

Phone: Fax:
E-Mail:

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 2030
 Description Existing Roads with Future Traffic Volumes

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	259	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	424	pc/h
Highest directional split proportion (note-2)	326	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	4.4	mi/h
Average travel speed, ATS	27.3	mi/h

wilsons Creek2.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	384	pc/h
Highest directional split proportion (note-2)	296	
Base percent time-spent-following, BPTSF	28.6	%
Adj.for directional distribution and no-passing zones, fd/np	26.8	
Percent time-spent-following, PTSF	55.5	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	257	veh-mi
Peak-hour vehicle-miles of travel, VMT60	914	veh-mi
Peak 15-min total travel time, TT15	9.4	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.