

2015

Quality/Level of Service Training

Planning Level Analysis

Solution Set

April 2015



Data Sources Example 1

Answers

- Area Type = Urbanized
- AADT = 183,500
- K-Factor = 8.0
- D-Factor = 52.3
- Peak Direction = EB
- % Heavy Vehicles = 4.0

Data Sources Workshop 1

Answers

- Area Type = Other Urbanized
- AADT = 16,647
- K-Factor = 9.0
- D-Factor = 52.3
- Peak Direction = NB
- % Heavy Vehicles = 1.0

GSVT Example 1.A

Determine the max. service volume for LOS E:

- In terms of AADT
- In a core urbanized area
- For a 8-lane freeway

FREEWAYS					
Core Urbanized					
Lanes	B	C	D	E	
4	47,400	64,000	77,900	84,600	
6	69,900	95,200	116,600	130,600	
8	92,500	126,400	154,300	176,600	
10	115,100	159,700	194,500	222,700	
12	162,400	216,700	256,600	268,900	

LOS E → 176,600

TABLE 1 Generalized Annual Average Daily Volumes for Florida's Urbanized Areas

ROAD 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	17,700	17,700	4	47,400	64,000	77,900	84,600
4	Divided	37,900	39,800	39,800	39,800	6	69,900	95,200	116,600	130,600
6	Divided	58,400	59,900	59,900	59,900	8	92,500	126,400	154,300	176,600
8	Divided	78,800	80,100	80,100	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	15,600	4	45,800	61,500	74,400	79,900
4	Divided	14,500	32,400	33,800	33,800	6	68,100	93,000	111,800	123,300
6	Divided	21,300	50,000	50,900	50,900	8	91,500	123,500	148,700	166,800
8	Divided	32,900	67,500	68,100	68,100	10	114,800	156,000	187,100	210,300

Non-State Signalized Roadway Adjustments: (After corresponding non-volume by the indicated percent)

- Non-State Signalized Roadways: -10%

Median & Turn Lane Adjustment:

Lanes	Median	Left Lane	Right Lane	Adjustment Factor
2	Undivided	Yes	No	-5%
4	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	Yes	-25%
Multi	Undivided	Yes	Yes	-5%

One-Way Facility Adjustment: Multiply the corresponding two-direction volumes in this table by 0.6

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	8,600	17,000	24,200	33,300
4	Divided	36,700	51,800	65,600	72,800
6	Divided	55,000	77,700	98,300	108,800

Uninterrupted Flow Highway Adjustment:

Lanes	Median	Enclosure	Left Lane	Adjustment Factor
2	Divided	Yes	Yes	-4%
Multi	Undivided	Yes	Yes	-5%
Multi	Undivided	No	Yes	-25%

BICYCLE MODE¹

Obtains unadjusted vehicle volumes (shown below by number of directional roadway lanes to determine the way maximum service volume.)

Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	2,900	7,600	19,700	19,700
50-84%	2,100	6,700	19,700	-19,700
85-100%	9,200	19,700	19,700	-19,700

PEDESTRIAN MODE²

Obtains unadjusted vehicle volumes (shown below by number of directional roadway lanes to determine the way maximum service volume.)

Sidewalk Coverage	B	C	D	E
0-49%	4	2,800	8,500	8,500
50-84%	1,600	8,700	15,800	15,800
85-100%	3,800	10,700	17,400	-19,700

BUS MODE (Scheduled Fixed Route)³

Shown in peak hour by peak direction:

Sidewalk Coverage	B	C	D	E
0-84%	-5	-2	-2	-2
85-100%	-4	-3	-2	-2

Notes:
 1. Values shown are presented as two-way annual average daily volumes for the level of service and are for the unadjusted level under steady traffic conditions. The values do not include a median and should be used only for general planning applications. The computer model from which the values are derived should be used for more detailed analyses. The values and the corresponding volume shown are for the number of lanes in the direction of travel. Values shown include the volume of the median and the volume of the shoulder. Values shown are for the median and the shoulder. Values shown are for the median and the shoulder.
 2. Values shown are presented as two-way annual average daily volumes for the level of service and are for the unadjusted level under steady traffic conditions. The values do not include a median and should be used only for general planning applications. The computer model from which the values are derived should be used for more detailed analyses. The values and the corresponding volume shown are for the number of lanes in the direction of travel. Values shown include the volume of the median and the volume of the shoulder. Values shown are for the median and the shoulder.
 3. Values shown are presented as two-way annual average daily volumes for the level of service and are for the unadjusted level under steady traffic conditions. The values do not include a median and should be used only for general planning applications. The computer model from which the values are derived should be used for more detailed analyses. The values and the corresponding volume shown are for the number of lanes in the direction of travel. Values shown include the volume of the median and the volume of the shoulder. Values shown are for the median and the shoulder.

2012 FOOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES

GSVT Example 1.B

Determine the max. service volume for LOS E:

- In terms of AADT
- In a core urbanized area
- For a 8-lane freeway
- Auxiliary lanes in both directions

FREEWAYS					
Core Urbanized					
Lanes	B	C	D	E	
4	47,400	64,000	77,900	84,600	
6	69,900	95,200	116,600	130,600	
8	92,500	126,400	154,300	176,600	
10	115,100	159,700	194,500	222,700	
12	162,400	216,700	256,600	268,900	

Freeway Adjustments			
Auxiliary Lanes Present in Both Directions			Ramp Metering
+ 20,000			+ 5%

$$176,600 + 20,000 = 196,600$$

TABLE 1 Generalized Annual Average Daily Volumes for Florida's Urbanized Areas 12/18/12

LOW 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						Freeway Adjustments					
(Alter corresponding site volumes by the indicated percent.)						Auxiliary Lanes Ramp Metering +5%					
Non-State Signalized Roadways -10%						Present in Both Directions +20,000					
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%							
-	-	-	Yes	+5%		Uninterrupted Flow Highway Adjustments					
One-Way Facility Adjustment						Median Exclusive left lanes Adjustment factors					
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						¹ Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck mode unless specifically stated. This table does not constitute a standard and should be used only for general planning application. The computer models from which this table is derived should be used for more specific planning applications. The table and certain 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.					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						² Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicycles or pedestrians using the facility.					
Paved Shoulder/Bicycle Lane Coverage						³ Bus per hour shown are only for peak hour in the single direction of the higher traffic flow.					
Lane Coverage	B	C	D	E		* Cannot be achieved using table input value defaults.					
0-49%	*	2,900	7,600	19,700		** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become P because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including P) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
50-84%	2,100	6,700	19,700	>19,700		Source: Florida Department of Transportation System Planning Office www.dot.state.fl.us/Planning/Systems/lan/lan_bicyc_defult.htm					
85-100%	9,300	19,700	>19,700	**		2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES					
PEDESTRIAN MODE²											
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage											
Lane 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							

LOS E



196,600

GSVT Example 2.B

Determine the auto LOS:

- In terms of peak hour directional volumes
- In a rural undeveloped area
- For an uninterrupted flow highway with:
 - 2 lanes (one in each direction)
 - 20% passing lane
 - No median/undivided
 - Peak hour directional volume is **450**

$$430 * 1.2 \approx 540$$

Answer → LOS C

UNINTERRUPTED FLOW HIGHWAYS

Rural Undeveloped

Lanes	Median	B	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

TABLE 9

Generalized Peak Hour Directional Volumes for Florida's Rural Undeveloped Areas and Developed Areas Less Than 5,000 Population¹

UNINTERRUPTED 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 (Use corresponding table volumes by the indicated percent.)						Freeway Adjustments Auxiliary Lanes Present in Both Directions +1,000					
Non-State Signalized Roadways -10%											
Median & Turn Lane Adjustments (Use corresponding table volumes by the indicated percent.)						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factor		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	Yes	+5%		3	Divided	2,020	3,150	4,000	4,530
						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
						Passing Lane Adjustments Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length.					
BICYCLE MODE² (Multiply selected vehicle volume values below by number of directional roadway lanes to determine two-way maximum service volumes.)						Uninterrupted Flow Highway Adjustment Factors					
Rural Undeveloped						Lanes	Median	Exclusive Left Lanes	Adjustment Factors		
Paved Shoulder/Bicycle						1	Divided	Yes	-5%		
Lane Coverage	B	C	D	E		Multi	Undivided	Yes	-5%		
0-49%	+	70	110	170		Multi	Undivided	No	-25%		
50-84%	+	60	120	180	580						
85-100%	140	210	1,000	>1,000							
Developed Areas											
Paved Shoulder/Bicycle											
Lane Coverage	B	C	D	E							
0-49%	+	120	260	840							
50-84%	100	240	720	1,000							
85-100%	320	1,000	>1,000	**							
PEDESTRIAN MODE² (Multiply selected vehicle volume values shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage	B	C	D	E							
0-49%	+	+	120	460							
50-84%	+	80	430	770							
85-100%	180	520	860	>1,000							

2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES

Passing Lane Adjustments

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

GSVT Example 3

Determine the auto LOS:

- In terms of peak hour directional volumes
- In an urban/transitioning area
- For a non-state signalized roadway with:
 - 45 mph speed limit
 - 6 lanes (3 in each direction)
 - Peak hour directional volume of **2,500**

Answer  LOS F

$$2,740 * 0.9 \approx 2,450$$

STATE SIGNALIZED ARTERIALS					
Class I (40 mph or higher posted speed limit)					
Lanes	Median	B	C	D	E
1	Undivided	*	710	800	**
2	Divided	*	1,740	1,820	**
3	Divided	*	2,670	2,740	**

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

Generalized Peak Hour Directional Volumes for Florida's Transitioning and UNINTERRUPTED FLOW FACILITIES Areas Over 5,000 Not in Urbanized Areas¹

