Existing Conditions

I-4 EB Off to CR 46A.txt

Phone: E-mail:	I UNI				
Dive	rge Analysis				
Analyst: KNM Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Cond- Freeway/Dir of Travel: I-4 EB Junction: Off Ramp to CI Jurisdiction: Seminole Coun- Analysis Year: 2005 Description: Wekiva Parkway Project I	itions R 46A ty				
Free	eway Data				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diverge 4 55.0 5200				
off s	Ramp Data				
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 2 35.0 1010 500 500	mpl vpl ft ft			
Adjacent Ramp	o Data (if one	exists)			
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	Yes 1120 Downstr Off 1906	vpl			
Conversion to pc/h	n Under Base C	onditions_	a managaran da		
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	5200 0.92 1413 9 0 Level 0.00 % 0.00 mi 1.5 1.2 0.957	Ramp 1010 0.92 274 9 0 Level 0.00 % 0.00 mi 1.5 1.2 0.957	Adjacent Ramp 1120 vph 0.92 304 v 9 % 0 % Level 0.00 % 0.00 mi 1.5 1.2 0.957 1.00		

```
I-4 EB Off to CR 46A.txt
Flow rate, vp
                                         5907
                                                      1147
                                                                  1272
                                                                            pcph
                          Estimation of V12 Diverge Areas_
                   L =
                                    (Equation 25-8 or 25-9)
                    EQ
                   Ρ
                           0.260
                                   Using Equation
                    FD
                           + (v - v) P = 2385
                                                    pc/h
                    12
                               F
                                   R FD
                              ___Capacity Checks_
                            Actual
                                           Maximum
                                                            LOS F?
                            5907
                                           9000
                                                            No
                            4760
                                           9000
                                                            No
                            1147
                                           3800
                                                            No
                            1761 pc/h
                                           (Equation 25-15 or 25-16)
Is
                   > 2700 pc/h?
                                           No
Is
                   > 1.5 v /2
                                           No
             = 2385
                                           (Equation 25-18)
                       Flow Entering Diverge Influence Area
                                     Max Desirable
4400
                       Actual
                                                             Violation?
                       2385
      12
                 Level of Service Determination (if not F)_
Density,
                        D = 4.252 + 0.0086 \text{ v} - 0.009 \text{ L}
                                                                 11.3
                                                                         pc/mi/ln
Level of service for ramp-freeway junction areas of influence B
                          ____Speed Estimation_
Intermediate speed variable,
                                               D = 0.531
                                                S
Space mean speed in ramp influence area,
                                               S = 48.1
                                                            mph
                                                R
Space mean speed in outer lanes,
                                                  = 57.4
                                                            mph
Space mean speed for all vehicles,
                                               s = 53.2
                                                            mph
```

I-4 EB On from CR 46A.txt

Phone: E-mail:	Fax:						
	Merge	Analys	is				
Analyst: Agency/Co.: Date performed: Analysis time period: Freeway/Dir of Travel: Junction: Jurisdiction: Analysis Year: Description: Wekiva Pa	On Ramp from C Seminole Count 2005 rkway Project D	R 46A y evelopm				-	
	Free	way Dat	a				
Type of analysis Number of lanes in free Free-flow speed on free Volume on freeway	way way	3 5	erge 5.0 070		mph vph		
	On R	amp Dat	a				
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/d Length of second accel/d	ecel lane decel lane	1 3 2	ight 5.0 60 00		mph vph ft ft		
-	Adjacent Ramp	Data (if on	e exists)		
Does adjacent ramp exist Volume on adjacent Ramp Position of adjacent Ram Type of adjacent Ramp Distance to adjacent Ram	np	6: D: O:	es 90 ownst n 826	ream	vph ft		
Con	version to pc/h	Under	Base	Conditio	ns		
Junction Components		Freeway	у	Ramp		Adjacent	:
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		3070 0.92 834 9 0 Level	%.	260 0.92 71 9 0 Level	%.	Ramp 690 0.92 187 9 0 Level	vph v % %
Length Trucks and buses PCE, English Recreational vehicle PCE Heavy vehicle adjustment Driver population factor	E, ER E, fhV	1.5 1.2 0.957 1.00 Page 1	mi	1.5 1.2 0.957 1.00	mi	1.5 1.2 0.957 1.00	mi

I-4 EB Off to CD Road & 417 EB and SR 46.txt

Phone: E-mail:	Fax:					
	Diver	ge Analysis				
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 NB Junction: Off Ramp to SR 417 EB & SR 46 Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study						
	Free	way Data				
Type of analysis Number of lanes in free Free-flow speed on free Volume on freeway	way way	Diver 3 55.0 4190	-	mph vph		
	off R	amp Data				
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/d Length of second accel/	ecel lane	Right 2 35.0 1120 500 500		mph vph ft ft		
	Adjacent Ramp	Data (if o	ne exists	:)(;		
Does adjacent ramp exis Volume on adjacent ramp Position of adjacent ra Type of adjacent ramp Distance to adjacent ra	t? mp	Yes 1010 Upstr Off 1906		vph ft		
Con	version to pc/h	Under Base	Conditio	ns	·······	
Junction Components		Freeway	Ramp		Adjacent	
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, E Recreational vehicle PCI Heavy vehicle adjustment	E, ER t, fHV	4190 0.92 1139 9 0 Level 0.00 % 0.00 mi 1.5 1.2 0.957 1.00 Page 1	1120 0.92 304 9 0 Level 0.00 0.00 1.5 1.2 0.957 1.00	% mi		vph v % %

I-4 EB CD Road Off to SR 417 EB.txt

Phone: E-mail:					
Div	verge Analysis				
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 EB CD Road Junction: Off Ramp to SR 417 EB Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study					
Fr	eeway Data				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diverge 2 55.0 1120	mph ∨ph			
off	Ramp Data				
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 300 500	mph vph ft ft			
Adjacent Ra	mp Data (if one	exists)			
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	No	vph ft			
Conversion to po	/h Under Base Co	onditions			
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	Freeway R 1120 3 0.90 0 311 8 0 0 0 0 Level L 0.00 % 0 0.00 mi 0 1.5 1 1.2 1	Ramp 300).90 33	Adjacent Ramp vph v % % mi		

```
Estimation of V12 Diverge Areas_
                   L =
                                    (Equation 25-8 or 25-9)
                    EQ
                           1.000
                                   Using Equation 0
                    FD
                           + (v - v) P = 1244
                                                    pc/h
                         R
                               F
                                   R FD
                             ____Capacity Checks__
                            Actual
                                           Maximum
                                                            LOS F?
                            1244
                                           4500
                            911
                                           4500
                                                           No
                            333
                                           2000
                                                           No
                                 pc/h
                                           (Equation 25-15 or 25-16)
IS
                   > 2700 pc/h?
                                           No
IS
                                           No
             = 1244
                                           (Equation 25-18)
                       Flow Entering Diverge Influence Area.
                                     Max Desirable
                                                            Violation?
                       1244
                                     4400
      12
                 Level of Service Determination (if not F)\_
Density,
                        D = 4.252 + 0.0086 \text{ v} - 0.009 \text{ L}
                                                                         pc/mi/ln
Level of service for ramp-freeway junction areas of influence B
                          _____Speed Estimation_
Intermediate speed variable,
                                               D = 0.458
Space mean speed in ramp influence area,
                                                 = 49.0
                                               S
                                                            mph
Space mean speed in outer lanes,
                                                 = N/A
                                               $
                                                            mph
Space mean speed for all vehicles,
                                              S = 49.0
                                                            mph
```

