Appendix E

Capacity Analysis

Exisiting (2005/2006) Conditions Roadway Segment LOS Summary - Orange County

Roadway		# of		Count	Station						10	S Capacitie	25	
From	То	Lanes	Classification	Source	ID	Year	AADT	DDHV	LOS	Α	В	С	D	E
S.R. 429	1			Obdice	110									
	U.S. 441 (Orange Blossom Tr.)	4LD	Freeway ≥ 2 mi.	FDOT	667	2005	19,100	1,200	Α	1.270	2,110	2,940	3,580	3,980
U.S. 441 (Orange Blossom Tr)	O.O (Orange Diocount 11.)		Treetiaj = 2 mi.	1001	007	2000	10,100	1,200		1,510	-,,,,,	21010	0,000	0,000
	C.R. 435 (Park Ave.)	4LD	State-Class II	FDOT	5096	2005	52,000	2,680	F	0	220	1,360	1,710	1,800
C.R. 435 (Park Ave.)	S.R. 429 (Western Beltway)	4LD	State-Class II	FDOT	5099	2005	41.000	2,110	F	Ö	220	1,360	1,710	1.800
S.R. 429 (Western Beltway)	C.R. 437 (Plymouth Sorrento Rd.)	4LD	State-Class I	HNTB	n/a	2006	35,890	1.850	D.	250	1,530	1,810	1.860	1,860
C.R. 437 (Plymouth Sorrento Rd.)	Ponkan Rd.	4LD	State-Class I	HNTB	n/a	2006	30,680	1,580	Č	240	1,470	1,730	1,810	1.810
Ponkan Rd.	Sadler Ave.	4LD	State-Class I	FDOT	84	2005	28,000	1,440	B	240	1,470	1,730	1,810	1,810
Sadler Ave.	S.R. 46	4LD	State-Class I	FDOT	642	2005	25,000	1,290	B	240	1,470	1.730	1.810	1.810
S.R. 436 (Semoran Blvd.)								1,200			.,,,,			.,,-
U.S. 441 (Orange Blossom Tr.)	Piedmont-Wekiva Rd.	6LD	State-Class II	FDOT	295	2005	36,000	1.850	С	0	340	2,110	2,570	2,710
Piedmont-Wekiva Rd.	Seminole County Line	6LD	State-Class I	FDOT	5	2005	54,000	2,780	D	380	2,330	2,720	2,790	2,790
C.R. 435 (Rock Springs Rd.)			11111		, i		- 1,000	2,700						,
U.S. 441 (Orange Blossom Tr.)	Votaw Rd.	4LD	Non-State Major	Orange	426	2005	24,650	1,520	D	0	0	1,120	1,620	1,720
Votaw Rd.	Welch Rd.	4LD	Non-State Major	Orange	21	2005	21,510	1,330	D	Ô	Ď	1,120	1,620	1,720
Welch Rd.	Ponkan Rd.	2LU	Non-State Major	Orange	19	2005	20,660	1,270	F	ō	Ö	480	760	810
	Kelly Park Rd.	2LU	Non-State Major	Orange	18	2005	12,460	770	E	0	0	480	760	810
Kelly Park Rd.	Lake County Line	2LU	Non-State Major	Orange	17	2003	7,540	470	С	Ó	Ó	480	760	810
C.R. 437 (Plymouth-Sorrento Rd.)	*		'											
U.S. 441 (Orange Blossom Tr.)	Ponkan Rd.	2LU	Non-State Major	HNTB	n/a	2006	8,750	540	D	0	0	480	760	810
	Kelly Park Rd.	2LU	Non-State Major	HNTB	n/a	2006	8,190	510	D	0	0	480	760	810
Kelly Park Rd.	Lake County Line	2LU	Non-State Major	HNTB	n/a	2006	8,270	510	D	0	0	370	720	770
Round Lake Rd.			,											
Ponkan Rd.	Sadler Ave.	2LU	Non-State Other	Orange	8	2005	2,080	130	С	0	0	230	490	630
Sadler Ave.	Kelly Park Rd.	2LU	Non-State Other	Orange	8	2005	2,080	130	С	0	0	230	490	630
Kelly Park Rd.	Ondich Rd.	2LU	Non-State Other	Orange	6	2005	2,900	180	С	0	0	230	490	630
Ondich Rd.	Lake County Line	2LU	Non-State Other	Orange	6	2005	2,900	180	С	0	0	230	490	630
Ponkan Rd.														
U.S. 441 (Orange Blossom Tr.)	Round Lake Rd.	2LU	Non-State Other	Orange	13	2005	3,760	230	С	0	0	250	530	660
	C.R. 437 (Plymouth-Sorrento Rd.)	2LU	Non-State Other	HNTB	n/a	2006	3,860	240	С	0	0	250	530	660
C.R. 437 (Plymouth-Sorrento Rd.)	C.R. 435 (Rock Springs Rd.)	2LU	Non-State Other	HNTB	n/a	2006	3,340	210	С	0	0	250	530	660
Kelly Park Rd.														
Round Lake Rd.	C.R. 437 (Plymouth-Sorrento Rd.)	2LU	Non-State Other	HNTB	n/a	2006	2,730	170	С	0	0	230	490	630
C.R. 437 (Plymouth-Sorrento Rd.)	C.R. 435 (Rock Springs Rd.)	2LU	Non-State Other	HNTB	n/a	2006	3,940	240	С	0	0	250	530	660
Sadler Ave.														
Lake County Line	U.S. 441 (Orange Blossom Tr.)	2LU	Non-State Other	Orange	324	2005	4,110	250	С	0	0	250	530	660
U.S. 441 (Orange Blossom Tr.)	Round Lake Rd.	2LU	Non-State Other	Orange	3	2005	1,870	120	С	0	0	230	490	630
Ondich Rd,														
Round Lake Rd.	C.R. 437 (Plymouth-Sorrento Rd.)	2LU	Non-State Other	HNTB	n/a	2005	630	40	С	0	0	230	490	630
Haas Rd.														
C.R. 437 (Plymouth-Sorrento Rd.)	C.R. 435 (Mt Plymouth Rd.)	2LU	Non-State Other	HNTB	n/a	2005	560	30	С	0	0	230	490	630
Lester Rd.														
C.R. 437 (Plymouth-Sorrento Rd.)	C.R. 435 (Rock Springs Rd.)	2LU	Non-State Other	HNTB	n/a	2005	1,190	70	С	0	0	250	530	660
Yothers Rd.														
	C.R. 437 (Plymouth-Sorrento Rd.)	2LU	Non-State Other	HNTB	n/a	2005	630	40	С	0	0	250	530	660
	C.R. 437 (Plymouth-Sorrento Rd.) 2002 Quality/Level of Service Handbo						630	40	С	0	0	250	530	660

Note: Capacities are taken from FDOT 2002 Quality/Level of Service Handbook for Urban and Transitioning areas where appropriate.

Exisiting (2005/2006) Conditions Roadway Segment LOS Summary - Lake County

Roadway		# of	Closeification	Count	Station	V	AADT	DDINA	LOS		LC	OS Capaciti	es	
From	То	Lanes	Classification	Source	ID	Year	AADT	DDHV	LUS	Α	В	Ċ	D	Ε
U.S. 441 (Orange Blossom Tr)														
S.R. 46	C.R. 44B	4LD	State-Class I	FDOT	499	2005	34,500	1,780	С	250	1,530	1,810	1,860	1,860
S.R. 46														
C.R. 500A (Highland St.)	U.S. 441 (Orange Blossom Tr.)	2LU	State-Class I	Lake	89	2006	6,190	320	С	0	220	720	860	890
U.S. 441 (Orange Blossom Tr.)	Round Lake Rd.	2LU	State-Class I	FDOT	501	2005	9,900	510	С	0	210	690	820	860
Round Lake Rd.	C.R. 437 (Plymouth Sorrento Rd.)	2LU	State-Class I	HNTB	n/a	2006	11,050	570	С	0	210	690	820	860
C.R. 437 (Plymouth Sorrento Rd.)	C.R. 435 (Mt. Plymouth Rd.)	2LU	State-Class I	HNTB	n/a	2006	16,400	840	E	0	210	690	820	860
C.R. 435 (Mt. Plymouth Rd.)	C.R. 46A	2LU	State-Class I	HNTB	n/a	2006	16,150	830	Ε	0	210	690	820	860
C.R. 46A	Lake County Line	2LU	State-Class I	HNTB	n/a	2006	23,720	1,220	F	0	210	690	820	860
S.R. 44														
S.R. 19	C.R. 46A	2LD	State-Class I	FDOT	500	2005	10,100	520	С	0	210	690	820	860
C.R. 437 (Plymouth-Sorrento Rd.)														
Lake County Line	S.R. 46	2LU	Non-State Major	HNTB	n/a	2006	8,110	540	D	0	0	370	720	770
S.R. 46	S.R. 44	2LU	Non-State Major	HNTB	n/a	2006	9,820	650	Ď	0	0	370	720	770
C.R. 435 (Rock Springs Rd.)														
Lake County Line	S.R. 46	2LU	Non-State Major	HNTB	n/a	2006	8,930	590	D	0	0	480	760	810
C.R. 46A														
S.R. 44	S.R. 46	2LU	Non-State Major	HNTB	n/a	2006	8,260	550	D	0	0	370	720	770
C.R. 433														
S.R. 46	South of S.R. 46	2LU	Non-State Other	HNTB	n/a	2005	1,660	110	С	0	0	230	490	630
Round Lake Rd.														
Lake County Line	S.R. 46	2LU	Non-State Other	HNTB	n/a	2006	2,920	190	С	0	0	230	490	630
S.R. 46	Wolf Branch Rd.	2LU	Non-State Other	HNTB	n/a	2006	2,430	160	С	0	0	230	490	630
Wolf Branch Rd.														
U.S. 441 (Orange Blossom Tr.)	Round Lake Rd.	2LU	Non-State Other	Lake	129	2006	7,170	480	D	0	0	230	490	630
Round Lake Rd.	C.R. 437 (Plymouth-Sorrento Rd.)	2LU	Non-State Other	Lake	148	2006	3,870	260	D	0	0	230	490	630
Wekiva River Rd.														
S.R. 46	South of S.R. 46	2LU	Non-State Other	HNTB	n/a	2006	1,800	120	С	0	0	250	530	660

Note: Capacities are taken from FDOT 2002 Quality/Level of Service Handbook for Urban and Transitioning areas where appropriate.

