

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

TABLE 1

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Core Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	16,800	17,700	**	4	47,400	64,000	77,900	84,600	
4	Divided	*	37,900	39,800	**	6	69,900	95,200	116,600	130,600	
6	Divided	*	58,400	59,900	**	8	92,500	126,400	154,300	176,600	
8	Divided	*	78,800	80,100	**	10	115,100	159,700	194,500	222,700	
						12	162,400	216,700	256,600	268,900	
Class II (35 mph or slower posted speed limit)						Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	7,300	14,800	15,600	4	45,800	61,500	74,400	79,900	
4	Divided	*	14,500	32,400	33,800	6	68,100	93,000	111,800	123,300	
6	Divided	*	23,300	50,000	50,900	8	91,500	123,500	148,700	166,800	
8	Divided	*	32,000	67,300	68,100	10	114,800	156,000	187,100	210,300	
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.)						Freeway Adjustments					
Non-State Signalized Roadways - 10%						Auxiliary Lanes Present in Both Directions + 20,000					
						Ramp Metering + 5%					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E
2	Divided	Yes	No	+5%		2	Undivided	8,600	17,000	24,200	33,300
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%		Uninterrupted Flow Highway Adjustments					
-	-	-	Yes	+ 5%		Lanes	Median	Exclusive left lanes	Adjustment factors		
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6						2	Divided	Yes	+5%		
						Multi	Undivided	Yes	-5%		
						Multi	Undivided	No	-25%		
BICYCLE MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						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.					
Paved Shoulder/Bicycle Lane Coverage						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.					
	B	C	D	E		³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.					
0-49%	*	2,900	7,600	19,700		* Cannot be achieved using table input value defaults.					
50-84%	2,100	6,700	19,700	>19,700		** 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.					
85-100%	9,300	19,700	>19,700	**		Source: Florida Department of Transportation Systems Planning Office www.dot.state.fl.us/planning/systems/sm/los/default.shtm					
PEDESTRIAN MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage	B	C	D	E							
0-49%	*	*	2,800	9,500							
50-84%	*	1,600	8,700	15,800							
85-100%	3,800	10,700	17,400	>19,700							
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)											
Sidewalk Coverage	B	C	D	E							
0-84%	> 5	≥ 4	≥ 3	≥ 2							
85-100%	> 4	≥ 3	≥ 2	≥ 1							

TABLE 1
(continued)

Generalized Annual Average Daily Volumes for Florida's
Urbanized Areas

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
	Freeways	Core Freeways	Highways		State Arterials				Class I	
					Class I		Class 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)	l	l	l	l	l	l	l	l	l	l
% no passing zone			80							
Exclusive left turn lane impact (n, y)			[n]	y	y	y	y	y	y	y
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)			1,700	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						
% left turns					12	12	12	12	12	12
% right turns					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)					c	c	c	c	c	c
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 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	
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 SERVICE THRESHOLDS										
Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus		
	Density	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.		
		% ffs	Density						ats	ats
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6		
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 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
Transitioning Areas and
Areas Over 5,000 Not In Urbanized Areas¹

