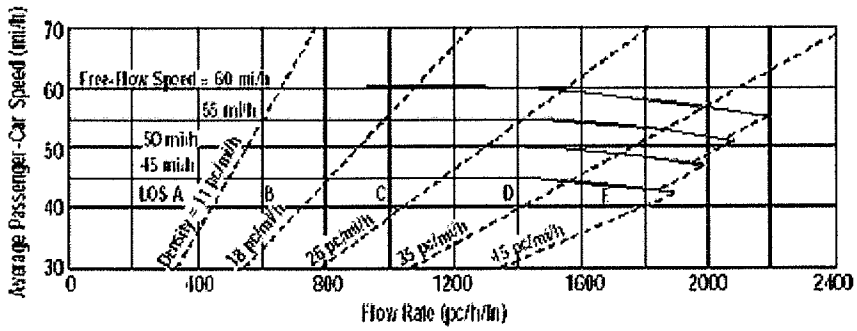
APPENDIX K

CUMULATIVE + PROJECT CONDITIONS
BUILDOUT "WITH FOREST RANCH" SCENARIO
MODIFIED LEVEL OF SERVICE CRITERIA
LEVEL OF SERVICE CALCULATION WORKSHEETS

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Bridge to Spring Garden Rd
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1126	Peak-Hour Factor, PHF	0.88
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	4.00
Driver Type Adjustment	1.00	Up/Down %	3.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	3.0
E_T	2.5	f_{HV}	0.885

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	2
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.5
f_M (mi/h)	1.6
FFS (mi/h)	57.9

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	722
Speed, S (mi/h)	57.9
D (pc/mi/ln)	12.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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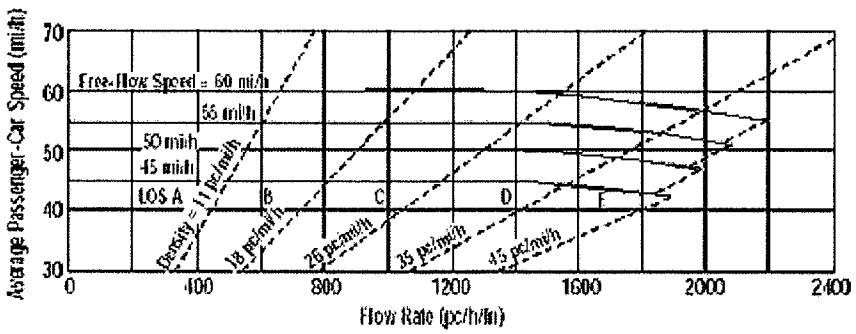
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Bridge to Spring Garden Rd
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1853	Peak-Hour Factor, PHF	0.88
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	4.00
Driver Type Adjustment	1.00	Up/Down %	-3.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.986

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	2
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.5
f_M (mi/h)	1.6
FFS (mi/h)	57.9

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1067
Speed, S (mi/h)	57.9
D (pc/mi/ln)	18.4
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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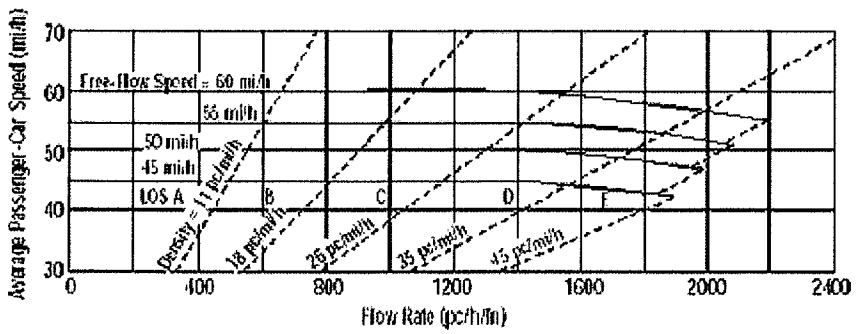
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Spring Garden to Todd Valley W
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1234	Peak-Hour Factor, PHF	0.75
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	1.70
Driver Type Adjustment	1.00	Up/Down %	3.40
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	3.0
E_T	3.8	f_{HV}	0.891

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	4
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.0
f_M (mi/h)	1.6
FFS (mi/h)	57.4