I-4 EB CD Road Off to SR 417 EB_Diverge.txt

Phone: E-mail:	Fax:					
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 EB CD Road Junction: Off Ramp to SR 417 EB Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study						
Fre	eway Data					
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diverge 2 55.0 1120	mph vph				
off	Ramp Data					
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 300 500	mph vph ft ft				
Adjacent Ram	p Data (if one exi	sts)				
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	No	vph ft				
Conversion to pc/	h Under Base Condi	tions				
Junction Components	Freeway Ramp		Adjacent			
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	1120 300 0.92 0.92 304 82 9 9 0 0 Level Leve 0.00 % 0.00 0.00 mi 0.00 1.5 1.5 1.2 1.2 0.957 0.95 1.00 1.00 Page 1	% mi	Ramp vph % % % mi			

```
_Estimation of V12 Diverge Areas_
                   L =
                                    (Equation 25-8 or 25-9)
                    EQ
                           1.000
                                    Using Equation 0
                    FD
                      = V + (V - V) P = 1272
                                                     pc/h
                              F R FD
                        R
                             ____Capacity Checks__
                            Actua]
                                           Maximum
                                                            LOS F?
                                           4500
                            1272
                                                            No
                            931
                                           4500
                                                            No
                            341
                                           2000
                                                            No
      R
                                           (Equation 25-15 or 25-16)
                                 pc/h
IS
                   > 2700 pc/h?
                                           No
Is
                   > 1.5 v /2
                                           No
            av34
      3 or
If yes, v
             = 1272
                                           (Equation 25-18)
         12A
                       Flow Entering Diverge Influence Area
                       Actual
                                      Max Desirable
                                                             Violation?
                                      4400
      12
                 _Level of Service Determination (if not F)_
                        D = 4.252 + 0.0086 \text{ v} - 0.009 \text{ L} = 0.009 \text{ R}
Density,
                                                                          pc/mi/ln
Level of service for ramp-freeway junction areas of influence B
                         _____Speed Estimation_
Intermediate speed variable,
                                               D = 0.459
Space mean speed in ramp influence area,
                                               S
                                                  = 49.0
                                                             mph
                                                R
Space mean speed in outer lanes,
                                               S
                                                  = N/A
                                                             mph
Space mean speed for all vehicles.
                                               S = 49.0
                                                             mph
```

I-4 EB On from SR 417 WB.txt

Phone: E-mail:					
Dive	ge Analysis_				
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: SR 417 WB Junction: Off Ramp to I-4 EB Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study					
Free	eway Data				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diver <u>o</u> 3 55.0 990		mph vph		
off F	Ramp Data				
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 2 35.0 690 500 500		mph vph ft ft		
Adjacent Ramp	Data (if or	ne exists	5)		
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	No		vph ft		
Conversion to pc/h	Under Base	Conditio	ons		
Junction Components	Freeway	Ramp		Adjacent	
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	990 0.92 269 9 0 Level 0.00 % 0.00 mi 1.5 1.2 0.957 1.00 Page 1	690 0.92 187 9 0 Level 0.00 0.00 1.5 1.2 0.957	% mi	Ramp vph v % % % mi	

```
_Estimation of V12 Diverge Areas_
                                    (Equation 25-8 or 25-9)
                    EQ
                           0.450
                                   Using Equation 0
                           + (v - v) P = 937
                                                    pc/h
                    12
                         R
                             ____Capacity Checks_
                            Actual
                                           Maximum
                                                            LOS F?
                            1125
                                           6750
                                                            No
                            341
                                           6750
                                                            No
                            784
                                           3800
                                                            No
                            188 pc/h
                                           (Equation 25-15 or 25-16)
Is
                   > 2700 pc/h?
                                           No
                   > 1.5 v /2
                                           No
      3 or
            av34
If yes,
             = 937
                                           (Equation 25-18)
         12A
                       Flow Entering Diverge Influence Area
                                      Max Desirable
                       Actual
                                                            Violation?
                       937
                                      4400
     V
      12
                 Level of Service Determination (if not F)_
Density,
                        D = 4.252 + 0.0086 \text{ V} - 0.009 \text{ L}
                                                                         pc/mi/ln
Level of service for ramp-freeway junction areas of influence A
                       _____Speed Estimation_
Intermediate speed variable,
                                               D = 0.499
Space mean speed in ramp influence area,
                                               S = 48.5
                                                            mph
Space mean speed in outer lanes,
                                               S = 60.3
                                                            mph
                                                0
Space mean speed for all vehicles,
                                               S = 50.2
                                                            mph
```

I-4 EB On from SR 417 WB_Merge.txt

Phone: E-mail:	Fax:					
- The state of the	Merge Analysis					
Agency/Co.: HNTB Date performed: 10/31/200 Analysis time period: Existing Freeway/Dir of Travel: I-4 NB	Conditions From SR 417 WB County	ronment Study				
	Freeway Data					
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Merge 4 55.0 3330	mph ∨ph				
	_On Ramp Data					
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 690 500	mph vph ft ft				
Adjacent	Ramp Data (if one exi	sts)				
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp	Yes 870 Downstream On 5148	vph ft				
Conversion to	pc/h Under Base Condi	tions				
Junction Components	Freeway Ramp					
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade	3330 690 0.92 0.92 905 187 9 9 0 0 Level Leve	236 v 9 % 0 % 1 Level				
Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	mi 1.5 1.5 1.2 1.2 0.957 0.95 1.00 1.00 Page 1					

I-4 EB On from SR 46.txt

Phone: E-mail:	Fax:					
	Merge	Analysis		,		
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 EB Junction: On Ramp from SR 46 Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study						
	Free	way Data				
Type of analysis Number of lanes in free Free-flow speed on free Volume on freeway	way way	Merge 4 55.0 4020		mph vph		
	On R	amp Data				
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/d Length of second accel/	ecel lane decel lane	Right 1 35.0 870 500		mph vph ft ft		
	Adjacent Ramp	Data (if or	ne exists)		
Does adjacent ramp exis Volume on adjacent Ramp Position of adjacent Ra Type of adjacent Ramp Distance to adjacent Ra	np	Yes 690 Upstre On 5148	eam	vph ft		
Con	version to pc/h	Under Base	Conditio	ns	***************************************	
Junction Components		Freeway	Ramp		Adjacent	
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		4020 0.92 1092 9 0 Level	870 0.92 236 9 0 Level	%	Ramp 690 vph 0.92 187 v 9 % 0 % Level	
Length Trucks and buses PCE, E- Recreational vehicle PCE Heavy vehicle adjustment Driver population factor	E, ER E, fHV	mi 1.5 1.2 0.957 1.00 Page 1	1.5 1.2 0.957 1.00	mi	mi 1.5 1.2 0.957 1.00	

```
I-4 EB On from SR 46.txt
Flow rate, vp
                                         4566
                                                                   784
                                                                             pcph
                          _Estimation of V12 Merge Areas_
                   L =
                                    (Equation 25-2 or 25-3)
                    EQ
                            0.094
                                    Using Equation 4
                    FΜ
                            (P) = 431
                                            pc/h
                    12
                         F
                             FM
                               __Capacity Checks_
                            Actual
                                           Maximum
                                                            LOS F?
                             5554
                                           9000
      FO
                            2067 pc/h
                                           (Equation 25-4 or 25-5)
            av34
                   > 2700 pc/h?
Is
                                           No
Is
                                           Yes
            av34
If yes, v
             = 1826
                                           (Equation 25-8)
                         _Flow Entering Merge Influence Area_
                                      Max Desirable
                       Actual
                                                             Violation?
                                      4600
      12A
                  Level of Service Determination (if not F)_
Density, D = 5.475 + 0.00734 \text{ v} + 0.0078 \text{ v} - 0.00627 \text{ L}
                                                                  23.8
                                                                           pc/mi/ln
Level of service for ramp-freeway junction areas of influence
                            ___Speed Estimation_
Intermediate speed variable,
                                                M = 0.351
Space mean speed in ramp influence area,
                                                S = 50.4
                                                             mph
Space mean speed in outer lanes,
                                                S
                                                  = 51.9
                                                             mph
Space mean speed for all vehicles,
                                               S = 51.1
                                                             mph
```