STATE SIGNALIZED ARTERIALS						FREEWAYS				
Class I (40 mph or higher posted speed limit)						Class II (35 mph or lower posted speed limit)				
Lanes	Median	C	D	E		Lanes	B	C	D	E
1	Undivided	*	710	800	**	2	2,200	2,880	3,440	3,580
2	Divided	*	1,740	1,820	**	3	3,260	4,280	5,100	5,540
3	Divided	*	2,670	2,740	**	4	4,360	5,680	6,760	7,500
						5	5,300	7,080	8,440	9,440

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	Exclusive	Adjustment	
1	Divided	Yes	No	+5%	
2	Undivided	No	No	-20%	
3	Divided	Yes	No	-5%	
		No	No	-25%	
		No	Yes	-5%	

UNINTERRUPTED FLOW FACILITIES					
UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	B	C	D	E
1	Undivided	450	850	1,200	1,640
2	Divided	1,740	2,450	3,110	3,440
3	Divided	2,610	3,680	4,660	5,170

PEDESTRIAN MODE ²					
Shoulder/Bicycle Lane Coverage					
	B	C	D	E	
0-49%	+	140	320	1,000	
50-84%	+	100	280	940	-1,000
85-100%	+	380	1,000	-1,000	**

BUS MODE (Scheduled Fixed Route) ³					
Shoulder/Bicycle Lane Coverage					
	B	C	D	E	
0-49%	+	140	480		
50-84%	+	80	440	800	
85-100%	+	200	540	880	-1,000

GSVT Example 4.A

Determine the bicycle LOS:

- In terms of AADT
- In an urbanized area
- For a state signalized arterial with:
 - 2 lanes
 - AADT=13,000
 - 3 buses/hour
 - 90% bike lane coverage
 - 40% sidewalk coverage

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%	*	2,900	7,600	19,700
50-84%	2,100	6,700	19,700	>19,700
<u>85-100%</u>	9,300	19,700	>19,700	**

TABLE 1 Generalized Annual Average Daily Volumes for Florida's Urbanized Areas										
INTERMITTENT 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	289,900
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

UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	B	C	D	E
2	Undivided	8,600	17,000	24,200	33,300
4	Divided	36,700	51,800	65,600	72,600
6	Divided	55,000	77,700	98,300	108,800

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%	*	2,900	7,600	19,700
50-84%	2,100	6,700	19,700	>19,700
85-100%	9,300	19,700	>19,700	**

PEDESTRIAN MODE ³				
(Multiply pedestrian volume 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	9,700	
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
0-49%	> 4	-	-	-
50-84%	> 4	-	-	-
85-100%	> 4	-	-	-

GSVT Example 4.B

Determine the pedestrian LOS:

- In terms of AADT
- In an urbanized area
- For a state signalized arterial with:
 - 2 lanes
 - **AADT=13,000**
 - 3 buses/hour
 - 90% bike lane coverage
 - 40% sidewalk coverage

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
<u>0-49%</u>	*	*	2,800	9,500
50-84%	*	1,600	8,700	15,800
85-100%	3,800	10,700	17,400	>19,700

TABLE 1 Generalized Annual Average Daily Volumes for Florida's Urbanized Areas

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	288,900
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

PEDESTRIAN MODE²
Multiply the corresponding one-directional volumes in this table by 0.6

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
0-49%	> 5	> 3	> 2	> 1
50-84%	> 4	> 3	> 2	> 1
85-100%	> 4	> 3	> 2	> 1

Pedestrian Mode

LOS F

GSVT Example 4.C

Determine the bus LOS:

- In terms of AADT
- In an urbanized area
- For a state signalized arterial with:
 - 2 lanes
 - AADT=13,000
 - 3 buses/hour
 - 90% bike lane coverage
 - 40% sidewalk coverage

BUS MODE (Scheduled Fixed Route)³				
(Buses in peak hour in peak direction)				
Sidewalk Coverage	B	C	D	E
<u>0-84%</u>	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

STATE SIGNALIZED ARTERIALS					UNINTERRUPTED FLOW FACILITIES						
Class I (40 mph or higher posted speed limit)					FREEWAYS						
Lanes	Median	B	C	D	E	Core Urbanized					
2	Undivided	16,800	17,700	**	**	4	47,400	64,000	77,900	84,600	84,600
4	Divided	37,900	39,800	**	**	6	69,900	95,200	116,600	130,600	130,600
6	Divided	58,400	59,900	**	**	8	92,500	126,400	154,300	176,600	176,600
8	Divided	78,800	80,100	**	**	10	115,100	159,700	194,500	222,700	222,700
						12	162,400	218,700	256,600	288,900	288,900
Class II (35 mph or slower posted speed limit)					Urbanized						
Lanes	Median	B	C	D	E	Core Urbanized					
2	Undivided	7,300	14,800	15,600	15,600	4	45,800	61,500	74,400	79,900	79,900
4	Divided	14,500	32,400	33,800	33,800	6	68,100	93,000	111,800	123,300	123,300
6	Divided	23,300	50,000	50,900	50,900	8	91,500	123,500	148,700	166,800	166,800
8	Divided	32,000	67,300	68,100	68,100	10	114,800	156,000	187,100	210,300	210,300
UNINTERRUPTED FLOW HIGHWAYS											
Lanes	Median	B	C	D	E						
2	Undivided	8,600	17,000	24,200	33,300						
4	Divided	36,700	51,800	65,600	72,600						
6	Divided	55,000	77,700	98,300	108,800						

GSVT Example 5

Answer  LOS D

Determine the auto LOS:

$$6,500 * 0.80 = 5,200$$

- In terms of AADT
- In an urban/transitioning area (pop. 12,000)
- For an undivided state arterial with:
 - 30 mph speed limit
 - 2 lanes
 - **6,000 AADT**
 - No left turn lanes

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%

Class I (40 mph or higher posted speed limit)	B	C	D	E	
Lanes 2 Undivided	14,400	16,200	**	**	
4 Divided	34,000	35,500	**	**	
6 Divided	53,100	53,900	**	**	
Lanes	Median	B	C	D	E
2 Undivided	*	6,500	13,300	14,200	
4 Divided	*	9,900	28,800	31,600	
6 Divided	*	16,000	44,900	47,600	
Adjustment	Factor				
Non-State Signalized Roadways	-10%				
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factor	
2 Divided	Yes	No	No	+5%	
2 Undivided	No	No	No	-20%	
Multi Undivided	Yes	No	No	-5%	
Multi Undivided	No	No	No	-25%	
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	
Adjustment	Factor				
Auxiliary Lanes Present in Both Directions	+20,000				
Ramp Metering	+5%				
Lanes	Median	B	C	D	E
2 Undivided	9,200	17,300	24,400	33,300	
4 Divided	35,200	49,600	62,900	69,600	
6 Divided	52,800	74,500	94,300	104,500	
Lanes	Median	Exclusive Left Lanes	Adjustment Factor		
2 Divided	Yes	No	+5%		
Multi Undivided	Yes	No	-5%		
Multi Undivided	No	No	-25%		

Class II (35 mph or slower posted speed limit)					
Lanes	Median	B	C	D	E
2	Undivided	*	6,500	13,300	14,200
4	Divided	*	9,900	28,800	31,600
6	Divided	*	16,000	44,900	47,600

GSVT Example 7

Determine the max. service volume for LOS E:

- In terms of AADT
- In an urbanized area
- For a state signalized arterial with:
 - One-way
 - 2 lanes in travel direction
 - 30 mph speed limit

$$33,800 * 0.6 = 20,280$$

One-Way Facility Adjustment
Multiply the corresponding two-directional volumes in this table by **0.6**

TABLE 1 Generalized Annual Average Daily Volumes for Florida's Urbanized Areas 12/18/12

LOW 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	97,500	136,400	164,500	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	123,500
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

One-Way Facility Adjustment
Multiply the corresponding two-directional volumes in this table by 0.6

LOS E → 20,280

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	7,300	14,800	15,600
4	Divided	*	14,500	32,400	33,800
6	Divided	*	23,300	50,000	50,900
8	Divided	*	32,000	67,300	68,100

HIGHPLAN

Example 1: Model Inputs

Roadway Information

Highway Name:

From: To:

Area Type:

Peak Direction:

Off Peak Direction:

Study Period:

Type of Analysis:

File View Help

LOS K:\TWC_Civil\State\FDOT\SYSTEMS\

Roadway Variables

Num. of Lanes (both dir.):

Terrain:

Posted Speed:

Free-Flow Speed:

Segment Length:

Left Turn/Blockage Impact:

Median:

Passing Lanes:

Passing Lane Length:

% No Passing Zones:

Traffic Variables

AADT: Peak Dir. Hr. Vol.: Base Capacity:

K factor (%): Off-peak Dir. Hr. Vol.: Local Adj. Factor:

D factor (%): % Heavy Vehicles: Adj. Capacity:

PHF:

HIGHPLAN

Example 1: Model Results

LOS Results	
v/c Ratio	0.05
% Time Spent Following	16.7
Average Speed (mi/h)	48.7
% Free Flow Speed	97.4
Free-Flow Delay (sec/veh)	21.7
LOS Threshold Delay (sec/veh)	21.7
LOS	C

HIGHPLAN

Workshop 1: Model Inputs

Roadway Information

Highway Name: SR 62

From: Saffold Rd To: SR 37

Area Type: Rural Undeveloped

Peak Direction: Eastbound

Off Peak Direction: Westbound

Study Period: Standard K

Type of Analysis: Two-Lane Segment

Roadway Variables

Num. of Lanes (both dir.): 2

Terrain: Level

Posted Speed: 60

Free-Flow Speed: 65

Segment Length: 10.9

Left Turn/Blockage Impact:

Median:

Passing Lanes:

Passing Lane Length: 0.0

% No Passing Zones: 11

Traffic Variables

AADT: 3500

Peak Dir. Hr. Vol.: 186

Base Capacity: 1700

K factor (%): 9.5

Off-peak Dir. Hr. Vol.: 147

Local Adj. Factor: 0.84

D factor (%): 55.8

% Heavy Vehicles: 5.0

Adj. Capacity: 1428

PHF: 1.000

HIGHPLAN

Workshop 1: Model Results

LOS Results	
v/c Ratio	0.13
% Time Spent Following	42.2
Average Speed (mi/h)	59.9
% Free Flow Speed	92.1
Free-Flow Delay (sec/veh)	51.8
LOS Threshold Delay (sec/veh)	0.0
LOS	B

HIGHPLAN

Workshop 2: Model Inputs

Roadway Information

Highway Name

From To

Area Type

Peak Direction

Off Peak Direction

Study Period

Type of Analysis

Roadway Variables

Num. of Lanes (both dir.)

