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Two-Way Two-Lane Highway Segment Analysis

Analyst Steve Brinck  
Agency/Co. Parsons Brinckerhoff  
Date Performed 08/21/03  
Analysis Time Period  
Highway wilsons Creek  
From/To  
Jurisdiction  
Analysis Year 2003  
Description

Input Data

Highway class	Class 2				
Shoulder width	2.5	ft	Peak-hour factor, PHF	0.89	
Lane width	11.0	ft	% Trucks and buses	2	%
Segment length	3.5	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	24	/mi
Up/down		%			
Two-way hourly volume, v	173	veh/h			
Directional split	77 / 23	%			

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,	0.967	
Two-way flow rate, (note-1) vp	283	pc/h
Highest directional split proportion (note-2)	218	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	35	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	35.0	mi/h
Adjustment for no-passing zones, fnp	3.9	mi/h
Average travel speed, ATS	28.9	mi/h

Percent Time-Spent-Following

Wilsons Creek.txt

Grade adjustment factor, fg	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fhv	0.984	
Two-way flow rate,(note-1) vp	256	pc/h
Highest directional split proportion (note-2)	197	
Base percent time-spent-following, BPTSF	20.2	%
Adj.for directional distribution and no-passing zones, fd/np	28.9	
Percent time-spent-following, PTSF	49.0	%

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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	0.09	
Peak 15-min vehicle-miles of travel, VMT15	172	veh-mi
Peak-hour vehicle-miles of travel, VMT60	611	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.