Appendix 3.4B Table 1
Construction Onsite Offroad Equipment Hours, Emission Factors, and Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Offroad Equipment Description	HP	Load Factor [1] ( )	Off-Road or On-Road?	Tier	Annual Use (hrs/yr)	Daily Use (hrs/day)	Average Speed[3] (mph)	Daily Distance Traveled (mi)	Annual Distance Traveled (mi)	ARB Off-Road or EPA Nonroad[2] Emission Factors (g/bhp-hr)										Onroad Emission Factors (lbs/VMT) (3)										Daily Offroad Equipment Emissions (lbs/day)										Annual Offroad Equipment Emissions (tpy)									
										NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Site Preparation																																															
Water truck, 2012 Model Year	381 (1)	0.57	On		52	4	5.0	20.0	260.0	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	##########	9 (21,22)	2.55E-01	2.18E-01	1.10E-01	3.34E-01	3.16E-03	2.91E-03	1.70E+02	0.007 (18,19)	0.0014 (18,20)	171 (21,22)	1.66E-03	1.42E-03	7.12E-04	2.17E-03	2.06E-05	1.89E-05	1.11E+00	0.000045 (18,19)	0.0000089 (18,20)	1.11 (21,22)
Backhoe	75 (1)	0.55	Off	3	40	8	0.5	4.0	20.0	6.9 (4)	3.49 (2)	1.80 (4)	0.0056 (5)	0.76 (4)	0.70 (6)	591 (7)	0.024 (18,19)	##########	593 (21,22)	-	-	-	-	-	-	-	-	-	-	5.02E+00	2.54E+00	1.31E+00	4.04E-03	5.53E-01	5.09E-01	4.30E+02	0.017 (18,19)	0.0035 (18,20)	431 (21,22)	1.26E-02	6.35E-03	3.27E-03	1.01E-05	1.38E-03	1.27E-03	1.07E+00	0.000044 (18,19)	0.0000089 (18,20)	1.08 (21,22)
Wheeled Loader	87 (1)	0.54	Off	3	12	4	2.0	8.0	24.0	2.45 (4)	0.843 (2)	0.10 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	##########	533 (21,22)	-	-	-	-	-	-	-	-	-	-	1.02E+00	3.49E-01	4.14E-02	2.07E-03	4.56E-02	4.19E-02	2.20E+02	0.009 (18,19)	0.0018 (18,20)	221 (21,22)	1.52E-03	5.24E-04	6.22E-05	3.10E-06	6.84E-05	6.29E-05	3.30E-01	0.000013 (18,19)	##########	0.33 (21,22)
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (4)	0.57 (11)	Off	3?	156.0	12.0	7.5	90.0	1,170	8.43 (12)	107.2 (12)	3.85 (12)	0.010 (13)	0.06 (12)	0.055 (6)	456 (7)	0.018 (18,19)	##########	457 (21,22)	-	-	-	-	-	-	-	-	-	-	5.09E+00	6.47E+01	2.32E+00	6.02E-03	3.62E-02	3.33E-02	2.75E+02	0.011 (18,19)	0.0022 (18,20)	276 (21,22)	3.31E-02	4.20E-01	1.51E-02	3.92E-05	2.39E-04	2.16E-04	1.79E+00	0.000073 (18,19)	0.000015 (18,20)	1.79 (21,22)
Site Preparation Subtotal:	**-**	**-**	**-**	**-**	**260.0**	**28.8**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**11.7**	**68**	**3.8**	**0.347**	**0.64**	**0.59**	**1,128**	**0.046 (18,19)**	**0.0092 (18,20)**	##########	**0.049**	**0.43**	**0.019**	**0.002226**	**0.0017**	**0.0016**	**4.3**	**0.00017 (18,19)**	**0.000035 (18,20)**	**4.3 (21,22)**
Grading																																															
Water truck, 2012 Model Year	381 (1)	0.57	On		52	4	5.0	20.0	260.0	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	##########	9 (21,22)	2.55E-01	2.18E-01	1.10E-01	3.34E-01	3.16E-03	2.91E-03	1.70E+02	0.007 (18,19)	0.0014 (18,20)	171 (21,22)	1.66E-03	1.42E-03	7.12E-04	2.17E-03	2.06E-05	1.89E-05	1.11E+00	0.000045 (18,19)	0.0000089 (18,20)	1.11 (21,22)
Backhoe	75 (1)	0.55	Off	3	40	8	0.5	4.0	20.0	6.9 (4)	3.49 (2)	1.80 (4)	0.0056 (5)	0.76 (4)	0.70 (6)	591 (7)	0.024 (18,19)	##########	593 (21,22)	-	-	-	-	-	-	-	-	-	-	5.02E+00	2.54E+00	1.31E+00	4.04E-03	5.53E-01	5.09E-01	4.30E+02	0.017 (18,19)	0.0035 (18,20)	431 (21,22)	1.26E-02	6.35E-03	3.27E-03	1.01E-05	1.38E-03	1.27E-03	1.07E+00	0.000044 (18,19)	0.0000089 (18,20)	1.08 (21,22)
Wheeled Loader	87 (1)	0.54	Off	3	12	4	2.0	8.0	24.0	2.45 (4)	0.843 (2)	0.10 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	##########	533 (21,22)	-	-	-	-	-	-	-	-	-	-	1.02E+00	3.49E-01	4.14E-02	2.07E-03	4.56E-02	4.19E-02	2.20E+02	0.009 (18,19)	0.0018 (18,20)	221 (21,22)	1.52E-03	5.24E-04	6.22E-05	3.10E-06	6.84E-05	6.29E-05	3.30E-01	0.000013 (18,19)	##########	0.33 (21,22)
Mini-Excavator Cat 308E2 CR SB	65	0.57	Off	3	10.4	0.8	0.5	0.4	5.2	4.58 (4)	0.748 (2)	0.14 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	##########	533 (21,22)	-	-	-	-	-	-	-	-	-	-	2.99E-01	4.89E-02	9.15E-03	3.26E-04	7.19E-03	6.61E-03	3.47E+01	0.00141 (18,19)	##########	35 (21,22)	1.95E-03	3.18E-04	5.95E-05	2.12E-06	4.67E-05	4.30E-05	2.26E-01	0.0000092 (18,19)	##########	0.23 (21,22)
Drill Rig	82 (1)	0.75	Off		20	4	1.0	4.0	20.0	4.32 (16)	1.24 (16)	0.25 (16)	0.0049 (16)	0.13 (16)	0.12 (16)	521 (16)	0.021 (18,19)	##########	523 (21,22)	-	-	-	-	-	-	-	-	-	-	2.34E+00	6.71E-01	1.36E-01	2.66E-03	7.24E-02	6.66E-02	2.83E+02	0.011 (18,19)	0.0023 (18,20)	284 (21,22)	5.85E-03	1.68E-03	3.41E-04	6.64E-06	1.81E-04	1.67E-04	7.06E-01	0.000029 (18,19)	0.0000086 (18,20)	0.71 (21,22)
Sweyco Trail Dozer, tracked	80 (9)	0.64	Off	3	10.4	0.8	1.5	1.2	15.6	5.01 (4)	0.87 (2)	0.19 (4)	0.0050 (5)	0.24 (4)	0.22 (6)	531 (7)	0.022 (18,19)	##########	533 (21,22)	-	-	-	-	-	-	-	-	-	-	4.52E-01	7.83E-02	1.72E-02	4.51E-04	2.17E-02	1.99E-02	4.80E+01	0.0019 (18,19)	##########	48 (21,22)	2.94E-03	5.09E-04	1.12E-04	2.93E-06	1.41E-04	1.30E-04	3.12E-01	0.0000127 (18,19)	##########	0.31 (21,22)
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (4)	0.57	Off	3	156.0	12.0	7.5	90.0	1,170	8.43 (12)	107.2 (12)	3.85 (12)	0.010 (13)	0.060 (12)	0.055 (6)	456 (7)	0.018 (18,19)	##########	457 (21,22)	-	-	-	-	-	-	-	-	-	-	5.09E+00	6.47E+01	2.32E+00	6.02E-03	3.62E-02	3.33E-02	2.75E+02	0.011 (18,19)	0.0022 (18,20)	276 (21,22)	3.31E-02	4.20E-01	1.51E-02	3.92E-05	2.39E-04	2.16E-04	1.79E+00	0.000073 (18,19)	0.000015 (18,20)	1.79 (21,22)
Grading Subtotal:	**-**	**-**	**-**	**-**	**300.8**	**33.6**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**14.5**	**69**	**3.9**	**0.3500**	**0.739**	**0.680**	**1,461**	**0.059 (18,19)**	**0.0118 (18,20)**	##########	**0.060**	**0.43**	**0.020**	**0.002238**	**0.00208**	**0.00191**	**5.5**	**0.00022 (18,19)**	**0.000045 (18,20)**	**5.6 (21,22)**
Structure Construction																																														
Water truck, 2012 Model Year	381 (1)	0.57	On		368	4	5.0	20.0	1840.0	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	##########	9 (21,22)	2.55E-01	2.18E-01	1.10E-01	3.34E-01	3.16E-03	2.91E-03	1.70E+02	0.0069 (18,19)	0.0014 (18,20)	171 (21,22)	1.17E-02	1.00E-02	5.04E-03	1.54E-02	1.46E-04	1.34E-04	7.84E+00	0.000318 (18,19)	0.0000064 (18,20)	7.87 (21,22)
Backhoe	75 (1)	0.55	Off	3	80	8	0.5	4.0	40.0	6.9 (4)	3.49 (2)	1.80 (4)	0.0056 (5)	0.76 (4)	0.70 (6)	591 (7)	0.024 (18,19)	##########	593 (21,22)	-	-	-	-	-	-	-	-	-	-	5.02E+00	2.54E+00	1.31E+00	4.04E-03	5.53E-01	5.09E-01	4.30E+02	0.017 (18,19)	0.0035 (18,20)	431 (21,22)	2.51E-02	1.27E-02	6.55E-03	2.02E-05	2.76E-03	2.54E-03	2.15E+00	0.000087 (18,19)	0.000017 (18,20)	2.16 (21,22)
Wheeled Loader	87 (1)	0.54	Off	3	36	4	2.0	8.0	72.0	2.45 (4)	0.843 (2)	0.10 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	##########	533 (21,22)	-	-	-	-	-	-	-	-	-	-	1.02E+00	3.49E-01	4.14E-02	2.07E-03	4.56E-02	4.19E-02	2.20E+02	0.009 (18,19)	0.0018 (18,20)	221 (21,22)	4.57E-03	1.57E-03	1.86E-04	9.31E-06	2.05E-04	1.89E-04	9.91E-01	0.000040 (18,19)	0.0000088 (18,20)	0.99 (21,22)
Boom truck with crane, 2013 Altec AC23-95B	300 (15)	0.57	On		40	4	1.5	6.0	200.0	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	##########	9 (21,22)	7.65E-02	6.54E-02	3.29E-02	1.00E-01	9.49E-04	8.73E-04	5.11E+01	0.0021 (18,19)	0.0004 (18,20)	51 (21,22)	1.28E-03	1.09E-03	5.48E-04	1.67E-03	1.58E-05	1.46E-05	8.52E-01	0.000035 (18,19)	0.0000007 (18,20)	0.86 (21,22)
Mini-Excavator Cat 308E2 CR SB	65	0.57	Off	3	49.6	0.8	0.5	0.4	24.8	4.58 (4)	0.748 (2)	0.14 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	##########	533 (21,22)	-	-	-	-	-	-	-	-	-	-	2.99E-01	4.89E-02	9.15E-03	3.26E-04	7.19E-03	6.61E-03	3.47E+01	0.00141 (18,19)	##########	35 (21,22)	9.28E-03	1.51E-03	2.84E-04	1.01E-05	2.23E-04	2.05E-04	1.08E+00	0.000044 (18,19)	0.0000009 (18,20)	1.08 (21,22)
Forklift	149 (1)	0.3	Off		40	1.6	2.0	3.2	80.0	7.43 (16)	4.13 (16)	0.86 (16)	0.0049 (16)	0.62 (16)	0.57 (16)	521 (16)	0.021 (18,19)	##########	523 (21,22)	-	-	-	-	-	-	-	-	-	-	1.17E+00	6.51E-01	1.36E-01	7.73E-04	9.78E-02	9.00E-02	8.22E+01	0.0033 (18,19)	##########	82 (21,22)	1.46E-02	8.14E-03	1.70E-03	9.66E-06	1.22E-03	1.12E-03	1.03E+00	0.000042 (18,19)	0.0000088 (18,20)	1.03 (21,22)
Drill Rig	82 (1)	0.75	Off		60	4	1.0	4.0	60.0	4.32 (16)	1.24 (16)	0.25 (16)	0.0049 (16)	0.13 (16)	0.12 (16)	521 (16)	0.021 (18,19)	##########	523 (21,22)	-	-	-	-	-	-	-	-	-	-	2.34E+00	6.71E-01	1.36E-01	2.66E-03	7.24E-02	6.66E-02	2.83E+02	0.011 (18,19)	0.0023 (18,20)	284 (21,22)	1.76E-02	5.03E-03	1.02E-03	1.99E-05	5.43E-04	5.00E-04	2.12E+00	0.000086 (18,19)	0.0000017 (18,20)	2.13 (21,22)
Sweyco Trail Dozer, tracked	80 (9)	0.64	Off	3	49.6	0.8	1.5	1.2	74.4	5.01 (4)	0.867 (2)	0.19 (4)	0.0050 (5)	0.24 (4)	0.22 (6)	531 (7)	0.022 (18,19)	##########	533 (21,22)	-	-	-	-	-	-	-	-	-	-	4.52E-01	7.83E-02	1.72E-02	4.51E-04	2.17E-02	1.99E-02	4.80E+01	0.0019 (18,19)	##########	48 (21,22)	1.40E-02	2.43E-03	5.32E-04	1.40E-05	6.72E-04	6.18E-04	1.49E+00	0.000060 (18,19)	0.0000012 (18,20)	1.49 (21,22)
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (4)	0.57	Off	3	1,840.0	20.0	7.5	150.0	13,800	8.43 (12)	107.2 (12)	3.85 (12)	0.010 (13)	0.060 (12)	0.055 (6)	456 (7)	0.018 (18,19)	##########	457 (21,22)	-	-	-	-	-	-	-	-	-	-	8.48E+00	1.08E+02	3.87E+00	1.00E-02	6.03E-02	5.55E-02	4.58E+02	0.019 (18,19)	0.0037 (18,20)	460 (21,22)	3.90E-01	4.96E+00	1.78E-01	4.62E-04	2.77E-03	2.55E-03	2.11E+01	0.000086 (18,19)	0.00017 (18,20)	21.2 (21,22)
Helicopter	300	-	-	-	40	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.33 (17)	4.33 (17)	0.02 (17)	0.76 (17)	1.03 (17)	0.95 (6,17)	1,877 (17)	0.076 (18,19)	0.015 (18,20)	##########	1.08E-02	1.08E-02	5.00E-05	1.90E-03	2.58E-03	2.37E-03	4.69E+00	0.000190 (18,19)	0.0000038 (18,20)	4.71 (21,22)
Structural Construction Subtotal:	**-**	**-**	**-**	**-**	**2,603.2**	**55.2**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**23.4**	**116.8**	**5.7**	**1.22**	**1.9**	**1.7**	**3,654**	**0.15 (18,19)**	**0.030 (18,20)**	##########	**0.50**	**5.0**	**0.19**	**0.0195**	**0.011**	**0.010**	**43.3**	**0.0018 (18,19)**	**0.00035 (18,20)**	**43.5 (21,22)**
				Totals	**3,164**	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.61	**5.87**	**0.23**	**0.0240**	**0.015**	**0.014**	**53.2**	**0.0022 (18,19)**	**0.00043 (18,20)**	**53.3 (21,22)**

1) CalEEMod (Version 2013.2.2) Appendix D Table 3.3 default value.
2) EPA, *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression-Ignition*, ReportNR-009d, EPA-420-R-10-018, Table A4, July 2010
3) EMFAC2011-LDV V2.50.57.246 and EMFAC2011-HD.
4) http://www.rhinoforums.net/engine/44719-how-much-horsepower-does-stock-rhino-700-fi-have.html
5) Calculated from BSFC assuming 15 ppmw sulfur in Diesel fuel.
6) OFFROAD2007 uses a $PM_{10}/PM_{2.5}$ ratio = 0.92
7) Density of Distillate Fuel No. 2 (metric tons fuel/bbl fuel) = 0.1346 (CFR Part 98, Subpart MM, Table MM-1)
   CO_2 emission factor for Distillate Fuel No. 2 (metric tons CQ/bbl fuel) = 0.4296 (CFR Part 98, Subpart MM, Table MM-1)
   CO_2 emission factor for gasoline (metric tons CQ/bbl fuel) = 0.3686 (CFR Part 98, Subpart MM, Table MM-1)
8) Estimated.
9) Sweyco Trail Dozer Model 480 specification
10) Specifications for Honda Model TRX420FE
11) Assumed same as off-highway trucks in CalEEMod Appendix D Table 3.3.
12) EPA, Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition, Report NR-010e, EPA-420-R-05-019, Table 6, page 8, December 2005.
13) The sulfur concentration in gasoline is assumed to be 30 ppmw, based on EPA News Release,*EPA Sets Cleaner Fuel and Car Standards, Slashing Air Pollution and Providing Health Benefits to Thousands*, March 3, 2014, "The final fuel standards will reduce gasoline sulfur levels by more than 60 percent – down from 30 to 10 parts per million (ppm) in 2017."
14) Caterpillar, *Lease a Cat Backhoe Loader* , http://www.catresourcecenter.com/construction-backhoe-loaders.asp?SRC=CATBC1630&utm_term=excavator&utm_content=MHEX#2
15) Example: 2013 Altec AC23-95B, 29-ton crane, 10-wheel
16) CalEEMod Appendix D Table 3.4 for 2012 Forklift with 51 - 120 hp
17) Tables 4 and 5 in Appendix A, authored by Panorama Environmental, Inc. for PG&E's CEQA document to the CPUC for the Santa Cruz 115kV Reinforcement Project, http://www.cpuc.ca.gov/environment/info/panoramaenv/SantaCruz_115kVReinforcement/SantaCruz_115%20Reinforcement%20Project.html#EIR
18) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
19) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
20) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
21) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
22) N_2O Global Warming Potential (-) = 298 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)

Appendix 3.4B Table 2
Construction Fugitive Dust Emission Summary in California
Heavenly Mountain Resort Epic Discovery Project

Daily Construction Fugitive Dust Emissions in California

$PM_{2.5}$ (lb/day)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment / Project Phase:	Site Prep	Grading	Structure Construction
TRUCK WATER 3600-4000G F-R SPR BAR / MONITOR 2AX D	0.13	0.13	0.13
TRAIL DOZER	-	0.011	0.011
MINI-EXCAVATOR	-	0.0035	0.0035
BACKHOE	0.017	0.017	0.017
FORKLIFT	-	-	0.015
$PM_{2.5}$ Subtotal (lbs/day) =	0.15	0.16	0.18

PM_{10} (lb/day)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment / Project Phase:	Site Prep	Grading	Structure Construction
TRUCK WATER 3600-4000G F-R SPR BAR / MONITOR 2AX D	1.33	1.33	1.33
TRAIL DOZER	-	0.019	0.019
MINI-EXCAVATOR	-	0.035	0.035
BACKHOE	0.17	0.17	0.17
FORKLIFT	-	-	0.15
PM_{10} Subtotal (lbs/day) =	1.50	1.55	1.70

$PM_{2.5}$ (lb/day)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment / Project Phase:	Site Prep	Grading	Structure Construction
BOOM TRUCK WITH CRANE	-	-	0.048
WHEELED LOADER	0.069	0.069	0.069
DRILL RIG	-	0.030	0.030
ATVs	0.15	0.15	0.25
$PM_{2.5}$ Subtotal (lbs/day) =	0.22	0.25	0.40
$PM_{2.5}$ Total (lbs/day) =	0.37	0.41	0.58

PM_{10} (lb/day)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment / Project Phase:	Site Prep	Grading	Structure Construction
BOOM TRUCK WITH CRANE	-	-	0.48
WHEELED LOADER	0.69	0.69	0.69
DRILL RIG	-	0.30	0.30
ATVs	1.5	1.5	2.5
PM_{10} Subtotal (lbs/day) =	2.2	2.5	4.0
PM_{10} Total (lbs/day) =	3.7	4.0	5.7

Annual Construction Fugitive Dust Emissions in California

$PM_{2.5}$ (tpy)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment / Project Phase:	Site Prep	Grading	Structure Construction
TRUCK WATER 3600-4000G F-R SPR BAR / MONITOR 2AX D	0.00086	0.00086	0.0061
TRAIL DOZER	-	0.000069	0.00033
MINI-EXCAVATOR	-	0.000023	0.00011
BACKHOE	0.000043	0.000043	0.000086
FORKLIFT	-	-	0.00018
$PM_{2.5}$ Subtotal (tpy) =	0.00090	0.0010	0.0068

PM_{10} (tpy)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment / Project Phase:	Site Prep	Grading	Structure Construction
TRUCK WATER 3600-4000G F-R SPR BAR / MONITOR 2AX D	0.0086	0.0086	0.061
TRAIL DOZER	-	0.0013	0.00060
MINI-EXCAVATOR	-	0.00023	0.0011
BACKHOE	0.00043	0.00043	0.00086
FORKLIFT	-	-	0.0018
PM_{10} Subtotal (tpy) =	0.0090	0.0105	0.065

$PM_{2.5}$ (tpy)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment / Project Phase:	Site Prep	Grading	Structure Construction
BOOM TRUCK WITH CRANE	-	-	0.00079
WHEELED LOADER	0.00010	0.00010	0.00031
DRILL RIG	-	0.000076	0.00023
ATVs	0.0010	0.0010	0.011
$PM_{2.5}$ Subtotal (tpy) =	0.0011	0.0012	0.0128
$PM_{2.5}$ Total (tpy) =	0.0020	0.0021	0.020

PM_{10} (tpy)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment / Project Phase:	Site Prep	Grading	Structure Construction
BOOM TRUCK WITH CRANE	-	-	0.0079
WHEELED LOADER	0.0010	0.0010	0.0031
DRILL RIG	-	0.00076	0.0023
ATVs	0.010	0.010	0.11
PM_{10} Subtotal (tpy) =	0.011	0.012	0.13
PM_{10} Total (tpy) =	0.020	0.022	0.19

Appendix 3.4 Table 3
Construction Offsite On-Road Vehicle Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Construction Offsite On-Road Vehicle Emissions in California [1]

Materials DeliveryTruck Emissions in California

Materials Delivery Truck Peak Daily Emissions in California

Maximum Number of Deliveries per Day	Average Round-Trip Haul Distance (miles)	Vehicle-Miles Traveled per Day	Emission Factors (lbs/VMT)									Daily Emissions (lbs/day)									
			NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4 [2,3]	N_2O [2,4]	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e [5,6]
1	200	200	0.0270	0.0036	0.00077	0.000037	0.00073	0.00055	3.86	0.00016	0.000031	5.47	0.746	0.161	0.0074	0.147	0.111	779	0.032	0.0063	781
Paved-Road Fugitive Dust							0.056	0.0049								11.3	1.0				

Materials Delivery Truck Annual Emissions in California

Number of Deliveries per Year	Average Round-Trip Haul Distance (miles)	Annual Vehicle-Miles Traveled	Emission Factors (lbs/VMT)									Annual Emissions (tons/yr)									
			NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e [5,6]
19	200	3,800	0.0270	0.0036	0.00077	0.000037	0.00073	0.00055	3.86	0.00016	0.000031	0.052	0.0071	0.00153	0.000071	0.00140	0.00106	7.40	0.00030	0.000060	7.4
Paved-Road Fugitive Dust							0.056	0.0049								0.11	0.0094				

1) Maximum emissions occur during Structure Construction phase.

2) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)

3) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)

4) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 Ibid

5) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)

6) N_2O Global Warming Potential (-) = 298 Ibid

Appendix 3.4 Table 3
Construction Offsite On-Road Vehicle Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Construction Worker Vehicle Emissions in California

Worker Travel Daily Emissions in California (Maximum)																					
Max Number of Workers Per Day	Average Employee Round Trips Per Day	Number of Round Trips Per Day	Average Round Trip Distance (Miles)	Carpool Factor (No. People per Vehicle)	Vehicle Miles Traveled Per Day (Miles)	Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)								
						NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
15	1	15	40	3	200	0.00129	0.0096	0.00084	0.000011	0.000229	0.000159	1.13	0.000046	0.0000091	0.26	2.3	0.27	0.0023	0.046	0.032	232	0.0094	0.0019	233
Paved-Road Fugitive Dust										0.0047	0.0012								0.94	0.23				

Worker Travel Annual Emissions in California																							
Annual Average (Weighted) Number of Workers Per Day	Average Employee Round Trips Per Day	Total Number of Round Trips Per Day	Average Round Trip Distance (Miles)	Carpool Factor (No. People per Vehicle)	Number of Construction Days	Vehicle Miles Traveled Per Year	Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)								
							NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
13.3	1	13.3	40	3	118	21,000	0.00129	0.0096	0.00084	0.000011	0.000229	0.000159	1.13	0.000046	0.0000091	0.014	0.12	0.015	0.00012	0.0024	0.0017	12.2	0.00050	9.9E-05	12.3
Paved-Road Fugitive Dust											0.0047	0.0012								0.049	0.012				

Appendix 3.4 Table 4
Construction Onsite Offroad Equipment Hours, Emission Factors, and Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Offroad Equipment Description	HP	Load Factor (-) [1]	Off-Road or On-Road?	Tier	Annual Use (hrs/yr)	Daily Use (hrs/day)	Average Speed[4] (mph)	Daily Distance Traveled (mi)	Annual Distance Traveled (mi)	ARB Off-Road or EPA Nonroad[2] Emission Factors (g/bhp-hr)										Onroad Emission Factors (lbs/VMT) (3)									
										NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Site Preparation																													
Water truck, 2012 Model Year	381 (1)	0.57	On		104	8	5	40	520	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	0.000069 (18,20)	9 (21,22)
Backhoe, Cat 416F	75 (1)	0.55	Off	3	120	16	0.5	8	60	6.9 (4)	3.49 (2)	1.80 (4)	0.0056 (5)	0.76 (4)	0.70 (6)	591 (7)	0.024 (18,19)	0.0048 (18,20)	593 (21,22)	-	-	-	-	-	-	-	-	-	-
Wheeled Loader, Cat 924K	87 (1)	0.54	Off	3	48	8	2.0	16	96	2.45 (4)	0.843 (2)	0.10 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (10)	0.57 (11)	Off	3	312.0	24.0	7.5	180	2,340	8.43 (12)	107.23 (12)	3.85 (12)	0.0100 (13)	0.06 (12)	0.055 (6)	456 (7)	0.018 (18,19)	0.0037 (18,20)	457 (21,22)	-	-	-	-	-	-	-	-	-	-
Site Preparation Subtotal:	**-**	**-**	**-**	**-**	**584.0**	**72.0**		-	-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	-	-	-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Grading																													
Water truck, 2012 Model Year	381 (1)	0.57	On		104	8	5	40	520	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	0.000069 (18,20)	9 (21,22)
Backhoe, Cat 416F	75 (1)	0.55	Off	3	120	16	0.5	8	60	6.9 (4)	3.49 (2)	1.80 (4)	0.0056 (5)	0.76 (4)	0.70 (6)	591 (7)	0.024 (18,19)	0.0048 (18,20)	593 (21,22)	-	-	-	-	-	-	-	-	-	-
Wheeled Loader, Cat 924K	87 (1)	0.54	Off	3	48	8	2.0	16	96	2.45 (4)	0.843 (2)	0.10 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
Mini-Excavator Cat 308E2 CR SB	65	0.57	Off	3	104	8	0.5	4	52	4.58 (4)	0.748 (2)	0.14 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
Drill Rig	82 (1)	0.75	Off		40	8	1.0	8	40	4.3157 (16)	1.2363 (16)	0.2513 (16)	0.0049 (16)	0.1335 (16)	0.1228 (16)	521 (16)	0.021 (18,19)	0.0042 (18,20)	523 (21,22)	-	-	-	-	-	-	-	-	-	-
Sweyco Trail Dozer, tracked	80 (9)	0.64	Off	3	104.0	8	1.5	12	156	5.01 (4)	0.867 (2)	0.19 (4)	0.0050 (5)	0.24 (4)	0.22 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (10)	0.57	Off	3	312.0	24.0	7.5	180	2,340	8.43 (12)	107.23 (12)	3.85 (12)	0.0100 (13)	0.06 (12)	0.055 (6)	456 (7)	0.018 (18,19)	0.0037 (18,20)	457 (21,22)	-	-	-	-	-	-	-	-	-	-
Grading Subtotal:	**-**	**-**	**-**	**-**	**832.0**	**80.0**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Structure Construction																													
Water truck, 2012 Model Year	381 (1)	0.57	On		736	8	5	40	3,680	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	0.000069 (18,20)	9 (21,22)
Backhoe, Cat 416F	75 (1)	0.55	Off	3	240	16	0.5	8	120	6.9 (4)	3.49 (2)	1.80 (4)	0.0056 (5)	0.76 (4)	0.70 (6)	591 (7)	0.024 (18,19)	0.0048 (18,20)	593 (21,22)	-	-	-	-	-	-	-	-	-	-
Wheeled Loader, Cat 924K	87 (1)	0.54	Off	3	144	8	2.0	16	288	2.45 (4)	0.843 (2)	0.10 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
Boom truck with crane, 2013 Altec AC23-95B	300 (15)	0.57	On		80	8	1.5	12	400	-	-	-	-	-	-	-	-	-		1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	0.000069 (18,20)	9 (21,22)
Mini-Excavator Cat 308E2 CR SB	65	0.57	Off	3	496.0	8.0	0.5	4	248	4.58 (4)	0.748 (2)	0.14 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
Forklift	149 (1)	0.3	Off		200	8.0	2.0	16	400	7.4307 (16)	4.1310 (16)	0.8626 (16)	0.0049 (16)	0.6201 (16)	0.5705 (16)	521 (16)	0.021 (18,19)	0.0042 (18,20)	523 (21,22)	-	-	-	-	-	-	-	-	-	-
Drill Rig	82 (1)	0.75	Off		120	4	1.0	8	120	4.3157 (16)	1.2363 (16)	0.2513 (16)	0.0049 (16)	0.1335 (16)	0.1228 (16)	521 (16)	0.021 (18,19)	0.0042 (18,20)	523 (21,22)	-	-	-	-	-	-	-	-	-	-
Sweyco Trail Dozer, tracked	80 (9)	0.64	Off	3	496.0	8.0	1.5	12	744	5.01 (4)	0.867 (2)	0.19 (4)	0.0050 (5)	0.24 (4)	0.22 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (10)	0.57	Off	3	3,680.0	40.0	7.5	300	27,600	8.43 (12)	107.23 (12)	3.85 (12)	0.0100 (13)	0.06 (12)	0.055 (6)	456 (7)	0.018 (18,19)	0.0037 (18,20)	457 (21,22)	-	-	-	-	-	-	-	-	-	-
Helicopter	300	-	-	-	40	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural Construction Subtotal:	**-**	**-**	**-**	**-**	**6,232.0**	**40.0**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
				Totals:	7,648	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1) CalEEMod (Version 2013.2.2) default value.
2) EPA, *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression-Ignition,* ReportNR-009d, EPA-420-R-10-018, Table A4, July 2010
3) EMFAC2011-LDV V2.50.57.246 and EMFAC2011-HD.
4) Estimated
5) Calculated from BSFC assuming 15 ppmw sulfur in Diesel fuel.
6) OFFROAD2007 uses a $PM_{2.5}/PM_{10}$ ratio = 0.92
7) Density of Distillate Fuel No. 2 (metric tons fuel/bbl fuel) = 0.1346 (CFR Part 98, Subpart MM, Table MM-1)
CO_2 emission factor for Distillate Fuel No. 2 (metric tons CO_2/bbl fuel) = 0.4296 (CFR Part 98, Subpart MM, Table MM-1)
CO_2 emission factor for gasoline (metric tons CO_2/bbl fuel) = 0.3686 (CFR Part 98, Subpart MM, Table MM-1)

9) Sweyco Trail Dozer Model 480 specification
10) Kawasaki Mule, http://www.kawasaki.com/Products/product-specifications.aspx?scid=15&id=753
11) Assumed same as above equipment, rounded.
12) EPA, Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition, Report NR-010e, EPA-420-R-05-019, Table 6, page 8, December 2005.
13) The sulfur concentration in gasoline is assumed to be 30 ppmw, based on EPA News Release, *EPA Sets Cleaner Fuel and Car Standards, Slashing Air Pollution and Providing Health Benefits to Thousands,* March 3, 2014, "The final fuel standards will reduce gasoline sulfur levels by more than 60 percent – down from 30 to 10 parts per million (ppm) in 2017."
14) Caterpillar, *Lease a Cat Backhoe Loader* , http://www.catresourcecenter.com/construction-backhoe-loaders.asp?SRC=CATBC1630&utm_term=excavator&utm_content=MHEX#2
15) Example: 2013 Altec AC23-95B, 29-ton crane, 10-wheel
16) CalEEMod Appendix D Table 3.4 for 2012 Forklift with 51 - 120 hp
17) Tables 4 and 5 in Appendix A, authored by Panorama Environmental, Inc. for PG&E's CEQA document to the CPUC for the Santa Cruz 115kV Reinforcement Project, http://www.cpuc.ca.gov/environment/info/panoramaenv/SantaCruz_115kVReinforcement/SantaCruz_115%20Reinforcement%20Project.html#EIR
18) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
19) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
20) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
21) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
22) N_2O Global Warming Potential (-) = 298 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)

Appendix 3.4 Table 4
Construction Onsite Offroad Equipment Hours, Emission Factors, and Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Daily Offroad Equipment Emissions (lbs/day)										Annual Offroad Equipment Emissions (tpy)										Weight (tons)	Notes
NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e		
5.10E-01	4.36E-01	2.19E-01	6.69E-01	6.33E-03	5.82E-03	3.41E+02	1.38E-02	2.77E-03	3.42E+02	3.32E-03	2.83E-03	1.42E-03	4.35E-03	4.11E-05	3.78E-05	2.22E+00	8.99E-05	1.80E-05	2.22E+00	2.22	
1.00E+01	5.08E+00	2.62E+00	8.08E-03	1.11E+00	1.02E+00	8.59E+02	3.49E-02	6.97E-03	8.62E+02	3.77E-02	1.90E-02	9.82E-03	3.03E-05	4.15E-03	3.82E-03	3.22E+00	1.31E-04	2.61E-05	3.23E+00	1.2 (14)	
2.03E+00	6.98E-01	8.29E-02	4.14E-03	9.12E-02	8.39E-02	4.40E+02	1.79E-02	3.57E-03	4.42E+02	6.09E-03	2.09E-03	2.49E-04	1.24E-05	2.73E-04	2.52E-04	1.32E+00	5.36E-05	1.07E-05	1.33E+00	14.18 (8)	
1.02E+01	1.29E+02	4.65E+00	1.20E-02	7.24E-02	6.66E-02	5.50E+02	2.23E-02	4.46E-03	5.52E+02	6.61E-02	8.41E-01	3.02E-02	7.83E-05	4.71E-04	4.33E-04	3.57E+00	1.45E-04	2.90E-05	3.59E+00	0.79	
25.6	**136**	**7.7**	**0.70**	**1.34**	**1.24**	**2,520**	**0.10 (18,19)**	**0.020 (18,20)**	**2,528 (21,22)**	**0.11**	**0.86**	**0.042**	**0.0045**	**0.005**	**0.0045**	**10.3**	**0.00042**	**0.000084**	**10.4**		
5.10E-01	4.36E-01	2.19E-01	6.69E-01	6.33E-03	5.82E-03	3.41E+02	1.38E-02	2.77E-03	3.42E+02	3.32E-03	2.83E-03	1.42E-03	4.35E-03	4.11E-05	3.78E-05	2.22E+00	8.99E-05	1.80E-05	2.22E+00		
1.00E+01	5.08E+00	2.62E+00	8.08E-03	1.11E+00	1.02E+00	8.59E+02	3.49E-02	6.97E-03	8.62E+02	3.77E-02	1.90E-02	9.82E-03	3.03E-05	4.15E-03	3.82E-03	3.22E+00	1.31E-04	2.61E-05	3.23E+00	1.2 (14)	
2.03E+00	6.98E-01	8.29E-02	4.14E-03	9.12E-02	8.39E-02	4.40E+02	1.79E-02	3.57E-03	4.42E+02	6.09E-03	2.09E-03	2.49E-04	1.24E-05	2.73E-04	2.52E-04	1.32E+00	5.36E-05	1.07E-05	1.33E+00	14.18 (8)	
2.99E+00	4.89E-01	9.15E-02	3.26E-03	7.19E-02	6.61E-02	3.47E+02	1.41E-02	2.82E-03	3.48E+02	1.95E-02	3.18E-03	5.95E-04	2.12E-05	4.67E-04	4.30E-04	2.26E+00	9.15E-05	1.83E-05	2.26E+00		
4.68E+00	1.34E+00	2.73E-01	5.32E-03	1.45E-01	1.33E-01	5.65E+02	2.29E-02	4.58E-03	5.67E+02	1.17E-02	3.35E-03	6.82E-04	1.33E-05	3.62E-04	3.33E-04	1.41E+00	5.73E-05	1.15E-05	1.42E+00		
4.52E+00	7.83E-01	1.72E-01	4.51E-03	2.17E-01	1.99E-01	4.80E+02	1.95E-02	3.89E-03	4.81E+02	2.94E-02	5.09E-03	1.12E-03	2.93E-05	1.41E-03	1.30E-03	3.12E+00	1.27E-04	2.53E-05	3.13E+00	4.5	
1.02E+01	1.29E+02	4.65E+00	1.20E-02	7.24E-02	6.66E-02	5.50E+02	2.23E-02	4.46E-03	5.52E+02	6.61E-02	8.41E-01	3.02E-02	7.83E-05	4.71E-04	4.33E-04	3.57E+00	1.45E-04	2.90E-05	3.59E+00	0.79	
35.0	**138**	**8.1**	**0.71**	**1.709**	**1.573**	**3,583**	**0.15 (18,19)**	**0.029 (18,20)**	**3,595 (21,22)**	**0.17**	**0.88**	**0.044**	**0.0045**	**0.007**	**0.0066**	**17.1**	**0.00069**	**0.00014**	**17.2**		
5.10E-01	4.36E-01	2.19E-01	6.69E-01	6.33E-03	5.82E-03	3.41E+02	1.38E-02	2.77E-03	3.42E+02	2.35E-02	2.01E-02	1.01E-02	3.08E-02	2.91E-04	2.68E-04	1.57E+01	6.36E-04	1.27E-04	1.57E+01		
1.00E+01	5.08E+00	2.62E+00	8.08E-03	1.11E+00	1.02E+00	8.59E+02	3.49E-02	6.97E-03	8.62E+02	7.53E-02	3.81E-02	1.96E-02	6.06E-05	8.29E-03	7.63E-03	6.45E+00	2.61E-04	5.23E-05	6.47E+00	1.2 (14)	
2.03E+00	6.98E-01	8.29E-02	4.14E-03	9.12E-02	8.39E-02	4.40E+02	1.79E-02	3.57E-03	4.42E+02	1.83E-02	6.28E-03	7.46E-04	3.72E-05	8.20E-04	7.55E-04	3.96E+00	1.61E-04	3.21E-05	3.98E+00	14.18 (8)	
1.53E-01	1.31E-01	6.57E-02	2.01E-01	1.90E-03	1.75E-03	1.02E+02	4.15E-03	8.30E-04	1.03E+02	2.55E-03	2.18E-03	1.10E-03	3.34E-03	3.16E-05	2.91E-05	1.70E+00	6.91E-05	1.38E-05	1.71E+00		
2.99E+00	4.89E-01	9.15E-02	3.26E-03	7.19E-02	6.61E-02	3.47E+02	1.41E-02	2.82E-03	3.48E+02	9.28E-02	1.51E-02	2.84E-03	1.01E-04	2.23E-03	2.05E-03	1.08E+01	4.37E-04	8.73E-05	1.08E+01		
5.86E+00	3.26E+00	6.80E-01	3.86E-03	4.89E-01	4.50E-01	4.11E+02	1.67E-02	3.33E-03	4.12E+02	7.32E-02	4.07E-02	8.50E-03	4.83E-05	6.11E-03	5.62E-03	5.14E+00	2.08E-04	4.17E-05	5.16E+00		
4.68E+00	1.34E+00	2.73E-01	5.32E-03	1.45E-01	1.33E-01	5.65E+02	2.29E-02	4.58E-03	5.67E+02	3.51E-02	1.01E-02	2.04E-03	3.99E-05	1.09E-03	9.99E-04	4.24E+00	1.72E-04	3.44E-05	4.25E+00		
4.52E+00	7.83E-01	1.72E-01	4.51E-03	2.17E-01	1.99E-01	4.80E+02	1.95E-02	3.89E-03	4.81E+02	1.40E-01	2.43E-02	5.32E-03	1.40E-04	6.72E-03	6.18E-03	1.49E+01	6.03E-04	1.21E-04	1.49E+01	4.5	
1.70E+01	2.16E+02	7.74E+00	2.01E-02	1.21E-01	1.11E-01	9.17E+02	3.72E-02	7.44E-03	9.20E+02	7.80E-01	9.92E+00	3.56E-01	9.24E-04	5.55E-03	5.11E-03	4.22E+01	1.71E-03	3.42E-04	4.23E+01	0.79	
4.33E+00	4.33E+00	2.00E-02	7.60E-01	1.03E+00	9.48E-01	1.88E+03	7.61E-02	1.52E-02	1.88E+03	1.08E-02	1.08E-02	5.00E-05	1.90E-03	2.58E-03	2.37E-03	4.69E+00	1.90E-04	3.81E-05	4.71E+00		
52.1	**232**	**12.0**	**1.7**	**3.3**	**3.0**	**6,340**	**0.26 (18,19)**	**0.051 (18,20)**	**6,362 (21,22)**	**1.3**	**10.1**	**0.41**	**0.037**	**0.034**	**0.031**	**110**	**0.0044**	**0.00089**	**110.0**		
-	**-**	**-**	**-**	**-**	**-**	**-**				**1.5**	**11.8**	**0.49**	**0.046**	**0.046**	**0.042**	**137.1**	**0.0056**	**0.0011**	**137.6**		

Appendix 3.4 Table 5
Total Project Construction Fugitive Dust Emission Summary
Heavenly Mountain Resort Epic Discovery Project

Total Project Construction Daily Fugitive Dust Emissions

$PM_{2.5}$ (lb/day)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment Project Phase:	Site Prep	Grading	Structure Construction
TRUCK WATER 3600-4000G F-R SPR BAR / MONITOR 2AX D	0.27	0.27	0.27
TRAIL DOZER	-	0.11	0.11
MINI-EXCAVATOR	-	0.035	0.035
BACKHOE	0.034	0.034	0.034
FORKLIFT	-	-	0.073
$PM_{2.5}$ Subtotal (lbs/day) =	0.30	0.44	0.51

Total Project Construction Annual Fugitive Dust Emissions

$PM_{2.5}$ (tpy)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment Project Phase:	Site Prep	Grading	Structure Construction
TRUCK WATER 3600-4000G F-R SPR BAR / MONITOR 2AX D	0.0017	0.0017	0.012
TRAIL DOZER	-	0.00069	0.0033
MINI-EXCAVATOR	-	0.00023	0.0011
BACKHOE	0.00013	0.00013	0.00026
FORKLIFT	-	-	0.00057
$PM_{2.5}$ Subtotal (tpy) =	0.00185	0.0028	0.0174

PM_{10} (lb/day)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment Project Phase:	Site Prep	Grading	Structure Construction
TRUCK WATER 3600-4000G F-R SPR BAR / MONITOR 2AX D	2.7	2.7	2.7
TRAIL DOZER	-	0.19	0.19
MINI-EXCAVATOR	-	0.35	0.35
BACKHOE	0.34	0.34	0.34
FORKLIFT	-	-	0.73
PM_{10} Subtotal (lbs/day) =	3.0	3.5	4.3

PM_{10} (tpy)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment Project Phase:	Site Prep	Grading	Structure Construction
TRUCK WATER 3600-4000G F-R SPR BAR / MONITOR 2AX D	0.017	0.017	0.12
TRAIL DOZER	-	0.0013	0.0060
MINI-EXCAVATOR	-	0.0023	0.011
BACKHOE	0.0013	0.0013	0.0026
FORKLIFT	-	-	0.0091
PM_{10} Subtotal (tpy) =	0.019	0.022	0.15

$PM_{2.5}$ (lb/day)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment Project Phase:	Site Prep	Grading	Structure Construction
BOOM TRUCK WITH CRANE	-	-	0.10
WHEELED LOADER	0.14	0.14	0.14
DRILL RIG	-	0.061	0.061
ATVs	0.30	0.30	0.50
$PM_{2.5}$ Subtotal (lbs/day) =	0.44	0.50	0.79
$PM_{2.5}$ Total (lbs/day) =	0.74	0.9	1.3

$PM_{2.5}$ (tpy)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment Project Phase:	Site Prep	Grading	Structure Construction
BOOM TRUCK WITH CRANE	-	-	0.0016
WHEELED LOADER	0.00042	0.00042	0.0012
DRILL RIG	-	0.00015	0.00046
ATVs	0.0019	0.0019	0.023
$PM_{2.5}$ Subtotal (tpy) =	0.0024	0.0025	0.026
$PM_{2.5}$ Total (tpy) =	0.0042	0.0053	0.044

PM_{10} (lb/day)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment Project Phase:	Site Prep	Grading	Structure Construction
BOOM TRUCK WITH CRANE	-	-	1.0
WHEELED LOADER	0.69	0.69	0.69
DRILL RIG	-	0.30	0.30
ATVs	1.5	1.5	2.5
PM_{10} Subtotal (lbs/day) =	2.2	2.5	4.4
PM_{10} Total (lbs/day) =	5.2	6.0	8.7

PM_{10} (tpy)			
	Daily Fugitive Dust Emission by Construction Phase		
Equipment Project Phase:	Site Prep	Grading	Structure Construction
BOOM TRUCK WITH CRANE	-	-	0.0079
WHEELED LOADER	0.0010	0.0010	0.0031
DRILL RIG	-	0.00076	0.0023
ATVs	0.010	0.010	0.11
PM_{10} Subtotal (tpy) =	0.011	0.012	0.13
PM_{10} Total (tpy) =	0.029	0.034	0.28

Appendix 3.4 Table 6
Construction Offsite On-Road Vehicle Emissions in Nevada
Heavenly Mountain Resort Epic Discovery Project

Construction Offsite On-Road Vehicle Emissions in Nevada [1]

Materials DeliveryTruck Emissions in Nevada

Materials Delivery Truck Peak Daily Emissions in Nevada

Maximum Number of Deliveries per Day	Average Round-Trip Haul Distance (miles)	Vehicle-Miles Traveled per Day	Emission Factors (lbs/VMT)									Daily Emissions (lbs/day)									
			NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4 [2,3]	N_2O [2,4]	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e [5,6]
1	124	124	0.0270	0.0036	0.00077	0.000037	0.00073	0.00055	3.86	0.00016	0.000031	3.41	0.471	0.102	0.0046	0.092	0.069	485	0.020	0.0039	487
Paved-Road Fugitive Dust							0.056	0.0049								7.0	0.61				

Materials Delivery Truck Annual Emissions in Nevadaa

Number of Deliveries per Year	Average Round-Trip Haul Distance (miles)	Annual Vehicle-Miles Traveled	Emission Factors (lbs/VMT)									Annual Emissions (tons/yr)									
			NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e [5,6]
56	124	6,944	0.0270	0.0036	0.00077	0.000037	0.00073	0.00055	3.86	0.00016	0.000031	0.096	0.0132	0.00286	0.000130	0.00256	0.00194	13.58	0.00055	0.00011	13.6
Paved-Road Fugitive Dust							0.056	0.0049								0.20	0.017				

1) Maximum emissions occur during Structure Construction phase.
2) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78,
3) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78,
4) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 Ibid
5) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 23
6) N_2O Global Warming Potential (-) = 298 Ibid

Appendix 3.4 Table 6
Construction Offsite On-Road Vehicle Emissions in Nevada
Heavenly Mountain Resort Epic Discovery Project

Construction Worker Vehicle Emissions in Nevada

Worker Travel Daily Emissions in Nevada (Maximum)																					
Max Number of Workers Per Day	Average Employee Round Trips Per Day	Number of Round Trips Per Day	Average Round Trip Distance (Miles)	Carpool Factor (No. People per Vehicle)	Vehicle Miles Traveled Per Day (Miles)	Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)								
						NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4[2,3]	N_2O[2,4]	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e[5,6]
15	1	15	40	3	200	0.00129	0.0096	0.00084	0.000011	0.000229	0.000159	1.13	0.000046	0.0000091	0.26	2.3	0.27	0.0023	0.046	0.032	232.1	0.0094	0.00188	233
Paved-Road Fugitive Dust										0.0047	0.0012								0.94	0.23				

Worker Travel Annual Emissions in Nevada																							
Annual Average (Weighted) Number of Workers Per Day	Average Employee Round Trips Per Day	Total Number of Round Trips Per Day	Average Round Trip Distance (Miles)	Carpool Factor (No. People per Vehicle)	Number of Construction Days	Vehicle Miles Traveled Per Year	Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)								
							NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e[5,6]
13.3	1	13.3	40	3	118	21,000	0.00129	0.0096	0.00084	0.000011	0.000229	0.000159	1.13	0.000046	0.0000091	0.014	0.123	0.015	0.00012	0.0024	0.0017	12.2	0.0005	9.9E-05	12.3
Paved-Road Fugitive Dust											0.0047	0.0012								0.049	0.012				

Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)

Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)

0, Table 2, p. 71909, November 29, 2013.)

Appendix 3.4 Table 7
EMFAC 2011 Emission Factors for Construction Water Truck
Heavenly Mountain Resort Epic Discovery Project

EMFAC2011 Emission Rates 65
Region Type: Air District
Region: El Dorado County APCD
Calendar Year: 2015
Season: Summer
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	VMT (miles/day)	ROG_RUNEX (gms/mile)	TOG_RUNEX (gms/mile)	CO_RUNEX (gms/mile)	NOX_RUNEX (gms/mile)	CO2_RUNEX (gms/mile)	CO2_RUNEX(Pavley I+LCFS) (gms/mile)	PM10_RUNEX (gms/mile)	PM2_5_RUNEX (gms/mile)
El Dorado County APCD	2015	Summer	T7 tractor construction	DSL	2012	5	0.080660226	2.484901928	2.828871691	4.943122468	5.785701879	3965.470115	3866.333362	0.071744549	0.066004985

Appendix 3.4 Table 8
Construction Equipment Speed
Heavenly Mountain Resort Epic Discovery Project

Construction Equipment Speeds

Equipment	Average Vehicle Speed[1] (mph)
TRUCK WATER 3600-4000G F-R SPR BAR / MONITOR 2AX D	5
TRAIL DOZER	1.5
MINI-EXCAVATOR	0.5
BACKHOE	0.5
FORKLIFT	2.0
BOOM TRUCK WITH CRANE	1.5
WHEELED LOADER	2.0
DRILL RIG	1.0
ATVs	7.5 (2)

1) Estimated

2) Assume overall average speed is half the construction area speed limit of 15 mph imposed to help control fugitive dust generation.

