HCS+: Basic Freeway	Segments Release	5.2	HCS+: Basic Freew	ay Segments Release	5.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational An	alysis		Operational	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Atlantic St/Tay Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - AM	lor Rd		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Atlantic St/ Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project -	Taylor Rd	
Flow Inputs an	d Adjustments		Flow Inputs	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLD Number of lanes adjustment, fN Free-flow speed, FFS	5384 0.90 1496 6 0 Level 0.00 1.5 1.2 0.971 1.00 1540 and Adjustments 12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 Urban Freew	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Input Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fLD Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h
LOS and Perfor		-	LOS and Per		
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1540 70.0 69.7 4 22.1	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	2105 70.0 62.6	pc/h/ln mi/h mi/h pc/mi/ln

HCS+:	Basic Freeway Sec	gments Release	5.2	HCS+: Basic Free	eway Segments Release	≥ 5.2
Phone: E-mail:		Fax:		Phone: E-mail:	Fax:	
	Operational Analy	veie		Operationa	al Analysis	
		y313				
Agency or Company: I	Arthur Black LSA 3/07/2008			Analyst: Arthur Blac Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period:	:k	
Freeway/Direction: I From/To: Z	I-80 WB Atlantic St/Taylo: Rocklin	r Rd		Freeway/Direction: I-80 WB From/To: Atlantic St Jurisdiction: Rocklin Analysis Year:	/Taylor Rd	
Description: 2025 Withou	ut Project - AM			Description: 2025 Without Project	- PM	
	Flow Inputs and A	Adjustments		Flow Input	s and Adjustments	
Volume, V Peak-hour factor, PHF		6538 0.90	veh/h	Volume, V Peak-hour factor, PHF	6710 0.90	veh/h
Peak 15-min volume, v15 Trucks and buses		1816 6	V %	Peak 15-min volume, v15 Trucks and buses	1864 6	V &
Recreational vehicles		0	*	Recreational vehicles	6	% %
Terrain type:		Level	0	Terrain type:	Level	0
Grade		0.00	<u>&</u>	Grade	0.00	8
Segment length		0.00	mi	Segment length	0.00	mi
Trucks and buses PCE, ET		1.5		Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE,		1.2		Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment,		0.971		Heavy vehicle adjustment, fHV	0.971	
Driver population factor, Flow rate, vp	fp	1.00	pc/h/ln	Driver population factor, fp Flow rate, vp	1.00	pc/h/ln
			-			
	_Speed Inputs and	Adjustments		Speed Inpu	its and Adjustments	
Lane width		12.0	ft	Lane width	12.0	ft
Right-shoulder lateral cl		6.0	ft	Right-shoulder lateral clearance	6.0	ft
Interchange density		0.50	interchange/mi	Interchange density	0.50	interchange/mi
Number of lanes, N Free-flow speed:		4 Measured		Number of lanes, N Free-flow speed:	4 Measured	
Free-llow speed: FFS or BFFS		70.0	mi/h	Free-Ilow speed: FFS or BFFS	70.0	mi/h
Lane width adjustment, fI	LW	0.0	mi/h	Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustm		0.0	mi/h	Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjus		0.0	mi/h	Interchange density adjustment, fID		mi/h
Number of lanes adjustmer	nt, fN	1.5	mi/h	Number of lanes adjustment, fN		mi/h
Free-flow speed, FFS		70.0 Urban Freewa	mi/h av	Free-flow speed, FFS	70.0 Urban Freev	mi/h
			-			-
	_LOS and Performan	nce Measures		LOS and Pe	erformance Measures	
Flow rate, vp		1871	pc/h/ln	Flow rate, vp	1920	pc/h/ln
Free-flow speed, FFS		70.0	mi/h	Free-flow speed, FFS	70.0	mi/h
Average passenger-car spe	eed, S	67.0	mi/h	Average passenger-car speed, S	66.2	mi/h
Number of lanes, N		4	pc/mi/ln	Number of lanes, N Density, D	4 29.0	pc/mi/ln
Density, D			DC/M1/IN	LEDSITV. U		