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	923
Speed, S (mi/h)	57.4
D (pc/mi/ln)	16.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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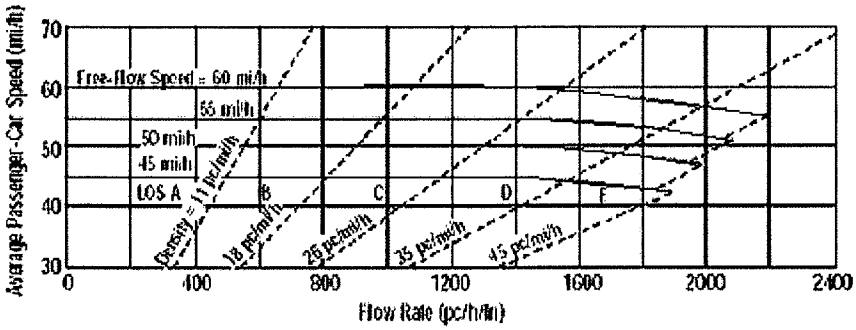
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Spring Garden to Todd Valley W
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1286	Peak-Hour Factor, PHF	0.88
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	1.70
Driver Type Adjustment	1.00	Up/Down %	-3.40
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.986

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	5
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.3
f_M (mi/h)	1.6
FFS (mi/h)	57.2

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	740
Speed, S (mi/h)	57.2
D (pc/mi/ln)	12.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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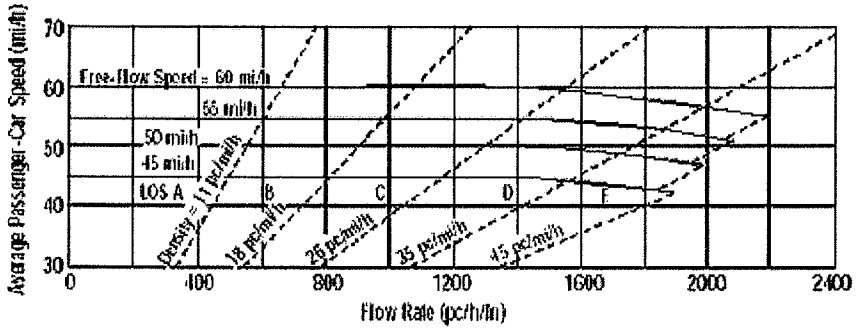
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Todd Valley W to Owl Hill Ct
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1095	Peak-Hour Factor, PHF	0.59
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	1.20
Driver Type Adjustment	1.00	Up/Down %	3.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	3.0
E_T	2.5	f_{HV}	0.935

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	3
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.8
f_M (mi/h)	1.6
FFS (mi/h)	57.7

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	992
Speed, S (mi/h)	57.7
D (pc/mi/ln)	17.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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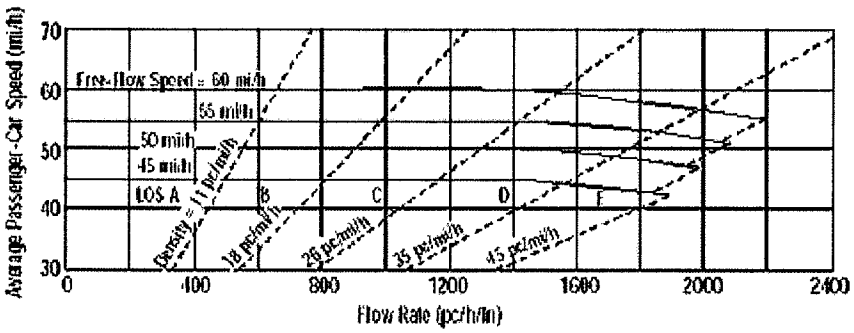
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Todd Valley W to Owl Hill Ct
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1126	Peak-Hour Factor, PHF	0.79
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	1.20
Driver Type Adjustment	1.00	Up/Down %	-3.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.986

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	4
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.0
f_M (mi/h)	1.6
FFS (mi/h)	57.4