Terrain

Posted Speed

Free-Flow Speed

Segment Length

Left Turn/Blockage Impact

Median

Passing Lanes

Passing Lane Length

% No Passing Zones

Traffic Variables

AADT Peak Dir. Hr. Vol. Base Capacity

K factor (%) Off-peak Dir. Hr. Vol. Local Adj. Factor

D factor (%) % Heavy Vehicles Adj. Capacity

PHF

HIGHPLAN

Workshop 2: Model Results

LOS Results	
v/c Ratio	0.08
Density	2.7
Average Speed (mi/h)	70.0
% Free Flow Speed	100.0
Free-Flow Delay (sec/veh)	0.0
LOS Threshold Delay (sec/veh)	0.0
LOS	A

ARTPLAN

Example 1: Model Inputs

Roadway Information

Road Name: Mahan Dr

Peak Direction: Eastbound

Off Peak Direction: Westbound

Area Type: Other Urbanized

Class: 1

Analysis Information

Modal Analysis: Auto Only

Type of Analysis: Peak Direction

Study Period: Standard K

Facility-wide Values

Control Type: Fully Actuated

Base Saturation Flow Rate (pc/h/ln): 1950

Peak Direction: Off-Peak Direction

	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane
▶ 1	Start							<input type="checkbox"/>					<input type="checkbox"/>
2	Buck Lake Rd	150	0.45	3	2	5	12	<input checked="" type="checkbox"/>	Prot.	1	185	0.15	<input checked="" type="checkbox"/>
3	Dempsey Mayo Rd	150	0.45	3	2	5	0	<input checked="" type="checkbox"/>	Prot.	1	135	0.15	<input type="checkbox"/>

Facility-wide Values

Arterial Length (mi): 0.532

K Factor (%): 9.0

D Factor (%): 71.3

Peak Hour Factor: 1.000

% Heavy Vehicles: 1.0

Peak Direction: Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-Buck Lake Rd	1040	18100	1161	2	45	50	Restrictive	<input type="checkbox"/>	
2	Buck Lake Rd-Dempsey Mayo Rd	1650	18100	1161	2	45	50	Restrictive	<input type="checkbox"/>	

ARTPLAN

Example 1: Model Results

Peak Direction		Off-Peak Direction							
	Segment	Thru Mvmt Flow Rate (veh/h)	Adj. Sat. Flow Rate (veh/h)	v/c	Control Delay (s/veh)	Thru Mvmt Intersection LOS	Queue Storage Ratio	Average Speed (mi/h)	Segment LOS
▶ 1	Start-Buck Lake Rd	964	3338	0.641	32.4	C	0.30	15.2	E
2	Buck Lake Rd-Dempsey Mayo Rd	1103	3647	0.672	33.2	C	0.41	20.0	D

Facility Length (mi)

Free Flow Delay (sec/veh) LOS Threshold Delay (sec/veh) Wtd. g/C Avg. Speed (mi/h) LOS

<<-- | Properties | Intersection | Link (Auto) | Link (MM) | Ped SubLink | **LOS Results (Auto)** | LOS Results (MM) | Service Volumes | -->>

ARTPLAN

Workshop 1: Model Inputs

Roadway Information

Road Name:

Peak Direction:

Off Peak Direction:

Area Type:

Class:

Analysis Information

Modal Analysis:

Type of Analysis:

Study Period:

Facility-wide Values

Control Type: Base Saturation Flow Rate (pc/h/ln):

Peak Direction:

	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane
▶ 1	Start							<input type="checkbox"/>					<input type="checkbox"/>
2	Transmitter Rd	120	0.44	3	1	12	12	<input checked="" type="checkbox"/>	Prot.	1	325	0.15	<input type="checkbox"/>
3	Bob Little Rd	120	0.44	3	1	12	12	<input checked="" type="checkbox"/>	Prot.	1	125	0.15	<input type="checkbox"/>

Facility-wide Values

Arterial Length (mi): K Factor (%): D Factor (%): Peak Hour Factor: % Heavy Vehicles:

Peak Direction:

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-Transmitter Rd	2735	10500	539	1	45	50	None	<input type="checkbox"/>	
2	Transmitter Rd-Bob Little Rd	2620	11300	580	1	45	50	None	<input type="checkbox"/>	

ARTPLAN

Workshop 1: Model Results

Peak Direction		Off-Peak Direction							
	Segment	Thru Mvmt Flow Rate (veh/h)	Adj. Sat. Flow Rate (veh/h)	v/c	Control Delay (s/veh)	Thru Mvmt Intersection LOS	Queue Storage Ratio	Average Speed (mi/h)	Segment LOS
▶ 1	Start-Transmitter Rd	474	1539	0.700	29.0	C	0.15	27.6	C
2	Transmitter Rd-Bob Little Rd	510	1545	0.751	30.8	C	0.43	26.3	C

Facility Length (mi)

Free Flow Delay (sec/veh) LOS Threshold Delay (sec/veh) Wtd. g/C Avg. Speed (mi/h) LOS

ARTPLAN

Workshop 2: Model Inputs

Roadway Information

Road Name: SR 222

Peak Direction: Eastbound

Off Peak Direction: Westbound

Area Type: Other Urbanized

Class: 1

Analysis Information

Modal Analysis: Auto Only

Type of Analysis: Peak Direction

Study Period: Standard K

Facility-wide Values

Control Type: Coordinated Actuated

Base Saturation Flow Rate (pc/h/ln): 1950

Peak Direction: [Tab] Off-Peak Direction

	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane
▶ 1	Start							<input type="checkbox"/>					<input type="checkbox"/>
2	SR 121	150	0.45	3	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	510	0.15	<input type="checkbox"/>
3	29th Terr	150	0.45	3	2	5	5	<input checked="" type="checkbox"/>	Prot.	1	150	0.15	<input type="checkbox"/>
4	24th Blvd	150	0.45	3	2	5	5	<input checked="" type="checkbox"/>	Prot.	1	175	0.15	<input type="checkbox"/>
5	19th St	150	0.45	3	2	5	5	<input checked="" type="checkbox"/>	Prot.	1	150	0.15	<input type="checkbox"/>
6	US 441	150	0.45	3	2	10	12	<input checked="" type="checkbox"/>	Prot.	1	135	0.15	<input checked="" type="checkbox"/>

ARTPLAN

Workshop 2: Model Inputs

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-SR 121	5270	27000	1373	2 ▼	45 ▼	50 ▼	Non-Restrictive ▼	<input type="checkbox"/>	▼
2	SR 121-29th Terr	2020	27000	1373	2 ▼	45 ▼	50 ▼	Non-Restrictive ▼	<input type="checkbox"/>	▼
3	29th Terr-24th Blvd	2415	25000	1271	2 ▼	45 ▼	50 ▼	Non-Restrictive ▼	<input type="checkbox"/>	▼
4	24th Blvd-19th St	3500	25000	1271	2 ▼	45 ▼	50 ▼	Non-Restrictive ▼	<input type="checkbox"/>	▼
5	19th St-US 441	2625	25500	1297	2 ▼	45 ▼	50 ▼	Non-Restrictive ▼	<input type="checkbox"/>	▼

ARTPLAN

Workshop 2: Model Results

Peak Direction		Off-Peak Direction							
	Segment	Thru Mvmt Flow Rate (veh/h)	Adj. Sat. Flow Rate (veh/h)	v/c	Control Delay (s/veh)	Thru Mvmt Intersection LOS	Queue Storage Ratio	Average Speed (mi/h)	Segment LOS
▶ 1	Start-SR 121	1208	3596	0.747	36.1	D	0.34	32.3	B
2	SR 121-29th Terr	1304	3637	0.797	37.8	D	0.44	20.8	D
3	29th Terr-24th Blvd	1207	3613	0.743	35.7	D	0.34	23.6	C
4	24th Blvd-19th St	1207	3613	0.743	35.9	D	0.40	27.9	C
5	19th St-US 441	1012	3306	0.680	34.2	C	0.98	25.1	C

Facility Length (mi)

Free Flow Delay (sec/veh)
 LOS Threshold Delay (sec/veh)
 Wtd. g/C
 Avg. Speed (mi/h)
 LOS

ARTPLAN

Workshop 3: Model Inputs

Roadway Information

Road Name:

Peak Direction:

Off Peak Direction:

Area Type:

Class:

Analysis Information

Modal Analysis:

Type of Analysis:

Study Period:

Facility-wide Values

Control Type: Base Saturation Flow Rate (pc/h/ln):

Peak Direction: Off-Peak Direction:

	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane
▶ 1	Start							<input type="checkbox"/>					<input type="checkbox"/>
2	NW 27th Ave	150	0.45	3	3	8	12	<input checked="" type="checkbox"/>	Prot.	1	195	0.15	<input checked="" type="checkbox"/>
3	Westview CC	150	0.45	3	3	5	0	<input checked="" type="checkbox"/>	Prot.	1	155	0.15	<input type="checkbox"/>
4	NW 22nd Ave	150	0.45	3	3	5	12	<input checked="" type="checkbox"/>	Prot.	1	185	0.15	<input type="checkbox"/>
5	NW 17th Ave	150	0.45	3	3	12	12	<input checked="" type="checkbox"/>	Prot.	1	450	0.15	<input type="checkbox"/>

ARTPLAN

Workshop 3: Model Inputs

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-NW 27th Ave	540	41500	2110	3	40	45	Non-Restrictive	<input type="checkbox"/>	
2	NW 27th Ave-Westview CC	1050	41500	2110	3	40	45	Restrictive	<input type="checkbox"/>	
3	Westview CC-NW 22nd Ave	1685	41500	2110	3	40	45	Restrictive	<input type="checkbox"/>	
4	NW 22nd Ave-NW 17th Ave	2635	41500	2110	3	40	45	Restrictive	<input type="checkbox"/>	

ARTPLAN

Workshop 3: Model Results

Peak Direction		Off-Peak Direction							
	Segment	Thru Mvmt Flow Rate (veh/h)	Adj. Sat. Flow Rate (veh/h)	v/c	Control Delay (s/veh)	Thru Mvmt Intersection LOS	Queue Storage Ratio	Average Speed (mi/h)	Segment LOS
▶ 1	Start-NW 27th Ave	1688	4984	0.753	35.1	D	0.93	8.7	F
2	NW 27th Ave-Westview CC	2005	5472	0.814	37.0	D	0.67	13.5	F
3	Westview CC-NW 22nd Ave	2005	5426	0.821	37.0	D	0.56	18.1	D
4	NW 22nd Ave-NW 17th Ave	1857	5390	0.766	35.2	D	0.71	23.3	C

Facility Length (mi)

Free Flow Delay (sec/veh)
 LOS Threshold Delay (sec/veh)
 Wtd. g/C
 Avg. Speed (mi/h)
 LOS

ARTPLAN

Bicycle LOS Example 1: Model Inputs

Roadway Information

Road Name:

Peak Direction:

Off Peak Direction:

Area Type:

Class:

Analysis Information

Modal Analysis:

Type of Analysis:

Study Period:

Facility-wide Values

Control Type:

Base Saturation Flow Rate (pc/h/ln):

Peak Direction:

	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane
▶ 1	Start							<input type="checkbox"/>					<input type="checkbox"/>
2	1st	120	0.44	4	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>
3	2nd	120	0.44	4	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>

ARTPLAN

Bicycle LOS Example 1: Model Inputs

What is the Bicycle LOS?

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-1st	1000	30000	1485	2	30	35	Restrictive	<input type="checkbox"/>	
2	1st-2nd	1000	30000	1485	2	30	35	Restrictive	<input type="checkbox"/>	

Peak Direction Off-Peak Direction

	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop
▶ 1	Start-1st	Typ...		Typ...	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi...	<input type="checkbox"/>	2	0.8	Exc...	Typical
2	1st-2nd	Typ...		Typ...	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi...	<input type="checkbox"/>	2	0.8	Exc...	Typical

ARTPLAN

Bicycle LOS Example 1: Model Results

Peak Direction		Off-Peak Direction																	
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS		Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS
▶ 1	Start-1st	4.27	E	NA	N/A	C		3.47	C	2.07	D	3.70	D	4.24	D	2.67	B	3.30	C
2	1st-2nd	4.27	E	NA	N/A	C		3.47	C	2.07	D	3.70	D	4.24	D	2.67	B	3.30	C

Bike Score	4.27	Pedestrian Score	3.47	Bus Mod. Freq.	2.07
Bike LOS	E	Pedestrian LOS	C	Bus LOS	D

ARTPLAN

Bicycle LOS Example 1: Model Inputs

What is the Bicycle LOS if a bike lane were added?

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-1st	1000	30000	1485	2 ▼	30 ▼	35 ▼	Restrictive ▼	<input type="checkbox"/>	▼
2	1st-2nd	1000	30000	1485	2 ▼	30 ▼	35 ▼	Restrictive ▼	<input type="checkbox"/>	▼

	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop
▶ 1	Start-1st	Typi... ▼		Typi... ▼	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	2	0.8	Exc... ▼	Typical ▼
2	1st-2nd	Typi... ▼		Typi... ▼	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	2	0.8	Exc... ▼	Typical ▼

ARTPLAN

Bicycle LOS Example 1: Model Results

What is the Bicycle LOS if a bike lane were added?

Peak Direction		Off-Peak Direction																	
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS		Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS
▶ 1	Start-1st	2.57	B	NA	N/A	C		3.27	C	2.07	D	2.63	B	3.68	D	2.67	B	3.23	C
2	1st-2nd	2.57	B	NA	N/A	C		3.27	C	2.07	D	2.63	B	3.68	D	2.67	B	3.23	C

Bike Score	2.57	Pedestrian Score	3.27	Bus Mod. Freq.	2.07
Bike LOS	B	Pedestrian LOS	C	Bus LOS	D

ARTPLAN

Bicycle LOS Example 1: Model Inputs

What is the Bicycle LOS if the speed limit was changed to 25 mph and there was no bike lane?

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-1st	1000	30000	1485	2 ▼	25 ▼	30 ▼	Restrictive ▼	<input type="checkbox"/>	▼
2	1st-2nd	1000	30000	1485	2 ▼	25 ▼	30 ▼	Restrictive ▼	<input type="checkbox"/>	▼

Peak Direction Off-Peak Direction

	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop
▶ 1	Start-1st	Typ... ▼		Typ... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	2	0.8	Exc... ▼	Typical ▼
2	1st-2nd	Typ... ▼		Typ... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	2	0.8	Exc... ▼	Typical ▼

ARTPLAN

Bicycle LOS Example 1: Model Results

What is the Bicycle LOS if the speed limit was changed to 25 mph and there was no bike lane?

Peak Direction		Off-Peak Direction																	
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS	Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS	
▶ 1	Start-1st	4.10	D	NA	N/A	C	3.37	C	2.30	D	3.70	D	4.22	D	2.62	B	3.25	C	
2	1st-2nd	4.10	D	NA	N/A	C	3.37	C	2.30	D	3.70	D	4.22	D	2.62	B	3.25	C	

Bike Score	4.10	Pedestrian Score	3.37	Bus Mod. Freq.	2.30
Bike LOS	D	Pedestrian LOS	C	Bus LOS	D

ARTPLAN

Pedestrian LOS Example 1: Model Inputs

Roadway Information

Road Name:

Peak Direction:

Off Peak Direction:

Area Type:

Class:

Analysis Information

Modal Analysis:

Type of Analysis:

Study Period:

Peak Direction		Off-Peak Direction												
	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane	
▶ 1	Start							<input type="checkbox"/>					<input type="checkbox"/>	
2	1st	120	0.44	4	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>	
3	2nd	120	0.44	4	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>	

ARTPLAN

Pedestrian LOS Example 1: Model Inputs

What is the Pedestrian LOS?

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-1st	1000	34000	1729	2 ▼	30 ▼	35 ▼	Restrictive ▼	<input type="checkbox"/>	▼
2	1st-2nd	1000	34000	1729	2 ▼	30 ▼	35 ▼	Restrictive ▼	<input type="checkbox"/>	▼

Peak Direction Off-Peak Direction

	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop
▶ 1	Start-1st	Typ... ▼		Typ... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	▼	<input type="checkbox"/>	2	0.8	Exc... ▼	Typical ▼
2	1st-2nd	Typ... ▼		Typ... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	▼	<input type="checkbox"/>	2	0.8	Exc... ▼	Typical ▼

Peak Direction Off-Peak Direction

	Segment	Pct. Sublink Length (1)	Pct. Sublink Length (2)	Pct. Sublink Length (3)	Sidewalk (1)	Sidewalk (2)	Sidewalk (3)	Sidewalk/Roadway Separation (1)	Sidewalk/Roadway Separation (2)	Sidewalk/Roadway Separation (3)	Sidewalk/Roadway Protective Barrier (1)	Sidewalk/Roadway Protective Barrier (2)	Sidewalk/Roadway Protective Barrier (3)
▶ 1	Start-1st	100			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	1st-2nd	100			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ARTPLAN

Pedestrian LOS Example 1: Model Results

What is the Pedestrian LOS?

Peak Direction		Off-Peak Direction																	
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS	Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS	
▶ 1	Start-1st	4.33	E	NA	N/A	F	5.33	F	1.21	E	3.90	D	4.35	E	2.73	B	3.90	D	
2	1st-2nd	4.33	E	NA	N/A	F	5.33	F	1.21	E	3.90	D	4.35	E	2.73	B	3.90	D	

Bike Score	4.33	Pedestrian Score	5.33	Bus Mod. Freq.	1.21
Bike LOS	E	Pedestrian LOS	F	Bus LOS	E

ARTPLAN

Pedestrian LOS Example 1: Model Inputs

What is the Pedestrian LOS if sidewalks with typical separation were added to the 2nd segment?