TABLE 2

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES						
STATE SIGNALIZED ARTERIALS						FREEWAYS						
Class I (40 mph or higher posted speed limit)						Lanes	B	C	D	E		
Lanes	Median	B	C	D	E	4	44,100	57,600	68,900	71,900		
2	Undivided	*	14,400	16,200	**	6	65,100	85,600	102,200	111,000		
4	Divided	*	34,000	35,500	**	8	85,100	113,700	135,200	150,000		
6	Divided	*	52,100	53,500	**	10	106,200	141,700	168,800	189,000		
Class II (35 mph or slower posted speed limit)						Freeway Adjustments						
Lanes	Median	B	C	D	E	Auxiliary Lanes Present in Both Directions + 20,000			Ramp Metering + 5%			
2	Undivided	*	6,500	13,300	14,200							
4	Divided	*	9,900	28,800	31,600							
6	Divided	*	16,000	44,900	47,600							
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%						UNINTERRUPTED FLOW HIGHWAYS						
Median & Turn Lane Adjustments						Lanes	Median	B	C	D	E	
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		2	Undivided	9,200	17,300	24,400	33,300	
2	Divided	Yes	No	+5%		4	Divided	35,300	49,600	62,900	69,600	
2	Undivided	No	No	-20%		6	Divided	52,800	74,500	94,300	104,500	
Multi	Undivided	Yes	No	-5%		Uninterrupted Flow Highway Adjustments						
Multi	Undivided	No	No	-25%		Lanes	Median	Exclusive left lanes	Adjustment factors			
-	-	-	Yes	+ 5%		2	Divided	Yes	+5%			
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6						Multi	Undivided	Yes	-5%			
						Multi	Undivided	No	-25%			
BICYCLE MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						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.						
Paved Shoulder/Bicycle Lane Coverage						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.						
		B	C	D	E	³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.						
0-49%		*	2,600	6,100	19,500	* Cannot be achieved using table input value defaults.						
50-84%		1,900	5,500	18,400	>19,500	** 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.						
85-100%		7,500	19,500	>19,500	**							
PEDESTRIAN MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)												
Sidewalk Coverage												
		B	C	D	E							
0-49%		*	*	2,800	9,400							
50-84%		*	1,600	8,600	15,600							
85-100%		3,800	10,500	17,100	>19,500							
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)												
Sidewalk Coverage												
		B	C	D	E							
0-84%		> 5	≥ 4	≥ 3	≥ 2							
85-100%		> 4	≥ 3	≥ 2	≥ 1							
						<i>Source:</i> Florida Department of Transportation Systems Planning Office www.dot.state.fl.us/planning/systems/sm/los/default.shtm						

TABLE 2
(continued)

Generalized **Annual Average Daily** Volumes for Florida's
Transitioning and
Areas Over 5,000 Not In Urbanized Areas

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
	Freeways	Highways		State Arterials				Class I	
				Class I		Class II		Bicycle	Pedestrian
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	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
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	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	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	2,100	1,950	1,950	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)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
MULTIMODAL 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	
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
LEVEL OF SERVICE THRESHOLDS									
Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus	
	Density	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.	
		%ffs	Density	ats	ats				
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6	
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 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
Rural Undeveloped Areas and
Developed Areas Less Than 5,000 Population¹**

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	12,900	14,200	**	4	28,800	43,000	52,300	60,000	
4	Divided	*	29,300	30,400	**	6	43,000	64,000	78,300	92,500	
6	Divided	*	45,200	45,800	**	8	57,500	85,400	104,400	123,500	
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%						Freeway Adjustments Auxiliary Lanes Present in Both Directions + 20,000					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Rural Undeveloped					
2	Divided	Yes	No	+5%		Lanes	Median	B	C	D	E
2	Undivided	No	No	-20%		2	Undivided	4,700	8,400	14,300	28,600
Multi	Undivided	Yes	No	-5%		4	Divided	25,700	40,300	51,000	57,900
Multi	Undivided	No	No	-25%		6	Divided	38,800	60,400	76,700	86,800
-	-	-	Yes	+ 5%		Developed Areas					
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6						Lanes	Median	B	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
BICYCLE MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						Passing Lane Adjustments Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length					
Rural Undeveloped						Uninterrupted Flow Highway Adjustments					
Paved Shoulder/Bicycle Lane Coverage						Lanes	Median	Exclusive left lanes		Adjustment factors	
0-49%						2	Divided	Yes		+5%	
50-84%						Multi	Undivided	Yes		-5%	
85-100%						Multi	Undivided	No		-25%	
Developed Areas						Uninterrupted Flow Highway Adjustments					
Paved Shoulder/Bicycle Lane Coverage						Lanes	Median	Exclusive left lanes		Adjustment factors	
0-49%						2	Divided	Yes		+5%	
50-84%						Multi	Undivided	Yes		-5%	
85-100%						Multi	Undivided	No		-25%	
PEDESTRIAN MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						Uninterrupted Flow Highway Adjustments					
Sidewalk Coverage						Lanes	Median	Exclusive left lanes		Adjustment factors	
0-49%						2	Divided	Yes		+5%	
50-84%						Multi	Undivided	Yes		-5%	
85-100%						Multi	Undivided	No		-25%	

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.