HCS+: Basic Freeway :	Segments Releas	e 5.2	HCS+: Basic Freewa	y Segments Release	5.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational Ana	alysis		Operational	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Taylor Rd/Rte 61 Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - AM			Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Taylor Rd/Rte Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - D		
Flow Inputs and	d Adjustments		Flow Inputs a	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs an Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fID Number of lanes adjustment, fID Number of lanes adjustment, fN	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5	ft ft interchange/mi mi/h mi/h mi/h mi/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 0.0 1.5	<pre>veh/h v % % % mi pc/h/ln ft ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h</pre>
Free-flow speed, FFS	70.0 Urban Free	mi/h way	Free-flow speed, FFS	70.0 Urban Freew	mi/h ay
LOS and Perform	mance Measures_		LOS and Perfe	ormance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1522 70.0 69.7 4 21.8	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1928 70.0 66.1 4 29.2	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway	Segments Releas	e 5.2	HCS+: Basic Freewa	y Segments Release	5.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational An	alysis		Operational .	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Taylor Rd/Rte 6 Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - AM	5		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Taylor Rd/Rte Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project -	65	
Flow Inputs an	d Adjustments		Flow Inputs	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0	ft ft interchange/mi mi/h mi/h mi/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0	<pre>veh/h v % % % mi pc/h/ln ft ft ft interchange/mi mi/h mi/h mi/h mi/h</pre>
Interchange density adjustment, fiD Number of lanes adjustment, fN Free-flow speed, FFS	0.0 1.5 70.0 Urban Free	mi/h mi/h	Interchange density adjustment, fiD Number of lanes adjustment, fN Free-flow speed, FFS	0.0 1.5 70.0 Urban Freew	mi/h mi/h
LOS and Perfor	mance Measures_		LOS and Perf	ormance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1604 70.0 69.4 4 23.1	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1763 70.0 68.2 4 25.8	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway	Segments Release	5.2	HCS+: Basic Freewa	ay Segments Release	5.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational An	alysis		Operational	Analysis	
Analyst:Arthur BlackAgency or Company:LSADate Performed:8/07/2008Analysis Time Period:Freeway/Direction:Freeway/Direction:I-80 EBFrom/To:Rte 65/RocklinJurisdiction:RocklinAnalysis Year:Description:Description:2025 Without Project - PM			Analyst:Arthur BlackAgency or Company:LSADate Performed:8/07/2008Analysis Time Period:Freeway/Direction:Freeway/Direction:I-80 WBFrom/To:Rte 65/RocklinJurisdiction:RocklinAnalysis Year:Description:2025 Without Project -	.n Rd	
Flow Inputs an	d Adjustments		Flow Inputs	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed:	4939 0.90 1372 6 0.00 0.00 1.5 1.2 0.971 1.00 1884 and Adjustments 12.0 6.0 0.50 3 Measured	<pre>veh/h v % % % mi pc/h/ln ft ft ft interchange/mi</pre>	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed:	4091 0.90 1136 6 0 Level 0.00 1.5 1.2 0.971 1.00 1561 s and Adjustments 12.0 6.0 0.50 3 Measured	<pre>veh/h v % % % mi pc/h/ln ft ft ft interchange/mi</pre>
Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS LOS and Perfor	70.0 0.0 0.0 3.0 70.0 Urban Freew	-	Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS LOS and Perf	70.0 0.0 0.0 3.0 70.0 Urban Freew	-
Flow rate, vp Free-flow speed, FFS	1884 70.0 66.8 3 28.2	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1561 70.0	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway	Segments Releas	se 5.2	HCS+: Basic Freeway	Segments Releas	e 5.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational Ar	alysis		Operational A	nalysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Rte 65/Rocklin Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - PM			Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Rocklin Rd/Sie Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - A	rra College Blvd M	
Flow Inputs ar	d Adjustments		Flow Inputs a	nd Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS	12.0 6.0 0.50 3 Measured 70.0	ft ft interchange/mi mi/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS	12.0 6.0 0.50 3 Measured 70.0	ft ft interchange/mi mi/h
Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	0.0 0.0 0.0 3.0 70.0 Urban Free	mi/h mi/h mi/h mi/h	Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	0.0 0.0 0.0 3.0 70.0 Urban Free	mi/h mi/h mi/h mi/h
LOS and Perfor	mance Measures_		LOS and Perfo	rmance Measures_	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1806 70.0 67.8 3 26.6	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1382 70.0 70.0 3 19.7	pc/h/ln mi/h mi/h pc/mi/ln

1001.	: Basic Freeway Se	Symptics Refease			: Basic Freeway Se	Symetrics herease	
Phone:		Fax:		Phone:		Fax:	
E-mail:				E-mail:			
	Operational Anal	ysis			Operational Anal	ysis	
Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To:	Rocklin Rd/Sierra Rocklin	a College Blvd		Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To:	Arthur Black LSA 8/07/2008 I-80 WB Rocklin Rd/Sierra Rocklin Dut Project - AM	a College Blvd	
	Flow Inputs and	Adjustments			Flow Inputs and	Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCF Heavy vehicle adjustment Driver population factor Flow rate, vp Lane width Right-shoulder lateral of Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, f Lateral clearance adjust	r 2, ER 2, fHV c, fp Speed Inputs and clearance	0 Level 0.00 1.5 1.2 0.971 1.00 1879 Adjustments 12.0 6.0 0.50 3 Measured	ft ft interchange/mi mi/h mi/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCF Heavy vehicle adjustment Driver population factor Flow rate, vp Lane width Right-shoulder lateral of Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, f	T E, ER t, fHV r, fp Speed Inputs and clearance	0 0 Level 0.00 1.5 1.2 0.971 1.00 1760 A Adjustments 12.0 6.0 0.50 3 Measured	ft ft interchange/mi mi/h mi/h
Lateral clearance adjust Interchange density adju Number of lanes adjustme Free-flow speed, FFS	istment, IID ent, fN	0.0 0.0 3.0 70.0 Urban Freewa	mi/h mi/h mi/h mi/h	FFS or BFFS Lane width adjustment, f Lateral clearance adjust Interchange density adju Number of lanes adjustme Free-flow speed, FFS	tment, fLC ustment, fID ent, fN	0.0 0.0 3.0 70.0 Urban Freew	mi/h mi/h mi/h mi/h
	_LOS and Performa	ince Measures			_LOS and Performa	ance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car sp Number of lanes, N Density, D	peed, S	1879 70.0 66.9 3 28.1	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car sp Number of lanes, N Density, D	peed, S	1760 70.0 68.3 3 25.8	pc/h/ln mi/h mi/h pc/mi/ln

