Phone: Fax:
E-mail:

Merge Analysis

Analyst:
Agency/Co.:
Date performed: 30/11/2016
Analysis time period:
Freeway/dir or travel:
Junction: C 1 SIN CIERRE
Jurisdiction:
Analysis Year:
Description:

Freeway Data

Type of analysis	Merge
Number of lanes in freeway	2
Free-flow speed on freeway	90.0 km/h
Volume on freeway	1439 vph

On Ramp Data

Side of freeway	Right
Number of lanes in ramp	2
Free-flow speed on ramp	60.0 km/h
Volume on ramp	3005 vph
Length of first accel/decel lane	450 m
Length of second accel/decel lane	450 m

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No
Volume on adjacent Ramp	vph
Position of adjacent Ramp	
Type of adjacent Ramp	
Distance to adjacent Ramp	m

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1439	3005		vph
Peak-hour factor, PHF	0.80	0.80		
Peak 15-min volume, v15	450	939		v
Trucks and buses	5	5		%

Recreational vehicles	0	0		%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	km	km	km	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		
Heavy vehicle adjustment, fHV	0.976	0.976		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	1844	3850		pcph

Estimation of V12 Merge Areas

L_{EQ} = 0.00 (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_{F}(P_{FM})$ = 1844 pcph

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5694	4500	Yes
v_{R12}	5694	4600	Yes

Level of Service Determination (if not F)

$D_R = 3.402 + 0.00456\, v_R + 0.0048\, v_{12} - 0.01278\, L_A$ = 12.6 pc/km/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, M_S = 1.156

Space mean speed in ramp influence area, S_R = 63.4 km/h

Space mean speed in outer lanes, S_0 = N/A km/h

Space mean speed for all vehicles, S = 63.4 km/h