I-4 WB Off to SR 46.txt

Phone: Fax: E-mail:			
Dive	ge Analysis		
Analyst: KNM Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditered Freeway/Dir of Travel: I-4 WB Junction: Off Ramp to SF Jurisdiction: Seminole Count Analysis Year: 2005 Description: Wekiva Parkway Project I	R 46 Ey	En∨ironment	Study
Free	eway Data		
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diverge 3 55.0 4850	mph vph	
off F	Ramp Data		
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 2 35.0 870 500 500	mph vph ft ft	
Adjacent Ramp	Data (if one	exists)	
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	Yes 1180 Downstre On 2793	∨ph eam ft	
Conversion to pc/h	under Base Co	onditions	
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	4850 8 0.92 0 1318 2 9 9 0 0 Level L 0.00 % 0 0.00 mi 0 1.5 1 1.2 1 0.957 0	370).92 236)) .evel	Adjacent Ramp 1180 vph 0.92 321 v 9 % 0 % Level 0.00 % 0.00 mi 1.5 1.2 0.957 1.00

Space mean speed in outer lanes,

Space mean speed for all vehicles,

s = 55.0

S = 51.0

mph

mph

I-4 WB On from SR 46.txt

Phone: E-mail:							
	Merge	analy	sis				
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 WB Junction: On Ramp from SR 46 Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway PD&E							
	Free	way Da	ta				
Type of analysis Number of lanes in free Free-flow speed on free Volume on freeway	way way		Merge 3 55.0 3980		mph vph		
	On R	amp Da	ta	····			
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/de Length of second accel/de	ecel lane decel lane		Right 1 35.0 1180 500		mph vph ft ft		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Adjacent Ramp	Data	(if on	e exists)		
Does adjacent ramp exist Volume on adjacent Ramp Position of adjacent Ram Type of adjacent Ramp Distance to adjacent Ram	t? np	\ { (Yes 870 Upstre Off 2793		vph ft		
Con	/ersion to pc/h	Under	Base	Conditio	ns		
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET	-	3980 0.92 1082 9 0 Level	ay % mi	Ramp 1180 0.92 321 9 0 Level	% mi	Adjacer Ramp 870 0.92 236 9 0 Level	vph v % % mi
Recreational vehicle PCE Heavy vehicle adjustment Driver population factor	:. fHV	1.2 0.957 1.00 Page 1	L	1.2 0.957 1.00		1.2 0.957 1.00	

I-4 WB Off Ramp to SR 417 EB and CR 46A_2.txt

Phone: E-mail:	Fax:			
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 WB Junction: Off Ramp to SR 417 EB & CR 46A Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study				
F	reeway Data			
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diverge 3 55.0 3980	mph ∨ph		
of	f Ramp Data			
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 2 35.0 1220 500 500	mph vph ft ft	·	
Adjacent Ra	amp Data (if one ex	ists)		
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	Yes 1180 Upstream On 3305	vph ft		
Conversion to po	c/h Under Base Cond	itions		
Junction Components	Freeway Ram	p Adj	acent	
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	3980 1220 0.92 0.92 1082 332 9 9 0 0 Level Level 0.00 % 0.00 0.00 mi 0.00 1.5 1.5 1.2 1.2 0.957 0.95 1.00 page 1	Ram 0 118 2 0.9 321 9 0 el Lev 0 % 0.0 0 mi 0.0 1.5 1.2	p 0 vph 2 v % % el 0 % 0 mi	

S = 51.1

mph

Space mean speed for all vehicles,

I-4 WB CD Road Off Ramp to SR 417 EB.txt

Phone: E-mail:	Fax:				
	Diver	ge Analysi	S		
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 wB CD Road Junction: Off Ramp to SR 417 EB Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study					
	Free	way Data			
Type of analysis Number of lanes in free Free-flow speed on free Volume on freeway	freeway 2 freeway 55.0 1220		mph vph		
	Off R	amp Data			
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/d Length of second accel/	ecel lane	Righ 1 35.0 840 500		mph vph ft ft	
	Adjacent Ramp	Data (if	one e	xists)	
Does adjacent ramp exis Volume on adjacent ramp Position of adjacent ra Type of adjacent ramp Distance to adjacent ra	тр	No		∨ph ft	
Con	version to pc/h	Under Bas	e Con	ditions	
Junction Components		Freeway	Rai	тр	Adjacent
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population facto	E, ER t, fHV	1220 0.92 332 9 0 Level 0.00 % 0.00 m 1.5 1.2 0.957 1.00 Page 1	0.0 i 0.0 1.1	92 8 vel 00 % 00 mi 5 2	Ramp Vph % % % mi

```
_Estimation of V12 Diverge Areas_
                  L =
                                   (Equation 25-8 or 25-9)
                    EQ
                           1.000
                                   Using Equation 0
                          + (v - v) P = 1386
F R FD
                                                    pc/h
                        R
                            ____Capacity Checks__
                            Actual
                                          Maximum
                                                           LOS F?
                            1386
                                          4500
                                                           No
                            432
                                          4500
                                                           No
                            954
                                          2000
                                                           No
      R
                                 pc/h
                                          (Equation 25-15 or 25-16)
Is
                   > 2700 pc/h?
                                          No
                  > 1.5 v /2
Is
                                          No
      3 or
            av34
             = 1386
                                           (Equation 25-18)
         12A
                      Flow Entering Diverge Influence Area.
                                     Max Desirable
                      Actual
                                                            Violation?
                                     4400
                      1386
      12
                 Level of Service Determination (if not F)_
Density,
                        D = 4.252 + 0.0086 v - 0.009 L
                                                                11.7
                                                                        pc/mi/ln
Level of service for ramp-freeway junction areas of influence B
                       _____Speed Estimation_
Intermediate speed variable,
                                              D = 0.514
Space mean speed in ramp influence area.
                                              S = 48.3
                                                            mph
Space mean speed in outer lanes,
                                              S
                                                   N/A
                                                            mph
Space mean speed for all vehicles,
                                              S = 48.3
                                                            mph
```

I-4 WB On from SR 417 WB.txt

Phone: E-mail:		Fax:			
	Merge	: Analysis			
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 WB Junction: On Ramp from SR 417 WB Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study					
	Free	way Data			
Type of analysis Number of lanes in free Free-flow speed on free Volume on freeway	way way	Merge 3 55.0 3980		mph vph	
	On R	amp Data			
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/d Length of second accel/	ecel lane	Right 1 35.0 300 900		mph vph ft ft	
	Adjacent Ramp	Data (if or	ne exists	;)	
Does adjacent ramp exis Volume on adjacent Ramp Position of adjacent Ra Type of adjacent Ramp Distance to adjacent Ra	тр	Yes 920 Downst On 3654		vph ft	
Conversion to pc/h Under Base Conditions					
Junction Components		Freeway	Ramp		Adjacent
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		3980 0.92 1082 9 0 Level	300 0.92 82 9 0 Level	%	Ramp 920 vph 0.92 250 v 9 % 0 % Level
Length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	mi 1.5 1.2 0.957 1.00 Page 1	1.5 1.2 0.957 1.00	mi	mi 1.5 1.2 0.957 1.00

```
I-4 WB On from SR 417 WB.txt
Flow rate, vp
                                        4521
                                                                 1045
                                                                           pcph
                         Estimation of V12 Merge Areas_
                                   (Equation 25-2 or 25-3)
                   EQ
                           0.603
                                   Using Equation 1
                           (P) = 2725
                                           pc/h
                   12
                        F
                            FM
                               _Capacity Checks_
                           Actual
                                          Maximum
                                                          LOS F?
     V
                            4862
                                          6750
      FO
                           1796 pc/h
                                          (Equation 25-4 or 25-5)
IS
                  > 2700 pc/h?
                                          No
ΙS
                                          No
      3 or
If yes, v
             = 2725
                                          (Equation 25-8)
                        Flow Entering Merge Influence Area
                      Actual
                                     Max Désirable
                                                           Violation?
                                     4600
                                                           No
      R12
                 _Level of Service Determination (if not F)__
Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L
                                                                23.6
                                                                         pc/mi/ln
Level of service for ramp-freeway junction areas of influence
                          ____Speed Estimation__
Intermediate speed variable,
                                                = 0.342
Space mean speed in ramp influence area,
                                              5 = 50.6
                                                           mph
                                               R
Space mean speed in outer lanes,
                                              S = 50.3
                                                           mph
Space mean speed for all vehicles,
                                              S = 50.5
                                                           mph
```