Existing (2005/2006) Conditions Roadway Segment LOS Summary - Seminole County

Roadway		# of	l	Count	Station		T	······································	I	T	1	OS Capaciti	es	
From	To	Lanes	Classification	Source	ID	Year	AADT	DDHV	LOS	A	В	С	D	E
Interstate 4	1			000,00			 			- '`				
S.R. 436 (Altamonte Dr.)	S.R. 434	6LD	Freeway < 2 mi.	FDOT	267	2005	137,000	5,740	E	1,780	2,890	4,180	5,410	6,150
S.R. 434	Lake Mary Blvd.	6LD	Freeway ≥ 2 mi.	FDOT	343	2005	133,750	5,610	E	1,970	3,260	4,550	5,530	6,150
Lake Mary Blvd.	C.R. 46A / S.R. 417 (Central Florida	6LD	Freeway ≥ 2 mi.	FDOT	268	2005	124,000	5,200	D	1,970	3,260	4,550	5,530	6,150
C.R. 46A / S.R. 417 (Central Florida		6LD	Freeway < 2 mi.	FDOT	286	2005	88,000	4,020	С	1,780	2,890	4,180	5,410	6,150
S.R. 46 (1st St.)	U.S. 17/92	6LD	Freeway < 2 mi.	FDOT	266	2005	112,500	4,890	D	1,780	2,890	4,180	5,410	6,150
S.R. 417														
North of Interstate I-4	Interstate 4	2LD	Uninterrupted Flov	Tpke	n/a	2006	13,530	840	D	100	340	670	950	1,300
Interstate 4	Rinehart Rd.	6LD	Freeway < 2 mi.	Tpke	n/a	2006	25,380	1,140	Ā	1,780	2,890	4,180	5,410	6,150
Rinehart Rd.	C.R. 46A	6LD	Freeway ≥ 2 mi.	Tpke	n/a	2006	33,490	1,600	Ä	1,970	3,260	4,550	5,530	6,150
S.R. 46	0.11.40/4	ULD	Treeway = 2 mil.	TPRE	117 CL	2000	30,430	1,000		1,370	0,200	4,550	3,330	0,100
1	Longwood Markham Rd.	2LU	State-Class I	HNTB	2/0	2006	22 200	4 000	F	0	220	700	000	000
Lake County Line			1		n/a		23,290	1,200		1 *	220	720	860	890
Longwood-Markham Rd.	Lake Markham Rd.	2LU	State-Class I	HNTB	n/a	2006	22,040	1,130	F	0	220	720	860	890
Lake Markham Rd.	C.R. 431 (Orange Blvd.)	2LU	State-Class I	HNTB	n/a	2006	23,900	1,230	F	0	220	720	860	890
C.R. 431 (Orange Blvd.)	Lake Forest Blvd.	4LD	State-Class II	HNTB	n/a	2006	27,520	1,420	D	0	220	1,360	1,710	1,800
Lake Forest Blvd.	International Pkwy.	4LD	State-Class II	HNTB	n/a	2006	33,050	1,700	D	0	220	1,360	1,710	1,800
International Pkwy.	Oregon St/Wayside Dr	4LD	State-Class II	HNTB	n/a	2006	30,220	1,560	D	0	220	1,360	1,710	1,800
Oregon St/Wayside Dr	Interstate 4	4LD	State-Class II	HNTB	n/a	2006	35,520	1,830	F	l ō	220	1,360	1,710	1,800
Interstate 4	Town Center Blvd	6LD	State-Class II	HNTB	n/a	2006	45,770	2,360	D .	٥	340	2,110	2,570	2,710
Town Center Blvd	C.R. 431B (Rinehart Rd.)	6LD	State-Class II	HNTB	n/a	2006	29,800		Č	٥	340	2,110	2,570	2,710
C.R. 431B (Rinehart Rd.)		6LD						1,530	C	0				
	C.R. 15 (Monroe Rd./Upsala Rd.)	OLD	State-Class II	HNTB	n/a	2006	27,800	1,430	C	U	340	2,110	2,570	2,710
S.R. 436 (Semoran Blvd.)									_					
Seminole County Line	S.R. 434	6LD	State-Class II	FDOT	114	2005	56,000	2,880	F	0	340	2,110	2,570	2,710
S.R. 434	Interstate 4	8LD	State-Class II	FDOT	113	2005	56,000	2,880	D	0	440	2,790	3,330	3,500
Interstate 4	Palm Springs Rd.	8LD	State-Class II	FDOT	123	2005	70,500	3,630	F	0	440	2,790	3,330	3,500
C.R. 46A					· · · · · · · · · · · · · · · · · · ·	***************************************						•	*	
Orange Blvd.	International Pkwy.	4LD	Non-State Major	HNTB	n/a	2006	13,710	910	С	l o	0	1,120	1,620	1,720
International Pkwy.	Colonial Center Pkwv.	4LD	Non-State Major	HNTB	n/a	2006	28,180	1,870	F	0	Ö	1,120	1,620	1,720
•	1										_			
Colonial Center Pkwy.	-4	4LD	Non-State Major	Tpke	n/a	2005	35,480	2,350	F	0	0	1,120	1,620	1,720
I-4	Rinehart Rd	4LD	Non-State Major	Tpke	n/a	2005	34,400	2,280	F	0	0	1,120	1,620	1,720
Rinehart Rd	C.R. 15 (Country Club Road)	4LD	Non-State Major	Tpke	n/a	2005	20,700	1,370	D	0	0	1,120	1,620	1,720
C.R. 431 (Orange Blvd.)														
C.R. 46A	Wayside Dr.	2LU	Non-State Major	Seminole	202	2005	8,810	580	D	0	0	480	760	810
Wayside Dr.	S.R. 46	2LU	Non-State Major	HNTB	n/a	2006	5,430	360	С	0	0	480	760	810
S.R. 46	I-4	2LU	Non-State Major	HNTB	n/a	2006	5,270	350	Ċ	ا م	Ö	480	760	810
Rinehart Rd	<u> </u>		14011 Otato Major	111111111111111111111111111111111111111	11/4	2000	5,210	000		 		400	700	010
I .	CR 46A	4LD	Non-State Major	Tulca	-1-	2005	27 200	4 000	-	0	^	4 400	4 600	4 700
Anderson Lane				Tpke	n/a	2005	27,200	1,800	F	1 -	0	1,120	1,620	1,720
CR 46A	Towne Center Blvd	4LD	Non-State Major	Tpke	n/a	2005	18,700	1,240	D	0	0	1,120	1,620	1,720
Towne Center Blvd	SR 417	4LD	Non-State Major	Tpke	п/а	2005	16,940	1,120	С	0	0	1,120	1,620	1,720
SR 417	St Johns Pkwy	4LD	Non-State Major	Tpke	n/a	2005	13,220	880	С	0	0	1,120	1,620	1,720
St Johns Pkwy	SR 46	4LD	Non-State Major	Tpke	n/a	2005	11,500	760	С	0	0	1,120	1,620	1,720
International Parkway								·		1				
Lake Mary Blvd.	C.R. 46A	4LD	Non-State Major	HNTB	n/a	2006	16,200	1,070	С	0	0	1,120	1,620	1,720
C.R. 46A	Wayside Dr.	4LD	Non-State Major	HNTB	n/a	2006	10,910	720	Č	ا م	Ö	1,120	1,620	1,720
Wayside Dr.	S.R. 46	4LD	1		n/a	2006	1	400	C	0	0			
	3.IN. 40	710	Non-State Major	111410	IVA	2000	6,060	400		<u>-</u>		1,120	1,620	1,720
Markham Road		0.11	N 04-4- 14 1		400	000-		~ 4 ~	_	_	^	400	700	0.40
Longwood-Markham Rd.	Markham Woods Rd.	2LU	Non-State Major		169	2005	5,080	340	C	0	0	480	760	810
Markham Woods Rd.	Orange Blvd.	2LU	Non-State Major	Seminole	167	2005	4,240	280	С	0	0	480	760	810
Longwood-Markham Rd.	<u> </u>													ļ
S.R. 46	C.R. 46A	2LU	Non-State Major	HNTB	n/a	2006	2,900	190	С	0	0	480	760	810
Wekiva Park Dr.														
North of S.R. 46	S.R. 46	2LU	Non-State Other	HNTB	n/a	2006	290	20	С	0	0	250	530	660
Lake Markham Rd,				· · · · · · ·						† <u>-</u>	·····			
	C.R. 46A (Markham Rd.)	2LU	Non-State Other	HNTB	n/n	2006	4 220	90		1	0	250	E20	660
S.R. 46	O.N. 40A (Walkhalli Ru.)	220	I NOTE STATE OTHER	HINID	n/a	2000	1,330	ສບ	С	0	U	250	530	660
Lake Forest Blvd		a							_	_	_			
SR 46	Shoreline Circle	2LD	Non-State Other	HNTB	n/a	2006	7,800	520	D	0	0	250	530	660
N Oregon Street														
North of S.R. 46	S.R. 46	4LD	Non-State Other	HNTB	n/a	2006	8,680	580	С	0	0	580	1,140	1,320
Wayside Drive										İ				
South of S.R. 46	S.R. 46	2LU	Non-State Other	HNTB	n/a	2006	2,800	190	С	0	0	250	530	660
	[=1		1 5.3(5 54161				,000		<u> </u>					