Facility-wide Values

Arterial Length (mi) 0.402 K Factor (%) 9.0 D Factor (%) 56.5 Peak Hour Factor 1.000 % Heavy Vehicles 2.0

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-1st	1000	34000	1729	2	30	35	Restrictive	<input type="checkbox"/>	
2	1st-2nd	1000	34000	1729	2	30	35	Restrictive	<input type="checkbox"/>	

Peak Direction Off-Peak Direction

	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop
▶ 1	Start-1st	Typ...		Typ...	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	2	0.8	Exc...	Typical
2	1st-2nd	Typ...		Typ...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Typ...	<input type="checkbox"/>	2	0.8	Exc...	Typical

Peak Direction Off-Peak Direction

	Segment	Pct. Sublink Length (1)	Pct. Sublink Length (2)	Pct. Sublink Length (3)	Sidewalk (1)	Sidewalk (2)	Sidewalk (3)	Sidewalk/Roadway Separation (1)	Sidewalk/Roadway Separation (2)	Sidewalk/Roadway Separation (3)	Sidewalk/Roadway Protective Barrier (1)	Sidewalk/Roadway Protective Barrier (2)	Sidewalk/Roadway Protective Barrier (3)
▶ 1	Start-1st	100			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	1st-2nd	100			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Typical			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ARTPLAN

Pedestrian LOS Example 1: Model Results

What is the Pedestrian LOS if sidewalks with typical separation were added to the 2nd segment?

Peak Direction		Off-Peak Direction																		
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS		Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS	
▶ 1	Start-1st	4.33	E	NA	N/A	F		5.33	F	1.21	E	3.90	D	4.35	E	2.73	B	3.90	D	
2	1st-2nd	4.33	E	NA	N/A	D		3.73	D	2.19	D	3.90	D	4.35	E	2.73	B	3.39	C	
		Bike Score	4.33					Pedestrian Score	4.67			Bus Mod. Freq.	1.70							
		Bike LOS	E					Pedestrian LOS	E			Bus LOS	E							

ARTPLAN

Pedestrian LOS Example 1: Model Inputs

What is the Pedestrian LOS if sidewalks with typical separation were added to the entire facility?

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-1st	1000	34000	1729	2	30	35	Restrictive	<input type="checkbox"/>	
2	1st-2nd	1000	34000	1729	2	30	35	Restrictive	<input type="checkbox"/>	

Peak Direction Off-Peak Direction

	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop
▶ 1	Start-1st	Typ...		Typ...	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typ...	<input type="checkbox"/>	2	0.8	Exc...	Typical
2	1st-2nd	Typ...		Typ...	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typ...	<input type="checkbox"/>	2	0.8	Exc...	Typical

Peak Direction Off-Peak Direction

	Segment	Pct. Sublink Length (1)	Pct. Sublink Length (2)	Pct. Sublink Length (3)	Sidewalk (1)	Sidewalk (2)	Sidewalk (3)	Sidewalk/Roadway Separation (1)	Sidewalk/Roadway Separation (2)	Sidewalk/Roadway Separation (3)	Sidewalk/Roadway Protective Barrier (1)	Sidewalk/Roadway Protective Barrier (2)	Sidewalk/Roadway Protective Barrier (3)
▶ 1	Start-1st	100			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Typical			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	1st-2nd	100			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Typical			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ARTPLAN

Pedestrian LOS Example 1: Model Results

What is the Pedestrian LOS if sidewalks with typical separation were added to the entire facility?

Peak Direction		Off-Peak Direction																	
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS		Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS
▶ 1	Start-1st	4.33	E	NA	N/A	D		3.73	D	2.19	D	3.90	D	4.35	E	2.73	B	3.39	C
2	1st-2nd	4.33	E	NA	N/A	D		3.73	D	2.19	D	3.90	D	4.35	E	2.73	B	3.39	C
		Bike Score		4.33		Pedestrian Score		3.73		Bus Mod. Freq.		2.19							
		Bike LOS		E		Pedestrian LOS		D		Bus LOS		D							

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Bus LOS Example 1: Model Inputs

Roadway Information

Road Name:

Peak Direction:

Off Peak Direction:

Area Type:

Class:

Analysis Information

Modal Analysis:

Type of Analysis:

Study Period:

Facility-wide Values

Control Type: Base Saturation Flow Rate (pc/h/ln):

Peak Direction: Off-Peak Direction:

	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane
▶ 1	Start							<input type="checkbox"/>					<input type="checkbox"/>
2	First	150	0.45	3	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>
3	Second	150	0.45	3	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>
4	Third	150	0.45	3	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>
5	End	150	0.45	3	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>

ARTPLAN

Bus LOS Example 1: Model Inputs

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-First	3500	34000	1729	2 ▼	45 ▼	50 ▼	Restrictive ▼	<input type="checkbox"/>	▼
2	First-Second	3500	34000	1729	2 ▼	45 ▼	50 ▼	Restrictive ▼	<input type="checkbox"/>	▼
3	Second-Third	3500	34000	1729	2 ▼	45 ▼	50 ▼	Restrictive ▼	<input type="checkbox"/>	▼
4	Third-End	3500	34000	1729	2 ▼	45 ▼	50 ▼	Restrictive ▼	<input type="checkbox"/>	▼

	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop
▶ 1	-	Typi... ▼		Typi... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	3	0.8	Exc... ▼	Typical ▼
2	-	Typi... ▼		Typi... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	3	0.8	Exc... ▼	Typical ▼
3	-	Typi... ▼		Typi... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	3	0.8	Exc... ▼	Typical ▼

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Bus LOS Example 1: Model Results

Peak Direction		Off-Peak Direction																		
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS	Ped SubLink (2) LOS	Ped SubLink (3) LOS	Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS
▶	1	-	4.64	E	NA	N/A	D		4.23	D	3.29	C	3.90	D	4.41	E	2.95	C	3.60	D
	2	-	4.64	E	NA	N/A	D		4.23	D	3.29	C	3.90	D	4.41	E	2.95	C	3.60	D
	3	-	4.64	E	NA	N/A	D		4.23	D	3.29	C	3.90	D	4.41	E	2.95	C	3.60	D

Bike Score	4.64	Pedestrian Score	4.23	Bus Mod. Freq.	3.29
Bike LOS	E	Pedestrian LOS	D	Bus LOS	C

ARTPLAN

Workshop 4: Model Inputs

Roadway Information

Road Name:

Peak Direction:

Off Peak Direction:

Area Type:

Class:

Analysis Information

Modal Analysis:

Type of Analysis:

Study Period:

Facility-wide Values

Control Type: Base Saturation Flow Rate (pc/h/ln):

Peak Direction | Off-Peak Direction

	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane
▶ 1	Start							<input type="checkbox"/>					<input type="checkbox"/>
2	First	150	0.45	3	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>
3	Second	150	0.45	3	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>
4	Third	150	0.45	3	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>
5	End	150	0.45	3	2	12	12	<input checked="" type="checkbox"/>	Prot.	1	235	0.15	<input type="checkbox"/>

Facility-wide Values

Arterial Length (mi): K Factor (%): D Factor (%): Peak Hour Factor: % Heavy Vehicles:

Peak Direction | Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-First	3500	34000	1729	2	45	50	Restrictive	<input type="checkbox"/>	
2	First-Second	3500	34000	1729	2	45	50	Restrictive	<input type="checkbox"/>	
3	Second-Third	3500	34000	1729	2	45	50	Restrictive	<input type="checkbox"/>	
4	Third-End	3500	34000	1729	2	45	50	Restrictive	<input type="checkbox"/>	

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Workshop 4.A: Model Inputs & Results

Peak Direction		Off-Peak Direction													
	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop	
▶ 1	Start-First	Typical ▼		Typical ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typical ▼	<input type="checkbox"/>	3	0.5	Excell... ▼	Typical ▼	
2	First-Second	Typical ▼		Typical ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typical ▼	<input type="checkbox"/>	2	0.6	Excell... ▼	Typical ▼	
3	Second-Third	Typical ▼		Typical ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	2	0.6	Excell... ▼	Typical ▼	
4	Third-End	Typical ▼		Typical ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	1	0.7	Excell... ▼	Typical ▼	

Peak Direction		Off-Peak Direction																		
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS	Ped SubLink (2) LOS	Ped SubLink (3) LOS	Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS
▶ 1	Start-First	4.64	E	NA	N/A	D			4.23	D	3.47	C	3.90	D	4.41	E	2.95	C	3.60	D
2	First-Second	4.64	E	NA	N/A	D			4.23	D	2.31	D	3.90	D	4.41	E	2.95	C	3.60	D
3	Second-Third	4.64	E	NA	N/A	F			5.82	F	1.27	E	3.90	D	4.41	E	2.95	C	4.11	D
4	Third-End	4.64	E	NA	N/A	F			5.82	F	0.60	F	3.90	D	4.41	E	2.95	C	4.11	D
		Bike Score	4.64			Pedestrian Score	5.15			Bus Mod. Freq.	1.91									
		Bike LOS	E			Pedestrian LOS	F			Bus LOS	E									

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Workshop 4.B: Model Inputs & Results

Peak Direction		Off-Peak Direction		Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop				
▶ 1	Start-First	Typi...	▼		Typi...	▼		<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi...	▼		<input type="checkbox"/>	2	1.1	Exc...	▼	Typical	▼
2	First-Second	Typi...	▼		Typi...	▼		<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi...	▼		<input type="checkbox"/>	2	0.8	Exc...	▼	Typical	▼
3	Second-Third	Typi...	▼		Typi...	▼		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		▼		<input type="checkbox"/>	2	0.8	Exc...	▼	Typical	▼
4	Third-End	Typi...	▼		Typi...	▼		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		▼		<input type="checkbox"/>	2	1.1	Exc...	▼	Typical	▼

Peak Direction		Off-Peak Direction		Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS	Ped SubLink (2) LOS	Ped SubLink (3) LOS	Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS
▶ 1	Start-First	4.64	E	NA	N/A	D						4.23	D	1.96	E	3.90	D	4.41	E	2.95	C	3.60	D
2	First-Second	4.64	E	NA	N/A	D						4.23	D	2.19	D	3.90	D	4.41	E	2.95	C	3.60	D
3	Second-Third	4.64	E	NA	N/A	F						5.82	F	1.21	E	3.90	D	4.41	E	2.95	C	4.11	D
4	Third-End	4.64	E	NA	N/A	F						5.82	F	1.08	E	3.90	D	4.41	E	2.95	C	4.11	D

