Generalized **Annual Average Daily** Volumes for Florida's **Urbanized Areas**

TABLE 1

										12/18/12
	INTERR	RUPTED F	LOW FAC	ILITIES			UNINTER	RRUPTED FL	OW FACILI	TIES
	STATE S	IGNALI.	ZED AR	TERIALS	S			FREEW	AYS	
	Class I (40 r	nph or hig	her posted	speed limi	it)			Core Urba	nized	
Lanes	Median	В	C	D	E	Lanes	В	C	D	Е
2	Undivided	*	16,800	17,700	**	4	47,400	64,000	77,900	0 84,600
4	Divided	*	37,900	39,800	**	6	69,900	95,200	116,600	0 130,600
6	Divided	*	58,400	59,900	**	8	92,500	126,400	154,300	0 176,600
8	Divided	*	78,800	80,100	**	10	115,100	159,700	194,500	0 222,700
	Class II (35 1	mnh ar ala	wer nested	anood lim	;;+)	12	162,400	216,700	256,600	0 268,900
Lanes	Median	npn or sio B	C	Speed IIII D	E			Urbaniz	ved	
2	Undivided	*	7,300	14,800	15,600	Lanes	В	C	D	Е
4	Divided	*	14,500	32,400	33,800	4	45,800	61,500	74,400	
6	Divided	*	23,300	50,000	50,900	6	68,100	93,000	111,800	,
8	Divided	*	32,000	67,300	68,100	8	91,500	123,500	148,700	
	Divided		32,000	07,500	00,100	10	114,800	156,000	187,100	
							,,,,,,,,	,	,	
	Non-State Si	gnalized	Roadway A	Adjustme	nts		F	reeway Adjı	ıstments	
			ing state volu	mes			Auxiliary Lan	es		amp
		by the indica Signalized	ted percent.)	- 10%		Pres	ent in Both Dir	ections		tering
ļ	Non-State	Signanzed	Roadways	- 10%			+ 20,000		+	- 5%
	Median	& Turn I	Lane Adju	stments		,	INITATEDO		OW III CI	11XX/ A X/C
		Exclusive			djustment		J NINTERR Median	B B	C C	D E
Lanes	Median	Left Lane	_		Factors	Lanes				4,200 33,300
2	Divided	Yes	N		+5%	2	Undivided			
2 Multi	Undivided Undivided	No Yes	No No		-20%	4	Divided Divided			5,600 72,600 8,300 108,800
Multi	Undivided	No	No.		-5% -25%	0	Divided	55,000	77,700 98	8,300 108,800
Withti		_	Ye		+ 5%		Uninterrupt	tod Flow Uia	hway Adin	atmonta
						Lanes	Median	Exclusive le		djustment factors
	One-V	Way Facil	ity Adjust	ment		2	Divided	Yes	rt lanes 2 K	+5%
	Multiply t	he correspo	nding two-di	rectional		Multi	Undivided	Yes		-5%
	VC	olumes in th	is table by 0.	6		Multi	Undivided	No		-25%
dire	Iultiply motorized ectional roadway	vehicle volu	rmine two-wa			service a does not application more spe not be us Calculati	nd are for the auton constitute a standar ons. The computer crific planning appli ed for corridor or in	nobile/truck modes d and should be us models from which ications. The table ntersection design, lanning application	sunless specificall ed only for general this table is derivand deriving com- where more refines of the Highway	olumes for levels of ly stated. This table al planning ved should be used for puter models should ed techniques exist. Capacity Manual and
	e Coverage	В	C	D	Е	the Trans	sit Capacity and Qu	antly of Service Ma	anuai.	
	0-49%	*	2,900	7,600	19,700		f service for the bic ized vehicles, not n			ble is based on number
	50-84%	2,100	6,700	19,700	>19,700			Ť	-	
8	35-100%	9,300		>19,700	**	³ Buses po	er hour shown are on	nly for the peak hour	in the single direct	ion of the higher traffic
	DI	TOFCTDI	AN MODI	\mathbb{F}^2						
	Iultiply motorized ectional roadway	vehicle volu lanes to dete	ames shown b	elow by num		** Not ap volumes been reac	ched. For the bicycl	evel of service letter of service D become le mode, the level of	r grade. For the au e F because inters of service letter gra	ection capacities have ade (including F) is not
Sidew	alk Coverage	В	C	D	Е	achievab value def		no maximum vehic	le volume thresho	old using table input
	0-49%	*	*	2,800	9,500	value del	auns.			
	50-84%	*	1,600	8,700	15,800					
8	35-100%	3,800	10,700	17,400	>19,700					
	BUS MOI		duled Fixe			5				
Sidew	alk Coverage	В	C	D	Е		Department of Trans	sportation		
Sidew	0.0404	-				Systems	Planning Office			

 ≥ 3

 ≥ 2

0-84%

85-100%

> 5

> 4

 ≥ 4

≥3

 ≥ 2

≥ 1

 $\underline{www.dot.state.fl.us/planning/systems/sm/los/default.shtm}$

TABLE 1 (continued)

Generalized **Annual Average Daily** Volumes for Florida's **Urbanized Areas**

	TI	44.4	Elass East	1:4:		Interrupted Flow Facilities						
INPUT VALUE	Unin	terrupted	Flow Facil	ities		State A	rterials	Class I				
ASSUMPTIONS	Freeways	Core Freeways	High	ways	Cla	nss I	Cla	ass II	Bicycle	Pedestrian		
ROADWAY CHARACTERISTICS												
Area type (u,lu)	lu	lu	u	u	u	u	u	u	u	u		
Number of through lanes (both dir.)	4-10	4-12	2	4-6	2	4-8	2	4-8	4	4		
Posted speed (mph)	70	65	50	50	45	50	30	30	45	45		
Free flow speed (mph)	75	70	55	55	50	55	35	35	50	50		
Auxiliary Lanes (n,y)	n	n										
Median (n, nr, r)			n	r	n	r	n	r	r	r		
Terrain (l,r)	1	1	1	1	1	1	1	1	1	1		
% no passing zone			80									
Exclusive left turn lane impact (n, y)			[n]	у	у	у	у	у	у	у		
Exclusive right turn lanes (n, y)					n	n	n	n	n	n		
Facility length (mi)	4	4	5	5	2	2	1.9	1.8	2	2		
Number of basic segments	4	4										
TRAFFIC CHARACTERISTICS												
Planning analysis hour factor (K)	0.090	0.085	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090		
Directional distribution factor (D)	0.547	0.547	0.550	0.550	0.550	0.560	0.565	0.560	0.565	0.565		
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Base saturation flow rate (pcphpl)	1.000	1.000	1,700	2,100	1,950	1,950	1,950	1,950	1,950	1,950		
Heavy vehicle percent	4.0	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0		
Local adjustment factor	0.91	0.91	0.97	0.98	1.0	1.0	1.0	1.0	2.3	2.0		
% left turns	0.91	0.91	0.97	0.96	12	12	12	12	12	12		
% right turns					12	12	12	12	12	12		
					12	12	12	12	12	12		
CONTROL CHARACTERISTICS										_		
Number of signals					4	4	10	10	4	6		
Arrival type (1-6)					3	3	4	4	4	4		
Signal type (a, c, p)					С	С	С	С	С	С		
Cycle length (C)					120	150	120	120	120	120		
Effective green ratio (g/C)					0.44	0.45	0.44	0.44	0.44	0.44		
MULTIMODAL CHARACTERIST	ICS											
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n		
Outside lane width (n, t, w)									t	t		
Pavement condition (d, t, u)									t			
On-street parking (n, y)												
Sidewalk (n, y)										n, 50%, y		
Sidewalk/roadway separation(a, t, w)										t		
Sidewalk protective barrier (n, y)										n		
		LEVEL	OF SERV	CE THR	ESHOLD	S						
	Freeways		ways			rials		Bicycle	Ped	Bus		
T 3 .6		Two-Lane		Cla		1	ss II	-				
Level of	Density	%ffs	Density	Class I ats			ts	Score	Score	Buses/hr.		
Service	/ 17		_					< 2.75	× 2.75			
В	≤ 17	> 83.3	≤ 17		mph		mph	≤ 2.75	≤ 2.75	≤ 6		
С	≤ 24	> 75.0	≤ 24		mph		mph	≤ 3.50	≤ 3.50	≤ 4		
D	≤31	> 66.7	≤31	> 18	mph	> 13	mph	≤ 4.25	≤ 4.25	< 3		
E	≤ 39	> 58.3	≤ 35	> 15	mph	> 10	mph	≤ 5.00	≤ 5.00	< 2		