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	722
Speed, S (mi/h)	57.4
D (pc/mi/ln)	12.6
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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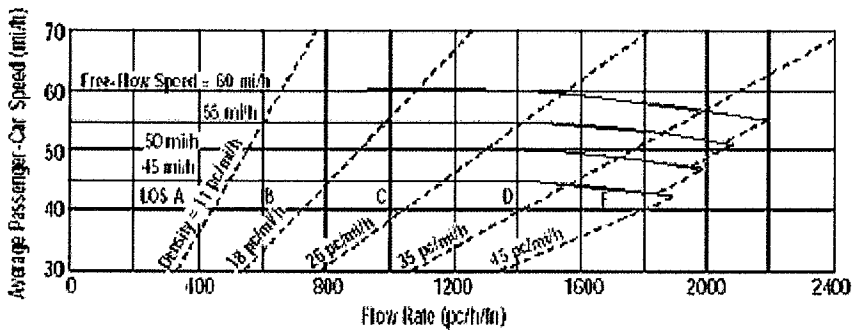
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Bridge to Spring Garden Rd
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1649	Peak-Hour Factor, PHF	0.88
AADT(veh/h)		%Trucks and Buses, P_T	1
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	4.00
Driver Type Adjustment	1.00	Up/Down %	3.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	3.0
E_T	3.0	f_{HV}	0.943

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	2
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.5
f_M (mi/h)	1.6
FFS (mi/h)	57.9

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	993
Speed, S (mi/h)	57.9
D (pc/mi/ln)	17.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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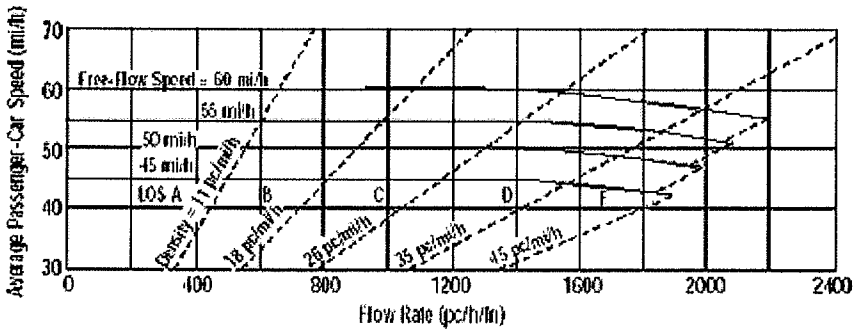
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Bridge to Spring Garden Rd
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1247	Peak-Hour Factor, PHF	0.76
AADT(veh/h)		%Trucks and Buses, P_T	4
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	4.00
Driver Type Adjustment	1.00	Up/Down %	-3.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.977

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	2
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.5
f_M (mi/h)	1.6
FFS (mi/h)	57.9

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	840
Speed, S (mi/h)	57.9
D (pc/mi/ln)	14.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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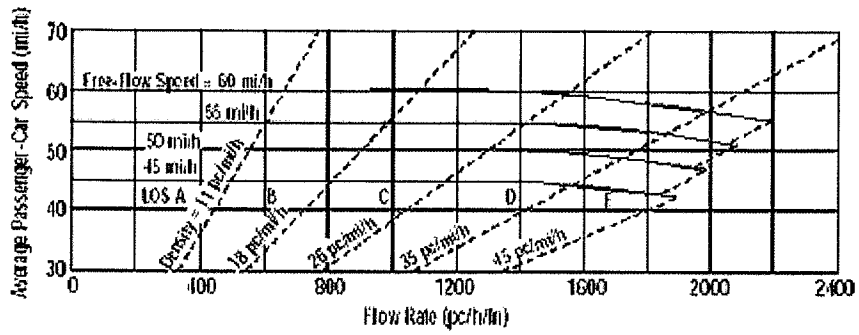
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Spring Garden to Todd Valley W
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1203	Peak-Hour Factor, PHF	0.88
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	1.70
Driver Type Adjustment	1.00	Up/Down %	3.40
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	3.0
E_T	4.0	f_{HV}	0.909

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	4
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.0
f_M (mi/h)	1.6
FFS (mi/h)	57.4