TABLE 4 - 7

GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S **URBANIZED AREAS***

90							حبد نسست محمد سي			 	· · · · · · · · · · · · · · · · · · ·		
	UNI	NTERRUP	TED FLO	W HIGHY	VAYS		1		FI	REEWAYS	3		
ı			.		•		ļ ,						
1	Y		B.	vel of Serv C	ice D	E	interchange	spacing ≥ 2 r		rel of Service			
	Lanes Divided 1 Undivided	A 1 100	340	670	950	1,300	Lanes	A	B	C C CC OC CC	D	E	
	2 Divided	1,060	1,720	2,500	3,230	3,670	2	1,270	2,110	2.940	3,580	3,980	
	3 Divided	1,600	2,590	3,740	4,840	5,500	3	1,970	3,260	4,550	5,530	6,150	
ŀ		STATE TW					14	2,660	4,410	6,150	7,480	8,320	
ŀ	Class I (>0.00 to				-		5	3,360	5,560	7,760	9,440	10,480	
ł	C1435 I (* 0.00 10	1.77 Signan		vel of Serv			6	4,050	6,710	9,360	11,390	12,650	
ı	Lanes Divided	A	В	C	D.	E	i -	.,	.,				
	1 Undivided	4*	220	720	860	890	Interchange	spacing < 2 n	ni, apart				
	2 Divided	250	1,530	1,810	1,860	***	1			el of Servic			
	3 Divided	380	2,330	2,720	2,790	***	Laures	A	В	C	D	E	
1	4 Divided	490	3;030	3,460	3,540	***	2	1,130	1,840	2,660	3,440	3,910	
1	Cl II /2 00 4.	C CO	. 1 *		71.5		3	1,780	2,890	4,180 5,700	5,410	6,150 8,380	
1	Class II (2.00 to	(.50 signaliz		vel of Serv			5	2,340 3,080	3,940 4,990	7,220	7,380 9,340	10,620	
	Lanes Divided	A	B	C C	D.	E	. 6	3,730	6,040	8,740	11,310	12,850	
1	1		100	590	810	850 [°]	<u> </u>	3,700		0,1.10	***************************************	12,000	
	1 Undivided 2 Divided	**	220	1,360	1,710	1,800		•	RICS	CLE MO	DE.		
	3 Divided	**	340	2,110	2,570	2,710	l		DIC.	CLUS MIC.	DE		
	4 Divided	t±	440	2,790	3,330	3,500	(Note: Leve	l of service fo	or the bicycle	e mode in t	his table is l	pased on roa	dway
Į.					•	•	geometrics :	at 40 mph pos	ted speed an	id traffic co	nditions, no	et number of	٠ .
1	Class III (more th					not	bicyclists us	ing the facilit	y.) (Multiply	y motorized	i vehicle vo	lumes show	ir pejom
1		rimary city		iness distri	ct of an		by number of	f directional	roadway lan	es to deterr	nine maxim	um service	volumes.)
I	urbaniz	ed area over	750,000)							_			
1			_					lioulder/		Ļ	evel of Ser	vice	
1	I Diazi I		Len B	vel of Scrvi		-	Bicycle	Lane	4	n	С	D	E
	Lanes Divided 1 Undivided	A ***	.15 **	C . 280	D 660.	E 810 .		nage 9%	A. **	B **	170	720	>720
	2 Divided	**	4*	650	1,510	1,720		9.76 34%	**	130	210	>210	***
	3 Divided	**	**	1,020	2,330	2,580		00%	160	380	>380	***	***
	4 Divided.	**	** .	1.350.	3,070	3,330							
					• • •				PEDES	TRIAN M	ODE		
1	Class IV (more th							l of service fo					
1		city central	business di	strict of an	urbanize	d area	geometrics :	it 40 mph pos	ted speed an	d traffic co	nditions, no	t the numbe	rof
1	over 75	0,000)						using the facil					
d.,	Tarana mada sa	1.0		rel of Scrvi C	ce. D	E	oy number o	f directional	roadway ian	cs to determ	nine maxun	um service	voiumes.)
	Lanes Divided L. Undivided		B	270		780	ľ	, *		r	evel of Sen	nen	· · · · · · · · · · · · · · · · · · ·
	2 Divided	esse som eller er ##	**************************************	650	1,580	1,660	Sidewalk		A	B	C	D	E
	3 Divided	**.	**	1,000	2,390	2,490	0-4		**	**	**	330	810
	4 Divided	**	**	1,350	3,130	3,250	50-8		**	**	**	520	990
1				·			85-1	00%	**	120	590	>590	***
Г		NON-STA	TE ROAL	WAYS		- 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1							- 1
			y/County R					1	BUS MODI	E (Schedule	d Fixed Ro	utc)	
			Lev	el of Servi	ce ·					es per hou			- 1
	Lanes Divided	A	В.	С.	D	E			Leve	el of Servic			. [
	 Undivided 	**	**	480	760	810	Sidewalk		A.	В	C	D	E
	2 Divided	**	**	1,120	1,620	1,720	0-84		##	>5	≥4	≥3	≥2
13	3 Divided	**	**	1,740	2,450	2,580	85-10	10%	>6	>4	≥3	≥2	≥ī
I							<u> </u>	·					
1		Other Sic	malized Ro	อภัณวขอ				RTERIAL/N	TATEMOL	и съод з	ZAY ADIR	STMENTS	
		(signalized			•					D/UNDIVI			
1		` •		el of Servi	ce			(alter corres	sponding vo.	lumes by th	ie indicated	percent)	ŀ
1	Lanes Divided	A	В	C	D	Е							İ
)		**	**	250	530	660	Lanes	Median	Left Turn		Adj	justment Fac	ctors
_2	2 Divided	## ****************	**	580	1,140	1,320	1	Divided	Ye			+5%	1
Ι,	Source: Florid	a Departmen	nt of Trans	nortation	0	2/22/02	1	Undivided	No)		-20%	
1		ns Planning			v		Multi	Undivided	Ye	s		-5%	
1		uwannee Str				- 1	Multi	Undivided	No			-25%	i
1		assee, FL 32				1							j
1	http://www11.mg	yflorida.com	/planning/s	systems/sm	/los/defau	It Jittip				Y FACILI			
_	-								rease corres				
•	"This mble does not on	native a amadi	ed and blanted !	a round ander Co		anian emiliar	diana 17ka mamara		itula obita duli 74 fa	daminad charle	ha would for you	and the said fire where	u

This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are hourly directional volumes for levels of service and are for the submobile/ruck modes unless specifically stated. Level of service letter grade thresholds are probably not comparable scross modes and, therefore, cross model comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall readway level of service is not recommended. To convert to annual average daily traffic volumes, these, volumes must be divided by appropriate D and K factors. The table's input value definals and level of service intended for the following page. Calculations are based on planning applications of the Highway Capacity Manual, Ricycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

***Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 - 8

GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S **AREAS TRANSITIONING INTO URBANIZED AREAS OR AREAS OVER 5,000 NOT IN URBANIZED AREAS***

	UN	INTERRUE		W HIGHY vel of Serv					FREEWAY	YS .evel of Ser	vice	
La	nes Divided	A	В	C	D	E	Lanes	Α,	₿	C	D	E
1	Undivided	100	330	620	870	1,200	2	1,290	2,130	2,890	3,420	3,800
2	Divided	980	1,590	2,300	2,980	3,390	3	2,000	3,290	4,460	5,280	5,870
3	Divided	1,470	2,390	3,460	4,470	5,080	4	2,700	4,450	6,030	7,140	7,940
							5	3,400	5,600	7,610	9,010	10,010
CTa	ass I (>0.00 to 1.	STATE TW 99 signalized						Bĭ	CYCLE M	ODE:		
				vel of Serv		_	(Note: Level of sea					
	nes Divided	A	В	C	D	E	geometrics at 40 m					
1 2	Undivided Divided	240	210 1,470	690 1,730	820 1,810	860 ***	bicyclists using the below by number of					
3	Divided	370	2,260	2,600	2,710	***	volumes.)	n difectionar i	Dauway iau	es to determ	nne maxiina	III SCIVICE
Cla	ass II (2.00 to 4.5	0 signalized	•	•	-•		Paved Shoulder/.		_			
			.				Bicycle Lane	4		evel of Serv		-
T is	nes Divided	A	B	vel of Serv C	ice D	E.	Coverage 0-49%	A	B 100	C 170	D 720	E >720
1	Undivided	**		560	760	810	50-84%	44	130	210	>210	***
2	Divided	**	200	1,290	1,620	1,700	85-100%	170	380	>380	444	***
3	Divided	**	320	2,000	2,430	2,560						
	YII (4b	A E afamation		:	1		<u>[</u> :	PED)	estrian i	MODE		
Çia	iss III (more than	4.5 signaliz	ea miersecu	ons per mi	ie)		(Note: Level of ser	wine for the ne	dantian w	nda in this to	hta in based	on
	•		· Lie	vel of Serv	ice		roadway geometric					
Lat	nes Divided	Λ	В	C	D	E	number of pedestri					
1	Undivided	**	**	260	620	770	volumes shown by					
2	Divided	**	***	620	1,440	1,630	maximum service (volumes.)		•		•
3	Divided	**	**	970	2,220	2,450						
<u></u>										evel of Serv		
Ĭ.							Sidewalk Coverage		В	C	Ð	E
		atore on	i ma min ti				0-49%	**	半水 电电	**	330	810
ŀ			ATE ROAD by/County R				50-84% 85-100%	**			520	990
	ry rys - rys rys ry - r sy - y - r	Major Ci	ACCOUNTY Y	oauways	and the second	a promotor del de la company	35-10078	andre and services	120	590	>590	more in subse
_	****			vel of Servi		_						_
	es Divided	A	B	C	D	E	ARTERIA	AL/NON-STA			USTMENT	S
1 2	Undivided Divided	**	**	370 870	720 1,550	770 1,630		DIAIT	DED/UNDI	AIDED		
3	Divided	**	**	1,360	2,330	2,450	Laucs	Median	Left T	um Lanes	Adjustme	nt Factors
Ĺ		Other Si	gnalized Ro	าลสำนาจขอ			i	Divided		Yes	44	5%
1			intersection				li	Undivided		No		0%
		Ç B		,,			Multi	Undivided		Yes	-5	%
ľ				vel of Servi			Multi	Undivided		No	-2:	5%
	es Divided	A	В	C	D	E						
1	Undivided	**	**	230	490	630		ONE-1	WAY FACI	LITIES		:
2	Divided	····		540	1,070	1,270					_	
Sou	rce:		partment of		ation	02/22/02		Increase con	esponding	volume 20%	ó.	
l			lanning Offi mee Street,									
			mee sueet, e, FL 32399									
	http://www11.p				/los/defaul	lt him						
	Treeball at an ea 2 7 77		1-1		· · · · · · · · · · · · · · · · · · ·							-

"This table does not constinute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are hourly two-way volumes for levels of service and are for the automobile/track modes unless specifically stated. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal temperators should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not reconsusceded. The table's import value defaults and level of service or different modes into one overall roadway level of service is not reconsusceded. The table's import value defaults and level of service of different modes into one overall roadway level of service is not reconsusceded. The table's import value defaults.

""Camost be achieved using table inport value defaults.

""Not applications or based on planning applications of the Highway Capacity Manual, Bicycle LOS Model and Pedestrian LOS Model, respectively for the automobile/track, bicycle and pedestrian modes.

""Not applications for the level of service letter grade. For automobile/track modes, volumes greater than level of service D become F because intersection espacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

99

TABLE 4 - 9

GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S **RURAL UNDEVELOPED AREAS AND CITIES OR DEVELOPED AREAS LESS THAN 5,000 POPULATION***