[%] ffs = Percent free flow speed ats = Average travel speed

Generalized $\mbox{\bf Annual Average Daily}$ Volumes for Florida's

TABLE 2

Transitioning Areas and

Areas Over 5 000 Not In Urhanized Areas¹

		Are	as O	er 5,000/	Not Ir	ո Urbanize	ed Areas	-		12/18/12
INTER	RUPTED FLO	W FACILIT	TES			UNINTER	RRUPTED F	LOW FAC	CILITIES	
STATE S	IGNALIZE	D ARTE	RIALS	\exists			FREEW	AYS		
Lanes Median 2 Undivided 4 Divided 6 Divided	*	C 14,400 1 34,000 3 52,100 5	D 6,200 85,500 63,500	E ** ** **	Lanes 4 6 8 10	B 44,100 65,100 85,100 106,200	C 57,600 85,600 113,700 141,700 reeway Adj	68, 102, 135, 168,	200	E 71,700 111,000 150,000 189,000
Lanes Median 2 Undivided 4 Divided 6 Divided Non-State S	B *	C 6,500 1 9,900 2 16,000 4 adway Adj state volumes percent.)	D 3,300 28,800 44,900 ustmer	E 14,200 31,600 47,600	Pres	Auxiliary Landent in Both Director + 20,000	es		Ramp Metering + 5%	
Median	& Turn Lan	e Adiustm	ents							
Wiculan	Exclusive	Exclusive		djustment	l t	J NINTERR				
Lanes Median 2 Divided 2 Undivided Multi Undivided Multi Undivided	Left Lanes Yes No Yes No	Right Land No No No No		Factors +5% -20% -5% -25%	Lanes 2 4 6	Median Undivided Divided Divided	35,300	C 17,300 49,600 74,500	D 24,400 62,900 94,300	E 33,300 69,600 104,500
Multiply						Uninterrupt Median Divided Undivided Undivided	ed Flow Hi Exclusive lo Yes Yes No	eft lanes	Adjustme +5	ent factors 5% 5% 5%
_		IODE ²			127.1				1 1 6	1 1 6
(Multiply motorized directional roadway) Paved Shoulder/Bicycle Lane Coverage 0-49% 50-84% 85-100%	B * 2 1,900 5	c c c 2,600 c 5,500 18			service a does not applicatic more spe not be us Calculati the Trans ² Level o of motori	shown are presented and are for the autorn constitute a standar ons. The computer r cific planning appli ed for corridor or in ons are based on pla it Capacity and Qui f service for the bic ized vehicles, not no er hour shown are on	nobile/truck moded and should be unodels from which cations. The table itersection design anning application ality of Service Mycle and pedestriamber of bicyclist	s unless specified only for good high this table is a land deriving a where more runs of the High tanual.	fically stated. eneral plannir derived shoul computer mo- refined techni- way Capacity is table is bas as using the fa	This table g d be used for dels should ques exist. Manual and ed on number icility.
					flow.					
(Multiply motorized directional roadway) Sidewalk Coverage 0-49% 50-84% 85-100%	lanes to determine volumes. B *	s shown below ne two-way man.) C * 1,600	v by num		** Not ap volumes been read	t be achieved using opplicable for that legreater than level o shed. For the bicyckle because there is raults.	vel of service letter f service D become e mode, the level	er grade. For the ne F because in of service lette	ntersection ca er grade (inclu	pacities have iding F) is not
BUS MOI	OE (Schedules in peak hour in	ed Fixed	Route)	. '						
Sidewalk Coverage 0-84% 85-100%	B > 5	C ≥ 4 ≥	D ≥ 3 ≥ 2	E ≥ 2 ≥ 1	Systems	Department of Trans Planning Office state.fl.us/planning	-	lefault.shtm		

TABLE 2 (continued)

Generalized **Annual Average Daily** Volumes for Florida's **Transitioning** and

Areas Over 5,000 Not In Urbanized Areas

	Unintown	Uninterrupted Flow Facilities				Interrupted Flow Facilities						
INPUT VALUE	Uninterru	iptea Fiow	Facilities	State Arterials					Class			
ASSUMPTIONS	Freeways	High	ıways	Cla	ass I		Cla	ss II	Bicycle	Pedestriar		
ROADWAY CHARACTERISTICS			,									
Area type (t,uo)	t	t	t	t	t		t	t	t	t		
Number of through lanes (both dir.)	4-10	2	4-6	2	4-	6	2	4-6	4	4		
Posted speed (mph)	70	50	50	45	50		30	30	45	45		
Free flow speed (mph)	75	55	55	50	55		35	35	50	50		
Auxiliary lanes (n,y)	n	n	n									
Median (n, nr, r)		n	r	n	у	,	n	у	r	r		
Terrain (l,r)	l	1	1	1	1		1	1	1	1		
% no passing zone		60										
Exclusive left turn lane impact (n, y)		[n]	у	у	У	,	у	у	y	y		
Exclusive right turn lanes (n, y)				n	n	1	n	n	n	n		
Facility length (mi)	8	5	5	1.8	2	2	2	2	2	2		
Number of basic segments	4											
TRAFFIC CHARACTERISTICS												
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.0	90	0.090	0.090	0.090	0.090		
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.5	70	0.570	0.565	0.570	0.570		
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.0	00	1.000	1.000	1.000	1.000		
Base saturation flow rate (pcphpl)		1,700	2,100	1,950	1,9	50	1,950	1,950	1,950	1,950		
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	0	2.0	3.0	3.0	3.0		
Local adjustment factor	0.85	0.97	0.95									
% left turns				12	12	2	12	12	12	12		
% right turns				12	12	2	12	12	12	12		
CONTROL CHARACTERISTICS												
Number of signals				5	4		10	10	4	6		
Arrival type (1-6)				4	3	;	4	4	4	4		
Signal type (a, c, p)				c	С		С	с	С	С		
Cycle length (C)				120	15	0	120	150	120	120		
Effective green ratio (g/C)				0.44	0.4	15	0.44	0.45	0.44	0.44		
MULTIMODAL CHARACTERISTICS		I.	l .	L			I.		Ш	I.		
Paved shoulder/bicycle lane (n, y)	, 								n, 50%, y	n		
Outside lane width (n, t, w)									t	t		
Pavement condition (d, t, u)									t			
On-street parking (n, y)									n	n		
Sidewalk (n, y)									11	n, 50%, y		
Sidewalk/roadway separation (a, t, w)										t		
Sidewalk protective barrier (n, y)										-		
Sidewaik protective partief (II, y)										n		
			RVICE T	HRESHOI				D: :		.		
Level of	Freeways		iways	a.	Arte		~ **	Bicycle	Ped	Bus		
Service	Density	Two-Lane	Multilane	Class	I	(Class II	Score	Score	Buses/hr.		
		%ffs	Density	ats		ats						
В	≤ 17	> 83.3	≤ 17	> 31 m	_	> 22 mph		≤ 2.75	≤ 2.75	≤ 6		
С	≤ 24	> 75.0	≤ 24	> 23 m	ph	>	17 mph	≤ 3.50	≤ 3.50	≤ 4		
D	≤ 31	> 66.7	≤ 31	> 18 m	ph	>	13 mph	≤ 4.25	≤ 4.25	< 3		
Е	≤ 39	> 58.3	≤ 35	> 15 m	ph	>	10 mph	≤ 5.00	≤ 5.00	< 2		

[%] ffs = Percent free flow speed ats = Average travel speed

Generalized **Annual Average Daily** Volumes for Florida's **Rural Undeveloped Areas** and