Appendix 3.4 Table 9
Onsite Fugitive Dust Emission Factors
Heavenly Mountain Resort Epic Discovery Project

Onsite Fugitive Dust Emission Factors

Equipment	Units	Uncontrolled $PM_{2.5}$ Emission Factor (lbs/unit)	Uncontrolled PM_{10} Emission Factor (lbs/unit)	Control Factor[(1)] (%)	Controlled $PM_{2.5}$ Emission Factor (lbs/unit)	Controlled PM_{10} Emission Factor (lbs/unit)
PICKUP 3/4 TON 4X4 CREW CAB	VMT	0.098	0.98	96.8%	0.0031	0.031
Mountain Tour F-350 Truck	VMT	0.115	1.15	96.8%	0.0037	0.037
TRAIL DOZER	HR	0.41	0.75	96.8%	0.013	0.024
MINI-EXCAVATOR	VMT	0.27	2.69	96.8%	0.0087	0.087
BACKHOE	VMT	0.13	1.33	96.8%	0.0043	0.043
FORKLIFT	VMT	0.14	1.42	96.8%	0.0046	0.046
BOOM TRUCK WITH CRANE	VMT	0.25	2.47	96.8%	0.0079	0.079
WHEELED LOADER	VMT	0.27	2.69	96.8%	0.0087	0.087
DRILL RIG	VMT	0.24	2.37	96.8%	0.0076	0.076
ATVs	VMT	0.052	0.52	96.8%	0.0017	0.017

1) Derived in Worksheet "DustEmissionFactorDerivations".

Appendix 3.4 Table 10
Fugitive Dust Emission Factor Derivations
Heavenly Mountain Resort Epic Discovery Project

Dust Emission Factor Derivation

Bulldozing Overburden - Source: AP-42, Table 11.9-1, 7/98 and CalEEMod Appendix A, page 9.

$E_{PM10} = (0.75)(s^{1.5})/(M^{1.4})$ $E_{PM2.5} = (0.105*5.7)(s^{1.2})/(M^{1.3})$

s = silt content =	6.9%		CalEEMod Appendix A, page 9 default value vs. 8.3% from EPA, *Compilation of Air Pollutant Emission Factors, Volume 1 (Stationary Point and Area Sources),* Chapter 13.2.2 (Unpaved Roads), Table 13.2.2-1 (Typical Silt Content Values of Surface
M = moisture content =	7.9%		CalEEMod Appendix A, page 9 default value and EPA, *Compilation of Air Pollutant Emission Factors, Volume 1 (Stationary Point and Area Sources),* Chapter 11.9 (Western Surface Coal Mining), Table 11.9-3 (Typical Silt Content Values for Correction Factors
E = emission factor =	0.75	PM_{10}	lb/hr
E = emission factor =	0.41	$PM_{2.5}$	lb/hr

Finish Grading (Grader) - Source: AP-42, Table 11.9-1, 7/98

$E_{PM10} = (0.60)(0.051)(S^{2.0})$ $E_{PM2.5} = (0.031)(0.04)(S^{2.5})$

S = mean vehicle speed =	7.1		mph (CalEEMod default value from Appendix A, page 8)
E = emission factor =	1.54	PM_{10}	lbs/VMT
E = emission factor =	0.167	$PM_{2.5}$	lbs/VMT

Appendix 3.4 Table 10
Fugitive Dust Emission Factor Derivations
Heavenly Mountain Resort Epic Discovery Project

Dust Emission Factor Derivation

Unpaved Road Travel - Source: AP-42, Section 13.2.2, 11/06.
E = (k)[(s/12)^0.9(W/3)^0.45*

k = particle size constant =	1.5	for PM_{10}
k = particle size constant =	0.15	for $PM_{2.5}$
s = silt content (%) =	6.9	(EPA, *Compilation of Air Pollutant Emission Factors, Volume 1 (Stationary Point and Area Sources),* Chapter 13.2.2 (Unpaved Roads), Table 13.2.2-1 (Typical Silt Content Values of Surface Material on Industrial Unpaved Roads, page 13.2.2-3, November

Vehicle Weights

W = water truck empty weight =	10.0	tons empty (estimated)
W = water truck loaded weight =	26.7	tons loaded (estimated with 4,000 gallon water capacity)
W = water truck average weight =	18.3	tons average
W = dump truck or transmixer empty weight =	15.0	tons (empty for heavy duty Diesel trucks)
W = dump truck or transmixer loaded weight =	40.0	tons (loaded for heavy duty Diesel trucks)
W = dump truck or transmixer average weight =	27.5	tons (average for heavy duty Diesel trucks)
W = forklift average weight =	8.0	tons empty (estimated)
W = auto/pickup average weight =	**2.4**	**tons (CARB Area Source Manual, 9/97)**
W = delivery truck average weight =	27.5	tons (for heavy duty Diesel trucks)
W = 3 ton truck average weight =	5.4	tons (estimate)
W = manlift =	25	tons (estimate from Terex Model RM75)
W = crawler crane	45	tons (estimate from Manitowoc Model 999)
W = rough terrain crane/picker =	88	tons (estimate from Grove RT 9130E)
W = farm tractor =	3.1	tons (estimate from New Holland Model T4050)
W = scraper average weight =	28.2	tons empty (615 scraper, Caterpillar Performance Handbook, 10/89)
W = weight backhoe =	7.0	tons (estimate from Caterpillar model 416)
	48.6	tons loaded (615 scraper, Caterpillar Performance Handbook, 10/89)
	27.9	tons mean weight
W = fuel truck avg. veh. weight =	8.0	tons empty (estimated)
=	18.2	tons loaded (estimated with 3,000 gallons Diesel fuel capacity)
=	13.1	tons average
W = loader avg. veh. Weight =	33.35	tons (avg. of loaded and unloaded weights, 980H loader, Caterpillar Performance Handbook, 2006)
W= compactor wt. =	15.00	tons (estimate from Caterpillar model Cp-433)
W = Cat 631B water pull scraper =	55.85	tons (avg. of loaded and unloaded weights, 631B with 10,000 gallons water, Caterpillar Performance Handbook 43, 2011)
W = Cat 641 water pull scraper =	68.5	tons (avg. of loaded and unloaded weights, 641 with 10,000 gallons water, Caterpillar Performance Handbook 43, 2011)
W = Cat 775E rock haul truck =	82.9	tons average
W = Wabco 50 rock haul truck =	66.7	tons average
W = Dresser 210M rock haulpak truck =	75.3	tons average
W = ATV	0.85	ton, assuming curb weight of 1,400 lbs plus driver and equipment weight of 300 lbs.
W = pickup average weight =	3.5	tons (estimate for Ford F-250 4WD)
W = materials delivery truck average weight =	10	tons (estimate for single-axle delivery truck)
W = F-350 Mountain Tour truck average weight =	5	tons (estimate for Ford F-350 4WD carrying 1 ton of visitors)

PM_{10} Emission Factors	**lb PM_{10}/VMT**
E = water truck emission factor =	**2.06**
E = dump truck emission factor =	2.47
E = forklift emission factor =	1.42

Appendix 3.4 Table 10
Fugitive Dust Emission Factor Derivations
Heavenly Mountain Resort Epic Discovery Project

Dust Emission Factor Derivation

E = auto/pickup emission factor =	0.82
E = delivery truck emission factor =	2.47
E = man-lift emission factor =	2.37
E = crawler crane emission factor =	3.08
E = rough terrain crane/picker emission factor =	4.17
E = farm tractor emission factor =	0.93
E = 3-ton truck emission factor =	1.19
E = scraper emission factor =	2.49
E = fuel truck emission factor =	1.77
E = loader emission factor =	2.69
E= backhoe emission factor =	1.33
E= compactor emission factor =	1.88
E = Caterpillar water pull 631B emission factor =	3.40
E = Caterpillar water pull 641 emission factor =	3.73
E = Cat 775E rock haul truck emission factor =	4.06
E = Wabco 50 rock haul truck emission factor =	3.68
E = Dresser 210M rock haulpak truck emission factor =	3.89
E = ATV emission factor =	0.52
E = pickup truck emission factor =	0.98
E = materials delivery truck emission factor =	1.57
E = F-350 Mountain Tour truck emission factor =	1.15

Appendix 3.4 Table 10
Fugitive Dust Emission Factor Derivations
Heavenly Mountain Resort Epic Discovery Project

Dust Emission Factor Derivation

$PM_{2.5}$ Emission Factors	**lb $PM_{2.5}$/VMT**
E = water truck emission factor =	0.21
E = dump truck emission factor =	0.25
E = forklift emission factor =	0.14
E = auto/pickup emission factor =	0.08
E = delivery truck emission factor =	0.25
E = man-lift emission factor =	0.24
E = crawler crane emission factor =	0.31
E = rough terrain crane/picker emission factor =	0.42
E = farm tractor emission factor =	0.09
E = 3-ton truck emission factor =	0.12
E = scraper emission factor =	0.25
E = fuel truck emission factor =	0.18
E = loader emission factor =	0.27
E= backhoe emission factor =	0.13
E= compactor emission factor =	0.19
E = Caterpillar water pull 631B emission factor =	0.34
E = Caterpillar water pull 641 emission factor =	0.37
E = Cat 775E rock haul truck emission factor =	0.41
E = Wabco 50 rock haul truck emission factor =	0.37
E = Dresser 210M rock haulpak truck emission factor =	0.39
E = ATV emission factor =	0.052
E = pickup truck emission factor	0.098
E = materials delivery truck emission factor =	0.157
E = F-350 Mountain Tour truck emission factor =	0.115

Gravel Road Travel - Source: AP-42, Section 13.2.2, 11/06.

E = (k)[(s/12)^0.9(W/3)^0.45*

k = particle size constant =	1.5	for PM10
k = particle size constant =	0.15	for PM2.5
s = silt fraction =	6.40	(AP-42, Table 13.2.2-1, 11/06, gravel road)

Vehicle Weights

W = water truck avg. veh. weight =	10.0	tons empty (estimated)
=	24.7	tons loaded (estimated with 4,000 gallon water capacity)
=	17.4	tons average
W = dump truck avg. veh. weight =	15.0	tons (for heavy duty Diesel trucks)
=	40.0	tons (for heavy duty Diesel trucks)
=	27.5	tons (for heavy duty Diesel trucks)
W = forklift avg. veh. weight =	8	tons empty (estimated)
W = auto/pickup avg. vehicle weight =	2.4	tons (CARB Area Source Manual, 9/97)
W = delivery truck avg. veh. wt. =	27.5	tons (for heavy duty Diesel trucks)

PM_{10} Emission Factors	**lb PM_{10}/VMT**
E = auto/pickup emiss. factor =	0.77
E = delivery truck emiss. factor =	2.31

Appendix 3.4 Table 10
Fugitive Dust Emission Factor Derivations
Heavenly Mountain Resort Epic Discovery Project

Dust Emission Factor Derivation

$PM_{2.5}$ Emission Factors	**lb $PM_{2.5}$/VMT**
E = auto/pickup emiss. factor =	0.077
E = delivery truck emiss. factor =	0.23

Paved Road Travel - Source AP-42, Section 13.2.1, 11/11

E = k(sL)^0.91*(W)^1.02

k = particle size constant =	0.0022	for PM_{10} (AP42, Table 13.2.1-1)
k = particle size constant =	0.00054	for $PM_{2.5}$ (AP42, Table 13.2.1-1)
sL = silt loading =	0.6	g/m^2 (AP42, Table 13.2.1-2)
sL = silt loading =	0.86	grains/ft^2

	Daily Emission Factors (lbs/day)		**Annual Emission Factors (tpy)**
PM_{10} Factor - Heavy Trucks	0.0564	lb PM_{10}/VMT	0.0529
$PM_{2.5}$ Factor - Heavy Trucks	0.0138	lb $PM_{2.5}$/VMT	0.0130
PM_{10} Factor - Materials Delivery Trucks	0.0201	lb PM_{10}/VMT	0.0189
$PM_{2.5}$ Factor - Materials Delivery Trucks	0.0049	lb $PM_{2.5}$/VMT	0.0046
PM_{10} Factor - Worker/Visitor/Employee Auto/Pickup Trucks	0.0047	lb PM_{10}/VMT	0.0044
$PM_{2.5}$ Factor - Worker/Visitor/EMployee Auto/Pickup Trucks	0.0012	lb $PM_{2.5}$/VMT	0.0011

Dust Control for Unpaved Road Travel and Active Excavation Area - Source: Control of Open Fugitive Dust Sources,Scraping, and Grading U.S EPA, 9/88

C = 100 - (0.8)(p)(d)(t)/(i)

p = potential average hourly daytime evaporation rate =	0.171	mm/hr, based on 26.3" during May-Oct during 1919-1979 (NOAA, *Mean Monthly, Seasonal, and Annual Pan Evaporation for the United States,* NOAA Technical Report NWS 34, Table 1, December 1982,
evaporation rate =	0.129	mm/hr (Ibid)
d = average hourly daytime traffic rate =	8	vehicles/hr (estimated)
t = time between watering applications =	4	hr/application (1st application at start of construction day; 2nd application half-way through 8-hour construction day, or 1st application at start of operation day; 2nd application half-way through 10-hour operation day)
i = application intensity =	1.4	L/m^2 (typical level in EPA document, page 3-23)
C = average summer watering control efficiency =	96.8%	
C = average annual watering control efficiency =	97.6%	

Wind Erosion of Active Construction Area - Source: "Improvement of Specific Emission Factors (BACM Project No. 1), Final Report", prepared for South Coast AQMD by Midwest Research Institute, March 1996

Level 2 Emission Factor =		0.011	ton/acre-month
Construction Schedule =		26	days/month
	=	0.85	lbs/acre-day
	=	1.94E-05	PM_{10} lbs/scf-day
		7.76E-06	$PM_{2.5}$ lbs/scf-day

Appendix 3.4 Table 11
EMFAC2011 Emission Factors for Materials Delivery Trucks
Heavenly Mountain Resort Epic Discovery Project

EMFAC2011 Emission Rates
Region Type: Air District
Region: El Dorado County APCD
Calendar Year: 2015
Season: Summer
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	ROG_RUNEX (gms/mile)	ROG_IDLEX (gms/vehicle/day)	ROG_STREX (gms/vehicle/day)	ROG_DIURN (gms/vehicle/day)	ROG_HTSK (gms/vehicle/day)	ROG_RUNLS (gms/mile)
El Dorado County APCD	2015	Summer	T7 single construction	DSL	Aggregated	Aggregated	25.2	1561.2	0	0.34899641	3.043649612	0	0	0	0

Appendix 3.4 Table 11
EMFAC2011 Emission Factors for Materials Delivery Trucks
Heavenly Mountain Resort Epic Discovery Project

ROG_RESTL (gms/vehicle/day)	TOG_RUNEX (gms/mile)	TOG_IDLEX (gms/vehicle/day)	TOG_STREX (gms/vehicle/day)	TOG_DIURN (gms/vehicle/day)	TOG_HTSK (gms/vehicle/day)	TOG_RUNLS (gms/mile)	TOG_RESTL (gms/vehicle/day)	CO_RUNEX (gms/mile)	CO_IDLEX (gms/vehicle/day)	CO_STREX (gms/vehicle/day)	NOX_RUNEX (gms/mile)
0	0.397305847	3.464963396	0	0	0	0	0	1.64391862	9.796066101	0	12.25433958

Emission Inventory20140503;EmisRateEDCAPCDmaterialsABT11

Appendix 3.4 Table 11
EMFAC2011 Emission Factors for Materials Delivery Trucks
Heavenly Mountain Resort Epic Discovery Project

NOX_IDLEX (gms/vehicle/day)	NOX_STREX (gms/vehicle/day)	CO2_RUNEX (gms/mile)	CO2_IDLEX (gms/vehicle/day)	CO2_STREX (gms/vehicle/day)	CO2_RUNEX(Pavley I+LCFS) (gms/mile)	CO2_IDLEX(Pavley I+LCFS) (gms/vehicle/day)	CO2_STREX(Pavley I+LCFS) (gms/vehicle/day)	PM10_RUNEX (gms/mile)	PM10_IDLEX (gms/vehicle/day)
28.99646283	0	1752.856221	2582.641929	0	1709.034815	2518.075881	0	0.234302407	0.350342545

Appendix 3.4 Table 11
EMFAC2011 Emission Factors for Materials Delivery Trucks
Heavenly Mountain Resort Epic Discovery Project

PM10_STREX (gms/vehicle/day)	PM10_PMTW (gms/mile)	PM10_PMBW (gms/mile)	PM2_5_RUNEX (gms/mile)	PM2_5_IDLEX (gms/vehicle/day)	PM2_5_STREX (gms/vehicle/day)	PM2_5_PMTW (gms/mile)	PM2_5_PMBW (gms/mile)	SOX_RUNEX (gms/mile)	SOX_IDLEX (gms/vehicle/day)	SOX_STREX (gms/vehicle/day)
0	0.035999812	0.061739677	0.215558214	0.322315141	0	0.008999953	0.026459862	0.016723068	0.024639611	0

Appendix 3.4 Table 12
Construction Onsite Offroad Equipment Hours, Emission Factors, and Emissions in Nevada
Heavenly Mountain Resort Epic Discovery Project

Offroad Equipment Description	HP	Load Factor (-) (1)	Off-Road or On-Road?	Tier	Annual Use (hrs/yr)	Daily Use (hrs/day)	Average Speed(4) (mph)	Daily Distance Traveled (mi)	Annual Distance Traveled (mi)	ARB Off-Road or EPA Nonroad(2) Emission Factors (g/bhp-hr)										Onroad Emission Factors (lbs/VMT) (3)									
										NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Site Preparation																													
Water truck, 2012 Model Year	381 (1)	0.57	On		52	4	5.0	20.0	260.0	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	############	9 (21,22)
Backhoe, Cat 416F	75 (1)	0.55	Off	3	80	8	0.5	4.0	40.0	6.9 (4)	3.49 (2)	1.80 (4)	0.0056 (5)	0.76 (4)	0.70 (6)	591 (7)	0.024 (18,19)	0.0048 (18,20)	593 (21,22)	-	-	-	-	-	-	-	-	-	-
Wheeled Loader, Cat 924K	87 (1)	0.54	Off	3	36	4	2.0	8.0	72.0	2.45 (4)	0.843 (2)	0.10 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (10)	0.57 (11)	Off	3	156.0	12.0	7.5	90.0	1,170	8.43 (12)	107.23 (12)	3.85 (12)	0.010 (13)	0.06 (12)	0.055 (6)	456 (7)	0.018 (18,19)	0.0037 (18,20)	457 (21,22)	-	-	-	-	-	-	-	-	-	-
Site Preparation Subtotal:	**-**	**-**	**-**	**-**	**324.0**	**35.2**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	-	-	-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Grading																													
Water truck, 2012 Model Year	381 (1)	0.57	On		52	4	5	20.0	260.0	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	############	9 (21,22)
Backhoe, Cat 416F	75 (1)	0.55	Off	3	80	8	0.5	4.0	40.0	6.9 (4)	3.49 (2)	1.80 (4)	0.0056 (5)	0.76 (4)	0.70 (6)	591 (7)	0.024 (18,19)	0.0048 (18,20)	593 (21,22)	-	-	-	-	-	-	-	-	-	-
Wheeled Loader, Cat 924K	87 (1)	0.54	Off	3	36	4	2.0	8.0	72.0	2.45 (4)	0.843 (2)	0.10 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
Mini-Excavator Cat 308E2 CR SB	65	0.57	Off	3	93.6	7.2	0.5	3.6	46.8	4.58 (4)	0.748 (2)	0.14 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
Drill Rig	82 (1)	0.75	Off		20	4	1.0	4.0	20.0	4.32 (16)	1.24 (16)	0.25 (16)	0.0049 (16)	0.13 (16)	0.12 (16)	521 (16)	0.021 (18,19)	0.0042 (18,20)	523 (21,22)	-	-	-	-	-	-	-	-	-	-
Sweyco Trail Dozer, tracked	80 (9)	0.64	Off	3	93.6	7.2	1.5	10.8	140.4	5.01 (4)	0.867 (2)	0.19 (4)	0.0050 (5)	0.24 (4)	0.22 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (10)	0.57	Off	3	156.0	12.0	7.5	90.0	1,170	8.43 (12)	107.2 (12)	3.85 (12)	0.010 (13)	0.060 (12)	0.055 (6)	456 (7)	0.018 (18,19)	0.0037 (18,20)	457 (21,22)	-	-	-	-	-	-	-	-	-	-
Grading Subtotal:	**-**	**-**	**-**	**-**	**531.2**	**46.4**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	-	-	-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Structure Construction																													
Water truck, 2012 Model Year	381 (1)	0.57	On		368	4	5	20.0	1840.0	-	-	-	-	-	-	-	-	-	-	1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	############	9 (21,22)
Backhoe, Cat 416F	75 (1)	0.55	Off	3	160	8	0.5	4.0	80.0	6.9 (4)	3.49 (2)	1.80 (4)	0.0056 (5)	0.76 (4)	0.70 (6)	591 (7)	0.024 (18,19)	0.0048 (18,20)	593 (21,22)	-	-	-	-	-	-	-	-	-	-
Wheeled Loader, Cat 924K	87 (1)	0.54	Off	3	108	4	2.0	8.0	216.0	2.45 (4)	0.84 (2)	0.10 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
Boom truck with crane, 2013 Altec AC23-95B	300 (15)	0.57	On		40	4	1.5	6.0	200.0	-	-	-	-	-	-	-	-	-		1.28E-02	1.09E-02	5.48E-03	1.67E-02	1.58E-04	1.46E-04	8.52E+00	0.00035 (18,19)	############	9 (21,22)
Mini-Excavator Cat 308E2 CR SB	65	0.57	Off	3	446.4	7.2	0.5	3.6	223.2	4.58 (4)	0.748 (2)	0.14 (4)	0.0050 (5)	0.11 (4)	0.10 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
Forklift	149 (1)	0.3	Off		160	6.4	2.0	12.8	320.0	7.43 (16)	4.13 (16)	0.86 (16)	0.0049 (16)	0.62 (16)	0.57 (16)	521 (16)	0.021 (18,19)	0.0042 (18,20)	523 (21,22)	-	-	-	-	-	-	-	-	-	-
Drill Rig	82 (1)	0.75	Off		60	4	1.0	4.0	60.0	4.32 (16)	1.24 (16)	0.25 (16)	0.0049 (16)	0.13 (16)	0.12 (16)	521 (16)	0.021 (18,19)	0.0042 (18,20)	523 (21,22)	-	-	-	-	-	-	-	-	-	-
Sweyco Trail Dozer, tracked	80 (9)	0.64	Off	3	446.4	7.2	1.5	10.8	669.6	5.01 (4)	0.87 (2)	0.19 (4)	0.0050 (5)	0.24 (4)	0.22 (6)	531 (7)	0.022 (18,19)	0.0043 (18,20)	533 (21,22)	-	-	-	-	-	-	-	-	-	-
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (10)	0.57	Off	3	1,840.0	20.0	7.5	150.0	13,800	8.43 (12)	107.2 (12)	3.85 (12)	0.010 (13)	0.060 (12)	0.055 (6)	456 (7)	0.018 (18,19)	0.0037 (18,20)	457 (21,22)	-	-	-	-	-	-	-	-	-	-
Helicopter	300	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural Construction Subtotal:	**-**	**-**	**-**	**-**	**3,628.8**	**64.8**		-	-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	-	-	-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	-	-	-
				Totals:	**4,484**	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1) CalEEMod (Version 2013.2.2) default value.
2) EPA, *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression-Ignition,* ReportNR-009d, EPA-420-R-10-018, Table A4, July 2010
3) EMFAC2011-LDV V2.50.57.246 and EMFAC2011-HD.
4) Estimated
5) Calculated from BSFC assuming 15 ppmw sulfur in Diesel fuel.
6) OFFROAD2007 uses a $PM_{2.5}/PM_{10}$ ratio = 0.92
7) Density of Distillate Fuel No. 2 (metric tons fuel/bbl fuel) = 0.1346 (CFR Part 98, Subpart MM, Table MM-1)
   CO_2 emission factor for Distillate Fuel No. 2 (metric tons CO_2/bbl fuel) = 0.4296 (CFR Part 98, Subpart MM, Table MM-1)
   CO_2 emission factor for gasoline (metric tons CO_2/bbl fuel) = 0.3686 (CFR Part 98, Subpart MM, Table MM-1)
9) Sweyco Trail Dozer Model 480 specification
10) Kawasaki Mule, http://www.kawasaki.com/Products/product-specifications.aspx?scid=15&id=753
11) Assumed same as above equipment, rounded.
12) EPA, Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition, Report NR-010e, EPA-420-R-05-019, Table 6, page 8, December 2005.
13) The sulfur concentration in gasoline is assumed to be 30 ppmw, based on EPA News Release, *EPA Sets Cleaner Fuel and Car Standards, Slashing Air Pollution and Providing Health Benefits to Thousands,* March 3, 2014, "The final fuel standards will reduce gasoline sulfur levels by more than 60 percent – down from 30 to 10 parts per million (ppm) in 2017."
14) Caterpillar, *Lease a Cat Backhoe Loader* , http://www.catresourcecenter.com/construction-backhoe-loaders.asp?SRC=CATBC1630&utm_term=excavator&utm_content=MHEX#2
15) Example: 2013 Altec AC23-95B, 29-ton crane, 10-wheel
16) CalEEMod Appendix D Table 3.4 for 2012 Forklift with 51 - 120 hp
17) Tables 4 and 5 in Appendix A, authored by Panorama Environmental, Inc. for PG&E's CEQA document to the CPUC for the Santa Cruz 115kV Reinforcement Project, http://www.cpuc.ca.gov/environment/info/panoramaenv/SantaCruz_115kVReinforcement/SantaCruz_115%20Reinforcement%20Project.html#EIR
18) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
19) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
20) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
21) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
22) N_2O Global Warming Potential (-) = 298 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)

