%
Segment length	3.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	79	%
Grade: Length		mi	Access points/mi	16	/mi
Up/down		%			
Two-way hourly volume, V	641	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	868	pc/h
Highest directional split proportion (note-2)	556	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	3.5	mi/h
Adj. for access points, fA	4.0	mi/h
Free-flow speed, FFS	47.5	mi/h
Adjustment for no-passing zones, fnp	2.5	mi/h
Average travel speed, ATS	38.2	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	821	pc/h
Highest directional split proportion (note-2)	525	
Base percent time-spent-following, BPTSF	51.4	%
Adj.for directional distribution and no-passing zones, fd/np	13.6	
Percent time-spent-following, PTSF	65.0	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	601	veh-mi
Peak-hour vehicle-miles of travel, VMT60	2115	veh-mi
Peak 15-min total travel time, TT15	15.7	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
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-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
 Agency/Co. KYTC Planning  
 Date Performed 5/9/2007  
 Analysis Time Period  
 Highway KY 100  
 From/To MP 3.339 to MP 6.586  
 Jurisdiction Allen County  
 Analysis Year 2030  
 Description No-Build Scenario

-----Input Data-----

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.88	
Lane width	10.0	ft	% Trucks and buses	12	%
Segment length	3.2	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	71	%
Grade: Length		mi	Access points/mi	12	/mi
Up/down		%			
Two-way hourly volume, V	469	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	635	pc/h
Highest directional split proportion (note-2)	406	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	3.7	mi/h
Adj. for access points, fA	3.0	mi/h
Free-flow speed, FFS	48.3	mi/h
Adjustment for no-passing zones, fnp	3.1	mi/h
Average travel speed, ATS	40.3	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	601	pc/h
Highest directional split proportion (note-2)	385	
Base percent time-spent-following, BPTSF	41.0	%
Adj.for directional distribution and no-passing zones, fd/np	19.4	
Percent time-spent-following, PTSF	60.5	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.20	
Peak 15-min vehicle-miles of travel, VMT15	426	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1501	veh-mi
Peak 15-min total travel time, TT15	10.6	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: Fax:  
E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 5/9/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 6.586 to MP 10.228  
Jurisdiction Allen County  
Analysis Year 2030  
Description No-Build Scenario

-----Input Data-----

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.88	
Lane width	10.0	ft	% Trucks and buses	12	%
Segment length	3.6	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	86	%
Grade: Length		mi	Access points/mi	15	/mi
Up/down		%			
Two-way hourly volume, V	537	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	727	pc/h
Highest directional split proportion (note-2)	465	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	50.0	mi/h
Adj. for lane and shoulder width, fLS	3.7	mi/h
Adj. for access points, fA	3.8	mi/h
Free-flow speed, FFS	42.5	mi/h
Adjustment for no-passing zones, fnp	3.1	mi/h
Average travel speed, ATS	33.8	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	688	pc/h
Highest directional split proportion (note-2)	440	
Base percent time-spent-following, BPTSF	45.4	%
Adj.for directional distribution and no-passing zones, fd/np	17.5	
Percent time-spent-following, PTSF	62.8	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.23	
Peak 15-min vehicle-miles of travel, VMT15	549	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1933	veh-mi
Peak 15-min total travel time, TT15	16.2	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.



Phone: Fax:  
E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 5/9/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 10.228 to MP 12.654  
Jurisdiction Allen County  
Analysis Year 2030  
Description No-Build Scenario

-----Input Data-----

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.88	
Lane width	10.0	ft	% Trucks and buses	12	%
Segment length	2.4	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	74	%
Grade: Length		mi	Access points/mi	26	/mi
Up/down		%			
Two-way hourly volume, V	599	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	811	pc/h
Highest directional split proportion (note-2)	519	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	3.7	mi/h
Adj. for access points, fA	6.5	mi/h
Free-flow speed, FFS	44.8	mi/h
Adjustment for no-passing zones, fnp	2.6	mi/h
Average travel speed, ATS	35.9	mi/h