Bike Score	4.64	Pedestrian Score	5.15	Bus Mod. Freq.	1.61
Bike LOS	E	Pedestrian LOS	F	Bus LOS	E

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Workshop 4.C: Model Inputs & Results

Peak Direction		Off-Peak Direction		Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop	
1	Start-First	Typi...	▼		Typical	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Typical	▼	<input type="checkbox"/>	3	0.5	Exce...	▼	Typical	▼
2	First-Second	Typi...	▼		Typical	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Typical	▼	<input type="checkbox"/>	2	0.6	Good	▼	Typical	▼
3	Second-Third	Typi...	▼		Typical	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		▼	<input type="checkbox"/>	2	0.6	Fair	▼	Typical	▼
▶ 4	Third-End	Typi...	▼		Typical	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		▼	<input type="checkbox"/>	1	0.7	Poor	▼	Typical	▼

Peak Direction		Off-Peak Direction		Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS	Ped SubLink (2) LOS	Ped SubLink (3) LOS	Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS
▶ 1	Start-First	4.64	E	NA	N/A	D			4.23	D	3.47	C	3.90	D	4.41	E	2.95	C	3.60	D			
2	First-Second	4.64	E	NA	N/A	D			4.23	D	2.10	D	3.90	D	4.41	E	2.95	C	3.60	D			
3	Second-Third	4.64	E	NA	N/A	F			5.82	F	1.16	E	3.90	D	4.41	E	2.95	C	4.11	D			
4	Third-End	4.64	E	NA	N/A	F			5.82	F	0.49	F	3.90	D	4.41	E	2.95	C	4.11	D			

Bike Score	4.64	Pedestrian Score	5.15	Bus Mod. Freq.	1.80
Bike LOS	E	Pedestrian LOS	F	Bus LOS	E

ARTPLAN

Workshop 5: Model Inputs

Roadway Information

Road Name:

Peak Direction:

Off Peak Direction:

Area Type:

Class:

Analysis Information

Modal Analysis:

Type of Analysis:

Study Period:

Facility-wide Values

Control Type: Base Saturation Flow Rate (pc/h/ln):

Peak Direction: Off-Peak Direction:

	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane
▶ 1	Start							<input type="checkbox"/>					<input type="checkbox"/>
2	NW 27th Ave	150	0.45	3	3	8	12	<input checked="" type="checkbox"/>	Prot.	1	195	0.15	<input checked="" type="checkbox"/>
3	Westview CC	150	0.45	3	3	5	0	<input checked="" type="checkbox"/>	Prot.	1	155	0.15	<input type="checkbox"/>
4	NW 22nd Ave	150	0.45	3	3	5	12	<input checked="" type="checkbox"/>	Prot.	1	185	0.15	<input type="checkbox"/>
5	NW 17th Ave	150	0.45	3	3	12	12	<input checked="" type="checkbox"/>	Prot.	1	450	0.15	<input type="checkbox"/>

ARTPLAN

Workshop 5: Model Inputs

Auto Inputs

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Start-NW 27th Ave	540	41500	2110	3	40	45	Non-Restrictive	<input type="checkbox"/>	
2	NW 27th Ave-Westview CC	1050	41500	2110	3	40	45	Restrictive	<input type="checkbox"/>	
3	Westview CC-NW 22nd Ave	1685	41500	2110	3	40	45	Restrictive	<input type="checkbox"/>	
4	NW 22nd Ave-NW 17th Ave	2635	41500	2110	3	40	45	Restrictive	<input type="checkbox"/>	

ARTPLAN

Workshop 5: Model Inputs

Multimodal Inputs

Peak Direction		Off-Peak Direction													
	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities		Bus Stop
▶ 1	Start-NW 27th Ave	Typi... ▼		Typi... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	2	0.8	Exc... ▼	Typical ▼	
2	NW 27th Ave-Westview CC	Typi... ▼		Typi... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	2	0.8	Exc... ▼	Typical ▼	
3	Westview CC-NW 22nd Ave	Typi... ▼		Typi... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	3	0.6	Exc... ▼	Typical ▼	
4	NW 22nd Ave-NW 17th Ave	Typi... ▼		Typi... ▼	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Typi... ▼	<input type="checkbox"/>	3	0.6	Exc... ▼	Typical ▼	

ARTPLAN

Workshop 5: Model Results

Peak Direction		Off-Peak Direction								
	Segment	Thru Mvmt Flow Rate (veh/h)	Adj. Sat. Flow Rate (veh/h)	v/c	Control Delay (s/veh)	Thru Mvmt Intersection LOS	Queue Storage Ratio	Average Speed (mi/h)	Segment LOS	
▶ 1	Start-NW 27th Ave	1688	4984	0.753	35.1	D	0.93	8.7	F	
2	NW 27th Ave-Westview CC	2005	5472	0.814	37.0	D	0.67	13.5	F	
3	Westview CC-NW 22nd Ave	2005	5426	0.821	37.0	D	0.56	18.1	D	
4	NW 22nd Ave-NW 17th Ave	1857	5390	0.766	35.2	D	0.71	23.3	C	

Facility Length (mi)

Free Flow Delay (sec/veh)
 LOS Threshold Delay (sec/veh)
 Wtd. g/C
 Avg. Speed (mi/h)
 LOS

Peak Direction		Off-Peak Direction																		
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS	Ped SubLink (2) LOS	Ped SubLink (3) LOS	Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS
▶ 1	Start-NW 27th Ave	4.33	E	NA	N/A	C			3.46	C	1.98	E	3.64	D	3.96	D	3.03	C	3.37	C
2	NW 27th Ave-Westview CC	4.44	E	NA	N/A	D			3.63	D	2.19	D	3.64	D	4.24	D	2.83	C	3.38	C
3	Westview CC-NW 22nd Ave	4.47	E	NA	N/A	F			5.28	F	1.91	E	3.64	D	4.25	E	3.03	C	3.95	D
4	NW 22nd Ave-NW 17th Ave	4.48	E	NA	N/A	D			3.71	D	3.47	C	3.64	D	4.26	E	3.03	C	3.45	C

Bike Score
 Pedestrian Score
 Bus Mod. Freq.

Bike LOS
 Pedestrian LOS
 Bus LOS

ARTPLAN

Local Workshop: Model Inputs

Roadway Information

Road Name: Hendricks Ave.

Peak Direction: Northbound

Off Peak Direction: Southbound

Area Type: Large Urbanized

Class: 2

Analysis Information

Modal Analysis: Multimodal

Type of Analysis: Peak Direction

Study Period: Standard K

Facility-wide Values

Control Type: CoordinatedActuated

Base Saturation Flow Rate (pc/h/ln): 1950

Peak Direction: Off-Peak Direction

	Cross Street Name	Cycle Length	Thru g/C	Arrival Type	# Thru Lanes	% Left Turns	% Right Turns	Excl. Left Turn Lane	LT Phasing	Number LT Lanes	Total Left Turn Storage	Left g/C	Excl. Right Turn Lane
▶ 1	Atlantic Blvd.							<input type="checkbox"/>					<input type="checkbox"/>
2	Landon Ave.	120	0.44	4	1	12	12	<input checked="" type="checkbox"/>	Prot.	1	90	0.15	<input type="checkbox"/>
3	Lasalle St.	120	0.44	4	1	12	12	<input checked="" type="checkbox"/>	Prot.	1	95	0.15	<input type="checkbox"/>
4	Nira St.	120	0.44	4	1	12	12	<input checked="" type="checkbox"/>	Prot.	1	90	0.15	<input type="checkbox"/>
5	Gary St.	120	0.44	4	1	0	12	<input type="checkbox"/>					<input type="checkbox"/>
6	Prudential Dr.	120	0.44	4	1	12	12	<input checked="" type="checkbox"/>	Prot.	1	80	0.15	<input type="checkbox"/>

ARTPLAN

Local Workshop: Model Inputs

Auto Inputs

Facility-wide Values

Arterial Length (mi) K Factor (%) D Factor (%) Peak Hour Factor % Heavy Vehicles

Peak Direction Off-Peak Direction

	Segment	Length	AADT	Adj. Dir. Hourly Volume	# of Thru Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
▶ 1	Atlantic Blvd.-Landon Ave.	925	18700	961	1 ▼	30 ▼	35 ▼	Non-Restrictive ▼	<input type="checkbox"/>	▼
2	Landon Ave.-Lasalle St.	550	18700	961	1 ▼	30 ▼	35 ▼	Non-Restrictive ▼	<input checked="" type="checkbox"/>	Low ▼
3	Lasalle St.-Nira St.	600	18700	961	1 ▼	30 ▼	35 ▼	Non-Restrictive ▼	<input checked="" type="checkbox"/>	Low ▼
4	Nira St.-Gary St.	590	18700	961	1 ▼	30 ▼	35 ▼	Non-Restrictive ▼	<input type="checkbox"/>	▼
5	Gary St.-Prudential Dr.	925	18700	961	1 ▼	30 ▼	35 ▼	Non-Restrictive ▼	<input type="checkbox"/>	▼

ARTPLAN

Local Workshop: Model Inputs

Multimodal Inputs

Peak Direction		Off-Peak Direction													
	Segment	Auto Outside Lane Width	Specific Lane Width	Bike Pavement Condition	Paved Shoulder / Bike Lane	Side Path	Side Path Separation	Sidewalk	Sidewalk/Roadway Separation	Sidewalk/Roadway Barrier	Bus Frequency	Passenger Load Factor	Amenities	Bus Stop	
▶ 1	Atlantic Blvd.-Landon Ave.	Typ...		Des...	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Adj...	<input type="checkbox"/>	0	0	Exc...	Typical	
2	Landon Ave.-Lasalle St.	Typ...		Des...	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Adj...	<input type="checkbox"/>	0	0	Exc...	Typical	
3	Lasalle St.-Nira St.	Typ...		Des...	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Adj...	<input type="checkbox"/>	0	0	Exc...	Typical	
4	Nira St.-Gary St.	Typ...		Des...	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Adj...	<input type="checkbox"/>	0	0	Exc...	Typical	
5	Gary St.-Prudential Dr.	Typ...		Des...	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Adj...	<input type="checkbox"/>	0	0	Exc...	Typical	