	+: Basic Freeway S				Basic Freeway Se	,	
Phone: E-mail:		Fax:		Phone: E-mail:		Fax:	
	Operational Ana	lusis			Operational Anal	vsis	
	operacional inta	1/010			_oporacional innai	1010	
Agency or Company: Date Performed: Analysis Time Period:				Agency or Company: Date Performed: Analysis Time Period:	Arthur Black LSA 8/07/2008		
Freeway/Direction: From/To: Jurisdiction: Analysis Year:	Rocklin Rd/Sierr Rocklin	-		From/To: Jurisdiction: Analysis Year:	I-80 EB Sierra College Bl Rocklin	vd/Horseshoe	
Description: 2025 With	nout Project - PM			Description: 2025 Witho	ut Project - AM		
	Flow Inputs and	Adjustments			_Flow Inputs and .	Adjustments	
Volume, V Peak-hour factor, PHF		4285 0.90	veh/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses		3313 0.90	veh/h
Peak-hour factor, PHF Peak 15-min volume, v1 Trucks and buses	5	1190 6	V %	Peak 15-min volume, v15		920 6	V %
Trucks and buses Recreational vehicles		0	90 90	Trucks and buses Recreational vehicles		0	90 90
Terrain type:		Level	°	Terrain type:		Level	70
Grade		0.00	Q.	Creada		0.00	4
Segment length Trucks and buses PCE, 1		0.00	mi	Segment length Trucks and buses PCE, ET		0.00	mi
Trucks and buses PCE, 1	ET	1.5		Trucks and buses PCE, ET		1.5	
Recreational vehicle P	CE, ER	1.2		Recreational vehicle PCE	, ER	1.2	
Heavy vehicle adjustmen	nt, fHV	0.971		Heavy vehicle adjustment	, fHV	0.971	
Driver population facto	pr, fp	1.00		Recreational vehicle PCE Heavy vehicle adjustment Driver population factor Elow rate vp	, fp	1.00	
Flow rate, vp		1635	pc/h/ln	riow race, vp		1201	pc/h/ln
	Speed Inputs an	d Adjustments			_Speed Inputs and	Adjustments_	
Lane width		12.0	ft	Lane width		12.0	ft
Right-shoulder lateral		6.0	ft	Right-shoulder lateral c	learance	6.0	ft
Interchange density		0.50	interchange/mi	Interchange density		0.50	interchange/mi
Number of lanes, N		3		Number of lanes, N Free-flow speed:		3	
Free-flow speed:		Measured				Measured	
FFS or BFFS	67.73	70.0	mi/h	FFS or BFFS		70.0	mi/h
FFS or BFFS Lane width adjustment, Lateral clearance adju:	tLW stmont fro	0.0	mi/h mi/h	Lane width adjustment, f	LW	0.0	mi/h mi/h
Lateral clearance adju	stment, ILC	0.0	mi/h mi/h	Lateral clearance adjust	ment, ILC	0.0	mi/h mi/h
Interchange density ad Number of lanes adjust	juschenc, LLD ment. fN	3.0	mi/n mi/h	Number of lanes adjustme	nt. fN	3.0	mi/h
Free-flow speed, FFS		70.0	mi/h	FFS or BFFS Lane width adjustment, f Lateral clearance adjust Interchange density adju Number of lanes adjustme Free-flow speed, FFS	11C/ 11V	70.0	mi/h
,,,,,,		Urban Freewa				Urban Freev	
	LOS and Perform	ance Measures			_LOS and Performa	nce Measures	
Flow rate, vp		1635	pc/h/ln	Flow rate, vp		1264	pc/h/ln
Free-flow speed, FFS Average passenger-car :	amaad C	70.0	mi/h mi/h	Free-flow speed, FFS Average passenger-car sp	and C	70.0	mi/h
Average passenger-car : Number of lanes N	speed, S	69.Z 3	1111/ N	Average passenger-car sp Number of large N	eeu, S	3	mi/h
Number of lanes, N Density, D		23.6	pc/mi/ln	Number of lanes, N Density, D		3 18.1	pc/mi/ln
Density, D		23.0	pc/m1/11	Density, D		10.1	pc/mi/in

HCS+: Basic Freeway	Segments Releas	e 5.2	HCS+: Basic Freewa	y Segments Release	e 5.2
Phone:	Fax:		Phone:	Fax:	
E-mail:			E-mail:		
Operational A	nalysis		Operational	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Sierra College Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - Pl	Blvd/Horseshoe M		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Sierra Colleg Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project -	e Blvd/Horseshoe AM	
Flow Inputs as	nd Adjustments		Flow Inputs	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses	5075 0.90	veh/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses	4641 0.90	veh/h
Recreational vehicles	0	୍ଦ ୫ ୫	Recreational vehicles	0	୦ ୫ ୫
Terrain type: Grade	Level 0.00 0.00	% mi	Terrain type: Grade	Level 0.00 0.00	% mi
Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	1.5 1.2 0.971 1.00 1936	pc/h/ln	Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	1.5 1.2 0.971 1.00 1770	pc/h/ln
Speed Inputs	and Adjustments	-	Speed Inputs		-
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed:	12.0 6.0 0.50 3 Measured	ft ft interchange/mi	Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed:	12.0 6.0 0.50 3 Measured	ft ft interchange/mi
FFEG-IIOW Speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC	70.0 0.0 0.0	mi/h mi/h mi/h	FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC	70.0 0.0 0.0	mi/h mi/h mi/h
Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	0.0 3.0 70.0 Urban Free	mi/h mi/h mi/h way	Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	0.0	mi/h mi/h mi/h vay
LOS and Perfo	rmance Measures_		LOS and Perf	ormance Measures	
Flow rate, vp	1936	pc/h/ln	Flow rate vo	1770	pc/h/ln
Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N	70 0	mi/h mi/h	Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N	70 0	mi/h mi/h
Density, D	29.3	pc/mi/ln	Density, D	26.0-	pc/mi/ln