Developed Areas Less Than 5,000 Population¹

12/18/12

	INTERNO	JP IED F	LOW FACI	LITTES	
	STATE SIG	GNALIZ	ZED ART	ERIALS	
Lanes	Median	В	С	D	E
2	Undivided	*	12,900	14,200	**
4	Divided	*	29,300	30,400	**
6	Divided	*	45,200	45,800	**

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

		Exclusive	Exclusive	Adjustment
Lanes	Median	Left Lanes	Right Lanes	Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
_	_	_	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE²

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Rural Undeveloped

Paved

Shoulder/Bicycle				
Lane Coverage	В	C	D	E
0-49%	*	1,300	2,000	3,200
50-84%	1,000	2,100	3,200	10,600
85-100%	2,600	3,900	18,500	>18,500
	Develop	ed Areas		
Paved	_			
Shoulder/Bicycle				
Lane Coverage	В	C	D	E
0-49%	*	2,300	4,900	15,600
50-84%	1,700	4,500	13,300	18,500
85-100%	5,900	18,500	>18,500	**

PEDESTRIAN MODE²

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	В	C	D	E
0-49%	*	*	2,700	9,200
50-84%	*	1,500	8,400	14,900
85-100%	3,600	10,200	16,700	>19,200

		FREEWAY	YS	
Lanes	В	C	D	E
4	28,800	43,000	52,300	60,000
6	43,000	64,000	78,300	92,500
8	57,500	85,400	104,400	123,500

UNINTERRUPTED FLOW FACILITIES

Freeway Adjustments

Auxiliary Lanes Present in Both Directions + 20,000

UNINTERRUPTED FLOW HIGHWAYS

	Rural Undeveloped										
Lanes	Median	В	Ċ	D	E						
2	Undivided	4,700	8,400	14,300	28,600						
4	Divided	25,700	40,300	51,000	57,900						
6	Divided	38,800	60,400	76,700	86,800						
		Develope	ed Areas								
Lanes	Median	В	C	D	E						
2	Undivided	8,700	16,400	23,100	31,500						
4	Divided	25,900	40,700	52,400	59,600						
6	Divided	38,800	61,000	78,400	89,500						

Passing Lane Adjustments

Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

¹Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. 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. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

Source:

Florida Department of Transportation Systems Planning Office

www.dot.state.fl.us/planning/systems/sm/los/default.shtm

² Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

^{*} Cannot be achieved using table input value defaults.

^{**} Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 3 (continued)

Generalized **Annual Average Daily** Volumes for Florida's **Rural Undeveloped Areas** and

Developed Areas Less Than 5,000 Population

12/18/12

INPUT VALUE	,	Uninterru	pted Flow	Facilities			Interrup	oted Flow	Facilities		
ASSUMPTIONS	Freeways		High	ways		Arte	rials	Bic	ycle	Pedestrian	
ROADWAY CHARACTERISTICS	S			-							
Area type (ru, rd)	rural	ru	ru	rd	rd	rd	rd	ru	rd	rd	
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2	
Posted speed (mph)	70	55	65	50	55	45	45	55	45	45	
Free flow speed (mph)	75	60	70	55	60	50	50	60	50	50	
Auxiliary lanes (n,y)	n										
Median (n, nr, r)		n	r	n	r	n	r	r	r	n	
Terrain (l,r)	1	1	1	1	1	1	1	1	1	1	
% no passing zone		20		60							
Exclusive left turn lanes (n, y)		[n]	у	[n]	y	y	у	y	y	у	
Exclusive right turn lanes (n, y)						n	n	n	n	n	
Facility length (mi)	14	10	10	5	5	1.9	2.2	4	2	2	
Number of basic segments	4										
TRAFFIC CHARACTERISTICS											
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.550	0.550	0.550	0.570	0.570	0.550	
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Base saturation flow rate (pcphpl)		1,700	2,300	1,700	2,200	1,950	1,950	1,950	1,950	1,950	
Heavy vehicle percent	12.0	5.0	12.0	4.0	4.0	3.0	3.0	6.0	3.5	3.0	
Local adjustment factor	0.84	0.88	0.73	0.97	0.82						
% left turns						12	12		12	12	
% right turns						12	12		12	12	
CONTROL CHARACTERISTICS			1			1		l .	li .		
Number of signals						5	6	2	4	4	
Arrival type (1-6)						3	3	3	3	3	
Signal type (a, c, p)						c	c	a	a	a	
Cycle length (C)						90	90	60	90	90	
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44	
	TICC										
MULTIMODAL CHARACTERIS	HCS							n 500/ m	n 500/ m	_	
Paved shoulder/bicycle lane (n, y)								n,50%,y	n,50%,y		
Outside lane width (n, t, w)								t	t	t	
Pavement condition (d, t, u)								t	t	500/	
Sidewalk (n, y) Sidewalk/roadway separation(a, t,w)										n,50%,y	
										t	
Sidewalk protective barrier (n, y)										n	
		LEVEI	L OF SER	VICE THE	RESHOLD						
Level of	Freev	wavs				High					
Service			Two-L		Two-L			lane ru		lane rd	
	Dens		%tsf	ats	%1			nsity		nsity	
В	≤ 1		≤ 50	<u>< 55</u>	> 83		≤			14	
С	≤ 2		≤ 65	<u>< 50</u>	> 7:		≤:			22	
D	≤ 2		≤80	< 45	> 60		≤:			29	
Е	≤ 3	O	> 80	<u><</u> 40	> 58	5.5	≤:	34	_ ≤	34	
Level of		Arterial	le		Bic	vela		D.	edestrian		
Service	Ma	jor City/C						I.			
B	1712	> 31 mp				Score ≤ 2.75		Score < 2.75			
С		> 31 mp			<u>≤2</u> ≤3			≤ 2.75 ≤ 3.50			
D								≤ 3.50 < 4.25			
		> 18 mph			≤ 4.25 ≤ 5.00			≤ 4.25 ≤ 5.00			

%tsf = Percent time spent following %ffs = Percent of free flow speed at s = Average travel speed ru = Rural undeveloped rd = Rural developed

Generalized **Peak Hour Two-Way** Volumes for Florida's **Urbanized Areas**¹

TABLE 4

											12/18/12
	INTER	RUPTED FL	OW FACI	LITIES			UNINTER	RUPTED F	LOW FAC	CILITIES	
	STATE S	IGNALIZ	ED ART	ERIALS				FREEW	AYS		
	Class I (40			11: :0		Lanes	В	C		D	E
Lamas	Median) mph or high B	er postea sp C	D D	Е	4	4,120	5,540		,700	7,190
Lanes		В *	1,510	_	E **	6	6,130	8,370		,060	11,100
2 4	Undivided Divided	*	,	1,600	**	8	8,230	11,100		,390	15,010
	Divided	*	3,420	3,580	**	10	10,330	14,040		,840	18,930
6 8	Divided Divided	*	5,250 7,090	5,390 7,210	**	12	14,450	18,880	22,	,030	22,860
o			,				173		4		
		5 mph or slow	-	-			Auxiliary Lane	reeway Adj	ustments	Ramp	
Lanes	Median	B *	C	D	E	Pres	sent in Both Dire			Metering	
2	Undivided		660	1,330	1,410	1100	+ 1,800	ctions		+ 5%	
4	Divided	*	1,310	2,920	3,040		1,000			1 370	
6	Divided	*	2,090	4,500	4,590						
8	Divided	ক	2,880	6,060	6,130						
	Non-State S				ıts						
		er corresponding by the indicate		nes							
		Signalized R		- 10%							
	Median	& Turn La	ne Adius	tments							
	Wedian	Exclusive	Exclus		ljustment		UNINTERR				
Lanes	Median	Left Lanes	Right L		Factors	Lanes		В	C	D	E
2	Divided	Yes	No		+5%	2	Undivided	770	1,530	2,170	2,990
2	Undivided	No	No		-20%	4	Divided	3,300	4,660	5,900	6,530
Multi	Undivided	Yes	No		-5%	6	Divided	4,950	6,990	8,840	9,790
Multi –	Undivided –	No –	No Yes		-25% + 5%		* 7 •			•	
			103		1 370	Lanes	Uninterrupt Median	ed Flow Hig Exclusive le			nt factors
		Way Facilit				2	Divided	Yes			5%
		the correspond				Multi	Undivided	Yes		-5	
	Ve	olumes in this	table by 0.6			Multi	Undivided	No		-25	
						1					
(M)	ltiply motorized	BICYCLE		lovy by mymi	ham of		shown are presented he automobile/truck				
	ctional roadway					constitut	te a standard and sho	uld be used only	for general pl	anning applica	tions. The
4110	eronar roud may	volume	•		.01 / 100		er models from which g applications. The ta				
Paved 9	Shoulder/Bic	vele				corridor	or intersection desig	n, where more re	fined techniqu	ues exist. Calc	ulations are
	ne Coverage	В	C	D	E		n planning applicatio y and Quality of Serv		y Capacity M	anual and the	Fransit
<u> </u>	0-49%	*	260	680	1,770						
	50-84%	190	600	1,770	>1,770		of service for the bicy				
	85-100%	830	1,770	>1,770	**	Of Illotor	nzed venicles, not no	illiber of bicyclist	s of pedestria	iis usiiig tiie ia	CIIIty.
						-	per hour shown are onl	ly for the peak hou	r in the single of	direction of the	higher traffic
		DESTRIA				flow.					
	ultiply motorized					* Canno	ot be achieved using	table input value	defaults.		
dire	ctional roadway	lanes to determ		maximum s	ervice	** Not a	applicable for that lev	vel of service lette	er grade. For t	he automobile	mode,
C: .1	malle Carrer		,	Ъ	17	volumes	greater than level of	f service D becom	ne F because i	ntersection cap	pacities have
Side	walk Coverag	ge B *	C *	D 250	E		ched. For the bicycle because there is n				
	0-49%	*		250	850	value de			tii	and an ang	put
	50-84%		150	780	1,420						
	85-100%	340	960	1,560	>1,770						

BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)

 \mathbf{C}

 ≥ 4

 ≥ 3

D

 ≥ 3

 ≥ 2

E

 ≥ 2

≥ 1

В

> 5

> 4

Sidewalk Coverage

0-84%

85-100%

Source: Florida Department of Transportation Systems Planning Office

 $\underline{www.dot.state.fl.us/planning/systems/sm/los/default.shtm}$

TABLE 4 (continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's **Urbanized Areas**

	Uninterr	upted Flow	Facilities			Interru	pted I	Flow Facili	ties			
INPUT VALUE ASSUMPTIONS	Ommerre	ipieu r iow	racinues		Sta	ate Arteria	als		Cla	Class I		
ASSUMF HONS	Freeways	High	nways	Cla	ass I		Cla	iss II	Bicycle	Pedestrian		
ROADWAY CHARACTERISTICS	1	1						1	T			
Area type (lu, u)	lu	u	u	u	u		u	u	u	u		
Number of through lanes (both dir.)	4-12	2	4-6	2	4-8		2	4-8	4	4		
Posted speed (mph)	70	50	50	45	50		30	30	45	45		
Free flow speed (mph)	75	55	55	50	55		35	35	50	50		
Auxiliary lanes (n,y)	n											
Median (n, nr, r)		n	r	n	r		n	r	r	r		
Terrain (l,r)	1	1	1	1	1		1	1	1	1		
% no passing zone		80										
Exclusive left turn lane impact (n, y)		[n]	y	y	у		y	у	y	у		
Exclusive right turn lanes (n, y)				n	n		n	n	n	n		
Facility length (mi)	4	5	5	2	2		1.9	1.8	2	2		
Number of basic segments	4											
TRAFFIC CHARACTERISTICS												
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.09	0 0	.090	0.090	0.090	0.090		
Directional distribution factor (D)	0.547	0.550	0.550	0.550	0.56		.565	0.560	0.565	0.565		
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.00		.000	1.000	1.000	1.000		
Base saturation flow rate (pcphpl)	1.000	1,700	2,100	1,950	1,95		,950	1,950	1,950	1,950		
Heavy vehicle percent	4.0	2.0	2.0	1.0	1.0		1.0	1.0	2.5	2.0		
Local adjustment factor	0.91	0.97	0.98	1.0	1.0		1.0	1.0	2.3	2.0		
% left turns	0.91	0.57	0.96	12	12		12	12	12	12		
										12		
% right turns				12	12		12	12	12	12		
CONTROL CHARACTERISTICS		1										
Number of signals				4	4		10	10	4	6		
Arrival type (1-6)				3	3		4	4	4	4		
Signal type (a, c, p)				c	С		c	С	c	С		
Cycle length (C)				120	150)]	120	120	120	120		
Effective green ratio (g/C)				0.44	0.45	5 ().44	0.44	0.44	0.44		
MULTIMODAL CHARACTERISTIC	S											
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n		
Outside lane width (n, t, w)									t	t		
Pavement condition (d, t, u)									t			
On-street parking (n, y)									n	n		
Sidewalk (n, y)										n, 50%, y		
Sidewalk/roadway separation (a, t, w)										t		
Sidewalk protective barrier (n, y)										n		
bidewark protective barrier (ii, y)										- 11		
			ERVICE T	HRESHO		lala		Diamala	Dod	Dura		
	Freeways		nways	C1	Arteri			Bicycle	Ped	Bus		
Level of	Density	Two-Lane	Multilane	Class	1	Class	П	Score	Score	Buses/hr.		
Service		%ffs	Density	ats		ats						
В	≤ 17	> 83.3	≤ 17	> 31 m	ph	> 22 n	nph	≤ 2.75	≤ 2.75	≤6		
С	≤ 24	> 75.0	≤ 24	> 23 m	ph	> 17 n	nph	≤ 3.50	≤ 3.50	≤ 4		
D	≤ 31	> 66.7	≤ 31	> 18 m	ph	> 13 n	ıph	≤ 4.25	≤ 4.25	< 3		
		1							1			

[%] ffs = Percent free flow speed ats = Average travel speed

Generalized **Peak Hour Two-Way** Volumes for Florida's Transitioning and 5 000 Not In Urbanized Areas¹

