

Phone:
E-mail:

Fax:

Diverge Analysis

Analyst: Pavel Mlaker
 Agency/Co.: UL FGG
 Date performed: 06/12/2012
 Analysis time period:
 Freeway/Dir of Travel: A1 Kozarje-Malence
 Junction: Lj. Rudnik
 Jurisdiction:
 Analysis Year:
 Description: Predhodna določitev hitrosti na rampi

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	120.0	km/h
Volume on freeway	4200	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	40.0	km/h
Volume on ramp	900	vph
Length of first accel/decel lane	200	m
Length of second accel/decel lane		m

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	700	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	200	m

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4200		900		700	vph
Peak-hour factor, PHF	0.90		0.90		0.90	
Peak 15-min volume, v15	1167		250		194	v
Trucks and buses	0		4		0	%
Recreational vehicles	0		0		0	%
Terrain type:	Level		Grade		Level	
Grade	0.00	%	0.00	%	0.00	%
Length	0.00	km	0.00	km	0.00	km
Trucks and buses PCE, ET	1.5		1.5		1.5	
Recreational vehicle PCE, ER	1.2		1.2		1.2	

Heavy vehicle adjustment, fHV	1.000	0.980	1.000	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4667	1020	778	pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.596$ Using Equation 5
 FD
 $v_{12} = v_R + (v_F - v_R) P_{FD} = 3195$ pcph

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4667	7200	No
v_{12}	3195	4400	No
$v_{FO} = v_F - v_R$	3647	7200	No
v_R	1020	1900	No

Level of Service Determination (if not F)

Density, $D = 2.642 + 0.0053 v_{12} - 0.0183 L_D = 15.9$ pc/km/ln
 Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	$D = 0.655$	
	S	
Space mean speed in ramp influence area,	$S = 85.3$	km/h
	R	
Space mean speed in outer lanes,	$S = 124.3$	km/h
	O	
Space mean speed for all vehicles,	$S = 94.7$	km/h