HCS+: Basic Freeway	segments kelease	5.2	nust: basic rieewo	ay Segments Release	2 5.2
Phone:	Fax:		Phone: E-mail:	Fax:	
E-mail:					
Operational An	alysis		Operational	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Sierra College Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - PM			Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 NB From/To: I-80 to Hardi Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project -	ng Blvd	
-			Flow Inputs		
FIOW INPUtS an	a Aujustments	veh/h			veh/h
Flow Inputs an Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp 	0.00 0.00 1.5 1.2 0.971 1.00 1522	% mi pc/h/ln	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs	Level 0.00 1.5 1.2 0.930 1.00 1874	% mi pc/h/ln
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS		ft interchange/mi mi/h mi/h mi/h mi/h mi/h ay	Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freew	mi/h mi/h mi/h mi/h mi/h mi/h ay
LOS and Perfor	mance Measures		LOS and Perf	formance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1522 70.0 69.7 3 21.8	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1874 70.0 66.9 3 28.0	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway	Segments Release	. 5.2	HCS+: Basic Freewa	y Segments Release	5.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational An	alvsis		Operational .	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 NB From/To: I-80 to Harding Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - PM	f Blvd		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 SB From/To: I-80 to Hardi: Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project -	ng Blvd	
Flow Inputs an	d Adjustments		Flow Inputs	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLD Number of lanes adjustment, fN Free-flow speed, FFS	4967 0.90 1380 15 0 Level 0.00 0.00 1.5 1.2 0.930 1.00 1978 and Adjustments_ 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	4301 0.90 1195 15 0 Level 0.00 0.00 1.5 1.2 0.930 1.00 1712 and Adjustments 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h
LOS and Perfor		-	LOS and Perf.		
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1978 70.0	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1712	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway	Segments Release	5.2	HCS+: Basic Freewa	y Segments Release	5.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational An	alvsis		Operational	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 SB From/To: I-80 to Harding Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - PM	Blvd		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 NB From/To: Harding Blvd/ Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project -	Blue Oaks	
Flow Inputs an	d Adjustments		Flow Inputs	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 3.0 70.0	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h
LOS and Perfor	Urban Freew	-	LOS and Perf	Urban Freew	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1642 70.0 69.2 3 23.7	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1785 70.0 68.0 3 26.2	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway Segments Release 5.2			HCS+: Basic Freeway	HCS+: Basic Freeway Segments Release 5.2			
Phone:	Fax:		Phone:	Fax:			
E-mail:			E-mail:				
Operational An	alysis		Operational #	Analysis			
Analyst:Arthur BlackAgency or Company:LSADate Performed:8/07/2008Analysis Time Period:Freeway/Direction:Freeway/Direction:Rte-65 NBFrom/To:Harding Blvd/BlJurisdiction:RocklinAnalysis Year:Description:2025 Without Project - PM			Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 SB From/To: Harding Blvd/F Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - 7				
Flow Inputs an			Flow Inputs a				
<pre>Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLD Number of lanes adjustment, fN</pre>	4808 0.90 1336 15 0 Level 0.00 1.5 1.2 0.930 1.00 1914 nd Adjustments 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.5 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	<pre>veh/h v % % % mi pc/h/ln ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h</pre>	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fID Number of lanes adjustment, fID	4454 0.90 1237 15 0 Level 0.00 1.5 1.2 0.930 1.00 1.773 and Adjustments_ 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	<pre>veh/h v % % % mi pc/h/ln ft ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h</pre>		
Number of lanes adjustment, fN Free-flow speed, FFS	3.0 70.0 Urban Free	mi/h	Number of lanes adjustment, fN Free-flow speed, FFS	3.0 70.0 Urban Free	mi/h		
LOS and Perfor	mance Measures_		LOS and Perfo	ormance Measures_			
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1914 70.0 66.3 3 28.9	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1773 70.0 68.1 3 26.0+	pc/h/ln mi/h mi/h pc/mi/ln		

HCS+: Basic Freeway Segments Release 5.2			HCS+: Basic Freeway	7 Segments Release	9 5.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational A	nalysis		Operational #	malysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 SB From/To: Harding Blvd/B. Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - PI	lue Oaks		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Rte 65/Rocklin Jurisdiction: Rocklin Analysis Year: Description: 2025 Without Project - F	ı Rd	
Flow Inputs an	nd Adjustments		Flow Inputs a	and Adjustments	
<pre>Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fN Free-flow speed, FFS</pre>	4155 0.90 1154 15 0 Level 0.00 1.5 1.2 0.930 1.00 1654 and Adjustments_ 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	ft ft interchange/mi mi/h mi/h mi/h mi/h	<pre>Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS</pre>	3995 0.90 1110 6 0 Level 0.00 1.5 1.2 0.971 1.00 1524 and Adjustments_ 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h
LOS and Perfo		-	LOS and Perfo		-
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1654 70.0 69.1 3 23.9	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1524 70.0 69.7 3 21.9	pc/h/ln mi/h mi/h pc/mi/ln