* 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

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 ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials	Bicycle	Pedestrian		
ROADWAY CHARACTERISTICS										
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]	y	[n]	y	y	y	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										
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										
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 CHARACTERISTICS										
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%,y
Sidewalk/roadway separation(a, t,w)										t
Sidewalk protective barrier (n, y)										n
LEVEL OF SERVICE THRESHOLDS										
Level of Service	Freeways	Highways								
		Two-Lane ru		Two-Lane rd	Multilane ru	Multilane rd				
	Density	%tsf	ats	%ffs	Density	Density				
B	≤ 14	≤ 50	≤ 55	> 83.3	≤ 14	≤ 14				
C	≤ 22	≤ 65	≤ 50	> 75.0	≤ 22	≤ 22				
D	≤ 29	≤ 80	≤ 45	> 66.7	≤ 29	≤ 29				
E	≤ 36	> 80	≤ 40	> 58.3	≤ 34	≤ 34				
Level of Service	Arterials		Bicycle		Pedestrian					
	Major City/Co.(ats)		Score		Score					
B	> 31 mph		≤ 2.75		≤ 2.75					
C	> 23 mph		≤ 3.50		≤ 3.50					
D	> 18 mph		≤ 4.25		≤ 4.25					
E	> 15 mph		≤ 5.00		≤ 5.00					

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

Generalized **Peak Hour Two-Way** Volumes for Florida's
Urbanized Areas¹

TABLE 4

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES						
STATE SIGNALIZED ARTERIALS						FREEWAYS						
Class I (40 mph or higher posted speed limit)						Lanes	B	C	D	E		
Lanes	Median	B	C	D	E	4	4,120	5,540	6,700	7,190		
2	Undivided	*	1,510	1,600	**	6	6,130	8,370	10,060	11,100		
4	Divided	*	3,420	3,580	**	8	8,230	11,100	13,390	15,010		
6	Divided	*	5,250	5,390	**	10	10,330	14,040	16,840	18,930		
8	Divided	*	7,090	7,210	**	12	14,450	18,880	22,030	22,860		
Class II (35 mph or slower posted speed limit)						Freeway Adjustments						
Lanes	Median	B	C	D	E	Auxiliary Lanes			Ramp			
2	Undivided	*	660	1,330	1,410	Present in Both Directions			Metering			
4	Divided	*	1,310	2,920	3,040	+ 1,800			+ 5%			
6	Divided	*	2,090	4,500	4,590							
8	Divided	*	2,880	6,060	6,130							
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.)												
Non-State Signalized Roadways - 10%												
Median & Turn Lane Adjustments												
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment 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 MODE ² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)												
Paved Shoulder/Bicycle												
Lane Coverage	B	C	D	E								
0-49%	*	260	680	1,770								
50-84%	190	600	1,770	>1,770								
85-100%	830	1,770	>1,770	**								
PEDESTRIAN MODE ² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)												
Sidewalk Coverage												
0-49%	*	*	250	850								
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)												
Sidewalk Coverage												
0-84%	> 5	≥ 4	≥ 3	≥ 2								
85-100%	> 4	≥ 3	≥ 2	≥ 1								
						UNINTERRUPTED FLOW HIGHWAYS						
Lanes	Median	B	C	D	E							
2	Undivided	770	1,530	2,170	2,990							
4	Divided	3,300	4,660	5,900	6,530							
6	Divided	4,950	6,990	8,840	9,790							
Uninterrupted Flow Highway Adjustments												
Lanes	Median	Exclusive left lanes		Adjustment factors								
2	Divided	Yes		+5%								
Multi	Undivided	Yes		-5%								
Multi	Undivided	No		-25%								
						¹ Values 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.						
						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						