Appendix 3.4 Table 12
Construction Onsite Offroad Equipment Hours, Emission Factors, and Emissions in Nevada
Heavenly Mountain Resort Epic Discovery Project

Daily Offroad Equipment Emissions (lbs/day)										Annual Offroad Equipment Emissions (tpy)										Weight (tons)
NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	
2.55E-01	2.18E-01	1.10E-01	3.34E-01	3.16E-03	2.91E-03	1.70E+02	0.0069 (18,19)	0.0014 (18,20)	171 (21,22)	1.66E-03	1.42E-03	7.12E-04	2.17E-03	2.06E-05	1.89E-05	1.11E+00	0.000045 (18,19)	0.0000090 (18,20)	1.11 (21,22)	
5.02E+00	2.54E+00	1.31E+00	4.04E-03	5.53E-01	5.09E-01	4.30E+02	0.017 (18,19)	0.0035 (18,20)	431 (21,22)	2.51E-02	1.27E-02	6.55E-03	2.02E-05	2.76E-03	2.54E-03	2.15E+00	0.000087 (18,19)	0.000017 (18,20)	2.16 (21,22)	1.2 (14)
1.02E+00	3.49E-01	4.14E-02	2.07E-03	4.56E-02	4.19E-02	2.20E+02	0.009 (18,19)	0.0018 (18,20)	221 (21,22)	4.57E-03	1.57E-03	1.86E-04	9.31E-06	2.05E-04	1.89E-04	9.91E-01	0.000040 (18,19)	0.0000080 (18,20)	0.99 (21,22)	14.18 (8)
5.09E+00	6.47E+01	2.32E+00	6.02E-03	3.62E-02	3.33E-02	2.75E+02	0.0112 (18,19)	0.0022 (18,20)	276 (21,22)	3.31E-02	4.20E-01	1.51E-02	3.92E-05	2.35E-04	2.16E-04	1.79E+00	0.000073 (18,19)	0.000015 (18,20)	1.79 (21,22)	0.79
13.9	**68**	**3.9**	**0.349**	**0.70**	**0.64**	**1,391**	**0.056 (18,19)**	**0.0113 (18,20)**	**1,396 (21,22)**	**0.064**	**0.44**	**0.023**	**0.002243**	**0.0032**	**0.0030**	**6.0**	**0.00024 (18,19)**	**0.000049 (18,20)**	**6.1 (21,22)**	
2.55E-01	2.18E-01	1.10E-01	3.34E-01	3.16E-03	2.91E-03	1.70E+02	0.0069 (18,19)	0.0014 (18,20)	171 (21,22)	1.66E-03	1.42E-03	7.12E-04	2.17E-03	2.06E-05	1.89E-05	1.11E+00	0.000045 (18,19)	0.0000090 (18,20)	1.11 (21,22)	
5.02E+00	2.54E+00	1.31E+00	4.04E-03	5.53E-01	5.09E-01	4.30E+02	0.017 (18,19)	0.0035 (18,20)	431 (21,22)	2.51E-02	1.27E-02	6.55E-03	2.02E-05	2.76E-03	2.54E-03	2.15E+00	0.000087 (18,19)	0.000017 (18,20)	2.16 (21,22)	1.2 (14)
1.02E+00	3.49E-01	4.14E-02	2.07E-03	4.56E-02	4.19E-02	2.20E+02	0.009 (18,19)	0.0018 (18,20)	221 (21,22)	4.57E-03	1.57E-03	1.86E-04	9.31E-06	2.05E-04	1.89E-04	9.91E-01	0.000040 (18,19)	0.0000080 (18,20)	0.99 (21,22)	14.18 (8)
2.69E+00	4.40E-01	8.23E-02	2.94E-03	6.47E-02	5.95E-02	3.12E+02	0.0127 (18,19)	0.0025 (18,20)	314 (21,22)	1.75E-02	2.86E-03	5.35E-04	1.91E-05	4.21E-04	3.87E-04	2.03E+00	0.000082 (18,19)	0.0000165 (18,20)	2.04 (21,22)	
2.34E+00	6.71E-01	1.36E-01	2.66E-03	7.24E-02	6.66E-02	2.83E+02	0.011 (18,19)	0.0023 (18,20)	284 (21,22)	5.85E-03	1.68E-03	3.41E-04	6.64E-06	1.81E-04	1.67E-04	7.06E-01	0.000029 (18,19)	0.000006 (18,20)	0.71 (21,22)	
4.07E+00	7.04E-01	1.54E-01	4.06E-03	1.95E-01	1.79E-01	4.32E+02	0.018 (18,19)	0.0035 (18,20)	433 (21,22)	2.65E-02	4.58E-03	1.00E-03	2.64E-05	1.27E-03	1.17E-03	2.81E+00	0.000114 (18,19)	0.000023 (18,19)	2.82 (21,22)	4.5
5.09E+00	6.47E+01	2.32E+00	6.02E-03	3.62E-02	3.33E-02	2.75E+02	0.0112 (18,19)	0.0022 (18,20)	276 (21,22)	3.31E-02	4.20E-01	1.51E-02	3.92E-05	2.35E-04	2.16E-04	1.79E+00	0.000073 (18,19)	0.000015 (18,20)	1.79 (21,22)	0.79
20.5	**70**	**4.2**	**0.3562**	**0.970**	**0.892**	**2,122**	**0.086 (18,19)**	**0.017 (18,20)**	**2,129 (21,22)**	**0.114**	**0.45**	**0.024**	**0.002295**	**0.00510**	**0.00469**	**11.6**	**0.00047 (18,19)**	**0.000094 (18,20)**	**11.6 (21,22)**	
2.55E-01	2.18E-01	1.10E-01	3.34E-01	3.16E-03	2.91E-03	1.70E+02	0.0069 (18,19)	0.0014 (18,20)	171 (21,22)	1.17E-02	1.00E-02	5.04E-03	1.54E-02	1.46E-04	1.34E-04	7.84E+00	0.00032 (18,19)	0.000064 (18,20)	7.87 (21,22)	
5.02E+00	2.54E+00	1.31E+00	4.04E-03	5.53E-01	5.09E-01	4.30E+02	0.017 (18,19)	0.0035 (18,20)	431 (21,22)	5.02E-02	2.54E-02	1.31E-02	4.04E-05	5.53E-03	5.09E-03	4.30E+00	0.00017 (18,19)	0.000035 (18,20)	4.31 (21,22)	1.2 (14)
1.02E+00	3.49E-01	4.14E-02	2.07E-03	4.56E-02	4.19E-02	2.20E+02	0.009 (18,19)	0.0018 (18,20)	221 (21,22)	1.37E-02	4.71E-03	5.59E-04	2.79E-05	6.15E-04	5.66E-04	2.97E+00	0.00012 (18,19)	0.000024 (18,20)	2.98 (21,22)	14.18 (8)
7.65E-02	6.54E-02	3.29E-02	1.00E-01	9.49E-04	8.73E-04	5.11E+01	0.0021 (18,19)	0.0004 (18,20)	51 (21,22)	1.28E-03	1.09E-03	5.48E-04	1.67E-03	1.58E-05	1.46E-05	8.52E-01	0.000035 (18,19)	0.0000069 (18,20)	0.86 (21,22)	
2.69E+00	4.40E-01	8.23E-02	2.94E-03	6.47E-02	5.95E-02	3.12E+02	0.0127 (18,19)	0.0025 (18,20)	314 (21,22)	8.35E-02	1.36E-02	2.55E-03	9.11E-05	2.01E-03	1.85E-03	9.69E+00	0.000393 (18,19)	0.000079 (18,20)	9.72 (21,22)	
4.69E+00	2.61E+00	5.44E-01	3.09E-03	3.91E-01	3.60E-01	3.29E+02	0.0133 (18,19)	0.0027 (18,20)	330 (21,22)	5.86E-02	3.26E-02	6.80E-03	3.86E-05	4.89E-03	4.50E-03	4.11E+00	0.000167 (18,19)	0.000033 (18,20)	4.12 (21,22)	
2.34E+00	6.71E-01	1.36E-01	2.66E-03	7.24E-02	6.66E-02	2.83E+02	0.011 (18,19)	0.0023 (18,20)	284 (21,22)	1.76E-02	5.03E-03	1.02E-03	1.99E-05	5.43E-04	5.00E-04	2.12E+00	0.00009 (18,19)	0.000017 (18,20)	2.13 (21,22)	
4.07E+00	7.04E-01	1.54E-01	4.06E-03	1.95E-01	1.79E-01	4.32E+02	0.018 (18,19)	0.0035 (18,20)	433 (21,22)	1.26E-01	2.18E-02	4.79E-03	1.26E-04	6.05E-03	5.56E-03	1.34E+01	0.00054 (18,19)	0.000109 (18,20)	13.43 (21,22)	4.5
8.48E+00	1.08E+02	3.87E+00	1.00E-02	6.03E-02	5.55E-02	4.58E+02	0.019 (18,19)	0.0037 (18,20)	460 (21,22)	3.90E-01	4.96E+00	1.78E-01	4.62E-04	2.77E-03	2.55E-03	2.11E+01	0.00086 (18,19)	0.00017 (18,20)	21.2 (21,22)	0.79
0.00 (17)	0.00 (17)	0.00 (17)	0.00 (17)	0.00 (17)	0.00 (6,17)	0 (17)	0.000 (18,19)	0.000 (18,20)	0 (21,22)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00000 (18,19)	0.000000 (18,20)	0.00 (21,22)	
28.6	**115.4**	**6.3**	**0.46**	**1.4**	**1.3**	**2,685**	**0.11 (18,19)**	**0.022 (18,20)**	**2,695 (21,22)**	**0.75**	**5.1**	**0.21**	**0.0179**	**0.023**	**0.021**	**66.3**	**0.0027 (18,19)**	**0.00054 (18,20)**	**66.6 (21,22)**	
-	**-**	**-**	**-**	**-**	**-**	**-**				**0.93**	**6.0**	**0.26**	**0.022**	**0.031**	**0.028**	**84.0**	**0.0034**	**0.00068**	**84.3**	

Appendix 3.4 Table 13
Operation Onsite Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Epic Discovery Operation Onsite Emissions in California

Epic Discovery Mountain Tour Vehicle Emissions in California

Mountain Tour Vehicle Travel Daily Emissions in California (Maximum)																					
						Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)								
Peak Day Number of Tour Vehicles	Tour Vehicle Trips Per Day	Number of Tours Per Day	Tour Distance in CA LTAB (miles)		Tour Vehicle Daily VMT (miles/ day)	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
2	2	2	**4.75**	1	28.4	0.00091	0.011	0.00072	0.000021	0.000011	0.000010	2.6	0.00011	0.000021	0.026	0.30	0.021	0.00061	0.00031	0.00028	75.1	0.0030	0.00061	75.3
										Unpaved-Road Fugitive Dust:									0.98	0.098				

Mountain Tour Vehicle Travel Annual Emissions in California																							
							Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)								
Annual Average Number of Tour Vehicles	Tour Vehicle Trips Per Day	Number of Tours Per Day	Tour Distance in CA LTAB (miles)		Annual/ Season Number of Tour Operation Days	Annual/ Season Tour Vehicle VMT (miles/ year)	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
2	2	2	**4.75**	1	90	1,710	0.00091	0.011	0.00072	0.0000213	0.000011	0.000010	2.6	0.00011	0.000021	0.00078	0.0090	0.00062	0.000018	0.0000092	0.0000085	2.3	0.000092	0.000018	2.3
											Unpaved-Road Fugitive Dust:									0.98	0.098				

Epic Discovery General Operation and Maintenance Onroad Vehicle Emissions in California

Epic Discovery General Operation and Maintenance Onroad Vehicle Travel Daily Emissions in California (Maximum)																					
						Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)								
Peak Day Number of Epic Discovery General O&M Onroad Vehicles			Round-Trip Distance in CA LTAB (miles)	Carpool Factor (Employees per Vehicle)	O&M Daily VMT (miles/ day)	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
2	1	1	**5**	1	10	0.00091	0.011	0.00072	0.000021	0.000011	0.000010	2.64	0.00011	0.000021	0.009	0.11	0.007	0.00021	0.00011	0.00010	26.4	0.0011	0.00021	26.5
										Unpaved-Road Fugitive Dust:									0.98	0.098				

Epic Discovery General O&M Onroad Vehicle Travel Annual Emissions in California																							
							Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)								
Annual Average Number of Epic Discovery General O&M Onroad Vehicles			Round-Trip Distance in CA LTAB (miles)	Carpool Factor (Employees per Vehicle)	Annual Number of O&M Days	Annual O&M Onroad Vehicle VMT (miles/ year)	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
2.0	1	1	**5**	1	90	900	0.00091	0.011	0.00072	0.000021	0.000011	0.000010	2.64	0.00011	0.000021	0.0004	0.005	0.00033	0.000010	0.000005	0.000004	1.19	0.00005	0.000010	1.19
											Unpaved-Road Fugitive Dust:									0.44	0.044				

1) The total distance is the twice daily tour distance plus the twice daily round trips to leave visitors off and pick them up, based on 1.5 miles one-way to end of East Peak Zipline and 0.85 mile to end of Sky Meadows Zipline Canopy Tour.
2) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
3) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
4) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 Ibid
5) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
6) N_2O Global Warming Potential (-) = 298 Ibid

Appendix 3.4 Table 14
Daily Operation Onsite Fugitive Dust Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Daily Operation Onsite Fugitive Dust Emissions in California

$PM_{2.5}$ (lb/day)			
	Daily Fugitive Dust Emission		
Equipment Project Phase:	Operation		
Mountain Tour F-350 Truck	0.105		
PICKUP 3/4 TON 4X4 CREW CAB	0.031		
ATVs	0.025		
$PM_{2.5}$ Subtotal (lbs/day) =	0.16		

PM_{10} (lb/day)			
	Daily Fugitive Dust Emission		
Equipment Project Phase:	Operation		
Mountain Tour F-350 Truck	1.05		
PICKUP 3/4 TON 4X4 CREW CAB	0.31		
ATVs	0.25		
PM_{10} Subtotal (lbs/day) =	1.61		

Appendix 3.4 Table 14
Daily Operation Onsite Fugitive Dust Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Daily Operation Onsite Fugitive Dust E	
	$PM_{2.5}$ (l
Equipment	Project Phase:
Mountain Tour F-350 Truck	
PICKUP 3/4 TON 4X4 CREW CAB	
ATVs	
$PM_{2.5}$ Subtotal (lbs/day) =	

	PM_{10} (l
Equipment	Project Phase:
Mountain Tour F-350 Truck	
PICKUP 3/4 TON 4X4 CREW CAB	
ATVs	
PM_{10} Subtotal (lbs/day) =	

Appendix 3.4 Table 14
Daily Operation Onsite Fugitive Dust Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Daily Operation Onsite Fugitive Dust E

Equipment	Project Phase:	$PM_{2.5}$ (l
Mountain Tour F-350 Truck		
PICKUP 3/4 TON 4X4 CREW CAB		
ATVs		
	$PM_{2.5}$ Subtotal (lbs/day) =	

Equipment	Project Phase:	PM_{10} (l
Mountain Tour F-350 Truck		
PICKUP 3/4 TON 4X4 CREW CAB		
ATVs		
	PM_{10} Subtotal (lbs/day) =	

Annual Operation Onsite Fugitive Dust Emissions in California

Equipment	Project Phase:	$PM_{2.5}$ (tpy) Daily Fugitive Dust Emission: Operation		
Mountain Tour F-350 Truck		0.0032		
PICKUP 3/4 TON 4X4 CREW CAB		0.0014		
ATVs		0.0011		
	$PM_{2.5}$ Subtotal (tpy) =	0.0057		

Equipment	Project Phase:	PM_{10} (tpy) Daily Fugitive Dust Emission: Operation		
Mountain Tour F-350 Truck		0.032		
PICKUP 3/4 TON 4X4 CREW CAB		0.014		
ATVs		0.011		
	PM_{10} Subtotal (tpy) =	0.057		

Appendix 3.4 Table 15
Operation Onsite Offroad Equipment Hours, Emission Factors, and Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Offroad Equipment Description	HP	Load Factor (1) ( )	Off-Road or On-Road?	Tier	Annual Use (hrs/yr)	Daily Use (hrs/day)	Average Speed(8) (mph)	Daily Distance Traveled (mi)	Annual Distance Traveled (mi)	ARB Off-Road or EPA Nonroad(2) Emission Factors (g/bhp-hr)										Onroad Emission Factors (lbs/VMT) (3)									
										NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
O&M																													
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (4)	0.57 (11)	Off	3?	90.0	1.00	15.0	15.0	1,350	8.43 (12)	107.2 (12)	3.85 (12)	0.010 (13)	0.06 (12)	0.055 (6)	456 (7)	0.018 (18,19)	###########	457 (21,22)	-	-	-	-	-	-	-	-	-	-

1) CalEEMod (Version 2013.2.2) Appendix D Table 3.3 default value.
2) EPA, *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression-Ignition,* ReportNR-009d, EPA-420-R-10-018, Table A4, July 2010
3) EMFAC2011-LDV V2.50.57.246 and EMFAC2011-HD.
4) http://www.rhinoforums.net/engine/44719-how-much-horsepower-does-stock-rhino-700-fi-have.html
5) Calculated from BSFC assuming 15 ppmw sulfur in Diesel fuel.
6) OFFROAD2007 uses a $PM_{2.5}/PM_{10}$ ratio = 0.92
7) Density of Distillate Fuel No. 2 (metric tons fuel/bbl fuel) = 0.1346 (CFR Part 98, Subpart MM, Table MM-1)
CO_2 emission factor for Distillate Fuel No. 2 (metric tons CO_2/bbl fuel) = 0.4296 (CFR Part 98, Subpart MM, Table MM-1)
CO_2 emission factor for gasoline (metric tons CO_2/bbl fuel) = 0.3686 (CFR Part 98, Subpart MM, Table MM-1)
8) Estimated.
9) Sweyco Trail Dozer Model 480 specification
10) Specifications for Honda Model TRX420FE
11) Assumed same as off-highway trucks in CalEEMod Appendix D Table 3.3.
12) EPA, Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition, Report NR-010e, EPA-420-R-05-019, Table 6, page 8, December 2005.
13) The sulfur concentration in gasoline is assumed to be 30 ppmw, based on EPA News Release, *EPA Sets Cleaner Fuel and Car Standards, Slashing Air Pollution and Providing Health Benefits to Thousands,* March 3, 2014, "The final fuel standards will reduce gasoline sulfur levels by more than 60 percent – down from 30 to 10 parts per million (ppm) in 2017."
14) Caterpillar, *Lease a Cat Backhoe Loader* , http://www.catresourcecenter.com/construction-backhoe-loaders.asp?SRC=CATBC1630&utm_term=excavator&utm_content=MHEX#2
15) Example: 2013 Altec AC23-95B, 29-ton crane, 10-wheel
16) CalEEMod Appendix D Table 3.4 for 2012 Forklift with 51 - 120 hp
17) Tables 4 and 5 in Appendix A, authored by Panorama Environmental, Inc. for PG&E's CEQA document to the CPUC for the Santa Cruz 115kV Reinforcement Project, http://www.cpuc.ca.gov/environment/info/panoramaenv/SantaCruz_115kVReinforcement/SantaCruz_115%20Reinforcement%20Project.html#EIR
18) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
19) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
20) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
21) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
22) N_2O Global Warming Potential (-) = 298 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)

Appendix 3.4 Table 15
Operation Onsite Offroad Equipment Hours, Emission Factors, and Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Daily Offroad Equipment Emissions (lbs/day)										Annual Offroad Equipment Emissions (tpy)									
NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
4.24E-01	5.39E+00	1.94E-01	5.02E-04	3.02E-03	2.77E-03	2.29E+01	9.29E-04	1.86E-04	23 (21,22)	1.91E-02	2.43E-01	8.71E-03	2.26E-05	1.36E-04	1.25E-04	1.03E+00	4.18E-05	8.37E-06	1.03 (21,22)

Appendix 3.4 Table 16
Operation Offsite On-Road Vehicle Emissions in California
Heavenly Mountain Resort Epic Discovery Project

Epic Discovery Operation Offsite On-Road Vehicle Emissions in California

Epic Discovery Visitor Vehicle Emissions in California

Peak Visitor Travel Daily Emissions in California

Peak Day Number of Visitor Vehicles from California Driving to Epic Discovery	Visitor Vehicle Round Trips Per Day	California Visitor Vehicle Round Trips Per Day	Round-Trip Distance in CA LTAB[1] (miles)		California Visitor Daily VMT (miles/ day)	Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)									
						NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
137.9	1	137.9	18.0	1	2,476	0.00026	0.0036	0.00027	0.0000085	0.00010	0.000044	0.85	0.000034	0.0000069	0.97	12.7	2.0	0.023	0.26	0.11	2,246	0.091	0.018	2,254
									Paved-Road Fugitive Dust:	0.0047	0.0012								11.6	2.8				

Visitor Travel Annual Emissions in California

Annual Average Number of Visitor Vehicles from California Driving to Epic Discovery Per Day	Visitor Vehicle Round Trips Per Day	California Visitor Vehicle Round Trips Per Day	Round-Trip Distance in CA LTAB[1] (miles)		Annual Number of Operation Days	California Annual Visitor VMT (miles/ year)	Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)									
							NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
76.8	1	76.8	18.1	1	90	125,055	0.00026	0.0036	0.00027	0.0000085	0.00010	0.000044	0.85	0.000034	0.0000069	0.024	0.34	0.051	0.00057	0.0066	0.0029	56.7	0.0023	0.00046	56.9
										Paved-Road Fugitive Dust:	0.0047	0.0012								0.29	0.072				

Epic Discovery Employee Vehicle Emissions in California

Peak Epic Discovery Employee Travel Daily Emissions in California

		California Employee Vehicle Round Trips Per Day	Employee Round-Trip Distance in CA LTAB[1] (miles)		Employee Daily VMT (miles/ day)	Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)									
						NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
		105.0	25.6	1	2,692	0.00026	0.0036	0.00027	0.0000085	0.00010	0.000044	0.85	0.000034	0.0000069	0.95	12.6	1.75	0.024	0.28	0.12	2,395	0.10	0.019	2,403
									Paved-Road Fugitive Dust:	0.0047	0.0012								12.6	3.1				

Epic Discovery Employee Travel Annual Emissions in California

		California Employee Vehicle Round Trips Per Day	Employee Round-Trip Distance in CA LTAB[1] (miles)		Annual Number of Operation Days	Annual California Employee VMT (miles/ year)	Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)									
							NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
		91.7	25.6	1	90	211,590	0.00026	0.0036	0.00027	0.0000085	0.00010	0.000044	0.85	0.000034	0.0000069	0.037	0.52	0.069	0.00095	0.011	0.0048	94.1	0.0038	0.00076	94.4
										Paved-Road Fugitive Dust:	0.0047	0.0012								0.50	0.12				

1) From Fehr & Peers traffic analysis.
2) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
3) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
4) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 Ibid
5) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
6) N_2O Global Warming Potential (-) = 298 Ibid
7) Based on Fehr & Peers survey of visitors to resort parking garage.