I-4 WB On from CR 46A and I-4 WB CD Road.txt

Phone: E-mail:	Fax:						
Merge Analysis							
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 WB Junction: On Ramp from SR 46 & CR 46A Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study							
	Free	way Data	l				
Type of analysis Number of lanes in free Free-flow speed on free Volume on freeway	way way	4 55	erge 5.0 280		mph vph		
	On R	amp Data	l				
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/d Length of second accel/	ecel lane	1	.0 20		mph vph ft ft		
	Adjacent Ramp	Data (i	f on	e exists	i)		
Does adjacent ramp exis Volume on adjacent Ramp Position of adjacent Ra Type of adjacent Ramp Distance to adjacent Ra	тр	On	00 stre	am	vph ft		
Conversion to pc/h Under Base Conditions							
Junction Components		Freeway	,	Ramp		Adjacer	ıt
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length		4280 0.92 1163 9 0 Level	% mi	920 0.92 250 9 0 Level	% m-i	Ramp 300 0.92 82 9 0 Level	vph v % %
Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fhV	1.5 1.2 0.957 1.00 Page 1	111 1	1.5 1.2 0.957 1.00	mi	1.5 1.2 0.957 1.00	mi

```
I-4 WB On from CR 46A and I-4 WB CD Road.txt
Flow rate, vp
                                        4862
                                                    1045
                                                                           pcph
                         Estimation of V12 Merge Areas_
                                   (Equation 25-2 or 25-3)
                   EQ
                           0.087
                                   Using Equation 4
                          (P) = 424
                                           pc/h
                   12
                        F
                            FΜ
                             ____Capacity Checks_
                           Actual
                                          Maximum
                                                           LOS F?
     ٧
                            5907
                                          9000
                                                           No
      FO
                           2219 pc/h
                                          (Equation 25-4 or 25-5)
       or
                  > 2700 pc/h?
Is
                                          No
Ιs
                                          Yes
      3
            av34
       or
If yes, v
             = 1944
                                          (Equation 25-8)
                        _Flow Entering Merge Influence Area
                      Actual
                                     Max Desirable
                                                           Violation?
                      1944
                                     4600
      12A
                 _Level of Service Determination (if not F)_
Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L
                                                                 25.2
                                                                         pc/mi/ln
Level of service for ramp-freeway junction areas of influence C
                          ____Speed Estimation_
Intermediate speed variable,
                                                = 0.363
Space mean speed in ramp influence area,
                                              S = 50.3
                                                           mph
Space mean speed in outer lanes,
                                              S = 51.5
                                                           mph
Space mean speed for all vehicles,
                                              S = 50.9
                                                           mph
```

SR 417 EB On Ramp from I-4 EB CD Road_Merge.txt

Phone: E-mail:	Fax:					
Merge	Analysis					
Analyst: Cristina Torre Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Condi Freeway/Dir of Travel: SR 417 EB Junction: On Ramp from I Jurisdiction: Seminole Count Analysis Year: 2005 Description: Wekiva Parkway Project D	tions -4 NB y	ronment Study				
Free	way Data					
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Merge 2 55.0 840	mph vph				
On R	amp Data					
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 300 500	mph vph ft ft				
Adjacent Ramp	Data (if one exis	sts)				
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp	No	vph ft				
Conversion to pc/h Under Base Conditions						
Junction Components	Freeway Ramp	Adjacent				
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	840 300 0.92 0.92 228 82 9 0 0 Level Level % mi 1.5 1.5 1.2 1.2 0.957 0.957 1.00 1.00 Page 1	Ramp vph vm % % mi mi				

```
_Estimation of V12 Merge Areas_
                                   (Equation 25-2 or 25-3)
                   EQ
                           1.000
                                   Using Equation 0
                   FΜ
                           (P) = 954
                                           pc/h
                           ` FM
                            ____Capacity Checks_
                           Actual
                                          Maximum
                                                           LOS F?
                            1295
                                          4500
                                                           No
      FO
                                 pc/h
                                          (Equation 25-4 or 25-5)
IS
                  > 2700 pc/h?
                                          No
I$
                                          No
            av34
       or
If yes, v
             = 954
                                          (Equation 25-8)
                        _Flow Entering Merge Influence Area_
                      Actual
                                     Max Desirable
                                                            Violation?
                                     4600
      R12
                 _Level of Service Determination (if not F)_
Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L R 12
                                                                         pc/mi/ln
                                                                 12.3
Level of service for ramp-freeway junction areas of influence
                       _____Speed Estimation_
Intermediate speed variable,
                                              M = 0.300
Space mean speed in ramp influence area,
                                              S = 51.1
                                                           mph
Space mean speed in outer lanes,
                                                 = N/A
                                                           mph
Space mean speed for all vehicles,
                                              S = 51.1
                                                           mph
```

SR 417EB off to Rinehart Rd.txt

Phone: E-mail:					
Diverge Analysis					
Analyst: Agency/Co.: Date performed: Analysis time period: Freeway/Dir of Travel: Junction: Jurisdiction: Analysis Year: Description: Wekiva Par	Seminole Count 2005	nehart Rd Y	& Enviror	ıment	Study
	Free	way Data			
Type of analysis Number of lanes in freew Free-flow speed on freew Volume on freeway	vay vay	Diver 2 55.0 1140	-	mph vph	
	Off R	amp Data			
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/de Length of second accel/d	ecel lane decel lane	Right 1 35.0 80 500		mph vph ft ft	
	Adjacent Ramp	Data (if o	ne exists	:)	
Does adjacent ramp exist Volume on adjacent ramp Position of adjacent ram Type of adjacent ramp Distance to adjacent ram	пр	No		vph ft	
Conv	version to pc/h	Under Base	Conditio	ns	
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE Heavy vehicle adjustment Driver population factor	E, ER E, fHV	Freeway 1140 0.92 310 9 0 Level 0.00 % 0.00 mi 1.5 1.2 0.957 1.00 Page 1	Ramp 80 0.92 22 9 0 Level 0.00 0.00 1.5 1.2 0.957 1.00	% mi	Adjacent Ramp vph v % % % mi

```
Estimation of V12 Diverge Areas_
                    L =
                                     (Equation 25-8 or 25-9)
                     EQ
                                     Using Equation 0
                            1.000
                     FD
                            + (v - v) P = 1295
                                                      pc/h
                                ___Capacity Checks__
                             Actual
                                            Maximum
                                                              LOS F?
                             1295
                                             4500
                             1204
                                             4500
                                                              No
                             91
                                             2000
                                                              No
      R
                                   pc/h
                                             (Equation 25-15 or 25-16)
IS
                    > 2700 pc/h?
                                            No
                                            No
                                             (Equation 25-18)
          12A
                        Flow Entering Diverge Influence Area
Actual Max Desirable
1295 4400
                                                               Violation?
      12
                  _Level of Service Determination (if not F)_
Density,
                         D = 4.252 + 0.0086 \text{ V} - 0.009 \text{ L}
                                                                   10.9
                                                                            pc/mi/ln
Level of service for ramp-freeway junction areas of influence B
                     _____Speed Estimation____
Intermediate speed variable,
                                                    = 0.436
Space mean speed in ramp influence area,
                                                    = 49.3
                                                               mph
                                                  R
Space mean speed in outer lanes,
                                                 S
                                                               mph
                                                  0
Space mean speed for all vehicles,
                                                 S = 49.3
                                                               mph
```