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Percent Time-Spent-Following

---

Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	768	pc/h
Highest directional split proportion (note-2)	492	
Base percent time-spent-following, BPTSF	49.1	%
Adj.for directional distribution and no-passing zones, fd/np	14.6	
Percent time-spent-following, PTSF	63.7	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.25	
Peak 15-min vehicle-miles of travel, VMT15	408	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1438	veh-mi
Peak 15-min total travel time, TT15	11.4	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Capacity and Level of Service Analysis

Output from HCS+

Year 2007 Traffic Volumes with All Segments Rebuilt



Phone: Fax:  
 E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
 Agency/Co. KYTC Planning  
 Date Performed 11/26/2007  
 Analysis Time Period  
 Highway KY 100  
 From/To MP 16.34 to MP 19.115  
 Jurisdiction Simpson County  
 Analysis Year 2007  
 Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	2.8	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			
Two-way hourly volume, V	308	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.847	
Two-way flow rate, (note-1) vp	582	pc/h
Highest directional split proportion (note-2)	372	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	57.5	mi/h
Adjustment for no-passing zones, fnp	2.0	mi/h
Average travel speed, ATS	51.0	mi/h

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Percent Time-Spent-Following

---

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.912	
Two-way flow rate,(note-1) vp	498	pc/h
Highest directional split proportion (note-2)	319	
Base percent time-spent-following, BPTSF	35.5	%
Adj.for directional distribution and no-passing zones, fd/np	13.9	
Percent time-spent-following, PTSF	49.3	%

---

Level of Service and Other Performance Measures

---

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	245	veh-mi
Peak-hour vehicle-miles of travel, VMT60	862	veh-mi
Peak 15-min total travel time, TT15	4.8	veh-h

---

Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: Fax:  
E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 11/26/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 0 to MP 3.339  
Jurisdiction Allen County  
Analysis Year 2007  
Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	3.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	16	/mi
Up/down		%			
Two-way hourly volume, V	308	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.847	
Two-way flow rate, (note-1) vp	582	pc/h
Highest directional split proportion (note-2)	372	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	4.0	mi/h
Free-flow speed, FFS	56.0	mi/h
Adjustment for no-passing zones, fnp	2.0	mi/h
Average travel speed, ATS	49.5	mi/h

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Percent Time-Spent-Following

---

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.912	
Two-way flow rate,(note-1) vp	498	pc/h
Highest directional split proportion (note-2)	319	
Base percent time-spent-following, BPTSF	35.5	%
Adj.for directional distribution and no-passing zones, fd/np	13.9	
Percent time-spent-following, PTSF	49.3	%

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Level of Service and Other Performance Measures

---

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	289	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1016	veh-mi
Peak 15-min total travel time, TT15	5.8	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.



Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
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-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
 Agency/Co. KYTC Planning  
 Date Performed 11/26/2007  
 Analysis Time Period  
 Highway KY 100  
 From/To MP 3.339 to MP 6.586  
 Jurisdiction Allen County  
 Analysis Year 2007  
 Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	3.2	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	12	/mi
Up/down		%			
Two-way hourly volume, V	265	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.847	
Two-way flow rate, (note-1) vp	500	pc/h
Highest directional split proportion (note-2)	320	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	3.0	mi/h
Free-flow speed, FFS	57.0	mi/h
Adjustment for no-passing zones, fnp	2.1	mi/h
Average travel speed, ATS	51.0	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.912	
Two-way flow rate,(note-1) vp	429	pc/h
Highest directional split proportion (note-2)	275	
Base percent time-spent-following, BPTSF	31.4	%
Adj.for directional distribution and no-passing zones, fd/np	14.2	
Percent time-spent-following, PTSF	45.6	%

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Level of Service and Other Performance Measures