Ope analyst: Arth Agency or Company: LSA late Performed: 8/07 irreway/Direction: I-80 irreway/Direction: I-80 irreway/Direction: Rock analysis Year: Description: 2025 With Proj Flo Flo Yolume, V teak-hour factor, PHF teak 15-min volume, v15 irucks and buses tecreational vehicles 'errain type: Grade	/2008 EB Intic St/Taylor Rd lin ect - AM w Inputs and Adjustments 5401 0.90 1500			Phone: E-mail: Operational Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: I-80 EB From/To: Atlantic St/? Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM Flow Inputs	Taylor Rd	
Analyst: Arth Agency or Company: LSA Date Performed: 8/07 Analysis Time Period: Freeway/Direction: I-80 From/To: Atla Jurisdiction: Rock Analysis Year: Description: 2025 With Proj Flo Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade	ur Black /2008 EB ntic St/Taylor Rd lin ect - AM w Inputs and Adjustments 5401 0.90 1500			Operational Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Atlantic St/ Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM	Taylor Rd	
Analyst: Arth Agency or Company: LSA Date Performed: 8/07 Analysis Time Period: Freeway/Direction: I-80 From/To: Atla Jurisdiction: Rock Analysis Year: Description: 2025 With Proj Flo Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade	ur Black /2008 EB ntic St/Taylor Rd lin ect - AM w Inputs and Adjustments 5401 0.90 1500			Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Atlantic St/T Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM	Taylor Rd	
Agency or Company: LSA Date Performed: 8/07 Analysis Time Period: Freeway/Direction: I-80 From/To: Atla Jurisdiction: Rock Analysis Year: Description: 2025 With Proj Flo Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade	/2008 EB Intic St/Taylor Rd Iin ect - AM w Inputs and Adjustments 5401 0.90 1500			Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Atlantic St/ Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM	Faylor Rd	
Jurisdiction: Rock Analysis Year: Description: 2025 With Proj Flo Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade	lin ect - AM w Inputs and Adjustments 5401 0.90 1500			Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM	-	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade	5401 0.90 1500			Flow Inputs	and Adjustments	
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade	0.90 1500	veh/h	1 1			
Trucks and buses Recreational vehicles Terrain type: Grade		,		Volume, V Peak-hour factor, PHF	7419 0.90	veh/h
Recreational vehicles Terrain type: Grade		V		Peak 15-min volume, v15	2061	V
Terrain type: Grade	6 0	8 8		Trucks and buses Recreational vehicles	6 0	8 8
Grade	Level	ъ		Terrain type:	Level	70
Segment length	0.00	8		Grade	0.00	옹
Trucke and bucce BCE ET	0.00	mi		Segment length	0.00	mi
ILUCKS and Duses FCE, EI	1.5			Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2				1.2	
Heavy vehicle adjustment, fH				Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00 1545	na/h/ln		Driver population factor, fp	1.00 2123	ma/h/lm
Flow rate, vp		pc/h/ln		Flow rate, vp		pc/h/ln
Spe	ed Inputs and Adjustments			Speed Input:	s and Adjustments	
Lane width	12.0	ft		Lane width	12.0	ft
Right-shoulder lateral clear		ft		Right-shoulder lateral clearance	6.0	ft
Interchange density		interchange/mi		Interchange density	0.50	interchange/mi
Number of lanes, N Free-flow speed:	4 Measured			Number of lanes, N Free-flow speed:	4 Measured	
Free-flow speed: FFS or BFFS	Measured 70.0	mi/h		Free-flow speed: FFS or BFFS	Measured 70.0	mi/h
Lane width adjustment, fLW		mi/h		Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment		mi/h		Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustme		mi/h		Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment,		mi/h		Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0 Urber Erece	mi/h		Free-flow speed, FFS	70.0 Unber Energy	mi/h
	Urban Freew	-			Urban Freew	*
LOS	and Performance Measures			LOS and Per:		
Flow rate, vp	1545	pc/h/ln		Flow rate, vp	2123	pc/h/ln
Free-flow speed, FFS	70.0	mi/h		Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed,	S 69.7	mi/h		Average passenger-car speed, S	62.2	mi/h
Number of lanes, N Density, D	4 22.2	pc/mi/ln		Number of lanes, N Density, D	4 34.2	pc/mi/ln
Density, D	22.2	bc/mt/tu		Density, D	34.2	bc/mt/tu

HCS+: Basic Freeway	Segments Release	5.2	HCS+: Basic Freewa	y Segments Release	5.2
Phone:	Fax:		Phone:	Fax:	
E-mail:			E-mail:		
Operational An	alysis		Operational	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Atlantic St/Tay Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - AM	lor Rd		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Atlantic St/T Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM	aylor Rd	
Flow Inputs an	d Adjustments		Flow Inputs	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density	0 Level 0.00 1.5 1.2 0.971 1.00 1873	<pre>veh/h v % % % mi pc/h/ln ft ft ft interchange/mi</pre>	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density	0 Level 0.00 1.5 1.2 0.971 1.00 1935	<pre>veh/h v % % % mi pc/h/ln ft ft interchange/mi</pre>
Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freet	mi/h mi/h mi/h mi/h mi/h	Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	4 Measured 70.0	mi/h mi/h mi/h mi/h mi/h
LOS and Perfor	mance Measures_		LOS and Perf	ormance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1873 70.0 66.9 4 28.0	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1935 70.0 66.0 4 29.3	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway Segments Release 5.2			HCS+: Basic Freewa	y Segments Release	5.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational An	alucio		Operational	Analyzaia	
Operational An	aiysis		Operational	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I=80 EB From/To: Taylor Rd/Rte 6 Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - AM	5		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Taylor Rd/Rte Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM	65	
Flow Inputs an	d Adjustments		Flow Inputs	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 0.0 1.5 70.0	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 0.0 1.5 70.0	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h
	Urban Freev	-		Urban Freew	-
LOS and Perfor	mance Measures		LOS and Perf	ormance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1527 70.0 69.7 4 21.9	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1948 70.0 65.8 4 29.6	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway :	Segments Releas	e 5.2	HCS+: Basic Freeway	Segments Release	5.2
Phone:	Fax:		Phone:	Fax:	
E-mail:			E-mail:		
Operational Ana	alysis		Operational A	nalysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Taylor Rd/Rte 6 Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - AM	5		Analyst:Arthur BlackAgency or Company:LSADate Performed: $8/07/2008$ Analysis Time Period:Freeway/Direction:Freeway/Direction:I-80 WBFrom/To:Taylor Rd/RteJurisdiction:RocklinAnalysis Year:Description:Description:2025 With Project - PM	65	
Flow Inputs and	d Adjustments		Flow Inputs a	nd Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs an Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID	5616 0.90 1560 6 0 Level 0.00 1.5 1.2 0.971 1.00 1607 nd Adjustments_ 12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	<pre>veh/h v % % % mi pc/h/ln ft ft interchange/mi mi/h mi/h mi/h mi/h</pre>	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fLD	6236 0.90 1732 6 0 Level 0.00 0.00 1.5 1.2 0.971 1.00 1784 and Adjustments 12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	<pre>veh/h v % % % mi pc/h/ln ft ft ft interchange/mi mi/h mi/h mi/h mi/h</pre>
Number of lanes adjustment, fN Free-flow speed, FFS	1.5 70.0 Urban Free	mi/h mi/h	Number of lanes adjustment, fN Free-flow speed, FFS	1.5 70.0 Urban Freew	mi/h mi/h
LOS and Perform	mance Measures_		LOS and Perfc	rmance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1607 70.0 69.4 4 23.2	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1784 70.0 68.0 4 26.2	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway S	e 5.2	HCS+: Basic Freeway	HCS+: Basic Freeway Segments Release 5.2				
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:			
Operational Ana	alysis		Operational #	nalysis			
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Rte 65/Rocklin H Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM	Rd		Analyst:Arthur BlackAgency or Company:LSADate Performed: $8/07/2008$ Analysis Time Period:Freeway/Direction:I-80 WBFrom/To:Rte 65/RocklirJurisdiction:RocklinAnalysis Year:Description:Description:2025 With Project - AM	Rd			
Flow Inputs and	d Adjustments		Flow Inputs a	nd Adjustments			
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs an Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed:	5052 0.90 1403 6 0 Level 0.00 0.00 1.5 1.2 0.971 1.00 1927 nd Adjustments_ 12.0 6.0 0.50 3 Meesured	<pre>veh/h v % % mi pc/h/ln ft ft interchange/mi</pre>	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed:	4109 0.90 1141 6 0 Level 0.00 0.00 1.5 1.2 0.971 1.00 1568 and Adjustments 12.0 6.0 0.50 3 Measured	<pre>veh/h v % % % mi pc/h/ln ft ft interchange/mi</pre>		
Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	Measured 70.0 0.0 0.0 3.0 70.0 Urban Free	mi/h mi/h mi/h mi/h mi/h mi/h	Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	Measured 70.0 0.0 0.0 3.0 70.0 Urban Freew	mi/h mi/h mi/h mi/h mi/h ay		
LOS and Perform	mance Measures_		LOS and Perfo	rmance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1927 70.0 66.1 3 29.1	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1568 70.0 69.6 3 22.5	pc/h/ln mi/h mi/h pc/mi/ln		