SR 417EB on Ramp.txt

Phone: E-mail:	Fax:					
Analyst: KNM Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Condi Freeway/Dir of Travel: SR 417 EB Junction: On Ramp from R Jurisdiction: Seminole Count Analysis Year: 2005 Description: Wekiva Parkway Project D	tions inehart Rd y					
Free				-		
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Merge 2 55.0 1060		mph vph			
On R	amp Data					
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 490 500		mph vph ft ft			
Adjacent Ramp	Data (if on	e exists)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp	NO		vph ft			
Conversion to pc/h Under Base Conditions						
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	Freeway 1060 0.92 288 9 0 Level % mi 1.5 1.2 0.957 1.00 Page 1	Ramp 490 0.92 133 9 0 Level 1.5 1.2 0.957 1.00	% mi	Adjacent Ramp vph V % % % mi		

```
_Estimation of V12 Merge Areas_
                                    (Equation 25-2 or 25-3)
                    EQ
                           1.000
                                    Using Equation 0
                    FΜ
                           (P) = 1204
                            .
FM
                              ___Capacity Checks_
                            Actual
                                           Maximum
                                                            LOS F?
                             1761
                                            4500
                                                            No
      FO
                                  pc/h
                                           (Equation 25-4 or 25-5)
Is
                   > 2700 pc/h?
                                           No
I$
                                           No
      3
            av34
             = 1204
                                           (Equation 25-8)
                         _Flow Entering Merge Influence Area_
                                      Max Désirable
                       Actual
                                                             Violation?
                       1204
      R12
                 _Level of Service Determination (if not F)__
Density, D = 5.475 + 0.00734 \text{ v} + 0.0078 \text{ v} - 0.00627 \text{ L}
R 12 A
                                                                   15.8
                                                                           pc/mi/ln
Level of service for ramp-freeway junction areas of influence
                      _____Speed Estimation__
Intermediate speed variable,
                                               M = 0.309
Space mean speed in ramp influence area,
                                               S = 51.0
                                                             mph
Space mean speed in outer lanes,
                                               S = N/A
                                                             mph
                                                0
Space mean speed for all vehicles,
                                               S = 51.0
                                                             mph
```

SR 417WB off to Rinehart Rd.txt

Phone: Fax: E-mail:					
Diverge Analysis					
Analyst: KNM Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: SR 417 WB Junction: Off Ramp to Rinehart Rd Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study					
Free	way Data				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diver 2 55.0 1600	ge	mph vph		
off R	Ramp Data				
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 700 500		mph vph ft ft		
Adjacent Ramp	Data (if o	ne exists)		
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	No		vph ft		
Conversion to pc/h	Under Base	Conditio	ns		
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	Freeway 1600 0.92 435 9 0 Level 0.00 % 0.00 mi 1.5 1.2 0.957 1.00 Page 1	Ramp 700 0.92 190 9 0 Level 0.00 0.00 1.5 1.2 0.957 1.00	% mi	Adjacent Ramp vph v % % % mi	

```
_Estimation of V12 Diverge Areas_
                                      (Equation 25-8 or 25-9)
                     EQ
                             1.000
                                     Using Equation 0
                     FD
                            + (v - v) P = F R FD
                                                       pc/h
                               ___Capacity Checks_
                              Actual
                                             Maximum
                                                               LOS F?
                              1817
                                             4500
                              1022
                                             4500
                                                               No
                              795
                                             2000
                                                               No
      R
                                             (Equation 25-15 or 25-16)
                                   pc/h
                    > 2700 pc/h?
Ιs
                                             No
IS
                                             No
                                             (Equation 25-18)
                        Flow Entering Diverge Influence Area
Actual Max Desirable 1
1817 4400
                                                                Violation?
     v
12
                  _Level of Service Determination (if not F)_
Density,
                         D = 4.252 + 0.0086 \text{ V} - 0.009 \text{ L} =
                                                                    15.4
                                                                             pc/mi/ln
Level of service for ramp-freeway junction areas of influence B
                          _____Speed Estimation____
Intermediate speed variable,
                                                  D = 0.500
Space mean speed in ramp influence area,
                                                     = 48.5
                                                                mph
                                                   R
Space mean speed in outer lanes,
                                                       N/A
                                                                mph
                                                   0
Space mean speed for all vehicles,
                                                  s = 48.5
                                                                mph
```

SR 417WB on Ramp.txt

Phone: E-mail:						
Merg	e Analysis					
Analyst: KNM Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: SR 417 WB Junction: On Ramp from Rinehart Rd Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study						
Free	eway Data			***************************************		
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Merge 3 55.0 900		mph vph			
on (Ramp Data					
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 90 500		mph vph ft ft			
Adjacent Ramp	Data (if or	ne exists	:)			
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp	No		vph ft			
Conversion to pc/h	Under Base	Conditio	ns			
Junction Components	Freeway	Ramp		Adjacent		
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	900 0.92 245 9 0 Level % mi 1.5 1.2 0.957 1.00 Page 1	90 0.92 24 9 0 Level	% mi	Ramp vph v % % % mi		

```
Estimation of V12 Merge Areas_
                                    (Equation 25-2 or 25-3)
                    EQ
                                    Using Equation 1
                           0.591
                    FΜ
                           (P) =
                                     605
                                             pc/h
                             FM
                         F
                    12
                              ___Capacity Checks_
                             Actual
                                           Maximum
                                                            LOS F?
                             1124
                                           6750
     ٧
      FO
                             417 pc/h
                                           (Equation 25-4 or 25-5)
                   > 2700 pc/h?
Is
                                           No
Is
                   > 1.5 v /2
                                           No
      3 or
             av34
If yes, v
              = 605
                                            (Equation 25-8)
         12A
                         _Flow Entering Merge Influence Area
                       Actual
                                      Max Desirable
                                                             Violation?
                                      4600
                       605
      R12
                 _Level of Service Determination (if not F)_
Density, D = 5.475 + 0.00734 \text{ V} + 0.0078 \text{ V} - 0.00627 \text{ L}
R 12 A
                                                                   7.8
                                                                           pc/mi/ln
Level of service for ramp-freeway junction areas of influence A
                        _____Speed Estimation_
Intermediate speed variable,
                                                M = 0.294
Space mean speed in ramp influence area.
                                                S = 51.2
                                                             mph
Space mean speed in outer lanes,
                                                S = 55.0
                                                             mph
Space mean speed for all vehicles,
                                                S = 52.5
                                                             mph
```

