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

TABLE 1

'	., .,				0.5	amzcu	, 11 Cu3				12/10/12
	INTERF	RUPTED F	LOW FACI	LITIES			UNINTER	RRUPTED F	LOW FAC	CILITIES	12/18/12
STATE SIGNALIZED ARTERIALS				,			FREEW	VAYS			
Class I (40 mph or higher posted speed limit)					Core Urb	anized					
Lanes	Median	B	C	D	E	Lanes	В	Core or b	amzeu	D	Е
2	Undivided	*	16,800	17,700	**	4	47,400	64,000	0 77	,900	84,600
4	Divided	*	37,900	39,800	**	6	69,900	95,200	0 116	,600	130,600
6	Divided	*	58,400	59,900	**	8	92,500	126,400		,300	176,600
8	Divided	*	78,800	80,100	**	10	115,100	159,700		,500	222,700
	Class II (35	mph or slo	wer posted	speed limi	t)	12	162,400	216,700	0 256	,600	268,900
Lanes	Median	В	C	D	E			Urban	ized		
2	Undivided	*	7,300	14,800	15,600	Lanes	В	C		D	E
4	Divided	*	14,500	32,400	33,800	4	45,800	61,500		,400	79,900
6	Divided	*	23,300	50,000	50,900	6	68,100	93,000		,800	123,300
8	Divided	*	32,000	67,300	68,100	8	91,500	123,500		,700	166,800
						10	114,800	156,000) 187	,100	210,300
	Non-State S	ignalized l	Roadway <i>A</i>	Adiustmen	ıts		F	reeway Ad	instments		
	(Alte	er correspondi	ing state volur	nes			Auxiliary Lan		justinenus	Ramp	
	NI C	by the indicat	ted percent.)	1.00/		Pres	ent in Both Dir			Metering	
	Non-State Signalized Roadways - 10%					+ 20,000			+ 5%		
	Median		ane Adjus			т	JNINTERR	HPTED E	T.OW H	(CHW A	VS
	M. P.	Exclusive			ljustment	Lanes	Median	B	C	D D	E
Lanes 2	Median Divided	Left Lanes Yes	s Right L No		Factors +5%	2	Undivided	8,600	17,000	24,200	
2	Undivided	No	No		-20%	4	Divided	36,700	51,800	65,600	72,600
Multi	Undivided	Yes	No)	-5%	6	Divided	55,000	77,700	98,300	108,800
Multi	Undivided	No	No		-25%						
_	_	_	Yes	S	+ 5%	_	Uninterrupt				
	One-	Way Facil	ity Adjustı	ment		Lanes	Median	Exclusive 1		-	ent factors
	Multiply	the correspon	nding two-dir	ectional		2 Multi	Divided Undivided	Ye: Ye:			-5% 5%
	V	olumes in thi	s table by 0.6	5		Multi	Undivided	No			25%
						- Traiti	Charriaca	110	<u></u>		25 70
Ο.		BICYCLE		.1 1	c		shown are presented and are for the auton				
	Iultiply motorized ectional roadway					does not	constitute a standar	d and should be	used only for g	general planni	ing
	,	volun	nes.)	,		more spe	ons. The computer a	models from white cations. The table	ch this table is le and deriving	computer me	odels should
	Paved						ed for corridor or in				
Shou	lder/Bicycle						sit Capacity and Qu			way Capacii	y ivianuai and
	e Coverage	В	C	D	E	² Level o	f service for the bic	vcle and pedestr	ian modes in th	nis table is ba	sed on number
	0-49%	*	2,900	7,600	19,700		ized vehicles, not no				
	50-84%	2,100	6,700	19,700	>19,700	³ Buses p	er hour shown are on	ly for the peak ho	ur in the single of	direction of the	e higher traffic
0	35-100%	9,300		>19,700		flow.					
			AN MODE			* Canno	t be achieved using	table input value	e defaults.		
	Iultiply motorized ectional roadway					** Not a	pplicable for that le	vel of service let	ter grade. For t	he automobi	le mode.
uire	Caonai 10duwdy	volun		y maamuuni S	CIVICE	volumes	greater than level o	f service D beco	me F because i	intersection c	apacities have
Cidom	alk Cayaraca	D	C	D	Е		ched. For the bicycl le because there is a				
	alk Coverage 0-49%	B *	C *	D 2,800	9,500	value det					
	0-49% 50-84%	*	1,600	2,800 8,700	15,800						
	35-100%	3,800	10,700	17,400	>19,700						
	2 100/0	2,000	10,700	17,100	. 12,700						

Source: Florida Department of Transportation

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

В

> 5

> 4

 \mathbf{C}

 ≥ 4

 ≥ 3

D

 ≥ 3

 ≥ 2

E

 ≥ 2

 ≥ 1

Sidewalk Coverage

0-84%

85-100%

Systems Planning Office

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

TABLE 1 (continued)

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

	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
INPUT VALUE	Unin	Omnterrupted Flow Facilities			State Arterials				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	IIII		rials		Bicycle	Ped	Bus
T 3 .6		Two-Lane		Cla	ıss I	1	ss II	-		
Level of	Density	%ffs	Density		ts		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 **Annual Average Daily** Volumes for Florida's