	Areas Over 5,000 Not In Urbanized Areas ¹ 12/18/12										
	INTERR	UPTED FLO							FLOW FA		
	STATE SI	GNALIZI	ED ART	ERIALS	<u> </u>			FREE	WAYS		
					,	Lanes	В	C		D	Е
,	Class I (40				Г	4	3,970	5,19	90 6	5,200	6,460
Lanes	Median	В	C	D	E	6	5,860	7,71	0 9	9,190	9,990
2	Undivided	*	1,300	1,460	**	8	7,660	10,23	30 12	2,170	13,500
4	Divided	*	3,060	3,200	**	10	9,550	12,75		5,190	17,010
6	Divided	*	4,690	4,820	**		- ,	,		,	.,-
	Class II (35	mph or slow	er posted s	peed limit)			\mathbf{F}	reeway A	ljustments	S	
Lanes	Median	В	C	D	E		Auxiliary Land			Ramp	
2	Undivided	*	580	1,200	1,280	Pres	ent in Both Dir	ections		Metering	
4	Divided	*	890	2,590	2,850		+ 1,800			+ 5%	
6	Divided	*	1,440	4,040	4,280						
	t	gnalized Recorded Rec	g state volun d percent.)		nts						
	Median	& Turn La	ne Adius	tments						- ~	7.0
		Exclusive	Exclus		djustment	IIII	JNINTERR				
Lanes	Median	Left Lanes	Right L	anes	Factors	Lanes	Median	В	C	D	E
2	Divided	Yes	No		+5%	2	Undivided	820	1,550	2,190	2,990
2	Undivided	No	No		-20%	4	Divided	3,170	4,460	5,660	6,260
Multi	Undivided Undivided	Yes	No		-5% -25%	6	Divided	4,750	6,700	8,480	9,400
Multi –	–	No –	No Yes		+ 5%	Lanes	Uninterrupt Median	ted Flow H		djustments Adjustme	
	One-V	Vay Facility	y Adjustn	nent		2	Divided		es	+5	
	Multiply tl	ne correspond	ing two-dir	ectional		Multi	Undivided		es	-59	
	vo	lumes in this	table by 0.6			Multi	Undivided		Го	-25	
	Bultiply motorized ectional roadway l		es shown be ine two-way			are for the constitute compute planning	shown are presented ne automobile/truck e a standard and sho r models from whic applications. The ta	modes unless sould be used on the this table is dable and deriving	pecifically state ly for general p erived should b ng computer mo	ed. This table do lanning applicate be used for more odels should not	es not ions. The specific be used for
Paved	Shoulder/Bicy	cle					or intersection design planning application				
La	ine Coverage	В	C	D	E		and Quality of Serv		чиу Сириску п	randar and the r	ruis it
	0-49%	*	140	550	1,760	² Level c	of service for the bic	vale and nedes	trian modes in t	this table is base	d on number
	50-84%	170	500	1,650	>1,760		ized vehicles, not m				
	85-100%	670	1,760	>1,760	**	³ Buses n	er hour shown are on	ly for the peak h	our in the single	direction of the h	igher traffic
	PEI	DESTRIA	N MOD	\mathbb{E}^2		flow.		ly for the pount i	our in the onigie		inginer trainine
	fultiply motorized ectional roadway l	vehicle volum	es shown be ine two-way	low by num			ot be achieved using	•		the automobile	mode,
Sido	walk Cavarage		<i>'</i>	D	E		greater than level o			1	
Side	walk Coverage 0-49%	e B *	C *	D 250	E 850		ched. For the bicycle le because there is a				
	0-49% 50-84%	*				value de					
	50-84% 85-100%	340	150 950	780 1,540	1,410 >1,760						
	BUS MOD	E (Schedu	led Fixe	d Route)	_						
		in peak hour is	_	tion)		Source:					
Side	walk Coverage		C	D	E	Florida l	Department of Trans	portation			
	0-84%	> 5	≥ 4	≥ 3	≥ 2		Planning Office t.state.fl.us/planning	r/systems/sm/lo	s/default chtm		
	85-100%	> 4	≥ 3	≥ 2	≥ 1	www.uo		y 5 y 5 t 6 1115 / 5 111/ 10.	S/GC/GUIL.SHUII		

TABLE 5 (continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's **Transitioning Areas** and

Areas Over 5,000 Not In Urbanized Areas

	Uninterrupted Flow Facilities			Interrupted Flow Facilities						
INPUT VALUE ASSUMPTIONS	Uninterr	ipieu r iow	racinues	State Arterials					Class I	
ASSUMI HONS	Freeways	High	nways	Cla	ass I		Cla	ss II	Bicycle	Pedestria
ROADWAY CHARACTERISTICS										
Area type (t,uo)	t	t	t	t	t		t	t	t	t
Number of through lanes (both dir.)	4-10	2	4-6	2	4-6	5	2	4-6	4	4
Posted speed (mph)	70	50	50	45	50		30	30	45	45
Free flow speed (mph)	75	55	55	50	55		35	35	50	50
Auxiliary lanes (n,y)	n	n	n							
Median (n, nr, r)		n	r	n	у		n	у	r	r
Terrain (l,r)	1	1	l	1	1		1	1	1	1
% no passing zone		60								
Exclusive left turn lane impact (n, y)		[n]	у	у	у		y	у	y	У
Exclusive right turn lanes (n, y)				n	n		n	n	n	n
Facility length (mi)	8	5	5	1.8	2		2	2	2	2
Number of basic segments	4									
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.09	0	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.57	0'	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.00	00	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)		1,700	2,100	1,950	1,95	0	1,950	1,950	1,950	1,950
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0)	2.0	3.0	3.0	3.0
Local adjustment factor	0.85	0.97	0.95							
% left turns				12	12		12	12	12	12
% right turns				12	12		12	12	12	12
CONTROL CHARACTERISTICS										
Number of signals				5	4		10	10	4	6
Arrival type (1-6)				4	3		4	4	4	4
Signal type (a, c, p)				С	c		c	С	С	С
Cycle length (C)				120	150)	120	150	120	120
Effective green ratio (g/C)				0.44	0.43	5	0.44	0.45	0.44	0.44
MULTIMODAL CHARACTERISTIC	2		'							'
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n
Outside lane width (n, t, w)									t	t
Pavement condition (d, t, u)									t	
On-street parking (n, y)									n	n
Sidewalk (n, y)									11	n, 50%,
Sidewalk/roadway separation (a, t, w)										t
Sidewalk protective barrier (n, y)										n
Sidewark protective barrier (ii, y)										11
			ERVICE TI	HRESHOI					T	
Level of	Freeways		ıways		Arter			Bicycle	Ped	Bus
Service	Density	Two-Lane	Multilane	Class	I	C	Class II	Score	Score	Buses/hr.
	,	%ffs	Density	ats			ats			
В	≤ 17	> 83.3	≤ 17	> 31 m	ph	> 2	22 mph	≤ 2.75	≤ 2.75	≤ 6
С	≤ 24	> 75.0	≤ 24	> 23 m	ph	>]	17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 m	ph	>]	13 mph	≤ 4.25	≤ 4.25	< 3
Е	≤ 39	> 58.3	≤ 35	> 15 m	ph	> 1	10 mph	≤ 5.00	≤ 5.00	< 2

[%] ffs = Percent free flow speed ats = Average travel speed

Generalized **Peak Hour Two-Way** Volumes for Florida's **Rural Undeveloped Areas** and **Peak Food Areas Less Them 5,000 Benulation**¹

Developed Areas Less Than 5,000 Population¹

12/18/12

INTERRUPTED FLOW FACILITIES							
	STATE SIG	SNALIZ	ZED ART	ERIALS			
Lanes	Median	В	C	D	E		
2	Undivided	*	1,220	1,350	**		
4	Divided	*	2,790	2,890	**		
6	Divided	*	4,300	4,350	**		

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

		Exclusive	Exclusive	Adjustment
Lanes	Median	Left Lanes	Right Lanes	Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
_	_	_	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE²

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Rural Undeveloped

Paved Snoulder/Bicycle				
Lane Coverage	В	C	D	E
0-49%	*	120	190	300
50-84%	100	200	310	>1,010
85-100%	250	370	1,760	>1,760
-				

Developed Areas

Paved Shoulder/Bicycle				
Lane Coverage	В	C	D	E
0-49%	*	220	460	1,480
50-84%	170	430	1,270	>1,760
85-100%	560	1.760	>1.760	**

PEDESTRIAN MODE²

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	В	C	D	E
0-49%	*	*	220	840
50-84%	*	120	780	1,390
85-100%	320	940	1 560	>1.820

FREEWAYS							
Lanes	В	C	D	E			
4	3,020	4,510	5,490	6,300			
6	4,510	6,720	8,220	9,720			
8	6,040	8,970	10,960	12,970			

UNINTERRUPTED FLOW FACILITIES

Freeway Adjustments

Auxiliary Lanes
Present in Both Directions
+ 1,800

UNINTERRUPTED FLOW HIGHWAYS

Rural Undeveloped								
Lanes	Median	В	$\bar{\mathbf{C}}$	D	E			
2	Undivided	440	790	1,350	2,710			
4	Divided	2,440	3,820	4,840	5,500			
6	Divided	3,680	5,730	7,280	8,240			
Developed Areas								
Lanes	Median	В	C	D	E			
2	Undivided	820	1,550	2,190	2,990			
4	Divided	2,460	3,860	4,970	5,660			
6	Divided	3,680	5,790	7,440	8,500			

Passing Lane Adjustments

Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

¹Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. 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. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

Source:

Florida Department of Transportation

Systems Planning Office

www.dot.state.fl.us/planning/systems/sm/los/default.shtm

² Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

^{*} Cannot be achieved using table input value defaults.