HCS+: Basic Freeway Segments Release 5.2			HCS+: Basic Freeway	/ Segments Releas	se 5.2
Phone: E-mail: Operational An	Fax: alvsis		Phone: E-mail: Operational #	Fax:	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Rte 65/Rocklin Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM			Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB	erra College Blvc	
Flow Inputs an Volume, V Peak-hour factor, PHF	4852 0.90	veh/h	Flow Inputs a Volume, V Peak-hour factor, PHF	3654 0.90	veh/h
Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:	1348 6 0 Level	v ६ ६	Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:	1015 6 0 Level	V & &
Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER	0.00 0.00 1.5 1.2	% mi	Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER	0.00 0.00 1.5 1.2	% mi
Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	0.971 1.00 1851	pc/h/ln	Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	0.971 1.00 1394	pc/h/ln
Speed Inputs a	nd Adjustments_		Speed Inputs	and Adjustments_	
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Free	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h way	Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 3.0 70.0 Urban Free	<pre>ft ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m</pre>
LOS and Perform	mance Measures_		LOS and Perfc	ormance Measures_	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1851 70.0 67.2 3 27.5	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1394 70.0 70.0 3 19.9	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway	Segments Release			eeway Segments Releas	6 3.2
Phone: 	Fax:		Phone: E-mail:	Fax:	
Operational Ar	nalvsis		Operation	nal Analysis	
Analyst: Arthur Black gency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period:			Analyst: Arthur Bla Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period:		
<pre>Preeway/Direction: I-80 EB Prom/To: Rocklin Rd/Sier Uurisdiction: Rocklin unalysis Year: Description: 2025 With Project - PM</pre>	rra College Blvd		Freeway/Direction: I-80 WB From/To: Rocklin Ro Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project -	d/Sierra College Blvd	I
-					
Flow Inputs an	nd Adjustments		Flow Inpu	uts and Adjustments	
Yolume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses	5039 0.90	veh/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses	4632 0.90	veh/h
eak 15-min volume, v15	1400	v	Peak 15-min volume, v15	1287	v
Trucks and buses Recreational vehicles	6 0	90 90	Trucks and buses Recreational vehicles	6 0	8 8
Cerrain type:	Level	8	Terrain type:	Level	8
Grade	0.00	ş	Creada	0.00	웈
Grade Segment length Crucks and buses PCE, ET Recreational vehicle PCE, ER leavy vehicle adjustment, fHV Driver population factor, fp Tlow rate, vp	0.00	mi	Segment length Trucks and buses PCE, ET	0.00	mi
rucks and buses PCE, ET	1.5		Trucks and buses PCE, ET	1.5	
ecreational vehicle PCE, ER	1.2		Recreational vehicle PCE, ER	1.2	
eavy vehicle adjustment, fHV	0.971		Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	0.971	
river population factor, fp	1.00		Driver population factor, fp	1.00	(2.1.2
low rate, vp	1922	pc/h/ln			pc/h/ln
Speed Inputs a	and Adjustments		Speed In	puts and Adjustments_	
ane width	12.0	ft	Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft	Right-shoulder lateral clearance	C 0	ft
	0.50	interchange/mi	Interchange density	0 50	interchange/mi
nterchange density Number of lanes, N Yree-flow speed:	3		Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC	3	
	Measured		Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h mi/h	FFS or BFFS	70.0	mi/h mi/h
ane width adjustment, fLW	0.0	mı/h mi/h	Lane width adjustment, iLW	0.0	mi/h mi/h
ateral clearance adjustment, ill	0.0	mi/h	Interchange density adjustment, fi	ID 0.0	mi/h
FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Vece-flew encode EFE	3.0		Number of lanes adjustment, fN		mi/h mi/h
ree-flow speed, FFS	3.0 70.0	mi/h	Free-flow speed, FFS	3.0 70.0	mi/h
··· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ··	Urban Freev			Urban Free	way
LOS and Perfor	rmance Measures		LOS and H	Performance Measures_	
low rate, vp Tree-flow speed, FFS	1922 70.0	pc/h/ln mi/h	Flow rate, vp Free-flow speed, FFS	1767	pc/h/ln mi/h
'ree-flow speed, FFS werage passenger-car speed, S Number of lanes, N	/0.0	mı/h mi/h	Flow face, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	/ U . U	mi/h mi/h
.veraye passenyer-car speed, s	2	111 1 / 11	Number of lares N	00.2 3	111 1 / 11
'umber of lanes. N			number of failes, h	5	