Appendix 3.4 Table 17
Total Project Operation Onsite Emissions
Heavenly Mountain Resort Epic Discovery Project

Epic Discovery Operation Onsite Emissions, Total

Epic Discovery Mountain Tour Vehicle Emissions, Total

Mountain Tour Vehicle Travel Daily Emissions in LTAB (Maximum)																						
Peak Day Number of Tour Vehicles	Tour Vehicle Trips Per Day	Number of Tours Per Day	Tour Distance in LTAB (miles)		Tour Vehicle Daily VMT (miles/	Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)									
						NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
2	2	2	**7.50**	1	39.4	0.00091	0.011	0.00072	0.000021	0.000011	0.000010	2.6	0.00011	0.000021	0.036	0.42	0.028	0.00084	0.00042	0.00039	104.2	0.0042	0.00085	104.5
									Unpaved-Road Fugitive Dust:	0.98	0.098								38.5	3.8				

Mountain Tour Vehicle Travel Annual Emissions in LTAB																						
Annual Average Number of Tour Vehicles	Tour Vehicle Trips Per Day	Number of Tours Per Day	Tour Distance in LTAB (miles)		Annual/ Season Number of Tour Operation Days	Annual/ Season Tour Vehicle VMT (miles/ year)	Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)								
							NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
2	2	2	**7.50**	1	90	2,700	0.00091	0.011	0.00072	0.0000213	0.000011	0.000010	2.6	0.00011	0.000021	0.00123	0.0142	0.00098	0.000029	0.0000146	0.0000134	3.6	0.000145	0.000029	3.6
										Unpaved-Road Fugitive Dust:	0.98	0.098								1.32	0.132				

Epic Discovery General Operation and Maintenance Onroad Vehicle Emissions in LTAB

Epic Discovery General Operation and Maintenance Onroad Vehicle Travel Daily Emissions in LTAB (Maximum)																						
Peak Day Number of Epic Discovery General O&M Onroad Vehicles			Round-Trip Distance in LTAB (miles)	Carpool Factor (Employees per Vehicle)	O&M Daily VMT (miles/ day)	Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)									
						NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
2	1	1	**10**	1	20	0.00091	0.011	0.00072	0.000021	0.000011	0.000010	2.64	0.00011	0.000021	0.018	0.21	0.014	0.00043	0.00022	0.00020	52.9	0.0021	0.00043	53.1
									Unpaved-Road Fugitive Dust:	0.98	0.098								19.5	1.95				

Epic Discovery General O&M Onroad Vehicle Travel Annual Emissions in LTAB																						
Annual Average Number of Epic Discovery General O&M Onroad Vehicles			Round-Trip Distance in LTAB (miles)	Carpool Factor (Employees per Vehicle)	Annual Number of O&M Days	Annual O&M Onroad Vehicle VMT (miles/ year)	Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)								
							NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
2.0	1	1	**10**	1	90	1,800	0.00091	0.011	0.00072	0.000021	0.000011	0.000010	2.64	0.00011	0.000021	0.0008	0.009	0.00065	0.000019	0.000010	0.000009	2.38	0.00010	0.000019	2.39
										Unpaved-Road Fugitive Dust:	0.98	0.098								0.88	0.088				

1) The total distance is the twice daily tour distance plus the twice daily round trips to leave visitors off and pick them up, based on 1.5 miles one-way to end of East Peak Zipline and 0.85 mile to end of Sky Meadows Zipline Canopy Tour.
2) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
3) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
4) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 Ibid
5) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
6) N_2O Global Warming Potential (-) = 298 Ibid

Appendix 3.4 Table 18
Total Project Operation Onsite Fugitive Dust Emissions in the Basin
Heavenly Mountain Resort Epic Discovery Project

Daily Operation Onsite Fugitive Dust Emissions in the Basin

$PM_{2.5}$ (lb/day)			
	Daily Fugitive Dust Emission		
Equipment Project Phase:	Operation		
Mountain Tour F-350 Truck	0.145		
PICKUP 3/4 TON 4X4 CREW CAB	0.063		
ATVs	0.042		
$PM_{2.5}$ Subtotal (lbs/day) =	0.25		

PM_{10} (lb/day)			
	Daily Fugitive Dust Emission		
Equipment Project Phase:	Operation		
Mountain Tour F-350 Truck	1.45		
PICKUP 3/4 TON 4X4 CREW CAB	0.63		
ATVs	0.42		
PM_{10} Subtotal (lbs/day) =	2.50		

Annual Operation Onsite Fugitive Dust Emissions in the Basin

$PM_{2.5}$ (tpy)			
	Daily Fugitive Dust Emission		
Equipment Project Phase:	Operation		
Mountain Tour F-350 Truck	0.0050		
PICKUP 3/4 TON 4X4 CREW CAB	0.0028		
ATVs	0.0019		
$PM_{2.5}$ Subtotal (tpy) =	0.0097		

PM_{10} (tpy)			
	Daily Fugitive Dust Emission		
Equipment Project Phase:	Operation		
Mountain Tour F-350 Truck	0.050		
PICKUP 3/4 TON 4X4 CREW CAB	0.028		
ATVs	0.019		
PM_{10} Subtotal (tpy) =	0.097		

Appendix 3.4 Table 19
Total Project Operation Offsite Emissions in the Basin
Heavenly Mountain Resort Epic Discovery Project

Epic Discovery Operation Offsite On-Road Vehicle Emissions in the Basin

Epic Discovery Visitor Vehicle Emissions in the Basin

Peak Visitor Travel Daily Emissions in LTAB																						
Peak Day Total Number of Visitor Vehicles Driving to Epic Discovery	Visitor Vehicle Round Trips Per Day	Number of Visitor Vehicle Round Trips Per Day	Weighted Round-Trip Distance in LTAB[1] (miles)		Visitor Daily VMT (miles/ day)	Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)									
						NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
224	1	224	17.74	1	3,903	0.00026	0.0036	0.00027	0.0000085	0.00010	0.000044	0.85	0.000034	0.0000069	1.54	20.2	3.2	0.036	0.41	0.18	3,547	0.14	0.029	3,559
						Paved-Road Fugitive Dust:				0.0047	0.0012								18.3	4.5				

Visitor Travel Annual Emissions in LTAB																							
Annual Average Number of Visitor Vehicles Driving to Epic Discovery Per Day	Visitor Vehicle Round Trips Per Day	Number of Visitor Vehicle Round Trips Per Day	Weighted Round-Trip Distance in LTAB[1] (miles)		Annual Number of Operation Days	Annual Visitor VMT (miles/ year)	Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)								
							NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
247.0	1	249.6	8.73	1	90	196,020	0.00026	0.0036	0.00027	0.0000085	0.00010	0.000044	0.85	0.000034	0.0000069	0.052	0.73	0.14	0.00096	0.011	0.0048	94.9	0.0039	0.00077	95.3
							Paved-Road Fugitive Dust:				0.0047	0.0012								0.46	0.113				

Epic Discovery Employee Vehicle Emissions in the Basin

Peak Epic Discovery Employee Travel Daily Emissions in LTAB																						
		Employee Vehicle Round Trips Per Day	Round-Trip Distance in LTAB[1] (miles)		Employee Daily VMT (miles/ day)	Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)									
						NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
		140.0	25.6	1	3,589	0.00026	0.0036	0.00027	0.0000085	0.00010	0.000044	0.85	0.000034	0.0000069	1.26	16.7	2.33	0.032	0.38	0.16	3,193	0.13	0.026	3,204
						Paved-Road Fugitive Dust:				0.0047	0.0012								16.8	4.13				

Epic Discovery Employee Travel Annual Emissions in California																							
		Employee Vehicle Round Trips Per Day	Round-Trip Distance in LTAB[1] (miles)		Annual Number of Operation Days	Annual Employee VMT (miles/ year)	Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)								
							NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	NOx	CO	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	$CO_2e^{(5,6)}$
		122.3	25.6	1	90	282,150	0.00026	0.0036	0.00027	0.0000085	0.00010	0.000044	0.85	0.000034	0.0000069	0.050	0.69	0.092	0.0013	0.015	0.0064	125.5	0.0051	0.0010	125.9
							Paved-Road Fugitive Dust:				0.0047	0.0012								0.66	0.16				

1) Weighted distance calculated in Fehr & Peers transportation analysis.
2) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
3) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
4) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 Ibid
5) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
6) N_2O Global Warming Potential (-) = 298 Ibid

Appendix 3.4 Table 20
GHG Emission Factors for Electric Energy Use
Heavenly Mountain Resort Epic Discovery Project

Utility = Sierra Pacific Resources

Pollutant	Emission Factors (lbs/MWh)	Reference	Maximum Daily Use (lbs)	Annual Emission (tons)
CO_2	1,328.16	CalEEMod, Version 2013.2.2	505	30.3
CH_4	0.029	CalEEMod, Version 2013.2.2	0.011	0.0007
N_2O	0.00617	CalEEMod, Version 2013.2.2	0.002	0.0001
CO_2e			506	30.4

Electric motor use =	120	days/season *	10	hrs/day max. =	1,200	hrs/season
Electric motor power (kW) =	38		= hp of	51		

Appendix 3.4 Table 21
Total Project Operation Onsite Offroad Equipment Hours, Emission Factors, and Emissions in the Basin
Heavenly Mountain Resort Epic Discovery Project

Offroad Equipment Description	HP	Load Factor (1) ( )	Off-Road or On-Road?	Tier	Annual Use (hrs/yr)	Daily Use (hrs/day)	Average Speed(8) (mph)	Daily Distance Traveled (mi)	Annual Distance Traveled (mi)	ARB Off-Road or EPA Nonroad(2) Emission Factors (g/bhp-hr)										Onroad Emission Factors (lbs/VMT) (3)									
										NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
O&M																													
ATV, 2013 Yamaha Rhino 700 FI 4x4	40 (4)	0.57 (11)	Off	3?	150.0	1.67	15.0	25.0	2,250	8.43 (12)	107.2 (12)	3.85 (12)	0.010 (13)	0.06 (12)	0.055 (6)	456 (7)	0.018 (18,19)	##########	457 (21,22)	-	-	-	-	-	-	-	-	-	-

1) CalEEMod (Version 2013.2.2) Appendix D Table 3.3 default value.
2) EPA, *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression-Ignition,* ReportNR-009d, EPA-420-R-10-018, Table A4, July 2010
3) EMFAC2011-LDV V2.50.57.246 and EMFAC2011-HD.
4) http://www.rhinoforums.net/engine/44719-how-much-horsepower-does-stock-rhino-700-fi-have.html
5) Calculated from BSFC assuming 15 ppmw sulfur in Diesel fuel.
6) OFFROAD2007 uses a $PM_{2.5}/PM_{10}$ ratio = 0.92
7) Density of Distillate Fuel No. 2 (metric tons fuel/bbl fuel) = 0.1346 (CFR Part 98, Subpart MM, Table MM-1)
CO_2 emission factor for Distillate Fuel No. 2 (metric tons CO_2/bbl fuel) = 0.4296 (CFR Part 98, Subpart MM, Table MM-1)
CO_2 emission factor for gasoline (metric tons CO_2/bbl fuel) = 0.3686 (CFR Part 98, Subpart MM, Table MM-1)
8) Estimated.
9) Sweyco Trail Dozer Model 480 specification
10) Specifications for Honda Model TRX420FE
11) Assumed same as off-highway trucks in CalEEMod Appendix D Table 3.3.
12) EPA, Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition, Report NR-010e, EPA-420-R-05-019, Table 6, page 8, December 2005.
13) The sulfur concentration in gasoline is assumed to be 30 ppmw, based on EPA News Release, *EPA Sets Cleaner Fuel and Car Standards, Slashing Air Pollution and Providing Health Benefits to Thousands,* March 3, 2014, "The final fuel standards will reduce gasoline sulfur levels by more than 60 percent – down from 30 to 10 parts per million (ppm) in 2017."
14) Caterpillar, *Lease a Cat Backhoe Loader* , http://www.catresourcecenter.com/construction-backhoe-loaders.asp?SRC=CATBC1630&utm_term=excavator&utm_content=MHEX#2
15) Example: 2013 Altec AC23-95B, 29-ton crane, 10-wheel
16) CalEEMod Appendix D Table 3.4 for 2012 Forklift with 51 - 120 hp
17) Tables 4 and 5 in Appendix A, authored by Panorama Environmental, Inc. for PG&E's CEQA document to the CPUC for the Santa Cruz 115kV Reinforcement Project, http://www.cpuc.ca.gov/environment/info/panoramaenv/SantaCruz_115kVReinforcement/SantaCruz_115%20Reinforcement%20Project.html#EIR
18) Diesel fuel CO_2 emission factor (kg CO_2/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
19) Diesel fuel CH_4 emission factor (kg CH_4/MMBtu) = 0.003 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
20) Diesel fuel N_2O emission factor (kg N_2O/MMBtu) = 0.0006 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
21) CH_4 Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
22) N_2O Global Warming Potential (-) = 298 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)

Appendix 3.4 Table 21
Total Project Operation Onsite Offroad Equipment Hours, Emission Factors, and Emissions in the Basin
Heavenly Mountain Resort Epic Discovery Project

Daily Offroad Equipment Emissions (lbs/day)										Annual Offroad Equipment Emissions (tpy)										Weight (tons)
NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	NOx	CO	VOC	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e	
7.06E-01	8.98E+00	3.23E-01	8.37E-04	5.03E-03	4.62E-03	3.82E+01	1.55E-03	3.10E-04	38 (21,22)	3.18E-02	4.04E-01	1.45E-02	3.77E-05	2.26E-04	2.08E-04	1.72E+00	6.97E-05	1.39E-05	1.72 (21,22)	

Appendix A

Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three (+5 dB for TRPA calculations) and nighttime hours weighted by a factor of 10 (or +10 dB) prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2013-194
Description: Existing Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

Segment	Roadway Name	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	US 50	Loop Road to Kingsbury Way	26,790	77	10	13	3	1	30	100	
2	US 50.	Loop Road to Casino Core	20,930	77	10	13	3	1	30	100	
3	US 50.	Casino Core to Stateline Ave	21,920	77	10	13	3	1	30	100	
4	US 50.	Stateline Ave to Friday Ave	24,170	77	10	13	3	1	30	100	
5	US 50.	Friday Ave to Park Ave	24,830	77	10	13	3	1	30	100	
6	US 50	Park Ave to Pioneer Trail	30,610	77	10	13	3	1	30	100	
7	US 50	Pioneer Trail to Ski Run Blvd	23,590	77	10	13	3	1	30	100	
8	Pioneer Trail	South of US 50	7,900	77	10	13	3	1	30	100	
9	Park Ave	West of US 50	2,560	77	10	13	2	1	25	100	
10	Park Ave	East of US 50	5,950	77	10	13	2	1	25	100	
11											
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Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2013-194
Description: Existing Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

Segment	Roadway Name	Segment	Autos	Medium Trucks	Heavy Trucks	Total
1	US 50	Loop Road to Kingsbury Way	60.3	56.2	58.6	63
2	US 50.	Loop Road to Casino Core	59.2	55.1	57.5	62
3	US 50.	Casino Core to Stateline Ave	59.4	55.3	57.7	63
4	US 50.	Stateline Ave to Friday Ave	59.8	55.8	58.1	63
5	US 50.	Friday Ave to Park Ave	60.0	55.9	58.2	63
6	US 50	Park Ave to Pioneer Trail	60.9	56.8	59.1	64
7	US 50	Pioneer Trail to Ski Run Blvd	59.7	55.7	58.0	63
8	Pioneer Trail	South of US 50	55.0	50.9	53.3	58
9	Park Ave	West of US 50	47.9	43.0	47.6	51
10	Park Ave	East of US 50	51.5	46.7	51.3	55

Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2013-194
Description: Existing Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment	75	70	65	60	55
1	US 50	Loop Road to Kingsbury Way	17	36	79	169	365
2	US 50.	Loop Road to Casino Core	14	31	67	144	309
3	US 50.	Casino Core to Stateline Ave	15	32	69	148	319
4	US 50.	Stateline Ave to Friday Ave	16	34	73	158	340
5	US 50.	Friday Ave to Park Ave	16	35	75	161	347
6	US 50	Park Ave to Pioneer Trail	18	40	86	185	398
7	US 50	Pioneer Trail to Ski Run Blvd	16	33	72	155	335
8	Pioneer Trail	South of US 50	7	16	35	75	162
9	Park Ave	West of US 50	3	6	12	27	58
10	Park Ave	East of US 50	5	10	22	47	101

Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2013-194
Description: Existing Plus Project Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

Segment	Roadway Name	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	US 50	Loop Road to Kingsbury Way	27,080	77	10	13	3	1	30	100	
2	US 50.	Loop Road to Casino Core	20,990	77	10	13	3	1	30	100	
3	US 50.	Casino Core to Stateline Ave	21,980	77	10	13	3	1	30	100	
4	US 50.	Stateline Ave to Friday Ave	24,230	77	10	13	3	1	30	100	
5	US 50.	Friday Ave to Park Ave	24,920	77	10	13	3	1	30	100	
6	US 50	Park Ave to Pioneer Trail	31,160	77	10	13	3	1	30	100	
7	US 50	Pioneer Trail to Ski Run Blvd	23,960	77	10	13	3	1	30	100	
8	Pioneer Trail	South of US 50	8,080	77	10	13	3	1	30	100	
9	Park Ave	West of US 50	2,600	77	10	13	2	1	25	100	
10	Park Ave	East of US 50	6,630	77	10	13	2	1	25	100	
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Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2013-194
Description: Existing Plus Project Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

Segment	Roadway Name	Segment	Autos	Medium Trucks	Heavy Trucks	Total
1	US 50	Loop Road to Kingsbury Way	60.3	56.2	58.6	63
2	US 50.	Loop Road to Casino Core	59.2	55.1	57.5	62
3	US 50.	Casino Core to Stateline Ave	59.4	55.3	57.7	63
4	US 50.	Stateline Ave to Friday Ave	59.8	55.8	58.1	63
5	US 50.	Friday Ave to Park Ave	60.0	55.9	58.2	63
6	US 50	Park Ave to Pioneer Trail	60.9	56.9	59.2	64
7	US 50	Pioneer Trail to Ski Run Blvd	59.8	55.7	58.1	63
8	Pioneer Trail	South of US 50	55.1	51.0	53.3	58
9	Park Ave	West of US 50	47.9	43.1	47.7	51
10	Park Ave	East of US 50	52.0	47.1	51.8	56

Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2013-194
Description: Existing Plus Project Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment	75	70	65	60	55
1	US 50	Loop Road to Kingsbury Way	17	37	79	170	367
2	US 50.	Loop Road to Casino Core	14	31	67	144	310
3	US 50.	Casino Core to Stateline Ave	15	32	69	148	319
4	US 50.	Stateline Ave to Friday Ave	16	34	73	158	341
5	US 50.	Friday Ave to Park Ave	16	35	75	161	347
6	US 50	Park Ave to Pioneer Trail	19	40	87	187	403
7	US 50	Pioneer Trail to Ski Run Blvd	16	34	73	157	338
8	Pioneer Trail	South of US 50	8	16	35	76	164
9	Park Ave	West of US 50	3	6	13	27	58
10	Park Ave	East of US 50	5	11	23	51	109

Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2013-194
Description: Year 2035 Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

Segment	Roadway Name	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	US 50	Loop Road to Kingsbury Way	29,600	77	10	13	3	1	30	100	
2	US 50.	Loop Road to Casino Core	23,100	77	10	13	3	1	30	100	
3	US 50.	Casino Core to Stateline Ave	24,300	77	10	13	3	1	30	100	
4	US 50.	Stateline Ave to Friday Ave	26,500	77	10	13	3	1	30	100	
5	US 50.	Friday Ave to Park Ave	26,400	77	10	13	3	1	30	100	
6	US 50	Park Ave to Pioneer Trail	32,800	77	10	13	3	1	30	100	
7	US 50	Pioneer Trail to Ski Run Blvd	24,800	77	10	13	3	1	30	100	
8	Pioneer Trail	South of US 50	9,000	77	10	13	3	1	30	100	
9	Park Ave	West of US 50	3,200	77	10	13	2	1	25	100	
10	Park Ave	East of US 50	6,600	77	10	13	2	1	25	100	
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Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2013-194
Description: Year 2035 Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

Segment	Roadway Name	Segment	Autos	Medium Trucks	Heavy Trucks	Total
1	US 50	Loop Road to Kingsbury Way	60.7	56.6	59.0	64
2	US 50.	Loop Road to Casino Core	59.6	55.6	57.9	63
3	US 50.	Casino Core to Stateline Ave	59.9	55.8	58.1	63
4	US 50.	Stateline Ave to Friday Ave	60.2	56.2	58.5	63
5	US 50.	Friday Ave to Park Ave	60.2	56.1	58.5	63
6	US 50	Park Ave to Pioneer Trail	61.2	57.1	59.4	64
7	US 50	Pioneer Trail to Ski Run Blvd	59.9	55.9	58.2	63
8	Pioneer Trail	South of US 50	55.5	51.5	53.8	59
9	Park Ave	West of US 50	48.8	44.0	48.6	52
10	Park Ave	East of US 50	52.0	47.1	51.7	56

Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2013-194
Description: Year 2035 Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment	75	70	65	60	55
1	US 50	Loop Road to Kingsbury Way	18	39	84	181	390
2	US 50.	Loop Road to Casino Core	15	33	71	153	330
3	US 50.	Casino Core to Stateline Ave	16	34	74	159	342
4	US 50.	Stateline Ave to Friday Ave	17	36	78	168	362
5	US 50.	Friday Ave to Park Ave	17	36	78	168	361
6	US 50	Park Ave to Pioneer Trail	19	42	90	194	417
7	US 50	Pioneer Trail to Ski Run Blvd	16	35	75	161	346
8	Pioneer Trail	South of US 50	8	18	38	82	176
9	Park Ave	West of US 50	3	7	14	31	67
10	Park Ave	East of US 50	5	11	23	50	109

Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2013-194
Description: Cumulative Plus Project Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

Segment	Roadway Name	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	US 50	Loop Road to Kingsbury Way	29,890	77	10	13	3	1	30	100	
2	US 50.	Loop Road to Casino Core	23,160	77	10	13	3	1	30	100	
3	US 50.	Casino Core to Stateline Ave	24,360	77	10	13	3	1	30	100	
4	US 50.	Stateline Ave to Friday Ave	26,580	77	10	13	3	1	30	100	
5	US 50.	Friday Ave to Park Ave	26,490	77	10	13	3	1	30	100	
6	US 50	Park Ave to Pioneer Trail	33,350	77	10	13	3	1	30	100	
7	US 50	Pioneer Trail to Ski Run Blvd	24,170	77	10	13	3	1	30	100	
8	Pioneer Trail	South of US 50	9,180	77	10	13	3	1	30	100	
9	Park Ave	West of US 50	3,240	77	10	13	2	1	25	100	
10	Park Ave	East of US 50	7,280	77	10	13	2	1	25	100	
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22											

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Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2013-194
Description: Cumulative Plus Project Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

Segment	Roadway Name	Segment	Autos	Medium Trucks	Heavy Trucks	Total
1	US 50	Loop Road to Kingsbury Way	60.8	56.7	59.0	64
2	US 50.	Loop Road to Casino Core	59.6	55.6	57.9	63
3	US 50.	Casino Core to Stateline Ave	59.9	55.8	58.1	63
4	US 50.	Stateline Ave to Friday Ave	60.2	56.2	58.5	63
5	US 50.	Friday Ave to Park Ave	60.2	56.2	58.5	63
6	US 50	Park Ave to Pioneer Trail	61.2	57.2	59.5	64
7	US 50	Pioneer Trail to Ski Run Blvd	59.8	55.8	58.1	63
8	Pioneer Trail	South of US 50	55.6	51.6	53.9	59
9	Park Ave	West of US 50	48.9	44.0	48.7	52
10	Park Ave	East of US 50	52.4	47.5	52.2	56

Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2013-194
Description: Cumulative Plus Project Heavenly Summer Epic
Ldn/CNEL: CNEL
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment	75	70	65	60	55
1	US 50	Loop Road to Kingsbury Way	18	39	84	182	392
2	US 50.	Loop Road to Casino Core	15	33	71	154	331
3	US 50.	Casino Core to Stateline Ave	16	34	74	159	342
4	US 50.	Stateline Ave to Friday Ave	17	36	78	168	363
5	US 50.	Friday Ave to Park Ave	17	36	78	168	362
6	US 50	Park Ave to Pioneer Trail	20	42	91	196	422
7	US 50	Pioneer Trail to Ski Run Blvd	16	34	73	158	340
8	Pioneer Trail	South of US 50	8	18	38	83	179
9	Park Ave	West of US 50	3	7	15	31	68
10	Park Ave	East of US 50	5	12	25	54	116

3.7 TRANSPORTATION APPENDICES

Traffic Count Data

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-001 US-50-Lake Parkway.ppd
Date : 12/13/2013

Unshifted Count = All Vehicles

	Lake Parkway Southbound					US-50 Westbound					Lake Parkway Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
15:00	29	2	6	0	37	33	212	20	0	265	12	5	46	0	63	6	213	6	0	225	590	0
15:15	26	4	7	0	37	30	203	20	0	253	8	5	63	0	76	4	167	2	0	173	539	0
15:30	16	2	3	0	21	55	210	26	0	291	9	4	54	0	67	6	185	8	0	199	578	0
15:45	22	7	4	0	33	34	201	30	0	265	16	3	67	0	86	3	176	11	0	190	574	0
Total	93	15	20	0	128	152	826	96	0	1074	45	17	230	0	292	19	741	27	0	787	2281	0
16:00	32	2	8	0	42	33	205	20	0	258	12	2	62	0	76	9	217	8	0	234	610	0
16:15	38	3	11	0	52	51	212	12	0	275	9	4	66	0	79	5	226	4	0	235	641	0
16:30	27	3	2	0	32	38	247	24	0	309	16	6	78	0	100	5	191	6	0	202	643	0
16:45	21	0	2	0	23	35	214	12	0	261	4	3	57	0	64	1	195	7	0	203	551	0
Total	118	8	23	0	149	157	878	68	0	1103	41	15	263	0	319	20	829	25	0	874	2445	0
17:00	27	3	1	0	31	29	217	17	0	263	5	3	62	0	70	2	174	4	0	180	544	0
17:15	17	2	4	0	23	34	222	25	0	281	4	4	58	0	66	3	199	9	0	211	581	0
17:30	15	1	4	0	20	24	188	12	0	224	6	3	55	0	64	3	188	8	0	199	507	0
17:45	15	0	4	0	19	31	184	23	0	238	8	2	38	0	48	3	158	3	0	164	469	0
Total	74	6	13	0	93	118	811	77	0	1006	23	12	213	0	248	11	719	24	0	754	2101	0
Grand Total	285	29	56	0	370	427	2515	241	0	3183	109	44	706	0	859	50	2289	76	0	2415	6827	0
Apprch %	77.0%	7.8%	15.1%	0.0%		13.4%	79.0%	7.6%	0.0%		12.7%	5.1%	82.2%	0.0%		2.1%	94.8%	3.1%	0.0%			
Total %	4.2%	0.4%	0.8%	0.0%	5.4%	6.3%	36.8%	3.5%	0.0%	46.6%	1.6%	0.6%	10.3%	0.0%	12.6%	0.7%	33.5%	1.1%	0.0%	35.4%	100.0%	

PM PEAK HOUR	Lake Parkway Southbound					US-50 Westbound					Lake Parkway Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 15:45 to 16:45																					
Peak Hour For Entire Intersection Begins at 15:45																					
15:45	22	7	4	0	33	34	201	30	0	265	16	3	67	0	86	3	176	11	0	190	574
16:00	32	2	8	0	42	33	205	20	0	258	12	2	62	0	76	9	217	8	0	234	610
16:15	38	3	11	0	52	51	212	12	0	275	9	4	66	0	79	5	226	4	0	235	641
16:30	27	3	2	0	32	38	247	24	0	309	16	6	78	0	100	5	191	6	0	202	643
Total Volume	119	15	25	0	159	156	865	86	0	1107	53	15	273	0	341	22	810	29	0	861	2468
% App Total	74.8%	9.4%	15.7%	0.0%		14.1%	78.1%	7.8%	0.0%		15.5%	4.4%	80.1%	0.0%		2.6%	94.1%	3.4%	0.0%		
PHF	.783	.536	.568	.000	.764	.765	.876	.717	.000	.896	.828	.625	.875	.000	.853	.611	.896	.659	.000	.916	.960

