

HCS 2010: Basic Freeway Segments Release 6.1

Florence & Hutcheson
501 Huger Street
Columbia, SC 29201

Phone: (803)254-5800
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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 NB
From/To: BEGIN TO US 276 EB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4590	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1275	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1853	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1853	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	58.8	mi/h
Number of lanes, N	3	
Density, D	31.5	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Date Performed: 9/23/2011
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Freeway/Direction: I-85 NB
From/To: AT 276 EB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4314	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1198	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1742	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1742	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.6	mi/h
Number of lanes, N	3	
Density, D	29.2	pc/mi/ln
Level of service, LOS	D	

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Analysis Time Period: AM
Freeway/Direction: I-85 NB
From/To: 276 EB to 276 WB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	4551	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1264	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1837	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1837	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.0	mi/h
Number of lanes, N	3	
Density, D	31.1	pc/mi/ln
Level of service, LOS	D	

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Freeway/Direction: I-85 NB
From/To: at 276 WB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	3924	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1090	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1584	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1584	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	26.4	pc/mi/ln
Level of service, LOS	D	

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 NB
From/To: US 276 to Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4471	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1242	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1805	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1805	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.2	mi/h
Number of lanes, N	3	
Density, D	30.5	pc/mi/ln
Level of service, LOS	D	

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Analysis Time Period: AM
Freeway/Direction: I-85 NB
From/To: I-85NB CD off to I-85NB CD on
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	2665	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	740	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1076	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1076	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	17.9	pc/mi/ln
Level of service, LOS	B	

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 NB
From/To: C-D Ramp to I-385 on
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3054	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	848	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1233	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1233	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	20.5	pc/mi/ln
Level of service, LOS	C	

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 NB
From/To: I-385 to Pelham Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	5209	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1447	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1577	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1577	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	4	
Density, D	26.3	pc/mi/ln
Level of service, LOS	D	

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Freeway/Direction: I-85 NB
From/To: Pelham Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3351	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	931	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1353	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1353	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	22.5	pc/mi/ln
Level of service, LOS	C	

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 NB
From/To: Pelham Rd eb on to wb on
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	4102	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1139	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1656	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1656	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.9	mi/h
Number of lanes, N	3	
Density, D	27.6	pc/mi/ln
Level of service, LOS	D	

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Freeway/Direction: I-85 NB
From/To: Pelham Rd to End
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	4641	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1289	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1874	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1874	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	58.6	mi/h
Number of lanes, N	3	
Density, D	32.0	pc/mi/ln
Level of service, LOS	D	

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Freeway/Direction: I-85 NB
From/To: BEGIN TO US 276 EB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	4760	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1322	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1922	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1922	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	58.1	mi/h
Number of lanes, N	3	
Density, D	33.1	pc/mi/ln
Level of service, LOS	D	

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Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3482	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	967	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1406	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1406	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	23.4	pc/mi/ln
Level of service, LOS	C	

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Freeway/Direction: I-85 NB
From/To: 276 EB to 276 WB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	3931	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1092	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1587	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1587	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	26.5	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 NB
From/To: at 276 WB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3546	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	985	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1432	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1432	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	23.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS 2010: Basic Freeway Segments Release 6.1

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 NB
From/To: US 276 to Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4188	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1163	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1691	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1691	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.8	mi/h
Number of lanes, N	3	
Density, D	28.3	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 NB
From/To: I-85NB CD off to I-85NB CD on
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	2375	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	660	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	959	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	959	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	16.0	pc/mi/ln
Level of service, LOS	B	

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 NB
From/To: I-85NB C-D Ramp to I-385 on
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3706	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1029	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1496	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1496	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	24.9	pc/mi/ln
Level of service, LOS	C	

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 Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 NB
From/To: I-385 to Pelham Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	6703	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1862	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2030	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	2030	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	56.6	mi/h
Number of lanes, N	4	
Density, D	35.8	pc/mi/ln
Level of service, LOS	E	

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 Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 NB
From/To: Pelham Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	4642	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1289	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1874	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1874	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	58.6	mi/h
Number of lanes, N	3	
Density, D	32.0	pc/mi/ln
Level of service, LOS	D	

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 Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 NB
From/To: Pelham Rd WB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	5621	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1561	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2269	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	2269	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	51.9	mi/h
Number of lanes, N	3	
Density, D	43.7	pc/mi/ln
Level of service, LOS	E	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 NB
From/To: Pelham Rd to End
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	6407	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1780	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fhv	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2587	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	2587	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	42.3	mi/h
Number of lanes, N	3	
Density, D	61.1	pc/mi/ln
Level of service, LOS	F	

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: US 276 EB TO BEGIN
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	5185	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1440	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2093	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	2093	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	55.6	mi/h
Number of lanes, N	3	
Density, D	37.7	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: 276 EB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4723	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1312	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1907	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1907	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	58.3	mi/h
Number of lanes, N	3	
Density, D	32.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: at US 276
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	5481	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1523	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2213	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	2213	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	53.2	mi/h
Number of lanes, N	3	
Density, D	41.6	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: 276 WB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4346	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1207	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1754	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1754	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.6	mi/h
Number of lanes, N	3	
Density, D	29.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: Woodruff Rd to US 276
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4824	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1340	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1947	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1947	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	57.8	mi/h
Number of lanes, N	3	
Density, D	33.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: I-385 ON to Woodruff
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4278	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1188	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1727	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1727	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.7	mi/h
Number of lanes, N	3	
Density, D	28.9	pc/mi/ln
Level of service, LOS	D	