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Level of service, LOS	B	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	241	veh-mi
Peak-hour vehicle-miles of travel, VMT60	848	veh-mi
Peak 15-min total travel time, TT15	4.7	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: Fax:  
E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 11/26/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 6.586 to MP 10.228  
Jurisdiction Allen County  
Analysis Year 2007  
Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	3.6	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	15	/mi
Up/down		%			
Two-way hourly volume, V	296	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.847	
Two-way flow rate, (note-1) vp	559	pc/h
Highest directional split proportion (note-2)	358	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	3.8	mi/h
Free-flow speed, FFS	56.3	mi/h
Adjustment for no-passing zones, fnp	2.0	mi/h
Average travel speed, ATS	49.9	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.912	
Two-way flow rate,(note-1) vp	479	pc/h
Highest directional split proportion (note-2)	307	
Base percent time-spent-following, BPTSF	34.4	%
Adj.for directional distribution and no-passing zones, fd/np	14.0	
Percent time-spent-following, PTSF	48.3	%

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Level of Service and Other Performance Measures

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Level of service, LOS	B	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	303	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1066	veh-mi
Peak 15-min total travel time, TT15	6.1	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
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-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
 Agency/Co. KYTC Planning  
 Date Performed 11/26/2007  
 Analysis Time Period  
 Highway KY 100  
 From/To MP 10.229 to MP 11.931  
 Jurisdiction Allen County  
 Analysis Year 2007  
 Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	1.7	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	15	/mi
Up/down		%			
Two-way hourly volume, V	407	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	551	pc/h
Highest directional split proportion (note-2)	353	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	3.8	mi/h
Free-flow speed, FFS	56.3	mi/h
Adjustment for no-passing zones, fnp	2.0	mi/h
Average travel speed, ATS	49.9	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	522	pc/h
Highest directional split proportion (note-2)	334	
Base percent time-spent-following, BPTSF	36.8	%
Adj.for directional distribution and no-passing zones, fd/np	13.8	
Percent time-spent-following, PTSF	50.6	%

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Level of Service and Other Performance Measures

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Level of service, LOS	B	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	197	veh-mi
Peak-hour vehicle-miles of travel, VMT60	692	veh-mi
Peak 15-min total travel time, TT15	3.9	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Capacity and Level of Service Analysis

Output from HCS+

Year 2030 Traffic Volumes with All Segments Rebuilt





Phone: Fax:  
E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 11/26/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 16.34 to MP 19.115  
Jurisdiction Simpson County  
Analysis Year 2030  
Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	2.8	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			
Two-way hourly volume, V	641	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	868	pc/h
Highest directional split proportion (note-2)	556	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	57.5	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATS	49.2	mi/h

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Percent Time-Spent-Following

---

Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	821	pc/h
Highest directional split proportion (note-2)	525	
Base percent time-spent-following, BPTSF	51.4	%
Adj.for directional distribution and no-passing zones, fd/np	8.9	
Percent time-spent-following, PTSF	60.3	%

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Level of Service and Other Performance Measures

---

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	510	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1795	veh-mi
Peak 15-min total travel time, TT15	10.4	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
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-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
 Agency/Co. KYTC Planning  
 Date Performed 11/26/2007  
 Analysis Time Period  
 Highway KY 100  
 From/To MP 0 to MP 3.339  
 Jurisdiction Allen County  
 Analysis Year 2030  
 Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	3.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	16	/mi
Up/down		%			
Two-way hourly volume, V	641	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	868	pc/h
Highest directional split proportion (note-2)	556	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	4.0	mi/h
Free-flow speed, FFS	56.0	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATS	47.7	mi/h

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Percent Time-Spent-Following

---

Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	821	pc/h
Highest directional split proportion (note-2)	525	
Base percent time-spent-following, BPTSF	51.4	%
Adj.for directional distribution and no-passing zones, fd/np	8.9	
Percent time-spent-following, PTSF	60.3	%

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Level of Service and Other Performance Measures