	RUI	RAL UN	DEVEL	OPED.	AREAS			TIES	OR RUR	AL DE	VELOP	ED AR	EAS
	~~~								LES	S THAI	N 5000		
			<del>, , , , , , , , , , , , , , , , , , , </del>							FREEWA			
			FREEWA	YS			١.				evel of Ser	vice D	E
							Lanes 2		A 1,220	B 2,020	C 2,740	3,240	3,600
			В	Level of Sort C	nce D	E	3		1,890	3,110	4,230	5,000	5,560
Lancs 2		A 1,220	2,020	2,740	3,240	3,600	4		2,560	4,210	5,720	6,770	7,520
3		1.890	3.110	4,230	5,000	5,560		1	UNINTERRU	PTED FLC	W HIGHY	VAYS	
4		2,560	4,210	5,720	6,770	7,520				Ī	Level of Ser	vice	
'		-,	•				Lanes	Divided	Α	В	C	D	E
	<u> </u>						1	Undivided	120	350	600	820	1,120
	1	UNINTERR	UPTED FL	OM HIGH	VAYS		2	Divided	950	1,540	2,230	2,890 4,330	3,280 4,920
							3	Divided	1,430	2,310	3,350		4,920
				Level of Serv		ęs.			INTERRUP		evel of Ser		
	Divided	A.	В 250	C 410	D 650	E 1,060	Lanes	Divided	A.	В,	C	D	E
1 2	Undivided Divided	120 940	1,540	2,200	2,830	3,140	1	Undivided	**	120	590	740	800
3	Divided	1,410	2,310	3,330	4,240	4,710	2	Divided	**	290	1,360	1,570	1,660
,	Dividou	2,110	2,510	-,	· r- · ·	•	3	Divided	**	450	2,100	2,360	2,500
		PASSIN	G LANE AT	JUSTMENT	rs			N	ON-STATE	IGNALIZ	ED ROAD	WAYS	
	(alter corres	sponding two	-lane LOS A	-D volumes	indicated per	cent)	ļ		(signaliza		on analysis)		
					e		1,			B	Level of Ser C	vice D	E
		Lane Spacing	;	Ac	ljustment Fac +25%	ctors	Lanes		A **	**	100	410	540
		5 mi.			+10%		<u> </u>		RY	CYCLE M		······································	
	1	10 mi.			T1U70		(Note:	Level of se	rvice for the bi	cycle mode	in this table	is based on	roadway
	<del> </del>						geome	trics at 45 m	nph posted spec	d and traffi	c conditions	, not numbe	r of
	150	OLATED SI	CNALIZEI	INTERSE	CTIONS		bicycl	ists using the	e facility.) (Mu	ltiply motor	rized vehicle	volumes sh	own
		·					below	by number	of directional r	oadway lan	es to determ	ine maximu	m service
				Level of Ser			volum	es.)					
Lanes	<b>;</b>	A **	В	C	D	E 650	n	d Shoulder/	i				
1		**	100 160	430 940	580 1,240	1,360		za Snomac <i>ii</i> cycle Lane		3	Level of Ser	vice	
2		**	240	1,460	1,910	2,320		Coverage	Α	. B.	. c	Ð	E
			270	.,,	-,,,,,	_,,_	1	0-49%	**	**	150	370	>370
		1	BICYCLE	MODE			1	50-84%	**	110	180	930	>930
							1	35-100%	150	210	>210	***	***
	: Level of ser						<u></u>						
geom	etrics at 55 m	ph.posted spe	eed and traff	ic conditions	, not number	of				ESTRIAN		C1- 2- L I	
bicyc	lists using the	facility.) (M	ultiply moto	rized vehicle	volumes sho	own below	(Note:	Level of se	rvice for the pe c at 45 mph po	destran mo	nd toffic co	nic is vascu mátions no	on g samper
by dia	ectional road	way lanes to	determine m	iaximum serv	nce volume.)	ı	roadw	ay geomein	c at 43 mpn po g the facility.) (	sicu specu s Multiniv m	ntorized vel	nicle volume	s shown
Patri	ed Shoulder/						by nur	nber of direc	tional roadway	lanes to det	crmine maxi	mum servic	volumes.)
	cycle Lane						'		•				
	Coverage	A	В	С	D	E					Level of Ser		~
	0-49%	4*	**	**	**	340	Sidew	alk Coverag		B	C **	D	E
•	50-84%	**	**	**	**	950	1	0-49%	**	**	**	240 430	760 960
8	35-100%	**	#r#c	210	>210	***		50-84% 35-100%	**	±*	500	>500	***
		~		00.00.00	I NOV PRO	242421117 12TE			SECTION ANA	LVSES MI			USIMENTS
C	مارشدان د	Department of	of Transnorts	02/22/02	NON-FRI	LEWAI AND	aturatu (alter	correspondi	ng volumes by	the indicate	ed percent)	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Source		s Planning Of		1001	τ.	anes	Canor	Median		eft Turn La		Adjustmer	it Factors
		vannee Street			1	1		Divided		Yes		+5	
		ssee, FL 3239			1	1		Undivided		No		-20	
	* 44731141				N	Julti		Undivided		Yes		-59	-
http://	vww11.myflori	ida.com/plannin	g/systems/sm/	los/default.htm	ì	fulti		Undivided		No		-25	
*This b	ible does not cons	titute a standard a	nd should be use	al only for gener	i planning spplk	ations. The comp	nier models	from which this	table is derived sho	ruld be used for	r more specific p	sianning applica:	doss.

*This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are two-way annual average daily volumes (based on Kros factors) for levels of service and are for the automobile/trunk modes unless specifically stated. Level of service letter grade threabled are probable across modes and, therefore, cross model comparisons ashould be levels of service action. Furthermore, combining levels of service of different modes into one overall translavay level of service is not recommended. The table's input value defaults and level of service modes into one overall translavay level of service is not recommended. The table's input value defaults and level of service riteria appear on the following page. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, and Pedestrian LOS Model, respectively for the automobile/truck, bicycle and pedestrian modes.

**Cannot be achieved using table input value defaults.

**Cannot be achieved using table input value defaults.

101

Ramp Description	Number of lanes on freeway	Number of lanes on ramp	Ramp Volume	PHF	Т%	f _{try}	Et	Er	Pt	Pr	ſр	Vp (pc/hr)
EB CD Rd. (East of I-4) Off Ramps to SR 46 & I-4 EB	3 660	1	430	0.92	9%	0.957	1.5	1.2	9%	0%	777 STAGE 1 SWALES	488
I-4 EB Off Ramp to US 17/92	4	10.54	660	0.92	9%	0.957	1.5	1.2	9%	0%	\$300 <b>1</b>	750
I-4 EB Off Ramp to US 17/92 (No-Build)	4	1	620	0.92	9%	0,957	1.5	1.2	9%	0%	17	704

I-4 Location	Ramp Description	Number of lanes on freeway- approaching Diverge Area	Number of lanes on Leg	Volume (approaching Diverge area)	PHF	Т%	f _{hw}	ſp	Vp (pc/hr)	Vf (pc/hr/ln)	Density (pc/mi/ln)	LOS
	I-4 EB Off Ramp to SR 417 & SR 46 - Freeway	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1007100 4 957900	4,340	0.92	9.49%	0.955	2000 St. 1 Sec. 16	4,941	1,235	3.4	Α
	I-4 EB Off Ramp to SR 417 & SR 46 - Ramp	4	2	1,390	0,92	9.49%	0.955	(1888) <b>1</b> 888 (1888)	1,583	791	2.2	Α
SR 417 Interchange	I-4 WB Off Ramp to SR 417 & CR 46A - Freeway	4 8 2	3 X X X X X X X X X X X X X X X X X X X	4,650	0.92	9.49%	0.955	\$1550 PRO_1 \$150 PRO_	5.294	1.765	4.8	A
OTC 417 IIXCIGITATINGS	I-4 WB Off Ramp to SR 417 & CR 46A- Ramp	3	2	1,700	0.92	9,49%	0.955	1.50	1.936	968	3.5	A
	CD Rd. (West of I-4) Off Ramp to SR 417 EB - CD Road	3	3	2,330	0.92	9.49%	0.955	7957 87 <mark>1</mark> 958 88	2,653	884	3.2	A
	CD Rd. (West of I-4) Off Ramp to SR 417 EB - Ramp	1,6,83	2.00	910	0.92	9.49%	0.955	10364000 <b>1</b> 1300 1300	1,036	518	1.9	A
	I-4 EB Off Ramp to US 17/92 (No-Build) - Freeway	4		5,410	0.92	9.49%	0.955	10000000110000000	6,159	1,540	4.2	Α
US 17/92	I-4 EB Off Ramp to US 17/92 (No-Build) - Ramp	4	\$(\$0.00) 1 (\$0.00)	620	0,92	9.49%	0.955	0.850.150.85	706	706	1.9	Α
Interchange	I-4 EB Off Ramp to US 17/92 (Build) - Freeway	4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	5,650	0.92	9,49%	0.955	1.000	6,433	1,608	4.4	Α
	I-4 EB Off Ramp to US 17/92 (Build) - Ramp	4	188	660	0.92	9.49%	0.955	1	751	751	2.0	Α
I-4 EB CD	EB CD Rd. (East of I-4) Off Ramps to SR 46 & I-4 EB - Freeway	3	775 3 Z 100 E	1,380	0.92	9,49%	0.955	1000011	1,571	524	1.9	Α
176000	EB CD Rd. (East of I-4) Off Ramps to SR 46 & I-4 EB Ramp	765 3 St. 75	\$50000 BENEFA	430	0.92	9.49%	0.955	7850065 <b>1</b> 850765	490	490	1.8	Α

I-4 Location	Ramp Description	Number of fanes on freeway- approaching Merge Area		Freeway Volume (approaching Merge area)	Ramp Volume approaching merge area	만나	Т%	यु	fр	Vf Total Freeway Demand Upstream of Merge (pc/h)	V12 Total Approaching Volume (pc/h)	Vr (pc/h) Total Ramp Volume	Vr12(pc/h) Total Flow Entering Ramp Influence Area	V Total Freeway Flow
CR 46A Interchange	I-4 W8 On Ramp from CD Rd. (West of I-4)	N=485.3 /455/45	2	<b>3,390</b>	2,140	0.92	9.49%	0.955	105792630. <b>1</b> 816375785	3.860	2,326	2,436	4,763	6.296
OTT TOT INGICIANGE	I-4 WB On Ramp from CD Rd. (West of I-4) - No-Build	3	2	3,480	2,120	0.92	9.49%	0.955	\$50,000 <b>1</b> ,000,000	3,962	2,388	2,414	4,802	6,376
US 17/92 Interchange	I-4 WB On Ramp from US 17/92	977423	2	4,990	660	0.92	9.49%	0.955	48859 <b>1</b> 2000	5,681	3,424	751	4,176	6,433
OO THOS MERCHANGE	I-4 WB On Ramp from US 17/92 I-4 WB On Ramp from US 17/92 - No-Build	168423 1986	0551652	4.790	620	0.92	9.49%	0.955	\$2615543 <b>1</b> 2551550	5,454	3,287	706	3,993	6.159

Ramp Description	Number of lanes on freeway	Number of lanes on ramp	Ramp Volume	PHF	Т%	f _{hv}	Et	Er	Pt	Pr	fp	Vp (pc/hr)
EB CD Rd. (East of I-4) Off Ramps to SR 46 & I-4 EB	44(7):43(8):446	50,000 <b>1</b> 2,000,000	690	0.92	9%	0.957	1.5	1.2	9%	0%	ben terena <b>1</b> 76 95765	784
I-4 EB Off Ramp to US 17/92	4	1	940	0.92	9%	0.957	1,5	1.2	9%	0%	1	1,068
I-4 EB Off Ramp to US 17/92 (No-Build)	4	30-400 <b>1</b> -4-83-05	830	0.92	9%	0.957	1.5	6. S.1.2	9%	0%	40/00/41/0/6006	943

I-4 Location	Ramp Description	Number of lanes on freeway- approaching Diverge Area	Number of lanes on Leg	Volume (approaching Diverge area)	PHF	Т%	f _{ire}	fp	Vp (pc/hr)	Vf (pc/hr/ln)	Density (pc/mi/ln)	Los
	I-4 EB Off Ramp to SR 417 & SR 46 - Freeway	////www.4 //////	150 <b>4</b> 40 666	4,480	0.92	9.49%	0.955	38 S 1 0 S S S	5.101	1.275	3.5	Α
	I-4 EB Off Ramp to SR 417 & SR 46 - Ramp	4	2	1,730	0.92	9.49%	0.955	1	1,970	985	2.7	A
	I-4 WB Off Ramp to SR 417 & CR 46A - Freeway	4	3	5,210	0.92	9.49%	0.955	1/2/2	5,932	1,977	5.4	7535/77 <b>A</b> 132577
Cit (1) intolondinge	I-4 WB Off Ramp to SR 417 & CR 46A- Ramp	3	<b>2 2</b>	2,460	0.92	9.49%	0.955	10000008 <b>1</b> 5500000	2,801	1,400	5.1	3944 <b>A</b> 3354
	CD Rd. (West of I-4) Off Ramp to SR 417 EB - CD Road	3	300 AN 3 100 (50)	3,060	0.92	9.49%	0.955	7050455 <b>1</b> 7057655	3,484	1.161	4.2	essenti <b>A</b> more
	CD Rd. (West of I-4) Off Ramp to SR 417 EB - Ramp	3.000	2	1,230	0.92	9.49%	0.955	885088 <b>1</b> 680088	1,400	700	2.5	- A