SR 417WB on Ramp.txt

Phone: E-mail:	Fax:				
Merge	Analysis				
Analyst: KNM Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: SR 417 WB Junction: On Ramp from Rinehart Rd Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study					
Free	way Data				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Merge 3 55.0 900	mph vph			
On R	amp Data				
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 90 500	mph vph ft ft			
Adjacent Ramp	Data (if one exist	rs)			
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp	No	vph ft			
Conversion to pc/h	Under Base Conditi	ons			
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	Freeway Ramp 900 90 0.92 0.92 245 24 9 9 0 0 Level Level mi 1.5 1.2 1.5 1.2 0.957 1.00 1.00 Page 1	Adjacent Ramp vph v % % % mi mi			

```
_Estimation of V12 Merge Areas_
                                    (Equation 25-2 or 25-3)
                    EQ
                           0.591
                                   Using Equation 1
                           (P) = 605
                            FM
                               __Capacity Checks__
                            Actual
                                           Maximum
                                                            LOS F?
                            1124
                                           6750
                                                            No
      FO
                            417
                                           (Equation 25-4 or 25-5)
                                 pc/h
                   > 2700 pc/h?
Is
                                           No
                   > 1.5 v /2
                                           No
      3 or
If yes, v
             = 605
                                           (Equation 25-8)
         12A
                        _Flow Entering Merge Influence Area
ctual Max Desirable \
                       Actual
                                                             Violation?
                                      4600
                       605
     V
      R12
                 _Level of Service Determination (if not F)__
Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L
                                                                  7.8
                                                                           pc/mi/ln
Level of service for ramp-freeway junction areas of influence A
                          ____Speed Estimation_
Intermediate speed variable,
                                               M = 0.294
Space mean speed in ramp influence area,
                                               S = 51.2
                                                             mph
                                                R
Space mean speed in outer lanes,
                                               s = 55.0
                                                             mph
Space mean speed for all vehicles,
                                               S = 52.5
                                                             mph
```

I-4 EB CD Road Off to SR 417 EB.txt

Phone: Fax: E-mail:					
Dive	rge Analysis				
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 EB CD Road Junction: Off Ramp to SR 417 EB Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study					
Free	eway Data				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diver 2 55.0 1120	_	mph vph		
off i	Ramp Data				
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 300 500		mph vph ft ft		
Adjacent Ramp	Data (if o	ne exists	;)		
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	No		vph ft		
Conversion to pc/h	n Under Base	Conditio	ns		
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	Freeway 1120 0.90 311 0 0 Level 0.00 % 0.00 mi 1.5 1.2 1.000 1.00 Page 1	Ramp 300 0.90 83 0 0 Level 0.00 0.00 1.5 1.2 1.000 1.00	% mi	Adjacent Ramp vph v % % % mi	

Estimation of V12 Diverge Areas (Equation 25-8 or 25-9) L EQ Р 1.000 Using Equation 0 FD = V + (V - V) P = 1244 2 R F R FD pc/h ___Capacity Checks_ Actual Maximum LOS F? 1244 4500 No 911 4500 No 333 2000 No pc/h (Equation 25-15 or 25-16) > 2700 pc/h? IS No > 1.5 v No 3 or av34 If yes, v = 1244(Equation 25-18) Flow Entering Diverge Influence Area Actual Max Desirable Violation? 1244 4400 No 12 _Level of Service Determination (if not F)__ Density, D = 4.252 + 0.0086 V - 0.009 L10.5 pc/mi/ln Level of service for ramp-freeway junction areas of influence B _____Speed Estimation__ Intermediate speed variable, D = 0.458\$ Space mean speed in ramp influence area, S = 49.0mph R Space mean speed in outer lanes, \$ N/A mph 0 Space mean speed for all vehicles, S = 49.0mph

SR 417WB off to Rinehart Rd.txt

hone: Fax: -mail:					
Diver	ge Analysis				
Analyst: KNM Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: SR 417 WB Junction: Off Ramp to Rinehart Rd Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study					
Free	way Data				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diverge 2 55.0 1600	mph vph			
off R	amp Data				
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 - 35.0 700 500	mph vph ft ft			
Adjacent Ramp	Data (if one exis	ts)			
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	No	vph ft			
Conversion to pc/h	Under Base Condit	ions			
Junction Components	Freeway Ramp		Adjacent		
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	1600 700 0.92 0.92 435 190 9 9 0 0 Level 0.00 % 0.00 0.00 mi 0.00 1.5 1.5 1.2 1.2 0.957 1.00 page 1	% mi	Ramp vph % % % mi		

pcph

```
_Estimation of V12 Diverge Areas_
                                    (Equation 25-8 or 25-9)
                    EQ
                            1.000
                                    Using Equation 0
                    FD
                            + (v - v) P = 1817
                               __Capacity Checks_
                             Actual
                                            Maximum
                                                             LOS F?
                             1817
                                            4500
                                                             No
                             1022
                                            4500
                                                             No
                             795
                                            2000
                                                             No
      R
                                  pc/h
                                            (Equation 25-15 or 25-16)
                   > 2700 pc/h?
ΙS
                                            No
IS
                                            No
                                            (Equation 25-18)
                       Flow Entering Diverge Influence Area
Actual Max Desirable v
1817 4400 I
                                                              Violation?
    v
12
                  Level of Service Determination (if not F)\_
                        D = 4.252 + 0.0086 v_1 - 0.009 L_2 =
Density,
                                                                           pc/mi/ln
Level of service for ramp-freeway junction areas of influence B
                      _____Speed Estimation__
                                                D = 0.500
Intermediate speed variable,
                                                 S
Space mean speed in ramp influence area.
                                                S = 48.5
                                                              mph
                                                 R
Space mean speed in outer lanes,
                                                $
                                                     N/A
                                                              mph
Space mean speed for all vehicles,
                                                S = 48.5
                                                              mph
```

SR 417EB on Ramp.txt

Phone: E-mail:	Fax:					
Merge	Analysis					
Analyst: KNM Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: SR 417 EB Junction: On Ramp from Rinehart Rd Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study						
Free	way Data					
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Merge 2 55.0 1060	mph vph				
On R	amp Data					
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 490 500	mph vph ft ft				
Adjacent Ramp	Data (if one exist	s)				
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp	No	vph ft				
Conversion to pc/h	Under Base Conditi	ons				
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	Freeway Ramp 1060 490 0.92 0.92 288 133 9 9 0	Adjacent Ramp vph v % % % mi mi				

```
_Estimation of V12 Merge Areas_
                                    (Equation 25-2 or 25-3)
                    EQ
                   Р
                            1.000
                                    Using Equation 0
                    FΜ
                      = V (P) = 1204
2 F FM
                                _Capacity Checks_
                             Actual
                                            Maximum
                                                             LOS F?
                             1761
                                            4500
                                                             No
      FO
                                  pc/h
                                            (Equation 25-4 or 25-5)
Is
                   > 2700 pc/h?
                                            No
                                            No
                                            (Equation 25-8)
              = 1204
                         _Flow Entering Merge Influence Area_
ctual Max Desirable \
204 4600
                                                              Violation?
                       Actua]
                       1204
      R12
                  _Level of Service Determination (if not F)__
Density, D = 5.475 + 0.00734 + 0.0078 + 0.0078 + 0.00627  L
                                                                            pc/mi/ln
                                                                    15.8
Level of service for ramp-freeway junction areas of influence B
                      _____Speed Estimation____
Intermediate speed variable,
                                                   = 0.309
                                                 S
Space mean speed in ramp influence area,
                                                S = 51.0
                                                              mph
                                                 R
Space mean speed in outer lanes,
                                                S
                                                   = N/A
                                                              mph
                                                 0
Space mean speed for all vehicles,
                                                s = 51.0
                                                              mph
```