---

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	601	veh-mi
Peak-hour vehicle-miles of travel, VMT60	2115	veh-mi
Peak 15-min total travel time, TT15	12.6	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: Fax:  
E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 11/26/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 3.339 to MP 6.586  
Jurisdiction Allen County  
Analysis Year 2030  
Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	3.2	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	12	/mi
Up/down		%			
Two-way hourly volume, V	469	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	635	pc/h
Highest directional split proportion (note-2)	406	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	3.0	mi/h
Free-flow speed, FFS	57.0	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATS	50.1	mi/h

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Percent Time-Spent-Following

---

Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	601	pc/h
Highest directional split proportion (note-2)	385	
Base percent time-spent-following, BPTSF	41.0	%
Adj.for directional distribution and no-passing zones, fd/np	13.4	
Percent time-spent-following, PTSF	54.4	%

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Level of Service and Other Performance Measures

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Level of service, LOS	B	
Volume to capacity ratio, v/c	0.20	
Peak 15-min vehicle-miles of travel, VMT15	426	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1501	veh-mi
Peak 15-min total travel time, TT15	8.5	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.

Phone: Fax:  
E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 11/26/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 6.586 to MP 10.228  
Jurisdiction Allen County  
Analysis Year 2030  
Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	3.6	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	15	/mi
Up/down		%			
Two-way hourly volume, V	537	veh/h			
Directional split	64 / 36	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	727	pc/h
Highest directional split proportion (note-2)	465	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	3.8	mi/h
Free-flow speed, FFS	56.3	mi/h
Adjustment for no-passing zones, fnp	1.8	mi/h
Average travel speed, ATS	48.8	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	688	pc/h
Highest directional split proportion (note-2)	440	
Base percent time-spent-following, BPTSF	45.4	%
Adj.for directional distribution and no-passing zones, fd/np	11.5	
Percent time-spent-following, PTSF	56.9	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.23	
Peak 15-min vehicle-miles of travel, VMT15	549	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1933	veh-mi
Peak 15-min total travel time, TT15	11.2	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.



Phone: Fax:  
E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst Thomas Witt  
Agency/Co. KYTC Planning  
Date Performed 11/26/2007  
Analysis Time Period  
Highway KY 100  
From/To MP 10.229 to MP 11.931  
Jurisdiction Allen County  
Analysis Year 2030  
Description Rebuild All Segments

-----Input Data-----

Highway class	Class 2				
Shoulder width	8.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	12	%
Segment length	1.7	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	30	%
Grade: Length		mi	Access points/mi	15	/mi
Up/down		%			

Two-way hourly volume, V 599 veh/h  
Directional split 64 / 36 %

-----Average Travel Speed-----

Grade adjustment factor, fG	0.93	
PCE for trucks, ET	1.9	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.903	
Two-way flow rate, (note-1) vp	811	pc/h
Highest directional split proportion (note-2)	519	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	3.8	mi/h
Free-flow speed, FFS	56.3	mi/h
Adjustment for no-passing zones, fnp	1.6	mi/h
Average travel speed, ATS	48.3	mi/h

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Percent Time-Spent-Following

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Grade adjustment factor, fG	0.94	
PCE for trucks, ET	1.5	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.943	
Two-way flow rate,(note-1) vp	768	pc/h
Highest directional split proportion (note-2)	492	
Base percent time-spent-following, BPTSF	49.1	%
Adj.for directional distribution and no-passing zones, fd/np	9.7	
Percent time-spent-following, PTSF	58.8	%

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Level of Service and Other Performance Measures

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Level of service, LOS	C	
Volume to capacity ratio, v/c	0.25	
Peak 15-min vehicle-miles of travel, VMT15	289	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1018	veh-mi
Peak 15-min total travel time, TT15	6.0	veh-h

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Notes:

1. If  $vp \geq 3200$  pc/h, terminate analysis-the LOS is F.
2. If highest directional split  $vp \geq 1700$  pc/h, terminate analysis-the LOS is F.