	I-4 EB Off Ramp to US 17/92 (No-Build) - Freeway	4 120 3	38 00 <b>4</b> 3 8 8	6,120	0.92	9.49%	0.955	eaching training	6,968	1.742	4.7	Α
US 17/92	I-4 EB Off Ramp to US 17/92 (No-Build) - Ramp	4	\$5,000 <b>1</b> 00000	830	0.92	9.49%	0.955	Viscosia 1	945	945	2.6	A
Interchange	I-4 EB Off Ramp to US 17/92 (Build) - Freeway	4	4	6,390	0.92	9.49%	0.955	55051556	7,275	1,819	5.0	Α
	I-4 EB Off Ramp to US 17/92 (Build) - Ramp	4	1	940	0.92	9.49%	0.955	33454	1.070	1,070	2.9	Α
I-4 EB CD	EB CD Rd. (East of I-4) Off Ramps to SR 46 & I-4 EB - Freeway	3	3	1,830	0.92	9.49%	0.955	1	2.084	695	2.5	Α
14 65 00	EB CD Rd. (East of I-4) Off Ramps to SR 46 & I-4 EB - Ramp	3	20058 <b>1</b> 20080	690	0.92	9.49%	0.955	7000 000 <b>1</b> 507 000	786	786	2.9	Α

I-4 Location	Ramp Description	Number of lanes on freeway- approaching Merge Area			Ramp Volume approaching merge area		Т%	f _{tte}		Vf Total Freeway Demand Upstream of Merge (pc/h)	V12 Total Approaching Volume (pc/h)	Vr (pc/h) Total Ramp Volume	Vr12(pc/h) Total Flow Entering Ramp Influence Area	V Tolai Freeway Flow
	I-4 WB On Ramp from CD Rd. (West of I-4)	47878-3 37838	2	3,340	2,660	0.92	9.49%	0.955	150 Sec. 150 Sec.	3,803	2.292	3.028	5,320	6,831
On Torranterchange	I-4 WB On Ramp from CD Rd. (West of I-4) - No-Build	150 M 3 700 F	785 VO 2 385 VO	3,530	2,630	0.92	9.49%	0.955	555555 <b>1</b> 223555	4,019	2,422	2,994	5.417	7,013
US 17/92 Interchange	I-4 W8 On Ramp from US 17/92	3350	2	5,450	940	0.92	9.49%	0.955	5050001 <b>1</b> 650000	6,205	3,740	1,070	4,810	7,275
00 17/32 Interchange	I-4 WB On Ramp from US 17/92 I-4 WB On Ramp from US 17/92 - No-Build	3.44	2	5,290	830	0.92	9.49%	0.955	200531120056	6.023	3.630	945	4.575	6.968

Ramp Description	Number of lanes on freeway	Number of lanes on ramp	Ramp Volume	PHF	Т%	f _{hv}	Eŧ	Er	Pt	Pr	fp	Vp (pc/hr)
EB CD Rd. (East of I-4) Off Ramps to SR 46 & I-4 EB	( <b>3</b> ( <b>3</b> ( <b>3</b> ( <b>3</b> )	SUBSTRUCT SUBSOR	940	0.92	9%	0.957	1.5	3.001.2000	9%	0%	Aller Strong 1977 (Section	1,068
I-4 EB Off Ramp to US 17/92	4	0 11 11 11 11 11	1,220	0.92	9%	0.957	1.5	1.2	9%	0%	500001	1,386
I-4 EB Off Ramp to US 17/92 (No-Build)	4	1 1 2 1	1,040	0.92	9%	0.957	1.5	1,2	9%	0%	1869/2869/3 <b>1</b> (1884/3/18	(5) (1,181)

I-4 Location	Ramp Description	Number of lanes on freeway- approaching Diverge Area		Volume (approaching Diverge area)	PHF	Т%	f _{hv}	fp	Vp (pc/hr)	Vf (pc/hr/ln)	Density (pc/mi/ln)	LOS
	I-4 EB Off Ramp to SR 417 & SR 46 - Freeway	4	4	4,610	0.92	9.49%	0.955	(650/98 <b>1</b> (650%)	5,249	1,312	3.6	:::::A::
l }	I-4 EB Off Ramp to SR 417 & SR 46 - Ramp	4	2	2,070	0.92	9.49%	0.955	1	2,357	1,178	3.2	Α
	I-4 WB Off Ramp to SR 417 & CR 46A - Freeway	4	3	5,760	0.92	9.49%	0.955	1	6,558	2.186	6.0	A
_	I-4 WB Off Ramp to SR 417 & CR 46A- Ramp	3	2	3,220	0,92	9.49%	0.955	1	3,666	1.833	6.7	Α
	CD Rd. (West of I-4) Off Ramp to SR 417 EB - CD Road	3	3	3,790	0.92	9.49%	0.955	1	4.315	1,438	5.2	Α
	CD Rd. (West of I-4) Off Ramp to SR 417 EB - Ramp	100033	2	1,550	0,92	9.49%	0,955	94559495 <b>1</b> (55/939)	1,765	882	77/7/3.2	Α
	I-4 EB Off Ramp to US 17/92 (No-Build) - Freeway	1188 84 08 88	4.5	6,830	0.92	9.49%	0,955	1	7,776	1.944	5.3	1000 A 1940
US 17/92	I-4 EB Off Ramp to US 17/92 (No-Build) - Ramp	4	551956 192301	1,040	0.92	9.49%	0.955	1850/81840/8	1,184	1.184	3.2	Α
	I-4 EB Off Ramp to US 17/92 (Build) - Freeway	4	4	7,130	0.92	9.49%	0.955	868 (086 <b>1</b> ) \$25 856	8,118	2,029	5.5	A
	I-4 EB Off Ramp to US 17/92 (Build) - Ramp	4	1	1,220	0.92	9.49%	0.955	55006 <b>1</b> 66066	1.389	1.389	3.8	A
	EB CD Rd. (East of I-4) Off Ramps to SR 46 & I-4 EB - Freeway	3	3	2,280	0.92	9.49%	0.955	1	2,596	865	3.1	Α
	EB CD Rd. (East of I-4) Off Ramps to SR 46 & I-4 EB - Ramp	3	1888	940	0,92	9.49%	0.955	1	1,070	1,070	3.9	Α

I-4 Location	Ramp Description	Number of lanes on freeway- approaching Merge Area	1	Freeway Volume (approaching Merge area)	*	PHF	Т%	f _{ev}	fp	Vf Tolal Freeway Demand Upsiream of Merge (pc/h)		Vr (pc/h) Total Ramp Volume	Vr12(pc/h) Total Flow Entering Ramp Influence Area	V Tolal Freeway Flow
	I-4 WB On Ramp from CD Rd. (West of I-4)	55/46/ <b>3</b> 56 54	During 2 (1888)	3,270	3,180	0,92	9,49%	0.955	strates 1 assets)	3.723	2,244	3.621	5.864	7,344
Cit Tox interchange	I-4 WB On Ramp from CD Rd. (West of I-4) - No-Build	20023 TO 10	2 2	3,590	3,130	0.92	9,49%	0.955	5000001300000	4.087	2,463	3.564	6,027	7,651
US 17/92 Interchange	I-4 WB On Ramp from US 17/92	8999-38999S	2	5,910	1,220	0,92	9.49%	0.955	705505189460	6.729	4.055	1.389	5.444	8,118
oo maa interchange	I-4 WB On Ramp from US 17/92 - No-Build	750 3 3 50 US	Marcha 2 5 4000	5,790	1,040	0,92	9.49%	0.955	(\$202.65 <b>1</b> 202.658)	6,592	3,973	1.184	5.157	7,776

Fax:

__Operational Analysis_____

Analyst: Kacia Monts Agency/Co.: HNTB Date Performed: 7/27/2010

Analysis Time Period: Build I-4 Connection @ SR417

Freeway/Dir of Travel: I-4 CD Road (WB) Weaving Location: SR 46 to SR 417
Jurisdiction: Seminole County
Analysis Year: 2012

Description: Wekiva Parkway Project Development & Environment Study

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Freeway free-flow speed, SFF Weaving number of lanes, N	65 3	mph
Weaving segment length, L	2000	ft
Terrain type	Level	
Grade		90
Length		mi
Weaving type	В	Multilane or C-D
Volume ratio, VR	0.16	
Weaving ratio, R	0.00	

Conversion to pc/h Under Base Conditions____

	Non-Weaving		Weaving		
	V	V	Λ	V	
	A-C	B-D	A-D	B-C	
Volume, V	1270	1060	430	0	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	345	288	117	0	V
Trucks and buses	9	9	9	9	ફ
Recreational vehicles	0	0	0	0	ફ
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.957	0.957	0.957	0.957	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	1442	1204	488	0	pc/h

Weaving and Non-Weaving Speeds_____

	Weaving	Non-Weaving
a (Exhibit 24-6)	0.08	0.0020
b (Exhibit 24-6)	2.20	6.00
c (Exhibit 24-6)	0.70	1.00
d (Exhibit 24-6)	0.50	0.50
Weaving intensity factor, Wi	0.32	0.11
Weaving and non-weaving speeds, Si	56.69	64.49
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7) 0.51
Maximum number of lanes, Nw (max) (Exhibit 24-7) 3.50
Type of operation is Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S Weaving segment density, D Level of service, LOS	63.14 16.55 B	mph pc/mi/ln
Capacity of base condition, cb Capacity as a 15-minute flow rate, c Capacity as a full-hour volume, ch	7050 6746 6206	pc/h pc/h pc/h

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	488	4000	a
Average flow rate (pcphpl)	1044	2350	b
Volume ratio, VR	0.16	0.80	С
Weaving ratio, R	0.00	N/A	d
Weaving length (ft)	2000	2500	е
Notes:			

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- c. Capacity occurs under constrained operating conditions.
- d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
- h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

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Operational Analysis_____

Analyst: Kacia Monts

Agency/Co.: HNTB Date Performed: 7/27/2010
Analysis Time Period: Build I-4 Connection @ SR417

Freeway/Dir of Travel: I-4 CD Road (WB)
Weaving Location: SR 46 to SR 417
Jurisdiction: Seminole County
Analysis Year: 2022

Description: Wekiva Parkway Project Development & Environment Study

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Freeway free-flow speed, SFF Weaving number of lanes, N	65 3	mph
Weaving segment length, L	2000	ft
Terrain type	Level	
Grade		9
Length		mi
Weaving type	В	Multilane or C-D
Volume ratio, VR	0.18	
Weaving ratio, R	0.00	

____Conversion to pc/h Under Base Conditions_____

	Non-Weaving		Weaving		
	V	Λ	٧	V	
	A-C	B-D	<b>A-</b> D	B-C	
Volume, V	1770	1290	690	0	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	481	351	187	0	v
Trucks and buses	9	9	9	9	용
Recreational vehicles	0	0	0	0 .	용
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.957	0.957	0.957	0.957	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	2010	1465	783	0	pc/h

Weaving and Non-Weaving Speeds_____

	Weaving	Non-Weaving
a (Exhibit 24-6)	0.08	0.0020
b (Exhibit 24-6)	2.20	6.00
c (Exhibit 24-6)	0.70	1.00
d (Exhibit 24-6)	0.50	0.50
Weaving intensity factor, Wi	0.42	0.17
Weaving and non-weaving speeds, S	i 53.81	61.82
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7) 0.56 Maximum number of lanes, Nw (max) (Exhibit 24-7) 3.50 Type of operation is Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S Weaving segment density, D Level of service, LOS		mph pc/mi/ln
Capacity of base condition, cb Capacity as a 15-minute flow rate, c	7050 6746	pc/h pc/h
Capacity as a full-hour volume, ch	6206	pc/h

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	783	4000	a
Average flow rate (pcphpl)	1419	2350	b
Volume ratio, VR	0.18	0.80	С
Weaving ratio, R	0.00	N/A	d
Weaving length (ft)	2000	2500	е
Notes.			

- Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- Capacity constrained by basic freeway capacity. b.
- Capacity occurs under constrained operating conditions.
- Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such
- Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

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_____Operational Analysis_____

Analyst: Kacia Monts

Agency/Co.: HNTB Date Performed: 7/27/2010
Analysis Time Period: Build I-4 Connection @ SR417

Freeway/Dir of Travel: I-4 CD Road (WB) Weaving Location: SR 46 to SR 417
Jurisdiction: Seminole County
Analysis Year: 2032

Description: Wekiva Parkway Project Development & Environment Study

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Freeway free-flow speed, SFF Weaving number of lanes, N	65 3	mph
Weaving segment length, L	2000	ft
Terrain type	Level	
Grade		્ર
Length		mi
Weaving type	В	Multilane or C-D