SR 417EB off to Rinehart Rd.txt

Phone: E-mail:	Fax:					
Dive	erge Analysis					
Analyst: KNM Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: SR 417 EB Junction: Off Ramp to Rinehart Rd Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study						
Fre	eeway Data					
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diverge 2 55.0 1140	mph vph				
off	Ramp Data					
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 80 500	mph vph ft ft				
Adjacent Ram	np Data (if one exist	rs)				
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	No	vph ft				
Conversion to pc/	h Under Base Conditi	ons				
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	Freeway Ramp 1140 80 0.92 0.92 310 22 9 9 0 0 Level Level 0.00 % 0.00 0.00 mi 0.00 1.5 1.5 1.2 1.2 0.957 0.957 1.00 1.00 Page 1	Adjacent Ramp vph vph % % % mi mi				

```
_Estimation of V12 Diverge Areas
                                   (Equation 25-8 or 25-9)
                   EQ
                           1.000
                                   Using Equation 0
                   FD
                          + (v - v) P = 1295
                              ___Capacity Checks__
                            Actual
                                          Maximum
                                                           LOS F?
                            1295
                                          4500
                            1204
                                          4500
                                                           No
                            91
                                          2000
                                                           No
      R
                                          (Equation 25-15 or 25-16)
                                 pc/h
Is
                  > 2700 pc/h?
                                          No
Is
                                          No
                                          (Equation 25-18)
         12A
                       Flow Entering Diverge Influence Area
                                     Max Desirable
4400
                                                            Violation?
                      Actual
     ٧
                       1295
      12
                 Level of Service Determination (if not F)\_
Density,
                       D = 4.252 + 0.0086 v - 0.009 L
                                                                        pc/mi/ln
                                                                10.9
Level of service for ramp-freeway junction areas of influence B
                     _____Speed Estimation__
Intermediate speed variable,
                                                = 0.436
Space mean speed in ramp influence area,
                                                 = 49.3
                                                            mph
                                               R
Space mean speed in outer lanes,
                                                            mph
                                               0
Space mean speed for all vehicles,
                                              S = 49.3
                                                            mph
```

SR 417 EB On Ramp from I-4 EB CD Road_Merge.txt

Phone: E-mail:					
Merg	e Analysis				
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: SR 417 EB Junction: On Ramp from I-4 NB Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study					
Free	eway Data				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Merge 2 55.0 840		mph vph		
On 1	Ramp Data				
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 300 500		mph vph ft ft		
Adjacent Ramp	Data (if or	ne exists	5)		
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp	No		vph ft		
Conversion to pc/H	n Under Base	Conditio	ns		
Junction Components	Freeway	Ramp		Adjacent	
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	840 0.92 228 9 0 Level % mi 1.5 1.2 0.957 1.00 Page 1	300 0.92 82 9 0 Level 1.5 1.2 0.957 1.00	% mi	Ramp vph v % % mi	

Space mean speed for all vehicles,

S = 51.1

mph

I-4 WB On from SR 417 WB.txt

Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: 1-4 WB Junction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study Freeway Data Type of analysis Number of lanes in freeway Free-flow speed on freeway Number of lanes in ramp Free-flow speed on ramp Adjacent Ramp Length of first accel/decel lane Length of second accel/decel lane Adjacent Ramp Data Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Distance to adjacent Ramp Distance to adjacent Ramp Distance to adjacent, Fire Conversion to pc/h Under Base Conditions Junction Components Freeway Ramp Volume, V (vph) Peak-hour factor, PHF Peak-lour factor, PHF Pea	Phone: E-mail:	Fax:				
Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 WB Junction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study Freeway Data Freeway Data Freeway Data Type of analysis Number of lanes in freeway Side of freeway Number of lanes in ramp Free-flow speed on freeway Number of lanes in ramp Free-flow speed on ramp Adjacent Ramp Length of first accel/decel lane Length of second accel/decel lane Length of adjacent Ramp Position of adjacent Ramp Position of adjacent Ramp Distance to adjacent Ramp Distance to adjacent Ramp Volume, V (vph) Peak-hour factor, PHF Peak-hour factor, PHF Peak-hour factor, PHF Peak-hour factor, PHF Ough Agiacent Freeway Bata Freeway Ramp Adjacent Ramp Volume, V (vph) Peak-hour factor, PHF Peak-hour factor, PHF Ough Agiacent Peak 15-min volume, V15 Trucks and buses PCE, ET Crucks and buses PCE, E	Mer	ge Analysis				
Type of analysis Merge Number of lanes in freeway 3 55.0 mph Volume on freeway 75.0 mph Volume on freeway 75.0 mph Volume on freeway 75.0 mph Volume on ramp 75.0 mph Volume on adjacent Ramp 75.0 mph Volume on adjacent Ramp 75.0 Vo	Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 WB Junction: On Ramp from SR 417 WB Jurisdiction: Seminole County Analysis Year: 2005					
Number of lanes in freeway Free-flow speed on freeway On Ramp Data Side of freeway Number of lanes in ramp Side of freeway Number of lanes in ramp Free-flow speed on ramp Number of lanes in ramp Free-flow speed on ramp Side of freeway Number of lanes in ramp Free-flow speed on ramp Side of freeway Number of lanes in ramp Free-flow speed on ramp Side of freeway Number of lanes in ramp Free-flow speed on ramp Side of freeway Number of lanes in ramp Side of freeway Number of lanes in ramp Side of freeway Number of lanes Side of freeway N	Fre	eeway Data				
Number of lanes in ramp Free-flow speed on speed on speed sp	Number of lanes in freeway Free-flow speed on freeway	3 55.0				
Number of lanes in ramp Free-flow speed on ramp Yolume on ramp Length of first accel/decel lane Length of second accel/decel lane Length of second accel/decel lane Adjacent Ramp Downstream Type of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp Distance to adjacent Ramp Yolume, V (vph) Peak-hour factor, PHF Peak 15-min volume, V15 Trucks and buses Recreational vehicles Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Recreational vehicle adjustment, fHV Recreational vehicle pCE, ER Recreational vehicle adjustment, fHV Recreational vehicle adjustment, fHV Recreational vehicle pCE, ER Recreational vehicle adjustment, fHV Recreational vehicle pCE, ER Recreational vehicle p	on	Ramp Data				
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp Conversion to pc/h Conversion to pc/h Mamp Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Recreational vehicle adjustment, fHV Yes Volumestream On Downstream On Bownstream On Adjacent Ramp Ramp Volume Ramp Nolume Namp Nolume Ramp Nolume Namp Nolum	Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/decel lane	1 35.0 300	vph ft			
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp Conversion to pc/h Conversion to pc/h Mamp Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Recreational vehicle adjustment, fHV Yes Volumestream On Downstream On Bownstream On Adjacent Ramp Ramp Volume Ramp Nolume Namp Nolume Ramp Nolume Namp Nolum	Adjacent Rar	mp Data (if one exi	sts)			
Junction Components Freeway Ramp Adjacent Ramp Volume, V (vph) 3980 300 920 vph Peak-hour factor, PHF 0.92 0.92 0.92 Peak 15-min volume, v15 1082 82 250 v Trucks and buses 9 9 9 % Recreational vehicles 0 0 0 % Terrain type: Level Level Level Grade % % % Length mi mi mi 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 0.957 0.957 0.957	Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp	Yes 920 Downstream On	vph			
Volume, V (vph) 3980 300 920 vph Peak-hour factor, PHF 0.92 0.92 0.92 Peak 15-min volume, v15 1082 82 250 v Trucks and buses 9 9 9 9 % Recreational vehicles 0 0 0 0 % Terrain type: Level Level Level Level Grade % % % % Length mi mi mi mi Trucks and buses PCE, ET 1.5 1.5 Recreational vehicle PCE, ER 1.2 1.2 Heavy vehicle adjustment, fHV 0.957 0.957	Conversion to pc	/h Under Base Condi	tions			
Di 1741 DODUTALION 140001. II	Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV	3980 300 0.92 0.92 1082 82 9 9 0 0 Level Leve % mi 1.5 1.5 1.2 1.2 0.957 0.95	Ram 920 0.9 250 9 0 1 Lev mi 1.5 1.2	p vph 2 v % el % mi		