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 Operational Analysis

Analyst: JP
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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: I-385 OFF to I-385 ON
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	2772	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	770	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1119	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1119	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	18.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS 2010: Basic Freeway Segments Release 6.1

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: Pelham Rd to I-385
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	5805	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1613	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1758	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1758	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.5	mi/h
Number of lanes, N	4	
Density, D	29.5	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: Pelham Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4348	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1208	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1755	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1755	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.6	mi/h
Number of lanes, N	3	
Density, D	29.5	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: Pelham Rd WB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4013	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1115	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1620	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1620	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	27.0	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-85 SB
From/To: End to Pelham Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	5871	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1631	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2370	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	2370	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	49.2	mi/h
Number of lanes, N	3	
Density, D	48.1	pc/mi/ln
Level of service, LOS	F	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: US 276 EB TO BEGIN
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	6624	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1840	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2674	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	2674	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	39.1	mi/h
Number of lanes, N	3	
Density, D	68.5	pc/mi/ln
Level of service, LOS	F	

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: 276 EB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	6000	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1667	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2422	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	2422	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	47.7	mi/h
Number of lanes, N	3	
Density, D	50.7	pc/mi/ln
Level of service, LOS	F	

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: at US 276
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	6493	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1804	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2621	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	2621	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	41.1	mi/h
Number of lanes, N	3	
Density, D	63.8	pc/mi/ln
Level of service, LOS	F	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: 276 WB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	5816	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1616	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2348	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	2348	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	49.8	mi/h
Number of lanes, N	3	
Density, D	47.1	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: Woodruff Rd to US 276
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	6247	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1735	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2522	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	2522	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	44.6	mi/h
Number of lanes, N	3	
Density, D	56.6	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

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 Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: I-385 ON to Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	5322	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1478	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2149	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	2149	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	54.5	mi/h
Number of lanes, N	3	
Density, D	39.4	pc/mi/ln
Level of service, LOS	E	

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 Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: I-385 off to I-385 on
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	3832	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1064	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1547	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1547	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	3	
Density, D	25.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: Pelham Rd to I-385
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	6307	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1752	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1910	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	1910	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	58.3	mi/h
Number of lanes, N	4	
Density, D	32.8	pc/mi/ln
Level of service, LOS	D	

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: Pelham Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	5158	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1433	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2082	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

LOS and Performance Measures

Flow rate, vp	2082	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	55.8	mi/h
Number of lanes, N	3	
Density, D	37.3	pc/mi/ln
Level of service, LOS	E	

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: Pelham Rd WB
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	4558	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1266	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fhv	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1840	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1840	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	59.0	mi/h
Number of lanes, N	3	
Density, D	31.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS 2010: Basic Freeway Segments Release 6.1

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 Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-85 SB
From/To: End to Pelham Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	5315	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1476	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2146	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	60.0	mi/h

 LOS and Performance Measures

Flow rate, vp	2146	pc/h/ln
Free-flow speed, FFS	60.0	mi/h
Average passenger-car speed, S	54.6	mi/h
Number of lanes, N	3	
Density, D	39.3	pc/mi/ln
Level of service, LOS	E	

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 NB
From/To: Begin to Butler Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3839	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1066	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1550	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1550	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	28.2	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 NB
From/To: Butler Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3517	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	977	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1420	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1420	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	25.8	pc/mi/ln
Level of service, LOS	C	

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 NB
From/To: Butler Rd to Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4442	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1234	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1793	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1793	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	32.6	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 NB
From/To: Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	1843	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	512	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	744	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	744	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	13.5	pc/mi/ln
Level of service, LOS	B	

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 Operational Analysis

Analyst: JP
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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 NB
From/To: Woodruff Rd to I-85 SB on
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	2826	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	785	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1141	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1141	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	20.7	pc/mi/ln
Level of service, LOS	C	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 NB
From/To: I-85SB ramp - I-85NB ramp
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4031	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1120	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1220	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1220	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	4	
Density, D	22.2	pc/mi/ln
Level of service, LOS	C	

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Operational Analysis

Analyst: JP
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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 NB
From/To: I-85 to Roper Mtn Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4764	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1323	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1154	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1154	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	5	
Density, D	21.0	pc/mi/ln
Level of service, LOS	C	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 NB
From/To: Roper Mtn Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3171	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	881	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1280	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1280	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	23.3	pc/mi/ln
Level of service, LOS	C	

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 Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 NB
From/To: Roper Mtn Rd to End
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	3622	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1006	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1462	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1462	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	26.6	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 NB
From/To: Begin to Butler Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4295	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1193	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1734	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1734	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	31.5	pc/mi/ln
Level of service, LOS	D	