Peak Direction		Off-Peak Direction												
	Segment	Pct. Sublink Length (1)	Pct. Sublink Length (2)	Pct. Sublink Length (3)	Sidewalk (1)	Sidewalk (2)	Sidewalk (3)	Sidewalk/Roadway Separation (1)	Sidewalk/Roadway Separation (2)	Sidewalk/Roadway Separation (3)	Sidewalk/Roadway Protective Barrier (1)	Sidewalk/Roadway Protective Barrier	Sidewalk/Roadway Protective Barrier (3)	
▶ 1	Atlantic Blvd.-Landon Ave.	100			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjac...			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Landon Ave.-Lasalle St.	100			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjac...			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Lasalle St.-Nira St.	100			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjac...			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	Nira St.-Gary St.	100			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjac...			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	Gary St.-Prudential Dr.	100			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjac...			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

ARTPLAN

Local Workshop: Model Results

Peak Direction		Off-Peak Direction								
	Segment	Thru Mvmt Flow Rate (veh/h)	Adj. Sat. Flow Rate (veh/h)	v/c	Control Delay (s/veh)	Thru Mvmt Intersection LOS	Queue Storage Ratio	Average Speed (mi/h)	Segment LOS	
▶ 1	Atlantic Blvd.-Landon Ave.	714	1676	0.968	31.9	C	0.99	12.3	E	
2	Landon Ave.-Lasalle St.	672	1668	0.915	26.8	C	0.80	9.5	F	
3	Lasalle St.-Nira St.	658	1666	0.898	27.9	C	0.81	9.8	F	
4	Nira St.-Gary St.	961	1710	1.277	164.9	F	0.00	2.5	F	
5	Gary St.-Prudential Dr.	714	1676	0.968	29.0	C	1.11	13.0	E	

Facility Length (mi)
 Free Flow Delay (sec/veh)
 LOS Threshold Delay (sec/veh)
 Wtd. g/C
 Avg. Speed (mi/h)
 LOS

Peak Direction		Off-Peak Direction																	
	Segment	Bike Link Score	Bike Link LOS	Bike Side Path Score	Bike Side Path LOS	Ped SubLink (1) LOS	Ped Link Score	Ped Link LOS	Bus Mod. Freq.	Bus LOS	Bike Int Score	Bike Int LOS	Bike Seg Score	Bike Seg LOS	Ped Int Score	Ped Int LOS	Ped Seg Score	Ped Seg LOS	
▶ 1	Atlantic Blvd.-Landon Ave.	2.19	B	NA	N/A	D	3.86	D	0.00	F	2.99	C	3.68	D	2.53	B	3.39	C	
2	Landon Ave.-Lasalle St.	0.94	A	NA	N/A	C	3.13	C	0.00	F	1.06	A	3.03	C	2.50	B	3.15	C	
3	Lasalle St.-Nira St.	0.96	A	NA	N/A	C	3.05	C	0.00	F	0.99	A	3.03	C	2.48	B	3.12	C	
4	Nira St.-Gary St.	2.02	B	NA	N/A	C	3.40	C	0.00	F	2.68	B	3.33	C	2.48	B	3.23	C	
5	Gary St.-Prudential Dr.	2.19	B	NA	N/A	D	3.86	D	0.00	F	2.99	C	3.68	D	2.53	B	3.39	C	

Bike Score
 Pedestrian Score
 Bus Mod. Freq.

 Bike LOS
 Pedestrian LOS
 Bus LOS

FREEPLAN

Example 1: Model Inputs

Roadway Information

Freeway Name: I-4

From: Princeton St To: Lee Rd

Area Type: Large Urbanized

Peak Direction: Northbound

Off Peak Direction: Southbound

Study Period: Kother

Facility-wide Values

ADT: 138250 K Factor (%): 8.0 D Factor (%): 51.8 Peak Hour Factor: 1.000

Local Adj. Factor: 0.98 % Heavy Vehicles: 4.0 Ramp Metering: Facility Length (mi): 2.160

	From	To	Input Segment Type	Edit Segment	Segment Length (ft)	Hourly Demand Volume (veh/h)	Analysis Flow Rate (pc/h)	Number Thru Lanes	Posted Speed (mi/h)	Free Flow Speed (mi/h)	Terrain
▶ 1	A	B	Basic Segment	Edit	1190	5729	5963	4	50	55	Level
2	B	C	Off-Ramp	Edit	1500	5729	5963	4	50	55	Level
3	C	D	Basic Segment	Edit	3060	5243	5457	4	50	55	Level
4	D	E	Off-Ramp	Edit	1500	5243	5457	4	50	55	Level
5	E	F	Basic Segment	Edit	1620	4523	4707	4	50	55	Level
6	F	G	On-Ramp	Edit	1035	5009	5213	4	50	55	Level
7	G	H	Ramp Overlap	Edit	465	5009	5213	4	50	55	Level
8	H	I	Off-Ramp	Edit	1035	5009	5213	3	50	55	Level

FREEPLAN

Example 1: Model Inputs

Ramp Characteristics							
	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	486	4	1 ▼	740	40	<input type="checkbox"/>	Edit

Ramp Characteristics							
	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	720	4	1 ▼	600	40	<input type="checkbox"/>	Edit

Ramp Characteristics							
	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	486	4	1 ▼	600	40	<input type="checkbox"/>	Edit

Ramp Characteristics							
	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	945	4	1 ▼	1500	40	<input type="checkbox"/>	Edit

FREEPLAN

Example 1: Model Results

	Segment	Input Segment Type	Analysis Segment Type	Analysis Flow Rate (pc/h)	Adj. Capacity (pc/h)	v/c Ratio	Average Speed (mi/h)	Density (pc/mi/ln)	Segment LOS (density)	Additional Off-Ramp/Toll Outputs
▶ 1	A-B	Basic	Basic	5963	9000	0.66	55.0	27.1	D	View
2	B-C	OffRamp	OffRamp	5963	8600	0.69	53.8	24.4	C	View
3	C-D	Basic	Basic	5457	9000	0.61	55.0	24.8	C	View
4	D-E	OffRamp	OffRamp	5457	8600	0.63	53.7	22.7	C	View
5	E-F	Basic	Basic	4707	9000	0.52	54.9	21.4	C	View
6	F-G	OnRamp	OnRamp	5213	8800	0.59	51.3	23.7	C	View
7	G-H	RampOverlap	RampOverlap	5213	7916	0.66	52.5	24.0	C	View
8	H-I	OffRamp	OffRamp	5213	7916	0.66	52.5	24.0	C	View

Length (mi)	2.1600	Free Flow Delay (sec/veh)	2.8	LOS Threshold Delay (sec/veh)	2.0	Avg. Speed (mi/h)	53.9	Density (pc/mi/ln)	24.0	LOS	D
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FREEPLAN

Workshop 1: Model Inputs

Roadway Information

Freeway Name: I-295

From: St. Johns Bluff R To: Town Center Pk

Area Type: Large Urbanized

Peak Direction: Southbound

Off Peak Direction: Northbound

Study Period: Standard K

Facility-wide Values

ADT: 75000 K Factor (%): 9.0 D Factor (%): 57.9 Peak Hour Factor: 1.000

Local Adj. Factor: 0.98 % Heavy Vehicles: 4.0 Ramp Metering: Facility Length (mi): 2.979

	From	To	Input Segment Type	Edit Segment	Segment Length (ft)	Hourly Demand Volume (veh/h)	Analysis Flow Rate (pc/h)	Number Thru Lanes	Posted Speed (mi/h)	Free Flow Speed (mi/h)	Terrain
▶ 1	A	B	Basic Segment	Edit	4450	3908	4068	2	65	70	Level
2	B	C	Off-Ramp	Edit	1500	3908	4068	2	65	70	Level
3	C	D	Basic Segment	Edit	2900	3287	3421	2	65	70	Level
4	D	E	Weaving	Edit	3310	4088	4254	3	65	70	Level
5	E	F	Basic Segment	Edit	3570	3521	3664	2	65	70	Level

FREEPLAN

Workshop 1: Model Inputs

Weave Configuration

One-Sided
 Two-Sided

Short Length (ft)

of Weaving Lanes

Min. Lane Changes Freeway-Ramp

Min. Lane Changes Ramp-Freeway

Min. Lane Changes Ramp-Ramp

	On-Ramp Roadway				Off-Ramp Roadway				
	Free Flow Speed (mi/h)	% Trucks	Demand (veh/h)	Ramp To Ramp Proportion	Free Flow Speed (mi/h)	% Trucks	Demand (veh/h)	Off-Ramp Analysis	Edit
▶	40	4.00	801	0.05	40	4.00	567	<input type="checkbox"/>	Edit

Ramp Characteristics

	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	621	4	1	220	40	<input type="checkbox"/>	Edit

FREEPLAN

Workshop 1: Model Results

	Segment	Input Segment Type	Analysis Segment Type	Analysis Flow Rate (pc/h)	Adj. Capacity (pc/h)	v/c Ratio	Average Speed (mi/h)	Density (pc/mi/ln)	Segment LOS (density)	Additional Off-Ramp/Toll Outputs
▶ 1	A-B	Basic	Basic	4068	4800	0.85	61.9	32.8	D	View
2	B-C	OffRamp	OffRamp	4068	4400	0.92	58.2	37.2	E	View
3	C-D	Basic	Basic	3421	4800	0.71	67.0	25.5	C	View
4	D-E	Weaving	Weaving	4254	6525	0.65	55.2	25.7	C	View
5	E-F	Basic	Basic	3664	4800	0.76	65.4	28.0	D	View