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

**TABLE 4
(continued)**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
	Freeways	Highways		State Arterials				Class I	
				Class I		Class II		Bicycle	Pedestrian
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)	l	l	l	l	l	l	l	l	l
% no passing zone		80							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
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	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	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
Base saturation flow rate (pcphpl)		1,700	2,100	1,950	1,950	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						
% left turns				12	12	12	12	12	12
% right turns				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)				c	c	c	c	c	c
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 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	
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
LEVEL OF SERVICE THRESHOLDS									
Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus	
	Density	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.	
		%ffs	Density						ats
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6	
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 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 **Peak Hour Two-Way** Volumes for Florida's
Transitioning and
Areas Over 5,000 Not In Urbanized Areas¹

TABLE 5

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES				
STATE SIGNALIZED ARTERIALS						FREEWAYS				
Class I (40 mph or higher posted speed limit)						Lanes	B	C	D	E
Lanes	Median	B	C	D	E	4	3,970	5,190	6,200	6,460
2	Undivided	*	1,300	1,460	**	6	5,860	7,710	9,190	9,990
4	Divided	*	3,060	3,200	**	8	7,660	10,230	12,170	13,500
6	Divided	*	4,690	4,820	**	10	9,550	12,750	15,190	17,010
Class II (35 mph or slower posted speed limit)						Freeway Adjustments				
Lanes	Median	B	C	D	E	Auxiliary Lanes		Ramp		
2	Undivided	*	580	1,200	1,280	Present in Both Directions		Metering		
4	Divided	*	890	2,590	2,850	+ 1,800		+ 5%		
6	Divided	*	1,440	4,040	4,280					
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%										
Median & Turn Lane Adjustments										
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment 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.)										
Paved Shoulder/Bicycle Lane Coverage						B	C	D	E	
0-49%						*	140	550	1,760	
50-84%						170	500	1,650	>1,760	
85-100%						670	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.)						B	C	D	E	
Sidewalk Coverage						B	C	D	E	
0-49%						*	*	250	850	
50-84%						*	150	780	1,410	
85-100%						340	950	1,540	>1,760	
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)						B	C	D	E	
Sidewalk Coverage						B	C	D	E	
0-84%						> 5	≥ 4	≥ 3	≥ 2	
85-100%						> 4	≥ 3	≥ 2	≥ 1	
						¹ Values 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.				
						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.				
						<i>Source:</i> Florida Department of Transportation Systems Planning Office www.dot.state.fl.us/planning/systems/sm/los/default.shtm				

TABLE 5
(continued)

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

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
	Freeways	Highways		State Arterials				Class I	
				Class I		Class II		Bicycle	Pedestrian
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	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
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	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	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	2,100	1,950	1,950	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)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
MULTIMODAL 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	
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
LEVEL OF SERVICE THRESHOLDS									
Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus	
	Density	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.	
		%ffs	Density	ats	ats				
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6	
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 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 **Peak Hour Two-Way** Volumes for Florida's
Rural Undeveloped Areas and
Developed Areas Less Than 5,000 Population¹