^{**} Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 6 (continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's **Rural Undeveloped Areas** and

Developed Areas Less Than 5,000 Population

12/18/12

INPUT VALUE	Uninterrupted Flow Facilities						Interrupted Flow Facilities				
ASSUMPTIONS	Freeways Highways					Arte	rials	Bic	ycle	Pedestria	
ROADWAY CHARACTERISTIC	S										
Area type (ru, rd)	rural	ru	ru	rd	rd	rd	rd	ru	rd	rd	
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2	
Posted speed (mph)	70	55	65	50	55	45	45	55	45	45	
Free flow speed (mph)	75	60	70	55	60	50	50	60	50	50	
Auxiliary lanes (n,y)	n										
Median (n, nr, r)		n	r	n	r	n	r	r	r	n	
Terrain (l,r)	1	1	1	1	1	1	1	1	1	1	
% no passing zone		20		60							
Exclusive left turn lanes (n, y)		[n]	у	[n]	у	у	у	у	у	у	
Exclusive right turn lanes (n, y)						n	n	n	n	n	
Facility length (mi)	14	10	10	5	5	1.9	2.2	4	2	2	
Number of basic segments	4										
TRAFFIC CHARACTERISTICS					•						
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.550	0.550	0.550	0.570	0.570	0.550	
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Base saturation flow rate (pcphpl)	1.000	1,700	2,300	1,700	2,200	1,950	1,950	1,950	1,950	1,950	
Heavy vehicle percent	12.0	5.0	12.0	4.0	4.0	3.0	3.0	6.0	3.5	3.0	
Local adjustment factor	0.84	0.88	0.73	0.97	0.82	3.0	3.0	0.0	3.3	3.0	
% left turns	0.01	0.00	0.75	0.57	0.02	12	12		12	12	
% right turns						12	12		12	12	
CONTROL CHARACTERISTICS						12	12		12	12	
Number of signals						5	6	2	4	4	
Arrival type (1-6)						3	3	3	3	3	
Signal type (a, c, p)						c	c	a	a	a	
Cycle length (C)						90	90	60	90	90	
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44	
	TT CC					0.44	0.44	0.57	0.44	0.44	
MULTIMODAL CHARACTERIS Paved shoulder/bicycle lane (n, y)	TICS							n,50%,y	n,50%,y	n	
Outside lane width (n, t, w)										n	
Pavement condition (d, t, w)								t	t	t	
								ι	ι	n 500/ r	
Sidewalk (n, y) Sidewalk/roadway separation(a, t,w)										n,50%,y	
										ι 	
Sidewalk protective barrier (n, y)										n	
		LEVEI	C OF SER	VICE THE	RESHOLD	S High	WONE				
Level of	Freev	vays	Two-L	ane ru	Two-L		_ ·	lane ru	Multi	lane rd	
Service	Dens	itv	%tsf	ats	%1 %1			nsity		nsity	
В	≤ 1	•	≤ 50	< <u>55</u>	> 83			14		14	
C	<u>− 1</u> ≤ 2		<u>≤ 65</u>	< 50	> 7:			22		22	
D	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				29		29				
<u>Б</u> Е					34		34				
								I.			
Level of		Arterials			Bicycle			Po	edestrian		
Service	Ma	jor City/C	o.(ats)		Sco	ore			Score		
В		> 31 mp	h		≤ 2	.75			≤ 2.75		
С		> 23 mp	h		≤ 3.50			≤3.50			
D		> 18 mp	h		≤ 4	.25			≤ 4.25		
Е		> 15 mp			≤ 5	.00			≤ 5.00		

 $\% tsf = Percent \ time \ spent \ following \quad \% ffs = Percent \ of \ free \ flow \ speed \quad ats = Average \ travel \ speed \quad ru = Rural \ undeveloped \quad rd = Rural \ developed$

Generalized **Peak Hour Directional** Volumes for Florida's **Urbanized Areas**¹

	INTERR	UPTED FLO	OW FACII	LITIES			UNINTER	RRUPTED	FLOW FA		12/18/12
	STATE SI	GNALIZI	ED ART	ERIALS				FREEV	VAYS		
Lanes 1 2 3 4	Class I (40) Median Undivided Divided Divided Divided	mph or highe B * * *	r posted sp C 830 1,910 2,940 3,970	D 880 2,000 3,020 4,040	E ** ** **	Lanes 2 3 4 5 6	B 2,260 3,360 4,500 5,660 7,900	C 3,02 4,58 6,08 7,68 10,32	0 5 0 7 0 9	D 3,660 5,500 7,320 9,220 2,060	E 3,940 6,080 8,220 10,360 12,500
Lanes 1 2 3 4	b	* * * *	C 370 730 1,170 1,610 padway A s state volum percent.)	D 750 1,630 2,520 3,390	E 800 1,700 2,560 3,420 ts		Auxiliary Lane + 1,000	reeway Ad	ljustments	Ramp Metering + 5%	
Lanes 1 1 Multi Multi –	Median Divided Undivided Undivided Undivided - One-V Multiply	& Turn La Exclusive Left Lanes Yes No Yes No - Way Facility the correspondence in this t	Exclus Right L No No No No Ves Adjustn adding direct	nent tional	ljustment Factors +5% -20% -5% -25% + 5%	Lanes 1 2 3 Lanes 1 Multi Multi	JNINTERR Median Undivided Divided Divided Uninterrupt Median Divided Undivided Undivided	B 420 1,810 2,720	C 840 2,560 3,840 ighway A left lanes	D 1,190 3,240 4,860	E 1,640 3,590 5,380 s ent factors
Paved S Lan (Mu direc	Shoulder/Bicy ne Coverage 0-49% 50-84% 85-100% PEI altiply motorized ctional roadway laws a Coverage 0-49% 50-84% 85-100%	nes to determ volume cle B * 110 470 DESTRIA vehicle volume nes to determ volume B * 200	c shown be ine two-way s.) C 150 340 1,000 N MODI es shown be ine two-way s.) C * 80 540	D 390 1,000 >1,000 E ² low by numb maximum s D 140 440 880	E 1,000 >1,000 *** per of ervice E 480 800 >1,000	are for the constitute computer planning corridor based on Capacity 2 Level of motori 3 Buses per flow. * Canno ** Not approximately the computer search and the constitution of the c	shown are presented e automobile/truck e a standard and shor models from which applications. The tor intersection design planning application and Quality of Service for the bic ized vehicles, not met the achieved using opplicable for that legreater than level or the discount of the discount of the control	modes unless spuld be used only in this table is de table and deriving, where more in ns of the Highwice Manual. The product of the peak has table input value wel of service le f service D becce mode, the leve	pecifically state y for general p rived should b g computer me refined technic vay Capacity M rian modes in t ists or pedestri our in the single the defaults. tter grade. For ome F because el of service let	ed. This table do lanning applic a be used for more doels should not ques exist. Calcu fanual and the Table is base ans using the fa direction of the latter automobile intersection capter grade (included)	pes not tions. The especific be used for allations are Fransit ed on number cility. In this per traffic mode, pacities have ding F) is not
	BUS MOD (Buses walk Coverage 0-84% 85-100%	in peak hour is			E ≥2 ≥1	Systems	Department of Trans Planning Office state.fl.us/planning		s/default.shtm		

TABLE 7 (continued)