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-002 US-50-Stateline Avenue.ppd
Date : 12/13/2013

Unshifted Count = All Vehicles

	Stateline Avenue Southbound					US-50 Westbound					Stateline Avenue Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
15:00	11	1	14	0	26	1	226	10	0	237	0	0	0	0	0	20	247	6	0	273	536	0
15:15	12	0	13	0	25	1	202	2	0	205	0	0	0	0	0	22	188	5	0	215	445	0
15:30	9	0	23	0	32	2	207	3	0	212	0	0	0	0	0	42	244	11	0	297	541	0
15:45	11	1	28	0	40	4	197	6	0	207	0	0	0	0	0	27	221	9	0	257	504	0
Total	43	2	78	0	123	8	832	21	0	861	0	0	0	0	0	111	900	31	0	1042	2026	0
16:00	10	1	49	0	60	1	214	5	0	220	0	0	0	0	0	21	242	4	0	267	547	0
16:15	6	0	21	0	27	2	214	6	0	222	0	0	0	0	0	19	252	4	0	275	524	0
16:30	6	0	9	0	15	1	247	1	0	249	0	0	0	0	0	19	232	3	0	254	518	0
16:45	5	0	12	0	17	2	223	3	0	228	0	0	0	0	0	15	238	7	0	260	505	0
Total	27	1	91	0	119	6	898	15	0	919	0	0	0	0	0	74	964	18	0	1056	2094	0
17:00	4	0	18	0	22	1	206	2	0	209	0	0	0	0	0	18	208	10	0	236	467	0
17:15	1	0	15	0	16	2	212	2	0	216	0	0	0	0	0	25	246	9	0	280	512	0
17:30	6	1	23	0	30	1	190	6	0	197	0	0	0	0	0	27	232	7	0	266	493	0
17:45	6	1	12	0	19	3	159	0	0	162	0	0	0	0	0	23	193	5	0	221	402	0
Total	17	2	68	0	87	7	767	10	0	784	0	0	0	0	0	93	879	31	0	1003	1874	0
Grand Total	87	5	237	0	329	21	2497	46	0	2564	0	0	0	0	0	278	2743	80	0	3101	5994	0
Apprch %	26.4%	1.5%	72.0%	0.0%		0.8%	97.4%	1.8%	0.0%		0.0%	0.0%	0.0%	0.0%		9.0%	88.5%	2.6%	0.0%			
Total %	1.5%	0.1%	4.0%	0.0%	5.5%	0.4%	41.7%	0.8%	0.0%	42.8%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	45.8%	1.3%	0.0%	51.7%	100.0%	

PM PEAK HOUR	Stateline Avenue Southbound					US-50 Westbound					Stateline Avenue Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 15:30 to 16:30																					
Peak Hour For Entire Intersection Begins at 15:30																					
15:30	9	0	23	0	32	2	207	3	0	212	0	0	0	0	0	42	244	11	0	297	541
15:45	11	1	28	0	40	4	197	6	0	207	0	0	0	0	0	27	221	9	0	257	504
16:00	10	1	49	0	60	1	214	5	0	220	0	0	0	0	0	21	242	4	0	267	547
16:15	6	0	21	0	27	2	214	6	0	222	0	0	0	0	0	19	252	4	0	275	524
Total Volume	36	2	121	0	159	9	832	20	0	861	0	0	0	0	0	109	959	28	0	1096	2116
% App Total	22.6%	1.3%	76.1%	0.0%		1.0%	96.6%	2.3%	0.0%		0.0%	0.0%	0.0%	0.0%		9.9%	87.5%	2.6%	0.0%		
PHF	.818	.500	.617	.000	.663	.563	.972	.833	.000	.970	.000	.000	.000	.000	.000	.649	.951	.636	.000	.923	.967

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-003 US-50-Transit Way.ppd
Date : 12/13/2013

Unshifted Count = All Vehicles

	Southbound					US-50 Westbound					Transit Way Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
15:00	0	0	0	0	0	0	232	0	0	232	0	0	3	0	3	0	279	5	0	284	519	0
15:15	0	0	0	0	0	5	219	0	0	224	1	0	4	0	5	0	222	10	0	232	461	0
15:30	0	0	0	0	0	2	212	0	0	214	0	0	4	0	4	0	288	7	0	295	513	0
15:45	0	0	0	0	0	6	230	0	0	236	3	0	4	0	7	0	246	9	0	255	498	0
Total	0	0	0	0	0	13	893	0	0	906	4	0	15	0	19	0	1035	31	0	1066	1991	0
16:00	0	0	0	0	0	3	259	0	0	262	0	0	5	0	5	0	282	8	0	290	557	0
16:15	0	0	0	0	0	5	225	0	0	230	0	0	5	0	5	0	256	12	0	268	503	0
16:30	0	0	0	0	0	3	256	0	0	259	0	0	1	0	1	0	257	9	0	266	526	0
16:45	0	0	0	0	0	4	222	0	0	226	0	0	1	0	1	0	256	10	0	266	493	0
Total	0	0	0	0	0	15	962	0	0	977	0	0	12	0	12	0	1051	39	0	1090	2079	0
17:00	0	0	0	0	0	2	231	0	0	233	1	0	4	0	5	0	238	9	0	247	485	0
17:15	0	0	0	0	0	4	204	0	0	208	1	0	2	0	3	0	281	10	0	291	502	0
17:30	0	0	0	0	0	1	207	0	0	208	1	0	4	0	5	0	254	4	0	258	471	0
17:45	0	0	0	0	0	1	174	0	0	175	0	0	1	0	1	0	241	12	0	253	429	0
Total	0	0	0	0	0	8	816	0	0	824	3	0	11	0	14	0	1014	35	0	1049	1887	0
Grand Total	0	0	0	0	0	36	2671	0	0	2707	7	0	38	0	45	0	3100	105	0	3205	5957	0
Apprch %	0.0%	0.0%	0.0%	0.0%		1.3%	98.7%	0.0%	0.0%		15.6%	0.0%	84.4%	0.0%		0.0%	96.7%	3.3%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	44.8%	0.0%	0.0%	45.4%	0.1%	0.0%	0.6%	0.0%	0.8%	0.0%	52.0%	1.8%	0.0%	53.8%	100.0%	

PM PEAK HOUR	Southbound					US-50 Westbound					Transit Way Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 15:45 to 16:45																					
Peak Hour For Entire Intersection Begins at 15:45																					
15:45	0	0	0	0	0	6	230	0	0	236	3	0	4	0	7	0	246	9	0	255	498
16:00	0	0	0	0	0	3	259	0	0	262	0	0	5	0	5	0	282	8	0	290	557
16:15	0	0	0	0	0	5	225	0	0	230	0	0	5	0	5	0	256	12	0	268	503
16:30	0	0	0	0	0	3	256	0	0	259	0	0	1	0	1	0	257	9	0	266	526
Total Volume	0	0	0	0	0	17	970	0	0	987	3	0	15	0	18	0	1041	38	0	1079	2084
% App Total	0.0%	0.0%	0.0%	0.0%		1.7%	98.3%	0.0%	0.0%		16.7%	0.0%	83.3%	0.0%		0.0%	96.5%	3.5%	0.0%		
PHF	.000	.000	.000	.000	.000	.708	.936	.000	.000	.942	.250	.000	.750	.000	.643	.000	.923	.792	.000	.930	.935

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-004 US-50-Friday Avenue.ppd
Date : 12/13/2013

Unshifted Count = All Vehicles

	Friday Avenue Southbound					US-50 Westbound					Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
15:00	1	0	4	0	5	0	217	4	0	221	0	0	0	0	0	3	270	0	0	273	499	0
15:15	2	0	3	0	5	0	234	2	0	236	0	0	0	0	0	4	246	0	0	250	491	0
15:30	0	0	4	0	4	0	205	3	0	208	0	0	0	0	0	1	288	0	0	289	501	0
15:45	2	0	7	0	9	0	233	3	0	236	0	0	0	0	0	4	265	0	0	269	514	0
Total	5	0	18	0	23	0	889	12	0	901	0	0	0	0	0	12	1069	0	0	1081	2005	0
16:00	6	0	7	0	13	0	249	1	0	250	0	0	0	0	0	5	269	0	0	274	537	0
16:15	2	0	4	0	6	0	227	2	0	229	0	0	0	0	0	3	261	0	0	264	499	0
16:30	1	0	3	0	4	0	256	1	0	257	0	0	0	0	0	8	282	0	0	290	551	0
16:45	1	0	6	0	7	0	217	1	0	218	0	0	0	0	0	6	255	0	0	261	486	0
Total	10	0	20	0	30	0	949	5	0	954	0	0	0	0	0	22	1067	0	0	1089	2073	0
17:00	1	0	6	0	7	0	226	1	0	227	0	0	0	0	0	1	250	0	0	251	485	0
17:15	2	0	7	0	9	0	203	1	0	204	0	0	0	0	0	1	287	0	0	288	501	0
17:30	0	0	2	0	2	0	209	1	0	210	0	0	0	0	0	2	249	0	0	251	463	0
17:45	1	0	2	0	3	0	169	0	0	169	0	0	0	0	0	2	251	0	0	253	425	0
Total	4	0	17	0	21	0	807	3	0	810	0	0	0	0	0	6	1037	0	0	1043	1874	0
Grand Total	19	0	55	0	74	0	2645	20	0	2665	0	0	0	0	0	40	3173	0	0	3213	5952	0
Apprch %	25.7%	0.0%	74.3%	0.0%		0.0%	99.2%	0.8%	0.0%		0.0%	0.0%	0.0%	0.0%		1.2%	98.8%	0.0%	0.0%			
Total %	0.3%	0.0%	0.9%	0.0%	1.2%	0.0%	44.4%	0.3%	0.0%	44.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	53.3%	0.0%	0.0%	54.0%	100.0%	

PM PEAK HOUR	Friday Avenue Southbound					US-50 Westbound					Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 15:45 to 16:45																					
Peak Hour For Entire Intersection Begins at 15:45																					
15:45	2	0	7	0	9	0	233	3	0	236	0	0	0	0	0	4	265	0	0	269	514
16:00	6	0	7	0	13	0	249	1	0	250	0	0	0	0	0	5	269	0	0	274	537
16:15	2	0	4	0	6	0	227	2	0	229	0	0	0	0	0	3	261	0	0	264	499
16:30	1	0	3	0	4	0	256	1	0	257	0	0	0	0	0	8	282	0	0	290	551
Total Volume	11	0	21	0	32	0	965	7	0	972	0	0	0	0	0	20	1077	0	0	1097	2101
% App Total	34.4%	0.0%	65.6%	0.0%		0.0%	99.3%	0.7%	0.0%		0.0%	0.0%	0.0%	0.0%		1.8%	98.2%	0.0%	0.0%		
PHF	.458	.000	.750	.000	.615	.000	.942	.583	.000	.946	.000	.000	.000	.000	.000	.625	.955	.000	.000	.946	.953

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-005 US-50-Park Avenue.ppd
Date : 12/13/2013

Unshifted Count = All Vehicles

	Park Avenue Southbound					US-50 Westbound					Park Avenue Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
15:00	4	6	26	0	36	19	196	2	0	217	52	8	24	0	84	11	247	16	0	274	611	0
15:15	1	2	26	0	29	10	224	0	0	234	42	1	18	0	61	17	257	23	0	297	621	0
15:30	5	3	32	0	40	13	202	0	0	215	60	3	29	0	92	18	275	23	0	316	663	0
15:45	1	2	28	0	31	22	217	0	0	239	55	4	19	0	78	15	247	23	0	285	633	0
Total	11	13	112	0	136	64	839	2	0	905	209	16	90	0	315	61	1026	85	0	1172	2528	0
16:00	2	6	42	0	50	18	244	0	0	262	74	2	20	0	96	14	266	22	0	302	710	0
16:15	1	2	24	0	27	11	225	5	0	241	54	4	25	0	83	15	251	19	0	285	636	0
16:30	1	2	22	0	25	16	245	2	0	263	65	2	22	0	89	24	280	23	0	327	704	0
16:45	0	4	31	0	35	15	210	3	0	228	51	5	14	0	70	14	248	22	0	284	617	0
Total	4	14	119	0	137	60	924	10	0	994	244	13	81	0	338	67	1045	86	0	1198	2667	0
17:00	4	2	27	0	33	14	215	5	0	234	63	6	21	0	90	12	247	23	0	282	639	0
17:15	4	6	18	0	28	14	198	2	0	214	58	9	23	0	90	23	263	27	0	313	645	0
17:30	3	3	27	0	33	12	214	0	0	226	48	2	24	0	74	14	266	19	0	299	632	0
17:45	5	2	30	0	37	12	159	3	0	174	42	1	18	0	61	16	222	17	0	255	527	0
Total	16	13	102	0	131	52	786	10	0	848	211	18	86	0	315	65	998	86	0	1149	2443	0
Grand Total	31	40	333	0	404	176	2549	22	0	2747	664	47	257	0	968	193	3069	257	0	3519	7638	0
Apprch %	7.7%	9.9%	82.4%	0.0%		6.4%	92.8%	0.8%	0.0%		68.6%	4.9%	26.5%	0.0%		5.5%	87.2%	7.3%	0.0%			
Total %	0.4%	0.5%	4.4%	0.0%	5.3%	2.3%	33.4%	0.3%	0.0%	36.0%	8.7%	0.6%	3.4%	0.0%	12.7%	2.5%	40.2%	3.4%	0.0%	46.1%	100.0%	

PM PEAK HOUR	Park Avenue Southbound					US-50 Westbound					Park Avenue Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 15:45 to 16:45																					
Peak Hour For Entire Intersection Begins at 15:45																					
15:45	1	2	28	0	31	22	217	0	0	239	55	4	19	0	78	15	247	23	0	285	633
16:00	2	6	42	0	50	18	244	0	0	262	74	2	20	0	96	14	266	22	0	302	710
16:15	1	2	24	0	27	11	225	5	0	241	54	4	25	0	83	15	251	19	0	285	636
16:30	1	2	22	0	25	16	245	2	0	263	65	2	22	0	89	24	280	23	0	327	704
Total Volume	5	12	116	0	133	67	931	7	0	1005	248	12	86	0	346	68	1044	87	0	1199	2683
% App Total	3.8%	9.0%	87.2%	0.0%		6.7%	92.6%	0.7%	0.0%		71.7%	3.5%	24.9%	0.0%		5.7%	87.1%	7.3%	0.0%		
PHF	.625	.500	.690	.000	.665	.761	.950	.350	.000	.955	.838	.750	.860	.000	.901	.708	.932	.946	.000	.917	.945

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-006 US-50-Pioneer Trail.ppd
Date : 12/13/2013

Unshifted Count = All Vehicles

	Pioneer Trail Southbound					US-50 Westbound					Pioneer Trail Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
15:00	0	0	2	0	2	53	233	1	0	287	6	0	74	0	80	0	227	1	0	228	597	0
15:15	4	0	0	0	4	52	234	2	0	288	4	0	79	0	83	1	242	5	0	248	623	0
15:30	2	0	2	0	4	51	247	1	0	299	4	0	100	0	104	2	244	3	0	249	656	0
15:45	1	0	1	0	2	68	242	1	0	311	2	0	96	0	98	1	226	3	0	230	641	0
Total	7	0	5	0	12	224	956	5	0	1185	16	0	349	0	365	4	939	12	0	955	2517	0
16:00	2	0	1	0	3	66	288	1	0	355	3	0	84	0	87	0	252	6	0	258	703	0
16:15	0	1	2	0	3	73	249	2	0	324	5	0	104	0	109	5	193	3	0	201	637	0
16:30	0	0	4	0	4	60	267	0	0	327	4	0	92	0	96	1	272	4	0	277	704	0
16:45	0	1	2	0	3	58	243	0	0	301	8	0	89	0	97	3	233	4	0	240	641	0
Total	2	2	9	0	13	257	1047	3	0	1307	20	0	369	0	389	9	950	17	0	976	2685	0
17:00	2	2	2	0	6	61	260	3	0	324	6	1	82	0	89	0	237	2	0	239	658	0
17:15	0	0	1	0	1	46	236	0	0	282	3	0	86	0	89	5	261	2	0	268	640	0
17:30	2	0	5	0	7	53	238	3	0	294	2	0	89	0	91	4	255	6	0	265	657	0
17:45	1	0	0	0	1	55	185	1	0	241	2	1	95	0	98	1	198	4	0	203	543	0
Total	5	2	8	0	15	215	919	7	0	1141	13	2	352	0	367	10	951	14	0	975	2498	0
Grand Total	14	4	22	0	40	696	2922	15	0	3633	49	2	1070	0	1121	23	2840	43	0	2906	7700	0
Apprch %	35.0%	10.0%	55.0%	0.0%		19.2%	80.4%	0.4%	0.0%		4.4%	0.2%	95.5%	0.0%		0.8%	97.7%	1.5%	0.0%			
Total %	0.2%	0.1%	0.3%	0.0%	0.5%	9.0%	37.9%	0.2%	0.0%	47.2%	0.6%	0.0%	13.9%	0.0%	14.6%	0.3%	36.9%	0.6%	0.0%	37.7%	100.0%	

PM PEAK HOUR	Pioneer Trail Southbound					US-50 Westbound					Pioneer Trail Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 15:45 to 16:45																					
Peak Hour For Entire Intersection Begins at 15:45																					
15:45	1	0	1	0	2	68	242	1	0	311	2	0	96	0	98	1	226	3	0	230	641
16:00	2	0	1	0	3	66	288	1	0	355	3	0	84	0	87	0	252	6	0	258	703
16:15	0	1	2	0	3	73	249	2	0	324	5	0	104	0	109	5	193	3	0	201	637
16:30	0	0	4	0	4	60	267	0	0	327	4	0	92	0	96	1	272	4	0	277	704
Total Volume	3	1	8	0	12	267	1046	4	0	1317	14	0	376	0	390	7	943	16	0	966	2685
% App Total	25.0%	8.3%	66.7%	0.0%		20.3%	79.4%	0.3%	0.0%		3.6%	0.0%	96.4%	0.0%		0.7%	97.6%	1.7%	0.0%		
PHF	.375	.250	.500	.000	.750	.914	.908	.500	.000	.927	.700	.000	.904	.000	.894	.350	.867	.667	.000	.872	.953

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-007 Bellamy Court-Park Avenue.ppd
Date : 12/13/2013

Unshifted Count = All Vehicles

	Park Avenue Southbound					Bellamy Court Westbound					Park Avenue Northbound					Driveway Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
15:00	8	13	4	0	25	8	0	22	0	30	10	22	0	0	32	5	4	14	0	23	110	0
15:15	7	20	1	0	28	1	3	11	0	15	10	28	4	0	42	7	0	20	0	27	112	0
15:30	13	12	4	0	29	3	2	27	0	32	16	25	5	0	46	10	2	11	0	23	130	0
15:45	10	24	2	0	36	4	4	21	0	29	14	26	6	0	46	8	1	20	0	29	140	0
Total	38	69	11	0	118	16	9	81	0	106	50	101	15	0	166	30	7	65	0	102	492	0
16:00	6	20	4	0	30	5	1	30	0	36	11	32	6	0	49	6	0	23	0	29	144	0
16:15	6	15	2	0	23	1	1	28	0	30	13	24	3	0	40	11	0	22	0	33	126	0
16:30	6	18	5	0	29	11	0	34	0	45	8	26	7	0	41	9	3	24	0	36	151	0
16:45	7	17	5	0	29	5	2	21	0	28	9	17	4	0	30	8	0	16	0	24	111	0
Total	25	70	16	0	111	22	4	113	0	139	41	99	20	0	160	34	3	85	0	122	532	0
17:00	10	16	2	0	28	2	1	22	0	25	13	26	0	0	39	16	1	22	0	39	131	0
17:15	8	26	1	0	35	3	0	24	0	27	6	20	2	0	28	11	0	16	0	27	117	0
17:30	5	18	1	0	24	5	1	20	0	26	9	22	2	0	33	9	2	11	0	22	105	0
17:45	8	16	2	0	26	6	0	10	0	16	8	14	1	0	23	4	1	8	0	13	78	0
Total	31	76	6	0	113	16	2	76	0	94	36	82	5	0	123	40	4	57	0	101	431	0
Grand Total	94	215	33	0	342	54	15	270	0	339	127	282	40	0	449	104	14	207	0	325	1455	0
Apprch %	27.5%	62.9%	9.6%	0.0%		15.9%	4.4%	79.6%	0.0%		28.3%	62.8%	8.9%	0.0%		32.0%	4.3%	63.7%	0.0%			
Total %	6.5%	14.8%	2.3%	0.0%	23.5%	3.7%	1.0%	18.6%	0.0%	23.3%	8.7%	19.4%	2.7%	0.0%	30.9%	7.1%	1.0%	14.2%	0.0%	22.3%	100.0%	

PM PEAK HOUR	Park Avenue Southbound					Bellamy Court Westbound					Park Avenue Northbound					Driveway Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 15:45 to 16:45																					
Peak Hour For Entire Intersection Begins at 15:45																					
15:45	10	24	2	0	36	4	4	21	0	29	14	26	6	0	46	8	1	20	0	29	140
16:00	6	20	4	0	30	5	1	30	0	36	11	32	6	0	49	6	0	23	0	29	144
16:15	6	15	2	0	23	1	1	28	0	30	13	24	3	0	40	11	0	22	0	33	126
16:30	6	18	5	0	29	11	0	34	0	45	8	26	7	0	41	9	3	24	0	36	151
Total Volume	28	77	13	0	118	21	6	113	0	140	46	108	22	0	176	34	4	89	0	127	561
% App Total	23.7%	65.3%	11.0%	0.0%		15.0%	4.3%	80.7%	0.0%		26.1%	61.4%	12.5%	0.0%		26.8%	3.1%	70.1%	0.0%		
PHF	.700	.802	.650	.000	.819	.477	.375	.831	.000	.778	.821	.844	.786	.000	.898	.773	.333	.927	.000	.882	.929

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-008 Lake Parkway -Park Avenue.ppd
Date : 12/13/2013

Unshifted Count = All Vehicles

	Park Avenue Southbound					Lake Parkway Westbound					Park Avenue Northbound					Lake Parkway Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
15:00	19	0	19	0	38	0	50	27	0	77	0	0	0	0	0	6	29	0	0	35	150	0
15:15	29	1	11	0	41	0	37	34	0	71	1	0	0	0	1	8	39	0	0	47	160	0
15:30	17	0	8	0	25	0	60	36	0	96	0	0	0	0	0	10	46	0	0	56	177	0
15:45	32	0	15	0	47	1	42	40	0	83	0	0	2	0	2	6	51	0	0	57	189	0
Total	97	1	53	0	151	1	189	137	0	327	1	0	2	0	3	30	165	0	0	195	676	0
16:00	28	0	20	0	48	1	45	44	0	90	0	0	0	0	0	6	34	0	0	40	178	0
16:15	21	0	16	0	37	0	45	29	0	74	2	0	0	0	2	9	45	0	0	54	167	0
16:30	31	0	24	0	55	0	39	36	0	75	0	0	0	0	0	5	32	0	0	37	167	0
16:45	21	0	16	0	37	0	38	25	0	63	0	0	0	0	0	7	44	0	0	51	151	0
Total	101	0	76	0	177	1	167	134	0	302	2	0	0	0	2	27	155	0	0	182	663	0
17:00	24	0	17	0	41	0	31	33	0	64	0	0	0	0	0	4	28	0	0	32	137	0
17:15	30	0	15	0	45	1	27	22	0	50	0	0	0	0	0	7	40	0	0	47	142	0
17:30	22	1	10	0	33	0	26	24	0	50	0	1	0	0	1	6	35	0	0	41	125	0
17:45	19	0	11	0	30	0	25	21	0	46	0	0	0	0	0	1	36	0	0	37	113	0
Total	95	1	53	0	149	1	109	100	0	210	0	1	0	0	1	18	139	0	0	157	517	0
Grand Total	293	2	182	0	477	3	465	371	0	839	3	1	2	0	6	75	459	0	0	534	1856	0
Apprch %	61.4%	0.4%	38.2%	0.0%		0.4%	55.4%	44.2%	0.0%		50.0%	16.7%	33.3%	0.0%		14.0%	86.0%	0.0%	0.0%			
Total %	15.8%	0.1%	9.8%	0.0%	25.7%	0.2%	25.1%	20.0%	0.0%	45.2%	0.2%	0.1%	0.1%	0.0%	0.3%	4.0%	24.7%	0.0%	0.0%	28.8%	100.0%	

PM PEAK HOUR	Park Avenue Southbound					Lake Parkway Westbound					Park Avenue Northbound					Lake Parkway Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 15:30 to 16:30																					
Peak Hour For Entire Intersection Begins at 15:30																					
15:30	17	0	8	0	25	0	60	36	0	96	0	0	0	0	0	10	46	0	0	56	177
15:45	32	0	15	0	47	1	42	40	0	83	0	0	2	0	2	6	51	0	0	57	189
16:00	28	0	20	0	48	1	45	44	0	90	0	0	0	0	0	6	34	0	0	40	178
16:15	21	0	16	0	37	0	45	29	0	74	2	0	0	0	2	9	45	0	0	54	167
Total Volume	98	0	59	0	157	2	192	149	0	343	2	0	2	0	4	31	176	0	0	207	711
% App Total	62.4%	0.0%	37.6%	0.0%		0.6%	56.0%	43.4%	0.0%		50.0%	0.0%	50.0%	0.0%		15.0%	85.0%	0.0%	0.0%		
PHF	.766	.000	.738	.000	.818	.500	.800	.847	.000	.893	.250	.000	.250	.000	.500	.775	.863	.000	.000	.908	.940