TABLE 6

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	1,220	1,350	**	4	3,020	4,510	5,490	6,300	
4	Divided	*	2,790	2,890	**	6	4,510	6,720	8,220	9,720	
6	Divided	*	4,300	4,350	**	8	6,040	8,970	10,960	12,970	
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%						Freeway Adjustments Auxiliary Lanes Present in Both Directions + 1,800					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Rural Undeveloped					
2	Divided	Yes	No	+5%		Lanes	Median	B	C	D	E
2	Undivided	No	No	-20%		2	Undivided	440	790	1,350	2,710
Multi	Undivided	Yes	No	-5%		4	Divided	2,440	3,820	4,840	5,500
Multi	Undivided	No	No	-25%		6	Divided	3,680	5,730	7,280	8,240
-	-	-	Yes	+ 5%		Developed Areas					
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6						Lanes	Median	B	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					
BICYCLE MODE ² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						Uninterrupted Flow Highway Adjustments					
Rural Undeveloped						Lanes	Median	Exclusive left lanes	Adjustment factors		
Paved Shoulder/Bicycle						2	Divided	Yes	+5%		
Lane Coverage	B	C	D	E		Multi	Undivided	Yes	-5%		
0-49%	*	120	190	300		Multi	Undivided	No	-25%		
50-84%	100	200	310	>1,010							
85-100%	250	370	1,760	>1,760							
Developed Areas											
Paved Shoulder/Bicycle											
Lane Coverage	B	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 MODE ² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage	B	C	D	E							
0-49%	*	*	220	840							
50-84%	*	120	780	1,390							
85-100%	320	940	1,560	>1,820							
						¹ Values 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.					
						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.					
						Source: Florida Department of Transportation Systems Planning Office www.dot.state.fl.us/planning/systems/sm/los/default.shtm					

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 ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials	Bicycle	Pedestrian		
ROADWAY CHARACTERISTICS										
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)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	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										
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										
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 CHARACTERISTICS										
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, w)								t	t	
Sidewalk (n, y)										n,50%,y
Sidewalk/roadway separation(a, t,w)										t
Sidewalk protective barrier (n, y)										n
LEVEL OF SERVICE THRESHOLDS										
Level of Service	Freeways		Highways							
	Density	Two-Lane ru		Two-Lane rd		Multilane ru		Multilane rd		
		%tsf	ats	%ffs		Density	Density			
B	≤ 14	≤ 50	≤ 55	> 83.3		≤ 14	≤ 14			
C	≤ 22	≤ 65	≤ 50	> 75.0		≤ 22	≤ 22			
D	≤ 29	≤ 80	≤ 45	> 66.7		≤ 29	≤ 29			
E	≤ 36	> 80	≤ 40	> 58.3		≤ 34	≤ 34			
Level of Service	Arterials		Bicycle		Pedestrian					
	Major City/Co.(ats)		Score		Score					
B	> 31 mph		≤ 2.75		≤ 2.75					
C	> 23 mph		≤ 3.50		≤ 3.50					
D	> 18 mph		≤ 4.25		≤ 4.25					
E	> 15 mph		≤ 5.00		≤ 5.00					

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

Generalized Peak Hour Directional Volumes for Florida's Urbanized Areas¹

TABLE 7

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Lanes	B	C	D	E	
Lanes	Median	B	C	D	E	2	2,260	3,020	3,660	3,940	
1	Undivided	*	830	880	**	3	3,360	4,580	5,500	6,080	
2	Divided	*	1,910	2,000	**	4	4,500	6,080	7,320	8,220	
3	Divided	*	2,940	3,020	**	5	5,660	7,680	9,220	10,360	
4	Divided	*	3,970	4,040	**	6	7,900	10,320	12,060	12,500	
Class II (35 mph or slower posted speed limit)						Freeway Adjustments					
Lanes	Median	B	C	D	E	Auxiliary Lane	Ramp Metering				
1	Undivided	*	370	750	800	+ 1,000	+ 5%				
2	Divided	*	730	1,630	1,700						
3	Divided	*	1,170	2,520	2,560						
4	Divided	*	1,610	3,390	3,420						
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.)											
Non-State Signalized Roadways - 10%											
Median & Turn Lane Adjustments											
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment 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.)											
Paved Shoulder/Bicycle Lane Coverage						B	C	D	E		
0-49%						*	150	390	1,000		
50-84%						110	340	1,000	>1,000		
85-100%						470	1,000	>1,000	**		
PEDESTRIAN MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage						B	C	D	E		
0-49%						*	*	140	480		
50-84%						*	80	440	800		
85-100%						200	540	880	>1,000		
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)											
Sidewalk Coverage						B	C	D	E		
0-84%						> 5	≥ 4	≥ 3	≥ 2		
85-100%						> 4	≥ 3	≥ 2	≥ 1		
						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	B	C	D	E						
1	Undivided	420	840	1,190	1,640						
2	Divided	1,810	2,560	3,240	3,590						
3	Divided	2,720	3,840	4,860	5,380						
Uninterrupted Flow Highway Adjustments											
Lanes	Median	Exclusive left lanes		Adjustment factors							
1	Divided	Yes		+5%							
Multi	Undivided	Yes		-5%							
Multi	Undivided	No		-25%							
						¹ Values 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.					
						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					