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	751
Speed, S (mi/h)	57.4
D (pc/mi/ln)	13.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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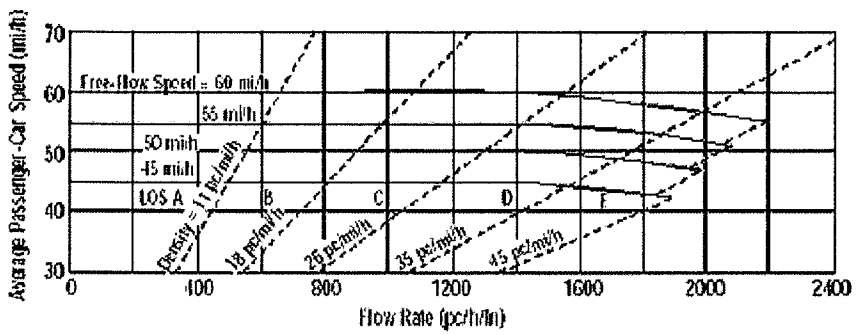
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Spring Garden to Todd Valley W
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1355	Peak-Hour Factor, PHF	0.88
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	1.70
Driver Type Adjustment	1.00	Up/Down %	-3.40
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.981

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	5
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.3
f_M (mi/h)	1.6
FFS (mi/h)	57.2

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	784
Speed, S (mi/h)	57.2
D (pc/mi/ln)	13.7
LOS	B

Design

Design (N)

Required Number of Lanes, N
Flow Rate, v_p (pc/h)
Max Service Flow Rate (pc/h/ln)
Design LOS

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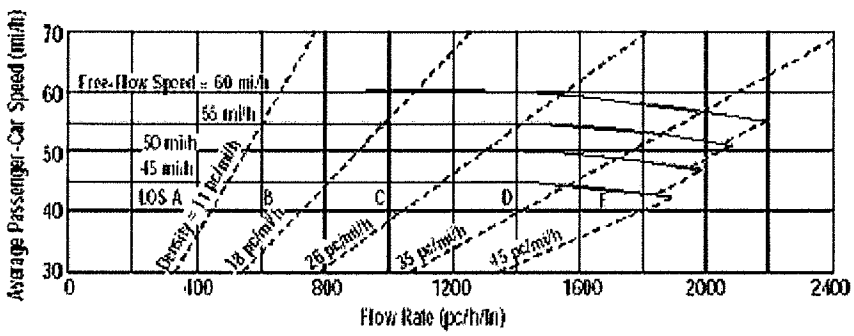
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Todd Valley W to Owl Hill Ct
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1072	Peak-Hour Factor, PHF	0.85
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	1.20
Driver Type Adjustment	1.00	Up/Down %	3.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	3.0
E_T	2.5	f_{HV}	0.935

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	3
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.8
f_M (mi/h)	1.6
FFS (mi/h)	57.7

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	674
Speed, S (mi/h)	57.7
D (pc/mi/ln)	11.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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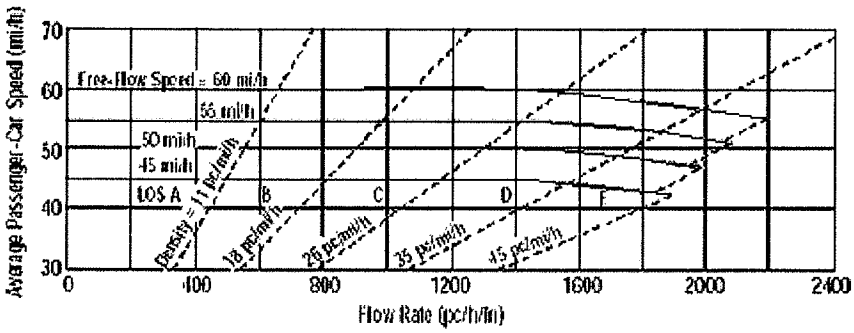
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	MKL
Agency or Company	MRO Engineers, Inc.
Date Performed	4/3/2007
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	Foresthill Road - Mitigated
From/To	Todd Valley W to Owl Hill Ct
Jurisdiction	Placer County
Analysis Year	Buildout With Forest Ranch

Project Description Foresthill Divide Community Plan

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1211	Peak-Hour Factor, PHF	0.88
AADT(veh/h)		%Trucks and Buses, P_T	4
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	2
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	1.20
Driver Type Adjustment	1.00	Up/Down %	-3.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.977

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	4
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	60.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.0
f_M (mi/h)	1.6
FFS (mi/h)	57.4

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	704
Speed, S (mi/h)	57.4
D (pc/mi/ln)	12.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

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