Volume ratio, VR	0.20	
Weaving ratio, R	0.00	

Conversion to pc/h Under Base Conditions_____

	Non-Weaving		Weaving		
	V	Λ	Λ	V	
	A-C	B-D	A-D	B-C	
Volume, V	2280	1510	940	0	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	620	410	255	0	V
Trucks and buses	9	9	9	9	용
Recreational vehicles	0	0	0	0	용
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.957	0.957	0.957	0.957	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	2589	1715	1067	0	pc/h

Weaving and Non-Weaving Speeds_____

	Weaving	Non-Weaving
a (Exhibit 24-6)	0.08	0.0020
b (Exhibit 24-6)	2.20	6.00
c (Exhibit 24-6)	0.70	1.00
d (Exhibit 24-6)	0.50	0.50
Weaving intensity factor, Wi	0.50	0.24
Weaving and non-weaving speeds, Si	51.56	59.45
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7) 0.60 Maximum number of lanes, Nw (max) (Exhibit 24-7) 3.50 Type of operation is Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S Weaving segment density, D	57.69	mph pc/mi/ln
	31.03	bc/mr/m
Level of service, LOS	С	
Capacity of base condition, cb	7050	pc/h
Capacity as a 15-minute flow rate, c	6746	pc/h
Capacity as a full-hour volume, ch	6206	pc/h

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	1067	4000	a
Average flow rate (pcphpl)	1790	2350	b
Volume ratio, VR	0.20	0.80	С
Weaving ratio, R	0.00	N/A	d
Weaving length (ft)	2000	2500	е
Notes.			

- Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- Capacity occurs under constrained operating conditions.
- Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such
- Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

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_____Operational Analysis_____

Analyst: Kacia Monts

Agency/Co.: HNTB Date Performed: 6/25/2010
Analysis Time Period: Build I-4 Connection @ SR417

Freeway/Dir of Travel: SR 417 WB

Weaving Location: Rinehart On to I-4 EB & WB On Jurisdiction: Seminole County Analysis Year: 2012

Description: Wekiva Parkway Project Development & Environment Study

Inputs
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Freeway free-flow speed, SFF	65	mph
Weaving number of lanes, N	4	
Weaving segment length, L	2220	ft
Terrain type	Level	
Grade		96
Length		mi
Weaving type	В	Multilane or C-D
Volume ratio, VR	0.47	
Weaving ratio, R	0.12	

____Conversion to pc/h Under Base Conditions_____

	Non-Weaving		Weaving		
	Λ	V	V .	V	
	01	02	w1	w2	
Volume, V	1368	68	1142	152	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	372	18	310	41	v
Trucks and buses	10	10	10	10	ફ
Recreational vehicles	0	0	0	0	용
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.952	0.952	0.952	0.952	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	1561	77	1303	173	pc/h

____Weaving and Non-Weaving Speeds_____

a (Exhibit 24-6) b (Exhibit 24-6) c (Exhibit 24-6) d (Exhibit 24-6) Weaving intensity factor, Wi	Weaving 0.08 2.20 0.70 0.50 0.42	Non-Weaving 0.0020 6.00 1.00 0.50 0.34
·		
Weaving and non-weaving speeds, Si Number of lanes required for	53.70	56.08

unconstrained operation, Nw (Exhibit 24-7) 1.92
Maximum number of lanes, Nw (max) (Exhibit 24-7) 3.50
Type of operation is Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity_____

Weaving segment speed, S 54.93 mph Weaving segment density, D 14.17 pc/mi/ln Level of service, LOS В Capacity of base condition, cb 7772 pc/h Capacity as a 15-minute flow rate, c 7402 pc/h Capacity as a full-hour volume, ch 6810 pc/h

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	1476	4000	a
Average flow rate (pcphpl)	778	2350	b
Volume ratio, VR	0.47	0.80	С
Weaving ratio, R	0.12	N/A	d
Weaving length (ft)	2220	2500	е
Notes.			

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- c. Capacity occurs under constrained operating conditions.
- d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
- h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

Fax:

Operational Analysis_____

Analyst: Kacia Monts

Agency/Co.: HNTB Date Performed: 6/25/2010

Analysis Time Period: Build I-4 Connection @ SR417

Freeway/Dir of Travel: SR 417 WB

Weaving Location: Rinehart On to I-4 EB & WB On Jurisdiction: Seminole County Analysis Year: 2022

Description: Wekiva Parkway Project Development & Environment Study

Freeway free-flow speed, SFF	65	mph
Weaving number of lanes, N	4	
Weaving segment length, L	2220	ft
Terrain type	Level	
Grade		ક
Length		mi
Weaving type	В	Multilane or C-D
Volume ratio, VR	0.41	
Weaving ratio, R	0.15	
Length Weaving type Volume ratio, VR	0.41	mi

_____Conversion to pc/h Under Base Conditions_____

•	Non-Weaving		Weaving		
	Λ	Λ	Λ	Λ	
	01	02	w1	w2	
Volume, V	2196	186	1404	244	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	597	51	382	66 .	v
Trucks and buses	10	10	10	10	ફ
Recreational vehicles	0	0	0	0	ક
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.952	0.952	0.952	0.952	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	2506	212	1602	278	pc/h

__Weaving and Non-Weaving Speeds_____

a (Exhibit 24-6) b (Exhibit 24-6) c (Exhibit 24-6) d (Exhibit 24-6)	Weaving 0.08 2.20 0.70 0.50	Non-Weaving 0.0020 6.00 1.00 0.50
Weaving intensity factor, Wi Weaving and non-weaving speeds, Si Number of lanes required for	0.50 51.64	0.38 54.81

unconstrained operation, Nw (Exhibit 24-7)

Maximum number of lanes, Nw (max) (Exhibit 24-7)

Type of operation is

1.68

3.50

Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S Weaving segment density, D		mph pc/mi/ln
Level of service, LOS	В	
Capacity of base condition, cb	8133	pc/h
Capacity as a 15-minute flow rate, c	7746	pc/h
Capacity as a full-hour volume, ch	7126	pc/h

		If Max Exceed	ed See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	1880	4000	а
Average flow rate (pcphpl)	1149	2350	b
Volume ratio, VR	0.41	0.80	С
Weaving ratio, R	0.15	N/A	d
Weaving length (ft)	2220	2500	е
Notes:			

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- c. Capacity occurs under constrained operating conditions.
- d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
- h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such
- i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

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_____Operational Analysis_____

Kacia Monts Analyst:

Agency/Co.: HNTB Date Performed: 6/25/2010
Analysis Time Period: Build I-4 Connection @ SR417

Freeway/Dir of Travel: SR 417 WB

Weaving Location: Rinehart On to I-4 EB & WB On Jurisdiction: Seminole County Analysis Year: 2032

Description: Wekiva Parkway Project Development & Environment Study

Inputs	
--------	--

5 mph
220 ft
evel
<del>ે</del>
mi
Multilane or C-D
.38
.17
3

## Conversion to pc/h Under Base Conditions_____

	Non-Weaving		Weaving		
	Λ	Λ	V	Λ	
	01	02	w1	w2	
Volume, V	3015	285	1675	335	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	819	77	455	91	V
Trucks and buses	10	10	10	10	ફ
Recreational vehicles	0	0	0	0	⁸
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.952	0.952	0.952	0.952	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	3441	325	1911	382	pc/h

# Weaving and Non-Weaving Speeds_____

	Weaving	Non-Weaving
a (Exhibit 24-6)	0.08	0.0020
b (Exhibit 24-6)	2.20	6.00
c (Exhibit 24-6)	0.70	1.00
d (Exhibit 24-6)	0.50	0.50
Weaving intensity factor, Wi	0.58	0.44
Weaving and non-weaving speeds, Si	49.83	53.17
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7) 1.59
Maximum number of lanes, Nw (max) (Exhibit 24-7) 3.50
Type of operation is Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S	51.85	mph
Weaving segment density, D	29.21	pc/mi/ln
Level of service, LOS	С	
Capacity of base condition, cb	8321	pc/h
Capacity as a 15-minute flow rate, c	7925	pc/h
Capacity as a full-hour volume, ch	7291	pc/h

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	2293	4000	a
Average flow rate (pcphpl)	1514	2350	b
Volume ratio, VR	0.38	0.80	С
Weaving ratio, R	0.17	N/A	d
Weaving length (ft)	2220	2500	е
Notes.			

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- c. Capacity occurs under constrained operating conditions.
- d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
- h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

Fax:

_____Operational Analysis_____

Analyst: CTR Agency/Co.: HNTB Date Performed: 8/06/10
Analysis Time Period: No-Build

Freeway/Dir of Travel: I-4 WB CD Road Weaving Location: SR 46 to SR 417
Jurisdiction: Seminole County
Analysis Year: 2012

Description: Wekiva Parkway PD&E

_____Inputs

Freeway free-flow speed, SFF	65	mph
Weaving number of lanes, N	3	
Weaving segment length, L	1954	ft
Terrain type	Level	
Grade		o _o
Length		mi
Weaving type	В	Multilane or C-D
Volume ratio, VR	0.73	
Weaving ratio, R	0.46	

Conversion to pc/h Under Base Conditions____

	Non-Wea	ving	Weaving	3	
	Λ	Λ	Λ	V	
	01	02	w1	w2	
Volume, V	410	280	860	1010	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	111	76	234	274	Δ
Trucks and buses	9	9	9	9	용
Recreational vehicles	0	0	0	0	용
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.957	0.957	0.957	0.957	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	465	318	976	1147	pc/h

Weaving and Non-Weaving Speeds_____

	Weaving	Non-Weaving
a (Exhibit 24-6)	0.08	0.0020
b (Exhibit 24-6)	2.20	6.00
c (Exhibit 24-6)	0.70	1.00
d (Exhibit 24-6)	0.50	0.50
Weaving intensity factor, Wi	0.74	1.18
Weaving and non-weaving speeds, Si	46.52	40.26
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7) 2.49
Maximum number of lanes, Nw (max) (Exhibit 24-7) 3.50
Type of operation is Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity____

Weaving segment speed, S Weaving segment density, D Level of service, LOS		mph pc/mi/ln
Capacity of base condition, cb Capacity as a 15-minute flow rate, c Capacity as a full-hour volume, ch	5006 4790 4407	pc/h pc/h pc/h