Generalized **Peak Hour Directional** Volumes for Florida's **Urbanized Areas**

				12/16/12						
INDIVE NATIO	Uninterri	Uninterrupted Flow Facilities			Interrupted Flow Facilities State Arterials Class I					
INPUT VALUE ASSUMPTIONS			1 40111010		St	ate A	rterials		Cla	ss I
	Freeways	High	iways	Cla	ass I		Cla	ss II	Bicycle	Pedestria
ROADWAY CHARACTERISTICS										
Area type (lu, u)	lu	u	u	u	u		u	u	u	u
Number of through lanes (both dir.)	4-12	2	4-6	2	4-8		2	4-8	4	4
Posted speed (mph)	70	50	50	45	50		30	30	45	45
Free flow speed (mph)	75	55	55	50	55		35	35	50	50
Auxiliary lanes (n,y)	n									
Median (n, nr, r)		n	r	n	r		n	r	r	r
Terrain (l,r)	1	1	1	1	1		1	1	1	1
% no passing zone	-	80	-	-	-			-	-	-
Exclusive left turn lane impact (n, y)		[n]	у	у	у		у	y	y	у
Exclusive right turn lanes (n, y)		[]	,	n	n		n	n	n	n
Facility length (mi)	4	5	5	2	2		1.9	1.8	2	2
Number of basic segments	4						1.,	1.0		
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.09	90	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.547	0.550	0.550	0.550	0.50		0.565	0.560	0.565	0.565
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.00		1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	1.000	1,700	2,100	1,950	1,95		1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	2.0	2.0	1.0	1.0		1.0	1.0	2.5	2.0
Local adjustment factor	0.91	0.97	0.98	1.0	1.0	,	1.0	1.0	2.3	2.0
% left turns	0.91	0.97	0.96	12	12)	12	12	12	12
% right turns				12	12		12	12	12	12
				12	12	•	12	12	12	12
CONTROL CHARACTERISTICS						1		4.0		
Number of signals				4	4		10	10	4	6
Arrival type (1-6)				3	3		4	4	4	4
Signal type (a, c, p)				С	С		c	С	С	С
Cycle length (C)				120	150		120	120	120	120
Effective green ratio (g/C)				0.44	0.4	5	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTIC	CS									
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n
Outside lane width (n, t, w)									t	t
Pavement condition (d, t, w)									t	
On-street parking (n, y)									n	n
Sidewalk (n, y)										n, 50%, y
Sidewalk/roadway separation (a, t, w)										t
Sidewalk protective barrier (n, y)										n
	LE	VEL OF SI	ERVICE T	HRESHO	LDS					
	Freeways		iways		Arter	ials		Bicycle	Ped	Bus
Level of	- ·	Two-Lane	Multilane	Class	I	(Class II		_	
Service	Density	%ffs	Density	ats			ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 m	nh	> '	22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 m	-		17 mph	≤ 3.50	≤ 3.50	<u>−</u> 4
D	≤ 24 ≤ 31	> 66.7	≤ 24 ≤ 31	> 18 m	_		13 mph	≤ 3.30 ≤ 4.25	≤ 3.30 ≤ 4.25	< 3
E					_					< 2
E 0/ ffs = Paraent free flow speed ets = Average	≤ 39	> 58.3	≤ 35	> 15 m	hii	>	10 mph	≤ 5.00	≤ 5.00	< 2

[%] ffs = Percent free flow speed ats = Average travel speed

$\label{eq:Generalized} \textbf{Generalized} \ \textbf{Peak Hour Directional} \ \ \textbf{Volumes for Florida's}$

TABLE 8

Transitioning and

Areas Over 5,000 Not In Urbanized Areas¹

				i cas o	101 3,00)	i Oi bailize	ca / ti ca.			12/18/12
	INTERF	RUPTED FL	OW FACI	LITIES			UNINTER	RRUPTED	FLOW FA	CILITIES	
	STATE S	IGNALIZ	ED ART	ERIALS	3			FREEV	VAYS		
Lanes 1 2 3	Class I (40 Median Undivided Divided Divided	mph or high B * *	er posted s C 710 1,740 2,670	peed limit) D 800 1,820 2,740	E ** ** **	Lanes 2 3 4 5	B 2,200 3,260 4,260 5,300	C 2,88 4,28 5,68 7,08	$\begin{array}{ccc} 0 & 5 \\ 0 & 6 \end{array}$	D 3,440 5,100 5,760 3,440	E 3,580 5,540 7,500 9,440
	Class II (35	mnh or slov	ver nosted s	eneed limit)			F	reeway Ad	instment	S	
Lanes 1 2 3	Median Undivided Divided Divided	B * *	C 330 500 810	D 680 1,460 2,280	E 720 1,600 2,420		Auxiliary Lane + 1,000	reeway Au	justinena	Ramp Metering + 5%	
		ignalized R or corresponding by the indicate Signalized R	ng state volumed percent.)		nts						
	Median	& Turn La				T	JNINTERR	HPTED I	T.OW H	IGHWAY	7 S
Lamas	Madian	Exclusive	Exclus	sive A	djustment	Lanes	Median	B	C	D	E
Lanes 1	Median Divided	Left Lanes Yes	Right L No		Factors +5%	1	Undivided	450	850	1,200	1,640
2	Undivided	No	No		-20%	2	Divided	1,740	2,450	3,110	3,440
Multi	Undivided	Yes	No)	-5%	3	Divided	2,610	3,680	4,660	5,170
Multi	Undivided	No	No		-25%						
_	_	_	Yes		+ 5%	Lanes	Uninterrupt Median	ted Flow H Exclusive		djustments. Adjustmen	
		Way Facili				1	Divided	Ye	es	+59	%
		y the corresp plumes in this				Multi	Undivided	Ye		-59	
		Junes in this	table by 1.2			Multi	Undivided	No	0	-25	%
Shot Lan	Paved alder/Bicycle to Coverage 0-49% 50-84% 85-100%		nes shown be nine two-way	elow by num		are for the constitute computer planning corridor based on Capacity 2 Level of motor	shown are presented as automobile/truck as a standard and shor models from whice applications. The troor intersection design planning application and Quality of Service for the bice ized vehicles, not mer hour shown are on	modes unless spould be used only h this table is de able and deriving n, where more is ns of the Highw vice Manual. yele and pedestr umber of bicycli	pecifically state y for general p prived should b g computer me refined technic ay Capacity M	ed. This table do planning applicate used for more dolels should not ques exist. Calcu Manual and the T this table is base ans using the fac	es not ions. The specific be used for lations are ransit d on number ility.
	PE	DESTRIA	N MOD	\mathbb{E}^2		* Canno	t be achieved using	table input valu	e defaults		
	ultiply motorized ectional roadway	l vehicle volui	nes shown be nine two-way	elow by num		** Not a	pplicable for that le greater than level o ched. For the bicycle	vel of service le f service D beco	tter grade. For ome F because	intersection cap	acities have
Sidew	valk Coverage	е В	C	D	Е		le because there is 1				
	0-49%	*	*	140	480	value del	auits.				
	50-84%	*	80	440	800						
8	85-100%	200	540	880	>1,000						
	BUS MOD (Buses	E (Sched) s in peak hour			3						
Sidew	valk Coverage	е В	C	D	Е	Source:	Damandan (- F.T.	montatio			
	0-84%	> 5	≥ 4	≥ 3	≥ 2	Systems	Department of Trans Planning Office				
	85-100%	> 4	≥ 3	≥ 2	≥ 1	www.do	t.state.fl.us/planning	z/systems/sm/los	s/default.shtm		

TABLE 8 (continued)

Generalized **Peak Hour Directional** Volumes for Florida's **Transitioning** and