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 Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 NB
From/To: Butler Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	4033	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1120	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1628	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1628	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	29.6	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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 Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 NB
From/To: Butler Rd to Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	5057	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1405	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2042	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	2042	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	53.6	mi/h
Number of lanes, N	3	
Density, D	38.1	pc/mi/ln
Level of service, LOS	E	

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 NB
From/To: Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	2452	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	681	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	990	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	990	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	18.0	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 NB
From/To: Woodruff Rd to I-85 SB on
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3355	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	932	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1354	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1354	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	24.6	pc/mi/ln
Level of service, LOS	C	

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Operational Analysis

Analyst: JP
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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 NB
From/To: I-85SB ramp - I-85NB ramp
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4826	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1341	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1461	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1461	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	4	
Density, D	26.6	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 NB
From/To: I-85 to Roper Mtn Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	5250	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1458	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1272	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1272	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	5	
Density, D	23.1	pc/mi/ln
Level of service, LOS	C	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 NB
From/To: Roper Mtn Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4354	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1209	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1758	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1758	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	32.0	pc/mi/ln
Level of service, LOS	D	

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 Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 NB
From/To: Roper Mtn Rd to End
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	5179	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1439	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2091	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	2091	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	52.9	mi/h
Number of lanes, N	3	
Density, D	39.5	pc/mi/ln
Level of service, LOS	E	

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Operational Analysis

Analyst: JP
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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 SB
From/To: Butler Rd to Begin
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	2058	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	572	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fhv	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	831	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	831	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	15.1	pc/mi/ln
Level of service, LOS	B	

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 SB
From/To: Butler Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	1814	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	504	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fhv	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	732	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, FLW	-	mi/h
Lateral clearance adjustment, FLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	732	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	13.3	pc/mi/ln
Level of service, LOS	B	

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 Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 SB
From/To: Woodruff Rd to Butler Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	2616	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	727	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1056	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1056	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	19.2	pc/mi/ln
Level of service, LOS	C	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 SB
From/To: Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	1393	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	387	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	562	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	562	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	10.2	pc/mi/ln
Level of service, LOS	A	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 SB
From/To: I-85 to Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	1916	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	532	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	773	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	773	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	14.1	pc/mi/ln
Level of service, LOS	B	

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Operational Analysis

Analyst: JP
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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 SB
From/To: Roper Mtn Rd to I-85
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3528	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	980	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1068	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1068	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	4	
Density, D	19.4	pc/mi/ln
Level of service, LOS	C	

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Analysis Time Period: AM
Freeway/Direction: I-385 SB
From/To: Roper Mtn Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	2684	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	746	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1084	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1084	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	19.7	pc/mi/ln
Level of service, LOS	C	

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 Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: AM
Freeway/Direction: I-385 SB
From/To: End to Roper Mtn Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	3496	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	971	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1411	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1411	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	25.7	pc/mi/ln
Level of service, LOS	C	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 SB
From/To: Butler Rd to Begin
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4766	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1324	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1924	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1924	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	54.6	mi/h
Number of lanes, N	3	
Density, D	35.2	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS 2010: Basic Freeway Segments Release 6.1

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 Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 SB
From/To: Butler Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	4303	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1195	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1737	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	1737	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	31.6	pc/mi/ln
Level of service, LOS	D	

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 Operational Analysis

Analyst: JP
Agency or Company: Florence & Hutcheson
Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 SB
From/To: Woodruff Rd to Butler Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	5134	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1426	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2073	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	2073	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	53.2	mi/h
Number of lanes, N	3	
Density, D	39.0	pc/mi/ln
Level of service, LOS	E	

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Freeway/Direction: I-385 SB
From/To: Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3110	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	864	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1256	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1256	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	22.8	pc/mi/ln
Level of service, LOS	C	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 SB
From/To: I-85 to Woodruff Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	3976	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1104	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1605	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1605	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	29.2	pc/mi/ln
Level of service, LOS	D	

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Operational Analysis

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Date Performed: 9/23/2011
Analysis Time Period: PM
Freeway/Direction: I-385 SB
From/To: Roper Mtn Rd to I-85
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	6482	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1801	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1963	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1963	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	54.3	mi/h
Number of lanes, N	4	
Density, D	36.1	pc/mi/ln
Level of service, LOS	E	

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Analysis Time Period: PM
Freeway/Direction: I-385 SB
From/To: Roper Mtn Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

Flow Inputs and Adjustments

Volume, V	4686	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1302	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	1892	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1892	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	54.8	mi/h
Number of lanes, N	3	
Density, D	34.5	pc/mi/ln
Level of service, LOS	D	

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Analysis Time Period: PM
Freeway/Direction: I-385 SB
From/To: End to Roper Mtn Rd
Jurisdiction: Greenville, SC
Analysis Year: 2015
Description: I-85/I-385 Alternate 4A

 Flow Inputs and Adjustments

Volume, V	5569	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	1547	v
Trucks and buses	18	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.917	
Driver population factor, fp	1.00	
Flow rate, vp	2248	pc/h/ln

 Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

 LOS and Performance Measures

Flow rate, vp	2248	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	50.0	mi/h
Number of lanes, N	3	
Density, D	44.9	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.