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	2123	4000	a
Average flow rate (pcphpl)	968	2350	b
Volume ratio, VR	0.73	0.80	С
Weaving ratio, R	0.46	N/A	d
Weaving length (ft)	1954	2500	е
Notes:			

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- c. Capacity occurs under constrained operating conditions.
- d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
- h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

Fax:

_____Operational Analysis_____

Analyst: CTR Agency/Co.: HNTB Date Performed: 8/06/10
Analysis Time Period: No-Build

Freeway/Dir of Travel: I-4 WB CD Road Weaving Location: SR 46 to SR 417
Jurisdiction: Seminole County
Analysis Year: 2022

Description: Wekiva Parkway PD&E

_____Inputs_____

Freeway free-flow speed, SFF	65	nah
Weaving number of lanes, N	3	щрп
Weaving segment length, L	1954	ft
Terrain type	Level	
Grade		ક
Length		mi
Weaving type	В	Multilane or C-D
Volume ratio, VR	0.72	
Weaving ratio, R	0.49	

____Conversion to pc/h Under Base Conditions_____

	Non-Wea	ving	Weaving	Г	
	V	Λ	V	V	
	01	02	w1	w2	
Volume, V	610	290	1160	1210	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	166	79	315	329	v
Trucks and buses	9	9	9	9	oj.
Recreational vehicles	0	0	0	0	<b>ે</b>
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.957	0.957	0.957	0.957	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	692	329	1317	1374	pc/h

___Weaving and Non-Weaving Speeds______

a (Exhibit 24-6) b (Exhibit 24-6) c (Exhibit 24-6) d (Exhibit 24-6) Weaking intensity factor. Wi	Weaving 0.08 2.20 0.70 0.50	Non-Weaving 0.0020 6.00 1.00 0.50
Weaving intensity factor, Wi Weaving and non-weaving speeds, Si	0.88	1.47 37.22
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7) 2.53
Maximum number of lanes, Nw (max) (Exhibit 24-7) 3.50
Type of operation is Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S Weaving segment density, D	42.09 29.39	mph pc/mi/ln
Level of service, LOS	C	
Capacity of base condition, cb	5015	pc/h
Capacity as a 15-minute flow rate, c	4799	pc/h
Capacity as a full-hour volume, ch	4415	pc/h

			eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	2691	4000	а
Average flow rate (pcphpl)	1237	2350	b
Volume ratio, VR	0.72	0.80	С
Weaving ratio, R	0.49	N/A	d
Weaving length (ft)	1954	2500	е
Notes			

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- c. Capacity occurs under constrained operating conditions.
- d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
- h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

Phone: Fax: E-mail: Operational Analysis_____ Analyst: CTR Agency/Co.: HNTB
Date Performed: 8/06/2010
Analysis Time Period: No-Build Agency/Co.: Freeway/Dir of Travel: I-4 WB CD Rd Weaving Location: SR 46 to SR 417
Jurisdiction: Seminole County
Analysis Year: 2032 Description: Wekiva Parkway PD&E Inputs Freeway free-flow speed, SFF 65 mph Weaving number of lanes, N 3 Weaving segment length, L 1954 ft Terrain type Level Grade Length mi Weaving type В Multilane or C-D Volume ratio, VR 0.72 Weaving ratio, R 0.49 Conversion to pc/h Under Base Conditions Non-Weaving Weaving  $\Lambda$   $\Lambda$ V V V V V V V V A-C B-D A-D B-C 810 300 1460 1410 veh/h 0.92 0.92 0.92 0.92 220 82 397 383 V 9 9 9 9 % 0 0 0 0 % 1.5 1.5 1.5 1.5 1.5 1.5 1.2 1.2 1.2 1.2 0.957 0.957 0.957 1.00 1.00 1.00 1.00 Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Heavy vehicle adjustment, Inv
Driver population adjustment, fP
1.00
1.00
1.00
1.00
1.00
1.00
1.00

pc/h

	Weaving	Non-Weaving
a (Exhibit 24-6)	0.08	0.0020
b (Exhibit 24-6)	2.20	6.00
c (Exhibit 24-6)	0.70	1.00
d (Exhibit 24-6)	0.50	0.50
Weaving intensity factor, Wi	1.00	1.77
Weaving and non-weaving speeds, Si	42.47	34.84
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7) 2.55 Maximum number of lanes, Nw (max) (Exhibit 24-7) 3.50 Type of operation is Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S Weaving segment density, D	40.03 37.63	mph pc/mi/ln
Level of service, LOS	E	
Capacity of base condition, cb	5021	pc/h
Capacity as a 15-minute flow rate, c	4805	pc/h
Capacity as a full-hour volume, ch	4421	pc/h

Limitations on Weaving Segments

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	3259	4000	a
Average flow rate (pcphpl)	1506	2350	b
Volume ratio, VR	0.72	0.80	С
Weaving ratio, R	0.49	N/A	d
Weaving length (ft)	1954	2500	е
Notas:			

#### Notes:

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- Capacity constrained by basic freeway capacity. b.
- Capacity occurs under constrained operating conditions. C.
- Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such
- Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

## 2012 I-4 CD WB @ SR 46 and WB SR 417_JPB.txt

### HCS+: Freeway Weaving Release 5.4

Phone: E-mail:					
Operatio	onal Anal	ysis			
Analyst: Kacia Monts Agency/Co.: HNTB Date Performed: 09/2010 Analysis Time Period: Build I-4 Connection @ SR417 Freeway/Dir of Travel: I-4 CD Road (WB) Weaving Location: SR 46 to SR 417 Jurisdiction: Seminole County Analysis Year: 2012 Description: Wekiva Parkway Project Development & Environment Study					
Freeway free-flow speed, SFF Weaving number of lanes, N Weaving segment length, L Terrain type Grade Length Weaving type Volume ratio, VR Weaving ratio, R	65 3 20 Le B 0.	00 vel	mph ft % mi Mul	tilane (	or C-D
Conversion to pc/h	Under Ba	se Con	ditions		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population adjustment, fP Flow rate, v	Non-Wea V o1 1210 0.92 329 9 0 1.5 1.2 0.957 1.00 1374	ving V 02 0.92 0 9 0 1.5 1.2 0.957 1.00	Weaving V w1 1030 0.92 280 9 0 1.5 1.2 0.957 1.00 1169	W2 460 0.92 125 9 0 1.5 1.2 0.957 1.00 522	veh/h v % % pc/h
Weaving and Nor	n-Weaving	Speed	S		
a (Exhibit 24-6) b (Exhibit 24-6) c (Exhibit 24-6) d (Exhibit 24-6) Weaving intensity factor, Wi Weaving and non-weaving speeds, Si Number of lanes required for unconstrained operation, Nw (Exhibit 2 Maximum number of lanes, Nw (max) (Exh	Weaving 0.08 2.20 0.70 0.50 0.60 49.35 24-7) nibit 24- Page 1		Non-Weavin 0.0020 6.00 1.00 0.50 0.64 48.58 1.81 3.50	g	

Weaving Segment Speed, Densit	y, Leve	l of Service and Capacity
Weaving segment speed, S Weaving segment density, D Level of service, LOS	49.00 20.85 B	mph pc/mi/ln
Capacity of base condition, cb Capacity as a 15-minute flow rate, c Capacity as a full-hour volume, ch	5479 5243 4824	pc/h pc/h pc/h
Limitations on	Weaving	Segments

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	1691	4000	a
Average flow rate (pcphpl)	1021	2350	b
Volume ratio, VR	0.55	0.80	С
Weaving ratio, R	0.31	N/A	d
Weaving length (ft)	2000	2500	ė
Notes			

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp
- Capacity constrained by basic freeway capacity.
- Capacity occurs under constrained operating conditions.
- Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such
- Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such
- Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h
- (Type A), 4,000 (Type B), 3,500 (Type C). Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such
- Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

# 2012 SR 417 WB between On from Rinehart and Off to I-4.txt HCS+: Freeway Weaving Release 5.4

Phone: E-mail:					
Operatio	onal Anal	ysis			
Analyst: Kacia Monts Agency/Co.: HNTB Date Performed: 09/2010 Analysis Time Period: Build I-4 Connection @ SR417 Freeway/Dir of Travel: SR 417 WB Weaving Location: Rinehart On to I-4 EB & WB On Jurisdiction: Seminole County Analysis Year: 2012 Description: Wekiva Parkway Project Development & Environment Study					
Inp	outs				
Freeway free-flow speed, SFF Weaving number of lanes, N Weaving segment length, L Terrain type Grade Length Weaving type Volume ratio, VR	Le B 0.	220 evel 48	mph ft % mi Mul	i Itilane (	or C-D
Weaving ratio, R	0.	12			
Conversion to pc/h	Under Ba	se Cond	litions		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population adjustment, fP Flow rate, v	Non-Wea v o1 1394 0.92 379 10 0 1.5 1.2 0.952 1.00 1590	ving V 02 72 0.92 20 10 0 1.5 1.2 0.952 1.00 82	Weaving V w1 1186 0.92 322 10 0 1.5 1.2 0.952 1.00 1353	V w2	veh/h v % % pc/h
Weaving and Nor	n-Weaving	Speeds	5		
a (Exhibit 24-6) b (Exhibit 24-6) c (Exhibit 24-6) d (Exhibit 24-6) Weaving intensity factor, Wi Weaving and non-weaving speeds, Si Number of lanes required for unconstrained operation, Nw (Exhibit 2 Maximum number of lanes, Nw (max) (Exh	Weaving 0.08 2.20 0.70 0.50 0.43 53.39 24-7) nibit 24- Page 1	() () () ()	Non-Weavir 0.0020 5.00 1.00 0.50 0.35 55.59 1.95	ng	

2012 SR 417 WB between On from Rinehart and Off to I-4.txt Type of operation is Unconstrained

Weaving Segment Speed,	Density, Level of Service and Capacity
Weaving segment speed S	51 52 mph

34.32 MpH
14.70 pc/mi/ln
В
7748 pc/h
7379 pc/h
6789 pc/h
B 7748 pc/h 7379 pc/h

_____Limitations on Weaving Segments____

	_	If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	1533	4000	a
Average flow rate (pcphpl)	801	2350	b
Volume ratio, VR	0.48	0.80	Ċ
Weaving ratio, R	0.12	N/A	ď
Weaving length (ft)	2220	2500	ė
Notes:	<b>-</b>		•

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- c. Capacity occurs under constrained operating conditions.
- d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
   g. Five-lane Type A segments do not operate well at volume ratios greater
- g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
- h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

# 2022 I-4 CD WB @ SR 46 and WB SR 417_JPB.txt

HCS+: Freeway Weaving Release 5.4

Phone: E-mail:	Fax:				
Operati	onal Anal	ysis			