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-001 US-50-Lake Parkway.ppd
Date : 12/14/2013

Unshifted Count = All Vehicles

	Lake Parkway Southbound					US-50 Westbound					Lake Parkway Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
12:00	16	3	4	0	23	27	148	13	0	188	11	8	44	0	63	8	147	12	0	167	441	0
12:15	27	2	4	0	33	30	158	9	0	197	15	2	41	0	58	3	166	9	0	178	466	0
12:30	16	4	8	0	28	34	194	10	0	238	8	3	41	0	52	5	143	11	0	159	477	0
12:45	17	1	9	0	27	17	141	8	0	166	13	4	38	0	55	10	146	4	0	160	408	0
Total	76	10	25	0	111	108	641	40	0	789	47	17	164	0	228	26	602	36	0	664	1792	0
13:00	10	0	1	0	11	32	168	9	0	209	16	4	37	0	57	3	166	8	0	177	454	0
13:15	14	2	3	0	19	35	174	18	0	227	7	3	44	0	54	0	171	6	0	177	477	0
13:30	7	0	6	0	13	34	153	12	0	199	8	4	46	0	58	3	140	12	0	155	425	0
13:45	13	3	7	0	23	26	180	14	0	220	8	0	42	0	50	5	154	8	0	167	460	0
Total	44	5	17	0	66	127	675	53	0	855	39	11	169	0	219	11	631	34	0	676	1816	0
Grand Total	120	15	42	0	177	235	1316	93	0	1644	86	28	333	0	447	37	1233	70	0	1340	3608	0
Apprch %	67.8%	8.5%	23.7%	0.0%		14.3%	80.0%	5.7%	0.0%		19.2%	6.3%	74.5%	0.0%		2.8%	92.0%	5.2%	0.0%			
Total %	3.3%	0.4%	1.2%	0.0%	4.9%	6.5%	36.5%	2.6%	0.0%	45.6%	2.4%	0.8%	9.2%	0.0%	12.4%	1.0%	34.2%	1.9%	0.0%	37.1%	100.0%	

NOON PEAK	Lake Parkway Southbound					US-50 Westbound					Lake Parkway Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 12:30 to 13:30																					
Peak Hour For Entire Intersection Begins at 12:30																					
12:30	16	4	8	0	28	34	194	10	0	238	8	3	41	0	52	5	143	11	0	159	477
12:45	17	1	9	0	27	17	141	8	0	166	13	4	38	0	55	10	146	4	0	160	408
13:00	10	0	1	0	11	32	168	9	0	209	16	4	37	0	57	3	166	8	0	177	454
13:15	14	2	3	0	19	35	174	18	0	227	7	3	44	0	54	0	171	6	0	177	477
Total Volume	57	7	21	0	85	118	677	45	0	840	44	14	160	0	218	18	626	29	0	673	1816
% App Total	67.1%	8.2%	24.7%	0.0%		14.0%	80.6%	5.4%	0.0%		20.2%	6.4%	73.4%	0.0%		2.7%	93.0%	4.3%	0.0%		
PHF	.838	.438	.583	.000	.759	.843	.872	.625	.000	.882	.688	.875	.909	.000	.956	.450	.915	.659	.000	.951	.952

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-002 US-50-Stateline Avenue.ppd
Date : 12/14/2013

Unshifted Count = All Vehicles

	Stateline Avenue Southbound					US-50 Westbound					Stateline Avenue Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
12:00	10	1	19	0	30	1	184	2	0	187	0	0	0	0	0	14	199	14	0	227	444	0
12:15	11	0	22	0	33	2	156	5	0	163	0	0	0	0	0	22	194	6	0	222	418	0
12:30	4	2	17	0	23	1	192	5	0	198	0	0	0	0	0	11	199	3	0	213	434	0
12:45	5	0	22	0	27	0	154	4	0	158	0	0	0	0	0	20	190	6	0	216	401	0
Total	30	3	80	0	113	4	686	16	0	706	0	0	0	0	0	67	782	29	0	878	1697	0
13:00	10	0	15	0	25	1	194	6	0	201	0	0	0	0	0	6	235	13	0	254	480	0
13:15	8	0	20	0	28	3	156	3	0	162	0	0	0	0	0	13	182	5	0	200	390	0
13:30	6	0	15	0	21	2	165	9	0	176	0	0	0	0	0	14	196	9	0	219	416	0
13:45	6	1	19	0	26	1	177	1	0	179	0	0	0	0	0	19	189	6	0	214	419	0
Total	30	1	69	0	100	7	692	19	0	718	0	0	0	0	0	52	802	33	0	887	1705	0
Grand Total	60	4	149	0	213	11	1378	35	0	1424	0	0	0	0	0	119	1584	62	0	1765	3402	0
Apprch %	28.2%	1.9%	70.0%	0.0%		0.8%	96.8%	2.5%	0.0%		0.0%	0.0%	0.0%	0.0%		6.7%	89.7%	3.5%	0.0%			
Total %	1.8%	0.1%	4.4%	0.0%	6.3%	0.3%	40.5%	1.0%	0.0%	41.9%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	46.6%	1.8%	0.0%	51.9%	100.0%	

NOON PEAK	Stateline Avenue Southbound					US-50 Westbound					Stateline Avenue Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 12:15 to 13:15																					
Peak Hour For Entire Intersection Begins at 12:15																					
12:15	11	0	22	0	33	2	156	5	0	163	0	0	0	0	0	22	194	6	0	222	418
12:30	4	2	17	0	23	1	192	5	0	198	0	0	0	0	0	11	199	3	0	213	434
12:45	5	0	22	0	27	0	154	4	0	158	0	0	0	0	0	20	190	6	0	216	401
13:00	10	0	15	0	25	1	194	6	0	201	0	0	0	0	0	6	235	13	0	254	480
Total Volume	30	2	76	0	108	4	696	20	0	720	0	0	0	0	0	59	818	28	0	905	1733
% App Total	27.8%	1.9%	70.4%	0.0%		0.6%	96.7%	2.8%	0.0%		0.0%	0.0%	0.0%	0.0%		6.5%	90.4%	3.1%	0.0%		
PHF	.682	.250	.864	.000	.818	.500	.897	.833	.000	.896	.000	.000	.000	.000	.000	.670	.870	.538	.000	.891	.903

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-003 US-50-Transit Way.ppd
Date : 12/14/2013

Unshifted Count = All Vehicles

	Southbound					US-50 Westbound					Transit Way Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
12:00	0	0	0	0	0	4	197	0	0	201	3	0	2	0	5	0	218	10	0	228	434	0
12:15	0	0	0	0	0	4	171	0	0	175	0	0	1	0	1	0	234	7	0	241	417	0
12:30	0	0	0	0	0	1	203	0	0	204	2	0	3	0	5	0	208	9	0	217	426	0
12:45	0	0	0	0	0	4	173	0	0	177	1	0	3	0	4	0	225	6	0	231	412	0
Total	0	0	0	0	0	13	744	0	0	757	6	0	9	0	15	0	885	32	0	917	1689	0
13:00	0	0	0	0	0	2	202	0	0	204	0	0	3	0	3	0	240	10	0	250	457	0
13:15	0	0	0	0	0	4	186	0	0	190	0	0	1	0	1	0	207	14	0	221	412	0
13:30	0	0	0	0	0	3	163	0	0	166	1	0	3	0	4	0	209	14	0	223	393	0
13:45	0	0	0	0	0	4	193	0	0	197	1	0	4	0	5	0	215	7	0	222	424	0
Total	0	0	0	0	0	13	744	0	0	757	2	0	11	0	13	0	871	45	0	916	1686	0
Grand Total	0	0	0	0	0	26	1488	0	0	1514	8	0	20	0	28	0	1756	77	0	1833	3375	0
Apprch %	0.0%	0.0%	0.0%	0.0%		1.7%	98.3%	0.0%	0.0%		28.6%	0.0%	71.4%	0.0%		0.0%	95.8%	4.2%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	44.1%	0.0%	0.0%	44.9%	0.2%	0.0%	0.6%	0.0%	0.8%	0.0%	52.0%	2.3%	0.0%	54.3%	100.0%	

NOON PEAK	Southbound					US-50 Westbound					Transit Way Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 12:15 to 13:15																					
Peak Hour For Entire Intersection Begins at 12:15																					
12:15	0	0	0	0	0	4	171	0	0	175	0	0	1	0	1	0	234	7	0	241	417
12:30	0	0	0	0	0	1	203	0	0	204	2	0	3	0	5	0	208	9	0	217	426
12:45	0	0	0	0	0	4	173	0	0	177	1	0	3	0	4	0	225	6	0	231	412
13:00	0	0	0	0	0	2	202	0	0	204	0	0	3	0	3	0	240	10	0	250	457
Total Volume	0	0	0	0	0	11	749	0	0	760	3	0	10	0	13	0	907	32	0	939	1712
% App Total	0.0%	0.0%	0.0%	0.0%		1.4%	98.6%	0.0%	0.0%		23.1%	0.0%	76.9%	0.0%		0.0%	96.6%	3.4%	0.0%		
PHF	.000	.000	.000	.000	.000	.688	.922	.000	.000	.931	.375	.000	.833	.000	.650	.000	.945	.800	.000	.939	.937

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-004 US-50-Friday Avenue.ppd
Date : 12/14/2013

Unshifted Count = All Vehicles

	Friday Avenue Southbound					US-50 Westbound					Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
12:00	2	0	4	0	6	0	194	7	0	201	0	0	0	0	0	3	221	0	0	224	431	0
12:15	0	0	2	0	2	0	173	0	0	173	0	0	0	0	0	5	248	0	0	253	428	0
12:30	0	0	2	0	2	0	211	0	0	211	0	0	0	0	0	5	205	0	0	210	423	0
12:45	1	0	2	0	3	0	172	4	0	176	0	0	0	0	0	7	243	0	0	250	429	0
Total	3	0	10	0	13	0	750	11	0	761	0	0	0	0	0	20	917	0	0	937	1711	0
13:00	1	0	8	0	9	0	207	1	0	208	0	0	0	0	0	4	253	0	0	257	474	0
13:15	2	0	6	0	8	0	176	3	0	179	0	0	0	0	0	1	214	0	0	215	402	0
13:30	0	0	7	0	7	0	172	2	0	174	0	0	0	0	0	2	237	0	0	239	420	0
13:45	1	0	7	0	8	0	194	1	0	195	0	0	0	0	0	3	215	0	0	218	421	0
Total	4	0	28	0	32	0	749	7	0	756	0	0	0	0	0	10	919	0	0	929	1717	0
Grand Total	7	0	38	0	45	0	1499	18	0	1517	0	0	0	0	0	30	1836	0	0	1866	3428	0
Apprch %	15.6%	0.0%	84.4%	0.0%		0.0%	98.8%	1.2%	0.0%		0.0%	0.0%	0.0%	0.0%		1.6%	98.4%	0.0%	0.0%			
Total %	0.2%	0.0%	1.1%	0.0%	1.3%	0.0%	43.7%	0.5%	0.0%	44.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	53.6%	0.0%	0.0%	54.4%	100.0%	

NOON PEAK	Friday Avenue Southbound					US-50 Westbound					Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 12:15 to 13:15																					
Peak Hour For Entire Intersection Begins at 12:15																					
12:15	0	0	2	0	2	0	173	0	0	173	0	0	0	0	0	5	248	0	0	253	428
12:30	0	0	2	0	2	0	211	0	0	211	0	0	0	0	0	5	205	0	0	210	423
12:45	1	0	2	0	3	0	172	4	0	176	0	0	0	0	0	7	243	0	0	250	429
13:00	1	0	8	0	9	0	207	1	0	208	0	0	0	0	0	4	253	0	0	257	474
Total Volume	2	0	14	0	16	0	763	5	0	768	0	0	0	0	0	21	949	0	0	970	1754
% App Total	12.5%	0.0%	87.5%	0.0%		0.0%	99.3%	0.7%	0.0%		0.0%	0.0%	0.0%	0.0%		2.2%	97.8%	0.0%	0.0%		
PHF	.500	.000	.438	.000	.444	.000	.904	.313	.000	.910	.000	.000	.000	.000	.000	.750	.938	.000	.000	.944	.925

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-005 US-50-Park Avenue.ppd
Date : 12/14/2013

Unshifted Count = All Vehicles

	Park Avenue Southbound					US-50 Westbound					Park Avenue Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
12:00	4	7	25	0	36	16	180	5	0	201	47	3	25	0	75	13	214	44	0	271	583	0
12:15	0	7	21	0	28	21	149	6	0	176	49	7	17	0	73	11	231	39	0	281	558	0
12:30	3	6	17	0	26	23	191	2	0	216	48	6	14	0	68	17	222	33	0	272	582	0
12:45	4	7	27	0	38	28	138	1	0	167	46	4	35	0	85	28	230	49	0	307	597	0
Total	11	27	90	0	128	88	658	14	0	760	190	20	91	0	301	69	897	165	0	1131	2320	0
13:00	3	5	19	0	27	27	195	2	0	224	48	4	30	0	82	22	219	40	0	281	614	0
13:15	3	4	30	0	37	25	155	0	0	180	40	8	28	0	76	8	198	30	0	236	529	0
13:30	1	6	19	0	26	20	157	2	0	179	76	9	25	0	110	17	210	33	0	260	575	0
13:45	6	4	27	0	37	20	181	0	0	201	56	4	21	0	81	20	218	47	0	285	604	0
Total	13	19	95	0	127	92	688	4	0	784	220	25	104	0	349	67	845	150	0	1062	2322	0
Grand Total	24	46	185	0	255	180	1346	18	0	1544	410	45	195	0	650	136	1742	315	0	2193	4642	0
Apprch %	9.4%	18.0%	72.5%	0.0%		11.7%	87.2%	1.2%	0.0%		63.1%	6.9%	30.0%	0.0%		6.2%	79.4%	14.4%	0.0%			
Total %	0.5%	1.0%	4.0%	0.0%	5.5%	3.9%	29.0%	0.4%	0.0%	33.3%	8.8%	1.0%	4.2%	0.0%	14.0%	2.9%	37.5%	6.8%	0.0%	47.2%	100.0%	

NOON PEAK	Park Avenue Southbound					US-50 Westbound					Park Avenue Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 12:15 to 13:15																					
Peak Hour For Entire Intersection Begins at 12:15																					
12:15	0	7	21	0	28	21	149	6	0	176	49	7	17	0	73	11	231	39	0	281	558
12:30	3	6	17	0	26	23	191	2	0	216	48	6	14	0	68	17	222	33	0	272	582
12:45	4	7	27	0	38	28	138	1	0	167	46	4	35	0	85	28	230	49	0	307	597
13:00	3	5	19	0	27	27	195	2	0	224	48	4	30	0	82	22	219	40	0	281	614
Total Volume	10	25	84	0	119	99	673	11	0	783	191	21	96	0	308	78	902	161	0	1141	2351
% App Total	8.4%	21.0%	70.6%	0.0%		12.6%	86.0%	1.4%	0.0%		62.0%	6.8%	31.2%	0.0%		6.8%	79.1%	14.1%	0.0%		
PHF	.625	.893	.778	.000	.783	.884	.863	.458	.000	.874	.974	.750	.686	.000	.906	.696	.976	.821	.000	.929	.957

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-006 US-50-Pioneer Trail.ppd
Date : 12/14/2013

Unshifted Count = All Vehicles

	Pioneer Trail Southbound					US-50 Westbound					Pioneer Trail Northbound					US-50 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
12:00	0	0	1	0	1	47	192	0	0	239	4	0	82	0	86	1	203	3	0	207	533	0
12:15	1	0	3	0	4	31	189	0	0	220	4	0	85	0	89	1	229	4	0	234	547	0
12:30	0	1	1	0	2	43	182	0	0	225	6	0	82	0	88	2	197	1	0	200	515	0
12:45	1	0	2	0	3	33	196	1	0	230	5	2	75	0	82	3	258	8	0	269	584	0
Total	2	1	7	0	10	154	759	1	0	914	19	2	324	0	345	7	887	16	0	910	2179	0
13:00	2	1	0	0	3	51	186	1	0	238	7	1	92	0	100	4	201	3	0	208	549	0
13:15	2	0	0	0	2	32	198	0	0	230	5	0	50	0	55	0	212	4	0	216	503	0
13:30	1	0	3	0	4	31	210	0	0	241	3	0	71	0	74	1	217	4	0	222	541	0
13:45	2	0	2	0	4	50	207	2	0	259	3	0	56	0	59	1	268	5	0	274	596	0
Total	7	1	5	0	13	164	801	3	0	968	18	1	269	0	288	6	898	16	0	920	2189	0
Grand Total	9	2	12	0	23	318	1560	4	0	1882	37	3	593	0	633	13	1785	32	0	1830	4368	0
Apprch %	39.1%	8.7%	52.2%	0.0%		16.9%	82.9%	0.2%	0.0%		5.8%	0.5%	93.7%	0.0%		0.7%	97.5%	1.7%	0.0%			
Total %	0.2%	0.0%	0.3%	0.0%	0.5%	7.3%	35.7%	0.1%	0.0%	43.1%	0.8%	0.1%	13.6%	0.0%	14.5%	0.3%	40.9%	0.7%	0.0%	41.9%	100.0%	

NOON PEAK	Pioneer Trail Southbound					US-50 Westbound					Pioneer Trail Northbound					US-50 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 12:15 to 13:15																					
Peak Hour For Entire Intersection Begins at 12:15																					
12:15	1	0	3	0	4	31	189	0	0	220	4	0	85	0	89	1	229	4	0	234	547
12:30	0	1	1	0	2	43	182	0	0	225	6	0	82	0	88	2	197	1	0	200	515
12:45	1	0	2	0	3	33	196	1	0	230	5	2	75	0	82	3	258	8	0	269	584
13:00	2	1	0	0	3	51	186	1	0	238	7	1	92	0	100	4	201	3	0	208	549
Total Volume	4	2	6	0	12	158	753	2	0	913	22	3	334	0	359	10	885	16	0	911	2195
% App Total	33.3%	16.7%	50.0%	0.0%		17.3%	82.5%	0.2%	0.0%		6.1%	0.8%	93.0%	0.0%		1.1%	97.1%	1.8%	0.0%		
PHF	.500	.500	.500	.000	.750	.775	.960	.500	.000	.959	.786	.375	.908	.000	.898	.625	.858	.500	.000	.847	.940

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-007 Bellamy Court-Park Avenue.ppd
Date : 12/14/2013

Unshifted Count = All Vehicles

	Park Avenue Southbound					Bellamy Court Westbound					Park Avenue Northbound					Driveway Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
12:00	26	23	5	0	54	4	3	24	0	31	8	28	7	0	43	5	3	13	0	21	149	0
12:15	19	23	8	0	50	2	3	18	0	23	8	18	6	0	32	3	6	11	0	20	125	0
12:30	22	31	2	0	55	7	2	18	0	27	11	19	5	0	35	6	3	12	0	21	138	0
12:45	23	23	8	0	54	5	5	27	0	37	9	20	10	0	39	5	3	13	0	21	151	0
Total	90	100	23	0	213	18	13	87	0	118	36	85	28	0	149	19	15	49	0	83	563	0
13:00	23	28	5	0	56	7	7	26	0	40	10	20	10	0	40	6	6	17	0	29	165	0
13:15	20	19	3	0	42	9	9	30	0	48	12	20	7	0	39	5	3	14	0	22	151	0
13:30	30	21	4	0	55	8	5	38	0	51	15	25	12	0	52	8	2	18	0	28	186	0
13:45	18	21	4	0	43	7	6	22	0	35	12	32	3	0	47	8	9	13	0	30	155	0
Total	91	89	16	0	196	31	27	116	0	174	49	97	32	0	178	27	20	62	0	109	657	0
Grand Total	181	189	39	0	409	49	40	203	0	292	85	182	60	0	327	46	35	111	0	192	1220	0
Apprch %	44.3%	46.2%	9.5%	0.0%		16.8%	13.7%	69.5%	0.0%		26.0%	55.7%	18.3%	0.0%		24.0%	18.2%	57.8%	0.0%			
Total %	14.8%	15.5%	3.2%	0.0%	33.5%	4.0%	3.3%	16.6%	0.0%	23.9%	7.0%	14.9%	4.9%	0.0%	26.8%	3.8%	2.9%	9.1%	0.0%	15.7%	100.0%	

NOON PEAK	Park Avenue Southbound					Bellamy Court Westbound					Park Avenue Northbound					Driveway Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 13:00 to 14:00																					
Peak Hour For Entire Intersection Begins at 13:00																					
13:00	23	28	5	0	56	7	7	26	0	40	10	20	10	0	40	6	6	17	0	29	165
13:15	20	19	3	0	42	9	9	30	0	48	12	20	7	0	39	5	3	14	0	22	151
13:30	30	21	4	0	55	8	5	38	0	51	15	25	12	0	52	8	2	18	0	28	186
13:45	18	21	4	0	43	7	6	22	0	35	12	32	3	0	47	8	9	13	0	30	155
Total Volume	91	89	16	0	196	31	27	116	0	174	49	97	32	0	178	27	20	62	0	109	657
% App Total	46.4%	45.4%	8.2%	0.0%		17.8%	15.5%	66.7%	0.0%		27.5%	54.5%	18.0%	0.0%		24.8%	18.3%	56.9%	0.0%		
PHF	.758	.795	.800	.000	.875	.861	.750	.763	.000	.853	.817	.758	.667	.000	.856	.844	.556	.861	.000	.908	.883

ALL TRAFFIC DATA

City of South Lake Tahoe
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7731-008 Lake Parkway -Park Avenue.ppd
Date : 12/14/2013

Unshifted Count = All Vehicles

	Park Avenue Southbound					Lake Parkway Westbound					Park Avenue Northbound					Lake Parkway Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
12:00	29	1	10	0	40	0	19	34	0	53	0	1	0	0	1	7	35	0	0	42	136	0
12:15	28	0	7	0	35	0	29	29	0	58	0	0	0	0	0	5	32	0	0	37	130	0
12:30	33	0	18	0	51	1	24	28	0	53	1	0	0	0	1	5	23	0	0	28	133	0
12:45	25	0	13	0	38	0	20	32	0	52	0	0	0	0	0	7	27	0	0	34	124	0
Total	115	1	48	0	164	1	92	123	0	216	1	1	0	0	2	24	117	0	0	141	523	0
13:00	41	0	13	0	54	0	30	33	0	63	0	0	0	0	0	7	32	0	0	39	156	0
13:15	30	0	12	0	42	0	29	33	0	62	0	0	0	0	0	6	33	0	0	39	143	0
13:30	27	0	18	0	45	0	25	42	0	67	0	0	0	0	0	11	32	0	0	43	155	0
13:45	31	0	12	0	43	0	35	42	0	77	0	0	0	0	0	4	22	0	0	26	146	0
Total	129	0	55	0	184	0	119	150	0	269	0	0	0	0	0	28	119	0	0	147	600	0
Grand Total	244	1	103	0	348	1	211	273	0	485	1	1	0	0	2	52	236	0	0	288	1123	0
Apprch %	70.1%	0.3%	29.6%	0.0%		0.2%	43.5%	56.3%	0.0%		50.0%	50.0%	0.0%	0.0%		18.1%	81.9%	0.0%	0.0%			
Total %	21.7%	0.1%	9.2%	0.0%	31.0%	0.1%	18.8%	24.3%	0.0%	43.2%	0.1%	0.1%	0.0%	0.0%	0.2%	4.6%	21.0%	0.0%	0.0%	25.6%	100.0%	

NOON PEAK	Park Avenue Southbound					Lake Parkway Westbound					Park Avenue Northbound					Lake Parkway Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 13:00 to 14:00																					
Peak Hour For Entire Intersection Begins at 13:00																					
13:00	41	0	13	0	54	0	30	33	0	63	0	0	0	0	0	7	32	0	0	39	156
13:15	30	0	12	0	42	0	29	33	0	62	0	0	0	0	0	6	33	0	0	39	143
13:30	27	0	18	0	45	0	25	42	0	67	0	0	0	0	0	11	32	0	0	43	155
13:45	31	0	12	0	43	0	35	42	0	77	0	0	0	0	0	4	22	0	0	26	146
Total Volume	129	0	55	0	184	0	119	150	0	269	0	0	0	0	0	28	119	0	0	147	600
% App Total	70.1%	0.0%	29.9%	0.0%		0.0%	44.2%	55.8%	0.0%		0.0%	0.0%	0.0%	0.0%		19.0%	81.0%	0.0%	0.0%		
PHF	.787	.000	.764	.000	.852	.000	.850	.893	.000	.873	.000	.000	.000	.000	.000	.636	.902	.000	.000	.855	.962

TRPA 2010 Summer Travel Mode Share Survey Data

Quest	Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)
1	SAMPN	Sample Number	N	7	Assigned unique identifier	
2	VPURPFLAG		N	1	1=VPURP=3 and O_VACLAX WAS IMPUTED WITH VACATION/RELAXATION 2=VPURP=2 and O_PERSBUS WAS IMPUTED WITH PERSONAL BUSINESS	
3	DAYFLAG		N	1	1=NIGHTS VS ABODE CONFLICT	
4	TRPPYFLAG		N	1	1=LARGE TRAVEL PARTY (>10)	
5	CONSENT	Consent to Survey	N	2	1= Yes 2= No 99= DK/RF	May I please conduct the survey with you?
6	STATUS	Residence Status (calculated)	N	2	1=Full time residence 2=Seasonal residence 3=Visitors	
7	FTRES	Full Time Residency	N	1	1=Yes 2=No	Are you a full time resident of the Tahoe Basin?
8	SEARES	Seasonal Residency [FTRES=2]	N	1	1=Yes 2=No	Are you a seasonal resident?
9	VIS	Not residence, visitor [SEARES=2]	N	1	1=Yes 2=No	Or are you visiting the Tahoe Basin on vacation or business?
10	VPURP	Visiting, trip purpose	N	1	1=Work 2=Personal Business, SPECIFY 3=Vacation/Relaxation, SPECIFY	IF VISITOR: What is your primary purpose for visiting the Tahoe Basin?
11	O_PERSBUS	Visiting, trip purpose [VPURP=2]	C	60	Open	Personal Business, Specify
12	O_VACLAX	Visiting, trip purpose [VPURP=3]	C	60	Open	Vacation/Relaxation, Specify
13	NIGHTS	Length of Stay	N	2	1= Day 2= 1 Night 3= 2 Nights 4= 3 Nights 5= 4-7 Nights 6=More than 1 week, SPECIFY 99=Refused	IF VISITOR/SEASONAL RESIDENT: How many nights will you be staying in the Tahoe Basin?
13	O_NIGHTS	Length of Stay [NIGHTS=6]	C	60	Open	Length of Stay, Specify
14	TIMES	Visits to Tahoe in 2009	N	2	1=1 time 2=2 - 3 times 3=4 - 6 times 4=Greater than 6 times 99=DK/RF	IF VISITOR/SEASONAL RESIDENT: How many times in 2009 will you or have you come to Lake Tahoe?
15	ABODE	Household structure type	N	2	1=Single family detached (includes cabin) 2=Duplex, 4-plex, townhome 3=Apartment 4=Mobile home 5=Motel/Hotel 6=Campground (including RV, tents and campers) 7=Not staying overnight 97=Other, SPECIFY	What best describes where you are staying?
15	O_ABODE	Household structure type [ABODE=97]	C	30	Open	What best describes where you are staying?, Specify
16	ANAME	Name	C	60	Open	What is the name and address of the place you are staying?
16	AADDR	Address	C	60	Open	What is the name and address of the place you are staying?
16	AAPT	Apartment	C	4	Open	What is the name and address of the place you are staying?
16	ACITY	City	C	60	Open	What is the name and address of the place you are staying?
16	AZIP	Zip	N	5	Open	What is the name and address of the place you are staying?
17	AXST1	Cross streets 1	C	60	Open	IF ADDRESS IS UNKNOWN: What are the nearest cross streets?
17	AXST2	Cross street 2	C	60	Open	IF ADDRESS IS UNKNOWN: What are the nearest cross streets?
18	STATUS_GEO	Arcview geocoding status	C	1	M = Matched O = Out of area U = Unmatched Z = Zip code centroid	
19	MATCH_ADDR	Address Used for Geocoding	C	60	Open	
19	TAZ	Traffic analysis zone	N	9		
20	X_COORD	Longitude	N	20.5		
20	Y_COORD	Latitude	N	20.5		
21	SITE	Site surveyed	N	2	See Tab 2: SITECODES	Site Location
22	SHORE	Shore of Survey Location	N	1	1= South Shore 2= North Shore	Site Location, Shore of Location
23	SITE_X_COORD	Longitude	N	20.5		
23	SITE_Y_COORD	Latitude	N	20.5		
24	SITE_TAZ	Traffic analysis zone	N	9		
24	SITE_STATUS	Arcview geocoding status	C	1	M = Matched O = Out of area U = Unmatched Z = Zip code centroid	
25	OPURP	Origin, trip purpose	N	2	0=Home 1= Lodging 2=Work 3=Shopping 4=School/College 5=Recreation/social visit 6=Personal business/errand 7=Medical 97=Other 99=DK/RF	Where are you coming from?
26	ONAME	Origin Name [IF OPURP<>0]	C	60	Open	What is the name of that place?