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Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational	Analysis		Operational	Analysis	
Analyst:Arthur BlackAgency or Company:LSADate Performed:8/07/2008Analysis Time Period:Freeway/Direction:Freeway/Direction:I-80 WBFrom/To:Rocklin Rd/SJurisdiction:RocklinAnalysis Year:Description:2025 With Project - PM	ierra College Blvd		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Sierra Colle Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - AN	ge Blvd/Horseshoe	
Flow Inputs	and Adjustments		Flow Inputs		
Flow Inputs Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	0.00 0.00 1.5 1.2 0.971 1.00 1683 s and Adjustments 12.0 6.0 0.50	<pre>% mi pc/h/ln ft ft interchange/mi</pre>	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Input Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fIC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	0.00 0.00 1.5 1.2 0.971 1.00 1267 .s and Adjustments_ 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h
LOS and Per			LOS and Per		-
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D			Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D		

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Phone:	Fax:		Phone:	Fax:	
E-mail:			E-mail:		
Operational Ana	alysis		Operational	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Sierra College H Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM	Blvd/Horseshoe		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB From/To: Sierra Colleg Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - AM	e Blvd/Horseshoe	
Flow Inputs and	d Adjustments		Flow Inputs	and Adjustments	
Trucks and Duses Recreational vehicles Terrain type: Grade	1010	<pre>veh/h v % % % mi pc/h/ln ft ft interchange/mi</pre>	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: EFS or PEES	6 0 Level 0.00 1.5 1.2 0.971 1.00 1773	<pre>veh/h v % % % mi pc/h/ln ft ft interchange/mi</pre>
FFS or BFFS FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	70.0 0.0 0.0	mi/h mi/h mi/h mi/h mi/h mi/h	FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	70.0 0.0 0.0 0.0	mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Perform	mance Measures		LOS and Perf	ormance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1949 70.0 65.8 3 29.6	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1773 70.0 68.1 3 26.0+	pc/h/ln mi/h mi/h pc/mi/ln

	Segments Releas	- 5.2	HCS+: Basic Freewa	y Segments Refea	Se J.2
Phone: E-mail:	Fax:		Phone: E-mail:	Fax:	
Operational A	nalysis		Operational	Analysis	
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 WB	Blvd/Horseshoe		Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 NB From/To: I-80 to Hardi Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - AM		
Flow Inputs as	nd Adjustments		Flow Inputs	and Adjustments_	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	0 Level 0.00 1.5 1.2 0.971 1.00 1536 and Adjustments_ 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0	ft ft interchange/mi mi/h mi/h mi/h mi/h	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	Level 0.00 0.00 1.5 1.2 0.930 1.00 1879 and Adjustments 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0	<pre>veh/h v % % % mi pc/h/ln ft ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h</pre>
	0120411 1100	wау		Urban Free	eway
LOS and Perfo	rmance Measures_		LOS and Perf	formance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1536 70.0 69.7 3 22.0	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1879 70.0 66.9 3 28.1	pc/h/ln mi/h mi/h pc/mi/ln

HCS+: Basic Freeway	Segments Releas	e 5.2	HCS+: Basic Freewa	y Segments Release	e 5.2	
Phone:	Fax:		Phone:	Fax:		
E-mail:			E-mail:			
Operational An	alysis		Operational	Analysis		
Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 NB From/To: I-80 to Harding Blvd Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - PM			Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: Rte-65 SB From/To: I-80 to Harding Blvd Jurisdiction: Rocklin Analysis Year: Description: 2025 With Project - AM			
Flow Inputs an	d Adjustments		Flow Inputs	and Adjustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles	5010 0.90 1392 15 0	veh/h v %	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles	4308 0.90 1197 15 0	veh/h v %	
Terrain type: Grade	Level 0.00 0.00	s mi	Terrain type: Grade	Level 0.00 0.00	° % mi	
Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	1.5 1.2 0.930 1.00 1995	pc/h/ln	Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	1.5 1.2 0.930 1.00 1715	pc/h/ln	
Speed Inputs a		-	Speed Inputs		-	
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Free	-	Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	0.0 3.0 70.0 Urban Freev	-	
LOS and Perfor	mance Measures_		LOS and Perf	ormance Measures		
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1995 70.0 64.9 3 30.7	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1715 70.0 68.7 3 25.0	pc/h/ln mi/h mi/h pc/mi/ln	

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Phone:	Fax:		Phone:	Fax:			
E-mail:			E-mail:				
Operational An	alysis		Operational	Analysis			
Analyst:Arthur BlackAgency or Company:LSADate Performed:8/07/2008Analysis Time Period:Freeway/Direction:Freeway/Direction:Rte-65 SBFrom/To:I-80 to Harding BlvdJurisdiction:RocklinAnalysis Year:Description:2025 With Project - PM			Jurisdiction: Rocklin Analysis Year:	Agency or Company:LSADate Performed:8/07/2008Analysis Time Period:Freeway/Direction:Rte-65 NBFrom/To:Harding Blvd/Blue OaksJurisdiction:Rocklin			
Flow Inputs an	d Adjustments		Flow Inputs	and Adjustments			
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC	4170 0.90 1158 15 0 Level 0.00 0.00 1.5 1.2 0.930 1.00 1660 nd Adjustments_ 12.0 6.0 0.50 3 Measured 70.0 0.0	<pre>veh/h v % % % mi pc/h/ln ft ft interchange/mi mi/h mi/h mi/h</pre>	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC	15 0 Level 0.00 1.5 1.2 0.930 1.00 1738 and Adjustments 12.0 6.0 0.50 3 Measured 70.0 0.0	<pre>veh/h v % % % mi pc/h/ln ft ft interchange/mi mi/h mi/h mi/h</pre>		
Interchange density adjustment, fDC Number of lanes adjustment, fN Free-flow speed, FFS	0.0 0.0 3.0 70.0 Urban Freev	mi/h mi/h mi/h	Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	0.0 0.0 3.0 70.0 Urban Freew	mi/h mi/h mi/h		
LOS and Perfor	mance Measures_		LOS and Perf	ormance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1660 70.0 69.1 3 24.0	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1738 70.0 68.5 3 25.4	pc/h/ln mi/h mi/h pc/mi/ln		