TABLE 2

Transitioning Areas and

Areas Over 5,000 Not In Urbanized Areas ¹ 12/18/13					
INTERRUPTED FLOW FACILITIES	UNINTERRUPTED FLOW FACILITIES				
STATE SIGNALIZED ARTERIALS	FREEWAYS				
Class I (40 mph or higher posted speed limit) Lanes Median B C D E 2 Undivided * 14,400 16,200 ** 4 Divided * 34,000 35,500 ** 6 Divided * 52,100 53,500 **	Lanes B C D E 4 44,100 57,600 68,900 71,700 6 65,100 85,600 102,200 111,000 8 85,100 113,700 135,200 150,000 10 106,200 141,700 168,800 189,000				
Class II (35 mph or slower posted speed limit) Lanes Median B C D E	Freeway Adjustments Auxiliary Lanes Ramp Present in Both Directions Metering + 20,000 + 5%				
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	UNINTERRUPTED FLOW HIGHWAYS Lanes Median B C D E 2 Undivided 9,200 17,300 24,400 33,300 4 Divided 35,300 49,600 62,900 69,600 6 Divided 52,800 74,500 94,300 104,500 Uninterrupted Flow Highway Adjustments Lanes Median Exclusive left lanes Adjustment factors 2 Divided Yes +5% Multi Undivided Yes -5% Multi Undivided No -25%				
### Company of the column of t	1 Values 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. 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. 3 Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow. * 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.				

Source: Florida Department of Transportation Systems Planning Office www.dot.state.fl.us/planning/systems/sm/los/default.shtm

Sidewalk Coverage	В	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

BUS MODE (Scheduled Fixed Route)³

TABLE 2 (continued)

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

Areas Over 5,000 Not In Urbanized Areas

	Uninterrupted Flow Facilities		Interrupted Flow Facilities							
INPUT VALUE	Uninterru	iptea Fiow	Facilities	State Arterials			Class I			
ASSUMPTIONS	Freeways	High	ıways	Cla	Class 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)				С	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	Level of Service Two-Lane Multilane Class I		Arte		~ **	Bicycle	Ped	Bus		
			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

	INTERROPTED FLOW FACILITIES						
STATE SIGNALIZED ARTERIALS							
Lanes	Median	В	C	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	Е	
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	**	
DDDDGGGDZ444420DD2					

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

FREEWAYS					
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	,	Interrupted Flow Facilities									
ASSUMPTIONS	Freeways Highways				Arterial		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 .	II.		
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			Sco			I.			
B	1712	> 31 mp			≤2		Score < 2.75				
С		> 31 mp							$ \leq 2.75 \\ \leq 3.50 $		
D											
		$> 23 \text{ mph}$ ≤ 3.50 > 18 mph ≤ 4.25				≤ 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
an e	eronar roud may	volume	•				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	inted Flow	Facilities	Interrupted Flow Facilities							
INPUT VALUE ASSUMPTIONS	Ommerre	Uninterrupted Flow Facilities			State Arterials				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	c	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	Dua	
	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

			Α	reas O	er 5,00	0 Not I	n Urbanize	ed Area	s^1		12/18/12
	INTERR	UPTED FLO							FLOW FA		
	STATE SI	GNALIZI	ED ART	ERIALS	<u> </u>			FREE	WAYS		
					,	Lanes	В	C		D	E
,	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

	Uninterr	Uninterrupted Flow Facilities				Interrupted Flow Facilities				
INPUT VALUE ASSUMPTIONS	Uninterr	ipieu r iow	racinues		Sta	ate Aı	rterials		Cla	iss I
ASSUMI HONS	Freeways	Freeways Highways		Class 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

	INTERRU	JP IED FI	LOW FACIL	.IIIES	
	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				
		Develope	d 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	-	pted Flow	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>	< <u>50</u>	> 7:			22		22
D	≤ 2		≤ 80	< 45	> 60			29		29
<u>Б</u> Е	≤ 2 ≤ 3		> 80	< 40	> 58			34		34
			<u> </u>						I.	
Level of		Arterial	ls		Bic	ycle		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	≤ 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	### Company of the image is a proper of the im						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 metally the standard standard with the achieved using applicable for that legreater than level or the discount of the bic year. For the bic year, and the standard stan	modes unless spuld be used only in this table is de table and deriving, where more is 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 ed, and the control of the control o
	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**

			12/10/12								
INDIVE NATIO	Uninterri	Uninterrupted Flow Facilities			Interrupted Flow Facilities						
INPUT VALUE ASSUMPTIONS			1 40111010		St	ate A	rterials	Class I		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		10			
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			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 * *	rer 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	%
Shou 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 MODE (Scheduled Fixed Route) ³ (Buses in peak hour in peak direction)										
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

						Int	errupted I	low Facili	ties	
INPUT VALUE	Uninterru	ipted Flow	Facilities		St		rterials		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	_ = 0 ≤ 4
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 SIG	SNALIZ	ZED ART	ERIALS						
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	y	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	PESHOL I	20					
	-		OI SER	VICE III	Lonoll	High	ways				
	Level of Freeways		Two-Lane ru Two-				ilane ru Mult		lane rd		
Service	Dens	sity	%tsf	ats	%1	ffs		nsity	Dei	nsity	
B <		4	≤ 50	< 55			<u>≤</u>	14	<u> </u>	≤ 14	
С	≤ 22		≤ 65	<u><</u> 50	> 75.0		≤ 22		<u>−</u> ≤22		
D ≤ 29			 ≤ 80	< 45	> 60					29	
Е					> 58			34 ≤ 34			
Level of Arterials			Bicyc					Pedestrian			
Service	Major City/Co.(ats)				Score			Score			
В	> 31 mph				≤ 2.75			≤ 2.75			
С	> 23 mph				≤ 3.50			≤ 3.50			
D	> 18 mph				≤ 4.25			≤ 4.25			
Е	1	> 15 mp			≤ 5				≤ 5.00		