Space mean speed in outer lanes,

Space mean speed for all vehicles,

S = 50.3

S = 50.5

0

mph

mph

I-4 WB On from SR 46.txt

Phone: E-mail:	Fax:				
	Merge Analysis				
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 WB Junction: On Ramp from SR 46 Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway PD&E					
	_Freeway Data				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Merge 3 55.0 3980	mph vph			
	_On Ramp Data				
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 1180 500	mph vph ft ft			
Adjacent	Ramp Data (if one exis	ts)			
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp	Yes 870 Upstream Off 2793	vph			
Conversion to	pc/h Under Base Condit	ions			
Junction Components	Freeway Ramp	Adjacent			
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade	3980 1180 0.92 0.92 1082 321 9 9 0 0 Level Level	Ramp 870 vph 0.92 236 v 9 % 0 % Level			
Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	1.5 1.2 0.957 1.00 Page 1	mi mi 1.5 1.2 0.957 1.00			

Space mean speed for all vehicles,

S = 49.0

mph

I-4 WB On from CR 46A and I-4 WB CD Road.txt HCS+: Ramps and Ramp Junctions Release 5.4

Phone: E-mail:		Fax:				
	Merge	Analysis_				
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 WB Junction: On Ramp from SR 46 & CR 46A Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study						
	Free	way Data <u></u>				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	,	Merg 4 55.0 4280	l	mph vph		
	On Ra	amp Data				
Side of freeway Number of lanes in ramp Free-flow speed on ramp Volume on ramp Length of first accel/dece Length of second accel/dec	el lane el lane	Righ 1 35.0 920 500	ı	mph vph ft ft		
A	djacent Ramp	Data (if	one exist	s)		
Does adjacent ramp exist? Volume on adjacent Ramp Position of adjacent Ramp Type of adjacent Ramp Distance to adjacent Ramp		Yes 300 Upst On 3654	ream	vph ft		
Conver	sion to pc/h	Under Bas	e Conditi	ons		
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, Heavy vehicle adjustment, Driver population factor,	fhv	Freeway 4280 0.92 1163 9 0 Level 1.5 1.2 0.957 1.00 Page 1	920 0.92 250 9 0 Level	% mi	Adjacent Ramp 300 vpl 0.92 82 v 9 % 0 % Level 1.5 1.2 0.957 1.00	h

I-4 WB Off to SR 46.txt

Phone: E-mail:		Fax:				
	Diverge Ar	alysis_				
Analysis time period: Exis Freeway/Dir of Travel: I-4 Junction: Off Jurisdiction: Semi Analysis Year: 2005 Description: Wekiva Parkway	1/2006 ting Conditions WB Ramp to SR 46 nole County Project Develo	pment &			-	
	Freeway [ata				
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway		Diverg 3 55.0 4850		mph vph		
	Off Ramp D	ata				
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel Length of second accel/decel	lane lane	Right 2 35.0 870 500 500		mph vph ft ft		
Adj	acent Ramp Data	(if or	ne exists	;) <u></u>		
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp		Yes 1180 Downst On 2793		vph ft		
Conversi	on to pc/h Unde	r Base	Conditio	ns		
Junction Components Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fH Driver population factor, fP	4850 0.92 1318 9 0 Leve 0.00 0.00 1.5 1.2	7 % mi	Ramp 870 0.92 236 9 0 Level 0.00 0.00 1.5 1.2 0.957 1.00	% m í	Adjacer Ramp 1180 0.92 321 9 0 Level 0.00 0.00 1.5 1.2 0.957 1.00	vph v % % % mi

1340 pcph

```
_Estimation of V12 Diverge Areas__
                                    (Equation 25-8 or 25-9)
                    EQ
                            0.450
                                   Using Equation 0
                    FD
                           + (v - v) P = 3022
                               ___Capacity Checks__
                             Actual
                                            Maximum
                                                             LOS F?
                             5509
                                            6750
                                                             No
                             4521
                                            6750
                                                             No
                             988
                                            3800
                                                             No
      R
                             2487 pc/h
                                            (Equation 25-15 or 25-16)
      3 or
            av34
                   > 2700 pc/h?
Ιs
                                            No
Is
                                            Yes
            av34
                           12
If yes, v
                                            (Equation 25-18)
                       _Flow Entering Diverge Influence Area_
                                      Max Desirable
4400
                       Actual
                                                              Violation?
                        3148
                                                              No
      12A
                  _Level of Service Determination (if not F)_
Density,
                        D = 4.252 + 0.0086 \text{ v} - 0.009 \text{ L} = 0.009 \text{ R}
                                                                  17.8
                                                                           pc/mi/ln
Level of service for ramp-freeway junction areas of influence B
                       _____Speed Estimation____
Intermediate speed variable,
                                                D = 0.517
                                                 S
Space mean speed in ramp influence area.
                                                S
                                                   = 48.3
                                                              mph
                                                 R
Space mean speed in outer lanes,
                                                s = 55.0
                                                              mph
Space mean speed for all vehicles,
                                                S = 51.0
                                                              mph
```

I-4 EB CD Road Off to SR 417 EB_Diverge.txt

Phone: E-mail:						
Diver	rge Analysis					
Analyst: Cristina Torres-Reyes Agency/Co.: HNTB Date performed: 10/31/2006 Analysis time period: Existing Conditions Freeway/Dir of Travel: I-4 EB CD Road Junction: Off Ramp to SR 417 EB Jurisdiction: Seminole County Analysis Year: 2005 Description: Wekiva Parkway Project Development & Environment Study						
Free	eway Data					
Type of analysis Number of lanes in freeway Free-flow speed on freeway Volume on freeway	Diverge 2 55.0 1120	mph vph				
off F	Ramp Data					
Side of freeway Number of lanes in ramp Free-Flow speed on ramp Volume on ramp Length of first accel/decel lane Length of second accel/decel lane	Right 1 35.0 300 500	mph vph ft ft				
Adjacent Ramp	Data (if one exi	sts)				
Does adjacent ramp exist? Volume on adjacent ramp Position of adjacent ramp Type of adjacent ramp Distance to adjacent ramp	No	vph ft				
Conversion to pc/h	ı Under Base Condi	tions				
Junction Components	Freeway Ramp					
Volume, V (vph) Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fP	1120 300 0.92 0.92 304 82 9 9 0 0 Level Leve 0.00 % 0.00 0.00 mi 0.00 1.5 1.5 1.2 1.2 0.957 0.957 1.00 page 1	% mi 7	vph v % % mi			

pcph

```
_Estimation of V12 Diverge Areas_
                                    (Equation 25-8 or 25-9)
                    EQ
                           1.000
                                   Using Equation
                    FD
                           + (v - v) P = 1272
                                                    pc/h
                               F
                                   R
                                        FD
                               __Capacity Checks_
                            Actual
                                           Maximum
                                                            LOS F?
                            1272
                                           4500
                            931
                                           4500
                                                            No
                                           2000
                            341
                                                            No
                                  pc/h
                                           (Equation 25-15 or 25-16)
Is
                   > 2700 pc/h?
                                           No
                   > 1.5 v
Is
                                           No
      3 or
            av34
                          12
             = 1272
                                           (Equation 25-18)
                       Flow Entering Diverge Influence Area
                                      Max Desirable
4400
                                                             Violation?
                       Actua]
      12
                 _Level of Service Determination (if not F)__
                                                                          pc/mi/ln
Density,
                        D = 4.252 + 0.0086 \text{ v} - 0.009 \text{ L}
                                                                 10.7
Level of service for ramp-freeway junction areas of influence B
                           ____Speed Estimation____
                                               D = 0.459
Intermediate speed variable,
                                                S
Space mean speed in ramp influence area,
                                               S = 49.0
                                                             mph
                                                R
Space mean speed in outer lanes,
                                               S
                                                  = N/A
                                                             mph
                                                0
Space mean speed for all vehicles,
                                               S = 49.0
                                                             mph
```