Length (mi)	<input type="text" value="2.9792"/>	Free Flow Delay (sec/veh)	<input type="text" value="21.0"/>	LOS Threshold Delay (sec/veh)	<input type="text" value="0.0"/>	Avg. Speed (mi/h)	<input type="text" value="61.6"/>	Density (pc/mi/ln)	<input type="text" value="29.0"/>	LOS	<input type="text" value="D"/>
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FREEPLAN

Workshop 2: Model Inputs

Roadway Information

Freeway Name: I-75

From: CR 673 To: CR 470

Area Type: Rural

Peak Direction: Northbound

Off Peak Direction: Southbound

Study Period: Standard K

Facility-wide Values

AADT: 35351 K Factor (%): 10.5 D Factor (%): 56.1 Peak Hour Factor: 1.000

Local Adj. Factor: 0.90 % Heavy Vehicles: 12.0 Ramp Metering: Facility Length (mi): 11.760

	From	To	Input Segment Type	Edit Segment	Segment Length (ft)	Hourly Demand Volume (veh/h)	Analysis Flow Rate (pc/h)	Number Thru Lanes	Posted Speed (mi/h)	Free Flow Speed (mi/h)	Terrain
▶ 1	A	B	Basic Segment	Edit	26815	2082	2452	2	70	75	Level
2	B	C	Off-Ramp	Edit	1500	2082	2452	2	70	75	Level
3	C	D	Basic Segment	Edit	1930	1938	2282	2	70	75	Level
4	D	E	On-Ramp	Edit	1500	2100	2473	2	70	75	Level
5	E	F	Basic Segment	Edit	30350	2100	2473	2	70	75	Level

FREEPLAN

Workshop 2: Model Inputs

Ramp Characteristics							
	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	144	12	1 ▼	610	40	<input type="checkbox"/>	Edit

Ramp Characteristics							
	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	162	12	1 ▼	630	40	<input type="checkbox"/>	Edit

FREEPLAN

Workshop 2: Model Results

	Segment	Input Segment Type	Analysis Segment Type	Analysis Flow Rate (pc/h)	Adj. Capacity (pc/h)	v/c Ratio	Average Speed (mi/h)	Density (pc/mi/ln)	Segment LOS (density)	Additional Off-Ramp/Toll Outputs
▶ 1	A-B	Basic	Basic	2452	4800	0.51	74.4	16.5	C	View
2	B-C	OffRamp	OffRamp	2452	4400	0.56	62.5	19.8	B	View
3	C-D	Basic	Basic	2282	4800	0.48	74.2	15.4	C	View
4	D-E	OnRamp	OnRamp	2473	4600	0.54	64.5	20.7	C	View
5	E-F	Basic	Basic	2473	4800	0.52	74.4	16.6	C	View

Length (mi)	11.760	Free Flow Delay (sec/veh)	9.3	LOS Threshold Delay (sec/veh)	0.0	Avg. Speed (mi/h)	73.8	Density (pc/mi/ln)	16.7	LOS	C
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FREEPLAN

Workshop 3: Model Inputs

Roadway Information

Freeway Name: I-95

From: FL 104 To: FL 102

Area Type: Large Urbanized

Peak Direction: Northbound

Off Peak Direction: Southbound

Study Period: Standard K

Facility-wide Values

AADT: 72500 K Factor (%): 9.0 D Factor (%): 54.5 Peak Hour Factor: 1.000

Local Adj. Factor: 0.98 % Heavy Vehicles: 4.0 Ramp Metering: Facility Length (mi): 2.767

	From	To	Input Segment Type	Edit Segment	Segment Length (ft)	Hourly Demand Volume (veh/h)	Analysis Flow Rate (pc/h)	Number Thru Lanes	Posted Speed (mi/h)	Free Flow Speed (mi/h)	Terrain
▶ 1	A	B	Basic Segment	Edit	5100	3556	3702	3	70	75	Level
2	B	C	Off-Ramp	Edit	1500	3556	3702	3	70	75	Level
3	C	D	Basic Segment	Edit	340	3169	3299	3	70	75	Level
4	D	E	Off-Ramp	Edit	1500	3169	3299	3	70	75	Level
5	E	F	Basic Segment	Edit	1670	2935	3055	3	70	75	Level
6	F	G	On-Ramp	Edit	1500	3763	3917	4	70	75	Level
7	G	H	Basic Segment	Edit	3000	3763	3917	4	70	75	Level

FREEPLAN

Workshop 3: Model Inputs

Ramp Characteristics							
	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	387	4	1 ▼	260	45	<input type="checkbox"/>	Edit

Ramp Characteristics							
	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	234	4	1 ▼	830	45	<input type="checkbox"/>	Edit

Ramp Characteristics							
	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	828	4	2 ▼	975	45	<input type="checkbox"/>	Edit

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Workshop 3: Model Results

	Segment	Input Segment Type	Analysis Segment Type	Analysis Flow Rate (pc/h)	Adj. Capacity (pc/h)	v/c Ratio	Average Speed (mi/h)	Density (pc/mi/ln)	Segment LOS (density)	Additional Off-Ramp/Toll Outputs
▶ 1	A-B	Basic	Basic	3702	7200	0.51	74.4	16.6	B	View
2	B-C	OffRamp	OffRamp	3702	6800	0.54	68.6	20.6	C	View
3	C-D	Basic	Basic	3299	7200	0.46	73.6	14.9	B	View
4	D-E	OffRamp	OffRamp	3299	6800	0.49	68.3	15.3	B	View
5	E-F	Basic	Basic	3055	7200	0.42	74.5	13.7	B	View
6	F-G	OnRamp	Basic	3917	9600	0.41	75.0	13.1	B	View
7	G-H	Basic	Basic	3917	9600	0.41	75.0	13.1	B	View

Length (mi)	<input type="text" value="2.7670"/>	Free Flow Delay (sec/veh)	<input type="text" value="3.2"/>	LOS Threshold Delay (sec/veh)	<input type="text" value="0.0"/>	Avg. Speed (mi/h)	<input type="text" value="73.3"/>	Density (pc/mi/ln)	<input type="text" value="15.2"/>	LOS	<input type="text" value="B"/>
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FREEPLAN

Workshop 4: Model Inputs

Roadway Information

Freeway Name: Interstate-75

From: Royal Palm Blvd. To: Sheridan St.

Area Type: Large Urbanized

Peak Direction: Southbound

Off Peak Direction: Northbound

Study Period: Standard K

Facility-wide Values

AADT: 150250 K Factor (%): 9.0 D Factor (%): 54.4 Peak Hour Factor: 1.000

Local Adj. Factor: 0.98 % Heavy Vehicles: 4.0 Ramp Metering: Facility Length (mi): 2.578

	From	To	Input Segment Type	Edit Segment	Segment Length (ft)	Hourly Demand Volume (veh/h)	Analysis Flow Rate (pc/h)	Number Thru Lanes	Posted Speed (mi/h)	Free Flow Speed (mi/h)	Terrain
▶ 1	A	B	Basic Segment	Edit	1950	7356	7656	4	70	75	Level
2	B	C	Off-Ramp	Edit	1500	7356	7656	4	70	75	Level
3	C	D	Basic Segment	Edit	940	6852	7132	4	70	75	Level
4	D	E	Off-Ramp	Edit	1500	6852	7132	4	70	75	Level
5	E	F	Basic Segment	Edit	2190	6564	6832	4	70	75	Level
6	F	G	On-Ramp	Edit	1500	7689	8003	4	70	75	Level
7	G	H	Basic Segment	Edit	4030	7689	8003	4	70	75	Level

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Workshop 4: Model Inputs

Ramp Characteristics

	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	504	4	1 ▼	460	35	<input type="checkbox"/>	Edit

Ramp Characteristics

	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	288	4	1 ▼	1500	30	<input type="checkbox"/>	Edit

Ramp Characteristics

	Demand (veh/h)	% Heavy Vehicles	Number of Lanes	Accel/Decel Length	Free Flow Speed	Off-Ramp Analysis	Edit
▶	1125	4	1 ▼	1500	35	<input type="checkbox"/>	Edit

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Workshop 4: Model Results

	Segment	Input Segment Type	Analysis Segment Type	Analysis Flow Rate (pc/h)	Adj. Capacity (pc/h)	v/c Ratio	Average Speed (mi/h)	Density (pc/mi/ln)	Segment LOS (density)	Additional Off-Ramp/Toll Outputs
▶ 1	A-B	Basic	Basic	7656	9600	0.80	65.8	29.1	D	View
2	B-C	OffRamp	OffRamp	7656	9200	0.83	68.0	28.5	D	View
3	C-D	Basic	Basic	7132	9600	0.74	68.2	26.1	D	View
4	D-E	OffRamp	OffRamp	7132	9400	0.76	67.5	21.7	C	View
5	E-F	Basic	Basic	6832	9600	0.71	69.5	24.6	C	View
6	F-G	OnRamp	OnRamp	8003	9500	0.84	66.1	28.3	D	View
7	G-H	Basic	Basic	8003	9600	0.83	63.9	31.3	D	View

Length (mi)	<input type="text" value="2.5777"/>	Free Flow Delay (sec/veh)	<input type="text" value="16.1"/>	LOS Threshold Delay (sec/veh)	<input type="text" value="0.0"/>	Avg. Speed (mi/h)	<input type="text" value="66.4"/>	Density (pc/mi/ln)	<input type="text" value="27.9"/>	LOS	<input type="text" value="D"/>
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