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Two-Way Two-Lane Highway Segment Analysis

Analyst NJ REACHMACK
 Agency/Co. VS ENGINEERING, INC.
 Date Performed 6/21/2004
 Analysis Time Period PM
 Highway SR 240
 From/To RP 4+17 TO RP 10+14
 Jurisdiction INDOT CRAWFORDSVILLE
 Analysis Year 2028
 Description ROAD RECONSTRUCTION

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	5	%
Segment length	5.9	mi	% Recreational vehicles	1	%
Terrain type	Rolling		% No-passing zones	40	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			
Two-way hourly volume, V	756	veh/h			
Directional split	50 / 50	%			

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,	0.956	
Two-way flow rate, (note-1) vp	966	pc/h
Highest directional split proportion (note-2)	483	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	0.0	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	54.5	mi/h
Adjustment for no-passing zones, fnp	1.7	mi/h
Average travel speed, ATS	45.4	mi/h

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	0.976	
Two-way flow rate,(note-1) vp	937	pc/h
Highest directional split proportion (note-2)	469	
Base percent time-spent-following, BPTSF	56.1	%
Adj.for directional distribution and no-passing zones, fd/np	10.7	
Percent time-spent-following, PTSF	66.9	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.30	
Peak 15-min vehicle-miles of travel, VMT15	1267	veh-mi
Peak-hour vehicle-miles of travel, VMT60	4460	veh-mi
Peak 15-min total travel time, TT15	27.9	veh-h

Notes:

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