Analyst: Kacia Monts Agency/Co.: HNTB Date Performed: 09/2010 Analysis Time Period: Build I-4 Connection @ SR417 Freeway/Dir of Travel: I-4 CD Road (WB) Weaving Location: SR 46 to SR 417 Jurisdiction: Seminole County Analysis Year: 2022 Description: Wekiva Parkway Project Development & Environment Study					
Freeway free-flow speed, SFF Weaving number of lanes, N Weaving segment length, L Terrain type Grade Length Weaving type Volume ratio, VR Weaving ratio, R	B 0.9 0.3	00 ve1 54 39		tilane d	or C-D
Conversion to pc/h			itions		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population adjustment, fP Flow rate, v	9 0 1.5 1.2 0.957 1.00	0 0.92 0 9 0	Weaving V w1 1105 0.92 300 9 0 1.5 1.2 0.957 1.00 1255	V w2	veh/h v % % pc/h
Weaving and Non	-Weaving	Speeds_			
a (Exhibit 24-6) b (Exhibit 24-6) c (Exhibit 24-6) d (Exhibit 24-6) Weaving intensity factor, Wi Weaving and non-weaving speeds, Si Number of lanes required for unconstrained operation, Nw (Exhibit 2 Maximum number of lanes, Nw (max) (Exh	Weaving 0.08 2.20 0.70 0.50 0.69 47.52 4-7) ibit 24-7	0. 6. 1. 0. 46	on-Weavin 0020 00 00 50 76 333 80	g	

#### 2022 I-4 CD WB @ SR 46 and WB SR 417_JPB.txt Type of operation is Unconstrained

Weaving Segment Speed, Densi	ty, Leve	l of Service and Capacity
Weaving segment speed, S Weaving segment density, D Level of service, LOS Capacity of base condition, cb	46.96 27.48 C 5534	mph pc/mi/ln pc/h
Capacity as a 15-minute flow rate, c Capacity as a full-hour volume, ch	5296 4872	pc/h pc/h
Limitations on	Weaving	Segments

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	2072	4000	a
Average flow rate (pcphpl)	1290	2350	b
Volume ratio, VR	0.54	0.80	С
Weaving ratio, R	0.39	N/A	d
Weaving length (ft)	2000	2500	e
Notes:			<del>-</del>

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".

- Capacity constrained by basic freeway capacity.
  Capacity occurs under constrained operating conditions.
  Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such
- Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C). Five-lane Type A segments do not operate well at volume ratios greater
- than 0.20. Poor operations and some local queuing are expected in such
- Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

# 2022 SR 417 WB between On from Rinehart and Off to I-4.txt HCS+: Freeway Weaving Release 5.4

rhone: Fax:						
Operation	Operational Analysis					
Analyst: Agency/Co.: HNTB Date Performed: O9/2010 Analysis Time Period: Build I-4 Connection @ SR417 Freeway/Dir of Travel: SR 417 WB Weaving Location: Rinehart On to I-4 EB & WB On Jurisdiction: Seminole County Analysis Year: 2022 Description: Wekiva Parkway Project Development & Environment Study						
·	outs					
Freeway free-flow speed, SFF Weaving number of lanes, N Weaving segment length, L Terrain type Grade Length		20 ve1	mph ft % mi			
Weaving type Volume ratio, VR Weaving ratio, R	B 0. 0.		Mul	tilane	or C-D	
Conversion to pc/h	Under Ba	se Cor	nditions			
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population adjustment, fP Flow rate, v	Non-Wea V 01 2251 0.92 612 10 0 1.5 1.2 0.952 1.00 2569	ving V 02 194 0.92 53 10 0 1.5 1.2 0.952 1.00 221	0.952 1.00	V w2 256 0.92 70 10 0 1.5 1.2 0.952 1.00 292	veh/h v % % pc/h	
Weaving and Non	-Weaving	Speed	s			
a (Exhibit 24-6) b (Exhibit 24-6) c (Exhibit 24-6) d (Exhibit 24-6) weaving intensity factor, Wi Weaving and non-weaving speeds, Si Number of lanes required for unconstrained operation, NW (Exhibit 2 Maximum number of lanes, NW (max) (Exh	Weaving 0.08 2.20 0.70 0.50 0.51 51.40 4-7) ibit 24-1 Page 1		Non-Weaving 0.0020 6.00 1.00 0.50 0.39 54.49 1.69 3.50	9		

2022 SR 417 WB between On from Rinehart and Off to I-4.txt Type of operation is Unconstrained

weaving Segment Speed, Densit	y, Leve	1 of Service and Capacity
Weaving segment speed, S Weaving segment density, D Level of service, LOS Capacity of base condition, cb Capacity as a 15-minute flow rate, c Capacity as a full-hour volume, ch	53.18 22.21 B 8130 7743 7124	mph pc/mi/ln pc/h pc/h pc/h pc/h

Limitations	Λn	าผอสพากด	Sadmants
 	011	WCUV IIIQ	

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	1934	4000	a
Average flow rate (pcphpl)	1181	2350	b
Volume ratio, VR	0.41	0.80	c
Weaving ratio, R	0.15	N/A	d
Weaving length (ft)	2220	2500	ë
Notoca			=

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b.
- Capacity constrained by basic freeway capacity.
  Capacity occurs under constrained operating conditions.
- Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such
- Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C). Five-lane Type A segments do not operate well at volume ratios greater
- g. than 0.20. Poor operations and some local queuing are expected in such
- Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

### 2032 I-4 CD WB @ SR 46 and WB SR 417_JPB.txt

## HCS+: Freeway Weaving Release 5.4

Phone: E-mail:	Fax	::			
Operation	Operational Analysis				
Analyst: Kacia Monts Agency/Co.: HNTB Date Performed: 09/2010 Analysis Time Period: Build I-4 Connection @ SR417 Freeway/Dir of Travel: I-4 CD Road (WB) Weaving Location: SR 46 to SR 417 Jurisdiction: Seminole County Analysis Year: 2032 Description: Wekiva Parkway Project Development & Environment Study					
	outs				
Freeway free-flow speed, SFF Weaving number of lanes, N Weaving segment length, L Terrain type Grade Length		000 vel	mph ft % mi		
Weaving type Volume ratio, VR Weaving ratio, R		51 42	Mul	tilane (	or C-D
Conversion to pc/h	Under Ba	se Con	ditions		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population adjustment, fP Flow rate, v	Non-Weav 01 2270 0.92 617 9 0 1.5 1.2 0.957 1.00 2578	v o2 0 0.92 0 9 0 1.5 1.2 0.957 1.00	0.957 1.00 1567	v w2 990 0.92 269 9 0 1.5 1.2 0.957 1.00 1124	veh/h v % % pc/h
weaving and Nor	ı-Weaving	Speed	s		
a (Exhibit 24-6) b (Exhibit 24-6) c (Exhibit 24-6) d (Exhibit 24-6) Weaving intensity factor, Wi Weaving and non-weaving speeds, Si Number of lanes required for unconstrained operation, Nw (Exhibit 2 Maximum number of lanes, Nw (max) (Exh	Weaving 0.08 2.20 0.70 0.50 0.83 45.09 24-7) nibit 24- Page 1		Non-Weavin 0.0020 6.00 1.00 0.50 0.93 43.44 1.77 3.50	g	

Type of operation 13	onconstratilea
Weaving Segment Speed, Densit	y, Level of Service and Capacity
Weaving segment speed, S Weaving segment density, D Level of service, LOS Capacity of base condition, cb Capacity as a 15-minute flow rate, c Capacity as a full-hour volume, ch	44.27 mph 39.68 pc/mi/ln E 5615 pc/h 5373 pc/h 4943 pc/h
Limitations on N	Weaving Segments

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	2691	4000	a
Average flow rate (pcphpl)	1756	2350	b
Volume ratio, VR	0.51	0.80	C
Weaving ratio, R	0,42	N/A	d
Weaving length (ft)	2000	2500	ē
Notes:			_

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- Capacity occurs under constrained operating conditions.
- Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such
- Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h
- (Type A), 4,000 (Type B), 3,500 (Type C). Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such
- Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

# 2032 SR 417 WB between On from Rinehart and Off to I-4.txt HCS+: Freeway Weaving Release 5.4

Phone: E-mail:						
Operation	Operational Analysis					
Analyst: Kacia Monts Agency/Co.: HNTB Date Performed: 09/2010 Analysis Time Period: Build I-4 Connection @ SR417 Freeway/Dir of Travel: SR 417 WB Weaving Location: Rinehart On to I-4 EB & WB On Jurisdiction: Seminole County Analysis Year: 2032 Description: Wekiva Parkway Project Development & Environment Study						
Inp	outs					
Freeway free-flow speed, SFF Weaving number of lanes, N Weaving segment length, L Terrain type Grade Length Weaving type Volume ratio, VR Weaving ratio, R	Le B O.		mph ft % mi Mul	tilane	or C-D	
Conversion to pc/h	Under Ba	se Cor	nditions			
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population adjustment, fP Flow rate, V	Non-Wea V o1 3120 0.92 848 10 0 1.5 1.2 0.952 1.00 3560	ving V 02 264 0.92 72 10 0 1.5 1.2 0.952 1.00 301	Weaving V w1 1720 0.92 467 10 0 1.5 1.2 0.952 1.00 1963	V w2 356 0.92 97 10	veh/h v % %	
Weaving and Non	-Weaving	Speed	S			
a (Exhibit 24-6) b (Exhibit 24-6) c (Exhibit 24-6) d (Exhibit 24-6) Weaving intensity factor, Wi Weaving and non-weaving speeds, Si Number of lanes required for unconstrained operation, Nw (Exhibit 2 Maximum number of lanes, Nw (max) (Exh	Weaving 0.08 2.20 0.70 0.50 0.59 49.54 4-7) ibit 24-7 Page 1		Non-Weavin 0.0020 6.00 1.00 0.50 0.46 52.75 1.60 3.50	g		

2032 SR 417 WB between On from Rinehart and Off to I-4.txt Type of operation is Unconstrained

Weaving Segment Speed, Densit	y, Leve	1 of Service and Capacity
Weaving segment speed, S Weaving segment density, D Level of service, LOS Capacity of base condition, cb Capacity as a 15-minute flow rate, c Capacity as a full-hour volume, ch	51.48 30.25 C 8309 7913 7280	mph pc/mi/ln pc/h pc/h pc/h pc/h

		If Max Exce	eded See Note
	Analyzed	Maximum	Note
Weaving flow rate, Vw	2369	4000	a
Average flow rate (pcphpl)	1557	2350	b
Volume ratio, VR	0.38	0.80	Ċ
Weaving ratio, R	0.17	N/A	d
Weaving length (ft)	2220	2500	e
\$1 <del>- 4</del>			

- a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- b. Capacity constrained by basic freeway capacity.
- c. Capacity occurs under constrained operating conditions.
- d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
   g. Five-lane Type A segments do not operate well at volume ratios greater
- g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
- h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.