TABLE 7
(continued)

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

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
				State Arterials			Class I		
	Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
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]	y	y	y	y	y	y	y
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	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	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
Base saturation flow rate (pcphpl)		1,700	2,100	1,950	1,950	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						
% left turns				12	12	12	12	12	12
% right turns				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)				c	c	c	c	c	c
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 CHARACTERISTICS									
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
LEVEL OF SERVICE THRESHOLDS									
Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus	
	Density	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.	
		%ffs	Density						ats
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6	
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 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 **Peak Hour Directional** Volumes for Florida's
Transitioning and
Areas Over 5,000 Not In Urbanized Areas¹

TABLE 8

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Lanes	B	C	D	E	
Lanes	Median	B	C	D	E	2	2,200	2,880	3,440	3,580	
1	Undivided	*	710	800	**	3	3,260	4,280	5,100	5,540	
2	Divided	*	1,740	1,820	**	4	4,260	5,680	6,760	7,500	
3	Divided	*	2,670	2,740	**	5	5,300	7,080	8,440	9,440	
Class II (35 mph or slower posted speed limit)						Freeway Adjustments					
Lanes	Median	B	C	D	E	Auxiliary Lane	Ramp Metering				
1	Undivided	*	330	680	720	+ 1,000	+ 5%				
2	Divided	*	500	1,460	1,600						
3	Divided	*	810	2,280	2,420						
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%						UNINTERRUPTED FLOW HIGHWAYS					
Median & Turn Lane Adjustments						Lanes	Median	B	C	D	E
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		1	Undivided	450	850	1,200	1,640
1	Divided	Yes	No	+5%		2	Divided	1,740	2,450	3,110	3,440
2	Undivided	No	No	-20%		3	Divided	2,610	3,680	4,660	5,170
Multi	Undivided	Yes	No	-5%		Uninterrupted Flow Highway Adjustments					
Multi	Undivided	No	No	-25%		Lanes	Median	Exclusive left lanes	Adjustment factors		
-	-	-	Yes	+ 5%		1	Divided	Yes	+5%		
One-Way Facility Adjustment Multiply the corresponding directional volumes in this table by 1.2						Multi	Undivided	Yes	-5%		
						Multi	Undivided	No	-25%		
BICYCLE MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						¹ Values 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.					
Paved Shoulder/Bicycle Lane Coverage						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.					
		B	C	D	E	³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.					
0-49%		*	140	320	1,000	* Cannot be achieved using table input value defaults.					
50-84%		100	280	940	>1,000	** 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.					
85-100%		380	1,000	>1,000	**						
PEDESTRIAN MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage											
		B	C	D	E						
0-49%		*	*	140	480						
50-84%		*	80	440	800						
85-100%		200	540	880	>1,000						
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)											
Sidewalk Coverage											
		B	C	D	E						
0-84%		> 5	≥ 4	≥ 3	≥ 2						
85-100%		> 4	≥ 3	≥ 2	≥ 1						
						<i>Source:</i> Florida Department of Transportation Systems Planning Office www.dot.state.fl.us/planning/systems/sm/los/default.shtm					