Areas Over 5,000 Not In Urbanized Areas

					Interrupted Flow Facilities						
INPUT VALUE	Uninterru	ipted Flow	Facilities		State Arterials					Class I	
ASSUMPTIONS	Freeways	High	nways	Cla	ıss I		Cla	ss II	Bicycle	Pedestrian	
ROADWAY CHARACTERISTICS									1		
Area type (t,uo)	t	t	t	t	t		t	t	t	t	
Number of through lanes (both dir.)	4-10	2	4-6	2	4-		2	4-6	4	4	
Posted speed (mph)	70	50	50	45	50		30	30	45	45	
Free flow speed (mph)	75	55	55	50	55		35	35	50	50	
Auxiliary lanes (n,y)	n	n	n								
Median (n, nr, r)		n	r	n	у	,	n	у	r	r	
Terrain (l,r)	1	1	1	1	1		1	1	1	1	
% no passing zone		60									
Exclusive left turn lane impact (n, y)		[n]	y	y	у	,	у	y	у	у	
Exclusive right turn lanes (n, y)			,	n	n		n	n	n	n	
Facility length (mi)	8	5	5	1.8	2		2	2	2	2	
Number of basic segments	4		-			·		_		_	
TRAFFIC CHARACTERISTICS Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.0	00	0.090	0.090	0.090	0.090	
Directional distribution factor (D)	0.090	0.550	0.550	0.550	0.5		0.570		0.570	0.570	
` · ·		1.000						0.565			
Peak hour factor (PHF) Base saturation flow rate (pcphpl)	1.000		1.000	1.000	1.0		1.000	1.000	1.000	1.000	
	0.0	1,700	2,100	1,950	1,9		1,950	1,950	1,950	1,950 3.0	
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	U	2.0	3.0	3.0	3.0	
Local adjustment factor	0.85	0.97	0.95	10	1.0		10	10	10	10	
% left turns				12	12		12	12	12	12	
% right turns				12	12	2	12	12	12	12	
CONTROL CHARACTERISTICS											
Number of signals				5	4		10	10	4	6	
Arrival type (1-6)				4	3		4	4	4	4	
Signal type (a, c, p)				c	С		с	c	c	c	
Cycle length (C)				120	15	0	120	150	120	120	
Effective green ratio (g/C)				0.44	0.4	15	0.44	0.45	0.44	0.44	
CONTROL CHARACTERISTICS											
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n	
Outside lane width (n, t, w)									t	t	
Pavement condition (d, t, u)									t	ı	
On-street parking (n, y)									n	n 500/ **	
Sidewalk (n, y)										n, 50%, y	
Sidewalk/roadway separation (a, t, w)										t	
Sidewalk protective barrier (n, y)										n	
	LEV	EL OF SE	RVICE TI	HRESHOI	LDS						
	Freeways	High	ıways	Arte		rials	.	Bicycle	Ped	Bus	
Level of Service	D	Two-Lane	Multilane	Class	I	(Class II	C-	C-	D //	
Set vice	Density	%ffs	Density	ats			ats	Score	Score	Buses/hr.	
В	≤ 17	> 83.3	≤ 17	> 31 m	ph	>	22 mph	≤ 2.75	≤ 2.75	≤ 6	
C	<u>− 17</u> ≤ 24	> 75.0	<u>−</u> 17 ≤ 24	> 23 m	_		17 mph	≤ 3.50	≤ 3.50	 	
D			≤ 24 ≤ 31		_					< 3	
	≤31	> 66.7		> 18 m	•		13 mph	≤ 4.25	≤ 4.25		
E	≤ 39	> 58.3	≤ 35	> 15 m	pn	>	10 mph	≤ 5.00	≤ 5.00	< 2	

[%] ffs = Percent free flow speed ats = Average travel speed

Generalized **Peak Hour Directional** Volumes for Florida's Rural Undeveloped Areas and

Developed Areas Less Than 5,000 Population¹

12/18/12

INTERRUPTED FLOW FACILITIES								
STATE SIGNALIZED ARTERIALS								
Lanes	Median	В	C	D	E			
1	Undivided	*	670	740	**			
2	Divided	*	1,530	1,580	**			
3	Divided	*	2,360	2,400	**			

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

		Exclusive	Exclusive	Adjustment
Lanes	Median	Left Lanes	Right Lanes	Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
_	_	_	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

BICYCLE MODE²

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Rural Undeveloped

Paved Shoulder/Bicycle				
Lane Coverage	В	C	D	E
0-49%	*	70	110	170
50-84%	60	120	180	580
85-100%	140	210	1,000	>1,000
Dev	veloped .	Areas		
Paved Shoulder/Bicycle				
Lane Coverage	В	C	D	E

120

240

260

720

840

1.000

100 85-100% 320 1,000 >1,000 PEDESTRIAN MODE²

0-49%

50-84%

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service

Sidewalk Coverage	В	C	D	E
0-49%	*	*	120	460
50-84%	*	80	430	770
85-100%	180	520	860	>1,000

		FREEWAY	S	
Lanes	В	C	D	E
2	1,680	2,500	3,040	3,500
3	2,500	3,720	4,560	5,400
4	3,360	4,980	6,080	7,200

UNINTERRUPTED FLOW FACILITIES

Freeway Adjustments

Auxiliary Lanes Present in Both Directions +1,000

UNINTERRUPTED FLOW HIGHWAYS

	Rural Undeveloped							
Lanes	Median	В	C	D	E			
1	Undivided	240	430	740	1,490			
2	Divided	1,340	2,100	2,660	3,020			
3	Divided	2,020	3,150	4,000	4,530			
		Develope	ed Areas					
Lanes	Median	В	C	D	E			
1	Undivided	450	850	1,200	1,640			
2	Divided	1,350	2,120	2,730	3,110			
3	Divided	2,020	3,180	4,090	4,670			

Passing Lane Adjustments

Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

¹Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. 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. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

Source:

Florida Department of Transportation Systems Planning Office

² Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

^{*} Cannot be achieved using table input value defaults.

^{**} Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 9 (continued)

Generalized **Peak Hour Directional** Volumes for Florida's **Rural Undeveloped Areas** and

Developed Areas Less Than 5,000 Population

INPUT VALUE	Uninterrupted Flow Facilities					Interrupted Flow Facilities					
ASSUMPTIONS	Freeways Highways					Arterials		Bicycle		Pedestria	
ROADWAY CHARACTERISTICS	S										
Area type (ru, rd)	rural	ru	ru	rd	rd	rd	rd	ru	rd	rd	
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2	
Posted speed (mph)	70	55	65	50	55	45	45	55	45	45	
Free flow speed (mph)	75	60	70	55	60	50	50	60	50	50	
Auxiliary lanes (n,y)	n										
Median (n, nr, r)		n	r	n	r	n	r	r	r	n	
Terrain (l,r)	1	1	1	1	1	1	l	1	1	1	
% no passing zone		20		60							
Exclusive left turn lanes (n, y)		[n]	у	[n]	y	y	у	у	y	y	
Exclusive right turn lanes (n, y)		. ,				n	n	n	n	n	
Facility length (mi)	14	10	10	5	5	1.9	2.2	4	2	2	
Number of basic segments	4			_							
TRAFFIC CHARACTERISTICS			<u> </u>			<u> </u>		<u> </u>		1	
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.550	0.550	0.550	0.570	0.570	0.550	
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Base saturation flow rate (pcphpl)	1.000	1,700	2,300	1,700	2,200	1,950	1,950	1,950	1,950	1,950	
Heavy vehicle percent	12.0	5.0	12.0	4.0	4.0	3.0	3.0	6.0	3.5	3.0	
Local adjustment factor	0.84	0.88	0.73	0.97	0.82	3.0	3.0	0.0	3.3	3.0	
% left turns	0.04	0.00	0.75	0.77	0.02	12	12		12	12	
% right turns						12	12		12	12	
						12	12		12	12	
CONTROL CHARACTERISTICS			1		1						
Number of signals						5	6	2	4	4	
Arrival type (1-6)						3	3	3	3	3	
Signal type (a, c, p)						c	c	a	a	a	
Cycle length (C)						90	90	60	90	90	
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44	
MULTIMODAL CHARACTERIS	TICS										
Paved shoulder/bicycle lane (n, y)								n,50%,y	n,50%,y	n	
Outside lane width (n, t, w)								t	t	t	
Pavement condition (d, t, u)								t	t		
Sidewalk (n, y)										n,50%,	
Sidewalk/roadway separation(a, t,w)										t	
Sidewalk protective barrier (n, y)										n	
	!	LEVEI	L OF SER	ись тнь	PESHOLE	20					
	-		OI SER	VICE III	Lonoll	High	ways				
Level of	Freeways		Two-Lane ru		Two-Lane rd		Multilane ru		Multilane rd		
Service	Density		%tsf ats		%ffs		Density		Density		
В	≤ 14		≤ 50	< 55	> 83.3		≤ 14		≤ 14		
С	≤ 22		≤ 65	<u><</u> 50	> 75.0		≤ 22		<u>≤ 22</u>		
D	<u>≤</u> 29		 ≤ 80	< 45	> 66.7		<u>=</u> ≤29		<u>−</u> ≤29		
Е	 ≤ 3		> 80	<u>< 40</u>	> 58					34	
Level of	Arterials				Bic			Pe	Pedestrian		
Service	M	ajor City/Co			Score			Score			
В		> 31 mp				2.75			≤ 2.75		
С		> 23 mp				5.50			≤ 3.50		
D		> 18 mp	h	≤ 4.25			≤ 4.25				
Е	> 15 mph				≤ 5.00			≤ 5.00			