Phone: Fax:
E-mail:

Diverge Analysis

Analyst:
Agency/Co.:
Date performed: 02/11/2016
Analysis time period:
Freeway/dir or travel: D3
Junction:
Jurisdiction:
Analysis Year:
Description:

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	90.0	km/h
Volume on freeway	423	vph

Off Ramp Data

Side of freeway	Left	
Number of lanes in ramp	2	
Free-Flow speed on ramp	90.0	km/h
Volume on ramp	66	vph
Length of first accel/decel lane	103	m
Length of second accel/decel lane	103	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)	423	66		vph
Peak-hour factor, PHF	0.80	0.80		
Peak 15-min volume, v15	132	21		v
Trucks and buses	5	5		%

Recreational vehicles	0	0	%
Terrain type:	Level	Level	Level
Grade	0.00 %	0.00 %	%
Length	0.00 km	0.00 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	542	85	pcph

Estimation of V12 Diverge Areas

L_{EQ} = 0.00 (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v - v_F) P_{FD}$ = 542 pcph

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	542	4500	No
v_{12}	542	4400	No
$v_{FO} = v - v_R$	457	4500	No
v_R	85	4400	No

Level of Service Determination (if not F)

Density, $D_R = 2.642 + 0.0053\ v_{12} - 0.0183\ L_D$ = -0.1 pc/km/ln

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

Speed Estimation

Intermediate speed variable, D_S = 0.171

Space mean speed in ramp influence area, S_R = 86 km/h

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

Space mean speed for all vehicles, S = 86.1 km/h