TABLE 8
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's
Transitioning and
Areas Over 5,000 Not In Urbanized Areas

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
	Freeways	Highways		State Arterials				Class I	
				Class I		Class II		Bicycle	Pedestrian
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	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
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	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	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	2,100	1,950	1,950	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)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	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	
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
LEVEL OF SERVICE THRESHOLDS									
Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus	
	Density	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.	
		%ffs	Density						ats
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6	
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 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 **Peak Hour Directional** Volumes for Florida's
Rural Undeveloped Areas and
Developed Areas Less Than 5,000 Population¹

TABLE 9

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES						
STATE SIGNALIZED ARTERIALS						FREEWAYS						
Lanes	Median	B	C	D	E	Lanes	B	C	D	E		
1	Undivided	*	670	740	**	2	1,680	2,500	3,040	3,500		
2	Divided	*	1,530	1,580	**	3	2,500	3,720	4,560	5,400		
3	Divided	*	2,360	2,400	**	4	3,360	4,980	6,080	7,200		
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%						Freeway Adjustments Auxiliary Lanes Present in Both Directions + 1,000						
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS						
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Rural Undeveloped						
1	Divided	Yes	No	+5%		Lanes	Median	B	C	D	E	
1	Undivided	No	No	-20%		1	Undivided	240	430	740	1,490	
Multi	Undivided	Yes	No	-5%		2	Divided	1,340	2,100	2,660	3,020	
Multi	Undivided	No	No	-25%		3	Divided	2,020	3,150	4,000	4,530	
-	-	-	Yes	+ 5%		Developed Areas						
One-Way Facility Adjustment Multiply the corresponding directional volumes in this table by 1.2						Lanes	Median	B	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	
BICYCLE MODE ² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						Passing Lane Adjustments Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length						
Rural Undeveloped						Uninterrupted Flow Highway Adjustments						
Paved Shoulder/Bicycle						Lanes	Median	Exclusive left lanes	Adjustment factors			
Lane Coverage						1	Divided	Yes	+5%			
0-49%							Multi	Undivided	Yes	-5%		
50-84%							Multi	Undivided	No	-25%		
85-100%												
Developed Areas												
Paved Shoulder/Bicycle												
Lane Coverage												
0-49%												
50-84%												
85-100%												
PEDESTRIAN MODE ² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)												
Sidewalk Coverage												
0-49%												
50-84%												
85-100%												

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.

²Level 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.

Source:

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

TABLE 9
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's
Rural Undeveloped Areas and
Developed Areas Less Than 5,000 Population

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials	Bicycle	Pedestrian		
ROADWAY CHARACTERISTICS										
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)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	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										
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										
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 CHARACTERISTICS										
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%,y
Sidewalk/roadway separation(a, t,w)										t
Sidewalk protective barrier (n, y)										n
LEVEL OF SERVICE THRESHOLDS										
Level of Service	Freeways		Highways							
	Density	Two-Lane ru		Two-Lane rd		Multilane ru		Multilane rd		
		%tsf	ats	%ffs		Density	Density			
B	≤ 14	≤ 50	≤ 55	> 83.3		≤ 14	≤ 14			
C	≤ 22	≤ 65	≤ 50	> 75.0		≤ 22	≤ 22			
D	≤ 29	≤ 80	≤ 45	> 66.7		≤ 29	≤ 29			
E	≤ 36	> 80	≤ 40	> 58.3		≤ 34	≤ 34			
Level of Service	Arterials			Bicycle		Pedestrian				
	Major City/Co.(ats)			Score		Score				
B	> 31 mph			≤ 2.75		≤ 2.75				
C	> 23 mph			≤ 3.50		≤ 3.50				
D	> 18 mph			≤ 4.25		≤ 4.25				
E	> 15 mph			≤ 5.00		≤ 5.00				

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