HCS+: Basic Freeway Segments Release 5.2			HCS+: Basic Freeway Segments Release 5.2			
Phone:	Fax:		Phone:	Fax:		
E-mail:			E-mail:			
Operational An	alysis		Operational 2	Analysis		
Analyst:Arthur BlackAgency or Company:LSADate Performed:8/07/2008Analysis Time Period:Freeway/Direction:Freeway/Direction:Rte-65 NBFrom/To:Harding Blvd/Blue OaksJurisdiction:RocklinAnalysis Year:Description:Description:2025 With Project - PM			Analyst:Arthur BlackAgency or Company:LSADate Performed: $8/07/2008$ Analysis Time Period:Freeway/Direction:Rte-65 SBFrom/To:Harding Blvd/Blue OaksJurisdiction:RocklinAnalysis Year:Description:2025 With Project - AM			
Flow Inputs an	d Adjustments		Flow Inputs a	and Adjustments		
<pre>Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vpSpeed Inputs a Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLD Number of lanes adjustment, fN Free-flow speed, FFS</pre>	4825 0.90 1340 15 0 Level 0.00 1.5 1.2 0.930 1.921 and Adjustments_ 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	<pre>veh/h v % % % mi pc/h/ln ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h</pre>	Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp Speed Inputs Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	4299 0.90 1194 15 0 Level 0.00 1.5 1.2 0.930 1.00 1712 and Adjustments 12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	<pre>veh/h v % % % mi pc/h/ln ft ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h</pre>	
LOS and Performance Measures		LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1921 70.0 66.2 3 29.0	pc/h/ln mi/h mi/h pc/mi/ln	Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D	1712 70.0 68.7 3 24.9	pc/h/ln mi/h mi/h pc/mi/ln	

HCS+: Basic Freeway Segments Release 5.2			HCS+: Basic Freeway	HCS+: Basic Freeway Segments Release 5.2			
Phone:	Fax:		Phone:	Fax:			
E-mail:			E-mail:				
Operational An	alysis		Operational #	Analysis			
Analyst:Arthur BlackAgency or Company:LSADate Performed:8/07/2008Analysis Time Period:Freeway/Direction:Freeway/Direction:Rte-65 SBFrom/To:Harding Blvd/Blue OaksJurisdiction:Rocklin			Analyst: Arthur Black Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Rte 65/Rocklin Jurisdiction: Rocklin	Agency or Company: LSA Date Performed: 8/07/2008 Analysis Time Period: Freeway/Direction: I-80 EB From/To: Rte 65/Rocklin Rd			
Analysis Year: Description: 2025 With Project - PM			Analysis Year: Description: 2025 With Project - AM				
Flow Inputs an	d Adjustments		Flow Inputs a	and Adjustments			
Volume, V	4023	veh/h	Volume, V	4025	veh/h		
Peak-hour factor, PHF Peak 15-min volume, v15	0.90	V	Peak-hour factor, PHF Peak 15-min volume, v15	0.90	77		
Trucks and buses	15	× &	Trucks and buses	6	v S		
Recreational vehicles	0	ş	Recreational vehicles	Ő	9 8		
Terrain type:	Level	-	Terrain type:	Level	-		
Grade	0.00	8	Grade	0.00	옹		
Segment length	0.00	mi	Segment length	0.00	mi		
Trucks and buses PCE, ET	1.5		Trucks and buses PCE, ET	1.5			
Recreational vehicle PCE, ER	1.2		Recreational vehicle PCE, ER	1.2			
Heavy vehicle adjustment, fHV	0.930		Heavy vehicle adjustment, fHV	0.971			
Driver population factor, fp	1.00		Driver population factor, fp	1.00			
Flow rate, vp	1602	pc/h/ln	Flow rate, vp	1535	pc/h/ln		
Speed Inputs a	nd Adjustments		Speed Inputs	and Adjustments			
Lane width	12.0	ft	Lane width	12.0	ft		
Right-shoulder lateral clearance	6.0	ft	Right-shoulder lateral clearance	6.0	ft		
Interchange density	0.50	interchange/mi	Interchange density	0.50	interchange/mi		
Number of lanes, N	3	· · ·	Number of lanes, N	3			
Free-flow speed:	Measured		Free-flow speed:	Measured			
FFS or BFFS	70.0	mi/h	FFS or BFFS	70.0	mi/h		
Lane width adjustment, fLW	0.0	mi/h	Lane width adjustment, fLW	0.0	mi/h		
Lateral clearance adjustment, fLC	0.0	mi/h	Lateral clearance adjustment, fLC	0.0	mi/h		
Interchange density adjustment, fID	0.0	mi/h	Interchange density adjustment, fID	0.0	mi/h		
Number of lanes adjustment, fN	3.0	mi/h	Number of lanes adjustment, fN	3.0	mi/h		
Free-flow speed, FFS	70.0 Urban Free	mi/h	Free-flow speed, FFS	70.0 Urban Freew	mi/h		
		*			ay		
LOS and Perform	-			ormance Measures			
Flow rate, vp	1602	pc/h/ln	Flow rate, vp	1535	pc/h/ln		
Free-flow speed, FFS	70.0	mi/h	Free-flow speed, FFS	70.0	mi/h		
Average passenger-car speed, S	69.4	mi/h	Average passenger-car speed, S	69.7	mi/h		
Number of lanes, N Density, D	3 23.1		Number of lanes, N Density, D	3 22.0	pc/mi/ln		
	23 1	pc/mi/ln	L Longity D	22.0			