Quest	Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)
27	MODE1	Mode to activity	N	2	1=Car/Truck/Van (rented, owned, or leased) 2=Motorcycle/Moped 3=School Bus 4=Public Transit 5=Paratransit 6=Casino shuttle 7=Private shuttle 8=Taxi/Limousine 9=Gondola 10=Ferry or Boat 11=Bicycle 12=Walk 97= Other, SPECIFY 99=RF --> THANK AND TERMINATE	How did you get here? MULTIPLE RESPONSE - TERMINATE IF REFUSED
27	MODE2	Mode to activity	N	2	1=Car/Truck/Van (rented, owned, or leased) 2=Motorcycle/Moped 3=School Bus 4=Public Transit 5=Paratransit 6=Casino shuttle 7=Private shuttle 8=Taxi/Limousine 9=Gondola 10=Ferry or Boat 11=Bicycle 12=Walk 97= Other, SPECIFY 99=RF --> THANK AND TERMINATE	How did you get to the place? MULTIPLE CHOICE
27	MODE3	Mode to activity	N	2	1=Car/Truck/Van (rented, owned, or leased) 2=Motorcycle/Moped 3=School Bus 4=Public Transit 5=Paratransit 6=Casino shuttle 7=Private shuttle 8=Taxi/Limousine 9=Gondola 10=Ferry or Boat 11=Bicycle 12=Walk 97= Other, SPECIFY 99=RF --> THANK AND TERMINATE	How did you get to the place? MULTIPLE CHOICE
27	O_MODE	Mode to activity, OTHER	C	60	Open	Mode of Travel, Specify
28	DPURP	Main Purpose	N	2	1 = At home activities (sleeping, watching TV, eating, personal care, housework, etc.) 2 = At home - work related 3 = Work 4 = Work-related 5 = Eating or drinking at restaurant/bar 6 = Minor Shopping (frequent, grocery, clothes) 7 = Major Shopping (occasional, COSTCO, appliance, car, etc.) 8 = Quick stop (gas, ATM, coffee, newspaper) 9 = Medical 10 = Personal business (bank, pay bill, etc.) 11 = Outdoor recreation participation (skiing, snowmobiling, fishing, hiking, etc.) 12 = Indoor recreation participation (bowling, ice skating, etc.) 13 = Entertainment (movie, sports event, show, etc.) 14 = Casino Gaming 15 = Visiting friends or relatives 16 = Religious 17 = Community/Political meeting 18 = School 19 = Picking up someone 20 = Dropping off someone 21 = Loop Trip (walking dog around block) 22 = Riding along with someone on their trip 97 = Other, SPECIFY 99 = DK/RF	What is the primary purpose of this specific trip to this location?
28	O_DPURP	Main Purpose [DPURP=97]	C	60	Open	What is the primary purpose of this trip?, Specify

Quest	Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)
29	DPTM	Duration at Location	N	3	Open 999=DK/RF	How long will you stay at this trip location?
29	DPMH	Duration at Location	N	1	1= Minutes 2= Hours 99=DK/RF	How long will you stay at this trip location?
30	TRPPY	Members in Travel Party Inc. Self	N	2	99=DON'T KNOW/ REFUSED	How many people, including yourself, are in your immediate party and are traveling with you on this specific trip?
31	TOTPY	Party Size During Stay [IF VISITOR]	N	3	Open 99=DON'T KNOW/ REFUSED	IF VISITOR: How many people are you traveling with during your stay in the Tahoe region?
32	EMPLOY	Work Status, MULTIPLE RESPONSE	N	2	1= Employed full-time 2= Employed part-time 3= Regular Volunteer 4= Retired 5= Full-time homemaker 6= Full-time student, not working 7= Disabled 8= Unemployed, looking for work 9= Unemployed, not looking for work 97= Other, SPECIFY 99= DK/ RF	Which of the following currently describes your situation? MULTIPLE RESPONSE
32	EMPLOY2	Work Status, MULTIPLE RESPONSE	N	2	1= Employed full-time 2= Employed part-time 3= Regular Volunteer 4= Retired 5= Full-time homemaker 6= Full-time student, not working 7= Disabled 8= Unemployed, looking for work 9= Unemployed, not looking for work 97= Other, SPECIFY 99= DK/ RF	Which of the following currently describes your situation? MULTIPLE RESPONSE
32	EMPLOY3	Work Status, MULTIPLE RESPONSE	N	2	1= Employed full-time 2= Employed part-time 3= Regular Volunteer 4= Retired 5= Full-time homemaker 6= Full-time student, not working 7= Disabled 8= Unemployed, looking for work 9= Unemployed, not looking for work 97= Other, SPECIFY 99= DK/ RF	Which of the following currently describes your situation? MULTIPLE RESPONSE
32	O_EMPLOY	Work Status, Specify [EMPLOY=97 OR EMPLOY2=97 OR EMPLOY3=97]	C	60	Open	Which of the following currently describes your situation?, Specify
33	EMPTYPE	EMPLOYMENT TYPE	N	2	1=Retail 2=Service 3=Recreation 4=Gaming 5=Professional Services 6=Government 7=Construction 97=Other 99=DON'T KNOW/ REFUSED	IF EMPLOYED FULL OR PART TIME: Please describe your type of employment
33	EMPTYPE2	EMPLOYMENT TYPE	N	2	1=Retail 2=Service 3=Recreation 4=Gaming 5=Professional Services 6=Government 7=Construction 97=Other 99=DON'T KNOW/ REFUSED	IF EMPLOYED FULL OR PART TIME: Please describe your type of employment
33	EMPTYPE3	EMPLOYMENT TYPE	N	2	1=Retail 2=Service 3=Recreation 4=Gaming 5=Professional Services 6=Government 7=Construction 97=Other 99=DON'T KNOW/ REFUSED	IF EMPLOYED FULL OR PART TIME: Please describe your type of employment
34	AGE	Age	N	3	999=DK/RF	What is your age?
34	REC_AGE		N	2	1=17-24 2=25-34 3=35-44 4=45-54 5=55-64 6=65 or more 9=RF	What is your age in years?
35	INCOME	Total 2009 annual household income	N	2	1=Above $50K 2=Below $50K 3=Less than $10,000 4=$10,000 - $20,000 5=$20,000 - $35,000 6=$35,000 - $50,000 7=$50,000 - $75,000 8=$75,000 - $100,000 9=$100,000 - $150,000 10= $150,000 - $300,000 11= $300,000 - $500,000 12= Over $500,000 99=DON'T KNOW/ REFUSED	What was the total income by all members of your household in 2009?
36	SPEND	Spending money	N	2	1=Less than $500 2=$501 to $1,000 3=$1,001 to $2,000 4=Greater than $2,000 99=DK/RF	IF VISITOR: How much money do you anticipate that your traveling party will spend on this trip to Tahoe? (A guess is ok if you are not sure)
37	GENDER	Gender	N	1	1=Male 2=Female	Gender

SITE	CODE
274 KINGSBURY	1
276 KINGSBURY	2
376 KINGSBURY	3
64 ACRE	4
BALDWIN BEACH	5
BIJOU AL TAHOE CP	6
CAMP RICHARDSON	7
CARNELIAN BAY LAKE	57
CAVE ROCK	8
CHIMNEY BEACH	58
COMMONS BEACH	9
CRYSTAL BAY CASINO	59
DOLLAR HILL	10
EAGLE FALLS	11
EL DORADO BEACH	12
EL DORADO BEACH RAMP	13
GLEN ALPINE	14
SOUTH STATELINE - GONDOLA	15
SOUTH STATELINE - HEAVENLY VILLAGE	16
HOMEWOOD	17
INCLINE TENNIS	18
INCLINE VILLAGE	19
INCLINE VILLAGE TOURIST CENTER	20
INSPIRATION POINT	21
KAHLE COMMUNITY PARK AND CENTER	22
KINGS BEACH	23
KINGS BEACH COMMERCIAL	24
KINGS BEACH LAKE ACCESS	25
LAKE VALLEY STATE RECREATION AREA	26
LAKESIDE BEACH MARINA	27
LOGAN SHOALS VISTA	28
LTCC COMMUNITY BALL FIELDS	29
MEEKS BAY TRAIL	30
MEYERS	31
NORTH STATELINE	32
NORTH TAHOE REGIONAL PARK	33
SOUTH Y COMMERCIAL - OUTLET STORES Y	34
POPE BEACH	35
SOUTH Y COMMERCIAL - RALEYS Y	36
RECREATION CENTER	60
REGAN BEACH	37
ROUND HILL COMMUNITY	38
SAND HARBOR	39
SAWMILL POND	40
SIERRA TRACT	41

SKI RUN	42
SOUTH STATELINE	43
SOUTH STATELINE - HARRAHS	44
SOUTH STATELINE - HARVEYS	45
SOUTH Y COMMERCIAL	46
SPOONER LAKE	47
SUGAR PINE POINT	48
SUNNYSIDE	49
TAHOE CITY	50
TAHOE CITY LAKE BLVD	61
TAHOE CITY MARINA	51
PARADISE PARK	62
TAHOE STATE RECREATION AREA	52
TAHOE VISTA COMMERCIAL	53
TAHOMA COMMERCIAL	54
TAHOE STATE RECREATION AREA - WILLIAM KENT PARK	55
ZEPHYR COVE MARINA	56

SAMPN	VIS	NIGHTS	ANAME	AADDR	AAPT	ACITY	AZIP	AXST1	SITE	MODE_1	MODE_2	MODE_3	O_MODE	DPURP	O	DPURP	DPTM	DPMH	TRPPY
Category 1a: Visitors that are Day Trips From Outside of the Basin (i.e. Reno, Sacramento, Carson City)																			
														Visitor + Nights =1 (day)					
5358	1	1							16	1				5		003	2	5	
5357	1	1							16	1				5		002	2	1	
5167	1	1							43	1				5		001	2	4	
5157	1	1				GARDNERVILLE	89410	MASA DR	43	1				5		030	1	1	
4414	1	1							44	1				14		002	2	3	
4032	1	1				FOLSOM			44	1				5		005	2	3	
4416	1	5	RENO						44	4				14		005	2	30	
Total Surveys:		7																	
Travel Mode:																			
	Car	6	86%																
	Public Transit	1	14%																
Category 1b: Visitors from other Tahoe Basin Locations (i.e. Staying in North Shore or West Shore)																			
														Visitor + location of stay outside of south shore					
4430	1	5	HYATT			INCLINE VILLAGE	89451	INCLINE	15	1				97		BROWSIN	004	2	6
Total Surveys:		1																	
Travel Mode:																			
	Car	1	100%																
Total Category 1																			
Total Surveys:		8																	
Travel Mode:																			
	Car	7	88%																
	Public Transit	1	13%																
Notes: This sample size is very small. Use overall day visitor numbers - see Day Visitor Tab.																			
	Use:	**98%**	**Car/Motorcycle**																
		2%	**Transit/Other**																
Category 2a: Visitors staying in Southshore in Close Proximity to Gondola (w/in 1 mil Based on hotel or x-streets																			
4433	1	4	GRAND RESIDENCE			SOUTH LAKE TAI	96150	NEAR STATEL	15	1				6		001	2	4	
4435	1	5	HARVEY'S			STATELINE	89449		15	1				97		WATCHIN	001	2	2
4434	1	5	ROADWAY INN			SOUTH LAKE TAI	96150	CEDAR	15	1				97		BREATH A	001	2	4
4431	1	3	MARRIOTT GRAND			SOUTH LAKE TAI	96150	PINE	15	1				97		GOING TO	001	2	3
4427	1	5	HARRAH'S			SOUTH LAKE TAI	96150	PIONEER TRA	15	1				11			002	2	2
4428	1	4	BIG PINES					ACROSS FOR	15	1				11			002	2	6
4425	1	4	BEST WESTERN			SOUTH LAKE TAI	96150	ACROSS FRO	15	1				97		BROWSE	001	2	2
4424	1	5	HORIZON			SOUTH LAKE TAI	96150	PARK AVE	15	1				6			030	1	2
4426	1	6				STATELINE	89449		16	1				97		GET INFO	002	2	1
4422	1	5	FOREST SUITES			SOUTH LAKE TAI	96150		16	1				5			002	2	2
4421	1	4				STATE LINE	89449		16	1				11			002	2	3
4420	1	5	MARRIOTT			SOUTH LAKE TAI	96150		43	1				97		SANDALS	015	1	4
4419	1	5	BEST WESTEF	TIMBER LODGE		SOUTH LAKE TAI	96150	BASE OF HEA	44	1				11			002	2	2
4417	1	5	TIMBER LODGE			SOUTH LAKE TAI	96150		44	1				11			002	2	6
4418	1	2	PARK AVE			STATELINE	89449		16	2				11			001	2	4
4745	1	5	RIDGE TAHOE			STATELINE	89449		43	2				5			002	2	1
4744	1	5	AMERICANA	PIONEER		STATELINE	89449		43	8	8			6			002	2	2
4743	1	3	HARRAH'S			SOUTH LAKE TAI	96150	WEAR STATEI	15	12				6			002	2	2
4742	1	3	MARRIOTT			STATELINE	89449	STATELINE	15	12				6			002	2	3
4741	1	3	FOREST SUITES			SOUTH LAKE TAI	96150	NEAR STATEL	15	12				6			020	1	3
4739	1	3	HORIZON	HWY 50		STATELINE	89449	STATELINE	15	12				5			003	2	2
4738	1	5	BLUE LAKE M(	FRIDAY		SOUTH LAKE TAI	96150	S LAKE TAHOI	15	12				5			002	2	4
4736	1	4	BEST WESTERN	STATION		SOUTH LAKE TAI	96150	TIMBER LODG	15	12				5			002	2	5
4735	1	5	HARVEY'S	HWY 50		SOUTH LAKE TAI	96150	STATELINE	15	12				5			001	2	2
4734	1	3	EMBASSY SUI	HWY 50		SOUTH LAKE TAI	96150		16	12				6			030	1	2
5356	1	4		LAKE VILLAGE		STATELINE	89449		16	12				5			006	2	4
5354	1	5	HARRAH'S			SOUTH LAKE TAI	96150		16	12				5			006	2	2
5355	1	3	HARVEY'S			SOUTH LAKE TAI	96150		16	12				5			002	2	2
5353	1	5	FOREST SUITES			STATELINE	89449		16	12				5			002	2	3
5351	1	2	TAHOE INN			SOUTH LAKE TAI	96150		16	12				6			001	2	1
5350	1	3	HARRAH'S			STATELINE	89449		16	12				5			003	2	1
4749	1	5	HARRAH'S			SOUTH LAKE TAI	96150		16	12				5			002	2	1
4748	1	3	HARVEY'S			STATE LINE	89449		16	12				8			010	1	2
4747	1	2	HARRAH'S	HWY 50		STATE LINE	89449		16	12				5			002	2	2
4746	1	3	CAPRI MOTEL			SOUTH LAKE TAI	96150		16	12				5			001	2	2
5166	1	5	MARRIOTT			SOUTH LAKE TAI	96150		16	12				13			003	2	3
5164	1	5	MONT BLEU	HWY 50		STATE LINE	89449		16	12				5			001	2	2
5161	1	5	HARVEY'S			STATE LINE	89449		16	12				6			002	2	2
5160	1	4	ROADWAY INN	PARK AVENUE		STATELINE	89449		16	12	1			5			003	2	2
5158	1	4	HARRAH'S	HWY 50		SOUTH LAKE TAI	96150		16	12				5			030	1	2
5156	1	5	GRAND RESIDENCE			SOUTH LAKE TAI	96150		43	12				6			030	1	10
5154	1	5	HARRAH'S	HWY 50		STATELINE	89449		43	12				5			030	1	2
4413	1	5	HARRAH'S			STATELINE	89449		43	12				97		OBSERVE	015	1	2
4411	1	6	TIMBER LODGE			SOUTH LAKE TAI	96150		43	12				97		GAMBLE	002	2	1
4409	1	5	HARRAH'S	HARVEY'S		STATELINE	89449	STATELINE	44	12				6			010	1	2
4402	1	2	HORIZON			STATELINE	89449	STATELINE	44	12				97		VACATION	002	2	2
4031	1	3	AMERICANA	PIONEER TRAIL		STATELINE	89449	STATELINE	44	12				5			002	2	2
4033	1	3	HARVEY'S			SOUTH LAKE TAI	96150		44	12				14			005	1	2
4035	1	3	HARRAH'S			STATELINE	89449		44	12				5			008	2	2
4036	1	5	HARVEY'S			STATELINE	89449		44	12				11			002	2	2
4037	1	3	MONT BLEU			STATELINE	89449		44	12				5			002	2	2
4039	1	5	STARDUST	HWY 50		STATELINE	89449		44	12				5			002	2	2
4041	1	3	HARRAH'S	HWY 50		STATELINE	89449		44	12				6			001	2	2
4042	1	5	HARVEY'S			STATELINE	89449		44	12				14			002	2	2
4043	1	6	ELIZABETH LC	PIONEER		SOUTH LAKE TAI	96150		44	12				14			002	2	1
4044	1	5	MARRIOTT	HWY 50		SOUTH LAKE TAI	96150		44	12				14			002	2	1
4045	1	5	EMBASSY SUITES			SOUTH LAKE TAI	96150		44	12				4			008	2	2
4038	1	5	HARVEY'S	HWY 50		STATELINE	89449		45	12				14			005	2	2
Total Surveys:		58																	
Travel Mode:																			
	Car	14	24%																
	Motorcycle	2	3%																
	Taxi	1	2%																
	Walk	41	71%																
	Use:	**30%**	**Car/Motorcycle**																
		70%	**Walk/Bike/Transit**																
Category 2b: Visitors in Southshore that are farther away from Gondola (greater than 1 miles Based on hotel or x-streets																			
4438	1	5	KINGSBURY CROSSING			SOUTH LAKE TAI	96150	S LAKE TAHOI	15	1				5		015	1	2	
4436	1	5	TAHOE BEACH & SKI			SOUTH LAKE TAI	96150	TRAVERSE	15	1				6		001	2	2	
4432	1	5				SOUTH LAKE TAI	96150	KELLER	15	1				11		004	2	7	
4429	1	5	TAHOE SEASONS			SOUTH LAKE TAI	96150		16	1				6		001	2	2	
4740	1	4		NEEDLE PEAK		STATELINE	89449		16	1				5		001	2	3	
4737	1	4		MILKY WAY		SOUTH LAKE TAI	96150		43	1				5		090	1	4	

5359	1	5	LAKELAND VIL	LAKE TAHOE BLVD	STATELINE	89449	HWY 50	43	1			5	005	2	1
5352	1	3	LAKESHORE LODGE		SOUTH LAKE TAI	96150		43	1			5	002	2	2
5169	1	4	LAKELAND VILLAGE		SOUTH LAKE TAI	96150	BEACHER ST	43	1			13	003	2	2
5168	1	5			SOUTH LAKE TAI	96150		43	1			5	015	2	6
5162	1	5	SUPER 8 MOT	HWY 50	SOUTH LAKE TAI	96150		43	1			6	001	2	2
5159	1	5						44	1			6	001	2	4
5155	1	5	TAHOE SEASON		SOUTH LAKE TAI	96150	S LAKE TAHOI	44	1			5	030	1	2
5152	1	5	TAHOE BEACH	HWY 50	STATELINE	89449	KINGSBURY	44	1			5	001	2	2
4410	1	3	BLISS PARK		STATELINE	89449		44	1			11	010	1	7
4404	1	2	QUALITY INN		SOUTH LAKE TAI	96150		16	7			14	002	2	2
4415	1	5	ROYAL RIDGE		STATELINE	89449	207	15	12			15	005	1	7
4034	1	6	RIDGE TAHOE		SOUTH LAKE TAI	96150		16	12			5	003	2	2

Total Surveys: 18
Travel Mode:

Car	15	83%
Shuttle	1	6%
Walk	2	11%

Use:

98% Car/Motorcycle (Include with Category 1)
2% Transit/Other

Category 3: Locals

Based on Visitor vs. Local Question

4423	2				SOUTH LAKE TAI	96150	APACHE	15	1			11	001	2	2
5165	2				STATELINE	89449	COTTONWOO	43	1			6	020	1	1
5163	2				SOUTH LAKE TAI	96150	OSAGE CIR	43	1			6	020	1	99
5153	2				SOUTH LAKE TAI	96150	ELF LANE	43	1			3	010	2	1
5151	2				SOUTH LAKE TAI	96150	EMERALD BA'	43	11	4		3	008	2	1
5150	2				SOUTH LAKE TAI	96150	SKI RUN	44	11			3	006	2	1
4408	2				SOUTH LAKE TAI	96150	MEADOW CRE	43	12			97	BICYCLE 002	2	1
4407	2				SOUTH LAKE TAI	96150	STATELINE	44	12			11	005	1	1
4406	2				SOUTH LAKE TAI	96150	SKI RUN	44	12			97	TRANSPO 005	1	3
4405	2				RENO	89523	SIMONS	44	12			97	CHECK R(010	1	2
4040	2		BARTON		STATELINE	89449		44	12			3	005	1	1

Total Surveys: 11
Travel Mode:

Car	4	36%
Bicycle	2	18%
Walk	5	45%

Notes: This sample size is very small. Use overall local numbers - see Locals Tab.

Use:

82% Car/Motorcycle/Taxi
10% Bicycle
6% Walk
2% Transit

Distribution of Visitor Types to South Shore Destinations

	Total Surveys	% of Total
Category 1a	7	7.4%
Category 1b	1	1.1%
Category 2a	58	61.1%
Category 2b	18	18.9%
Category 3	11	11.6%
	95	100.0%

Use:

27% Category 1a, 1b, and 2b
61% Category 2a
12% Category 3

All Day Visitors Tab

SAMPN	VIS	NIGHTS	ACITY	SITE	MODE_1
4313	1	1	POLLOCK	6	1
4374	1	1	SOUTH LA	6	1
4372	1	1	SOUTH LA	6	1
4220	1	1		41	1
4172	1	1		37	1
4167	1	1		37	1
4165	1	1		37	1
4164	1	1		37	1
4386	1	1		37	1
4381	1	1		37	1
4214	1	1		12	1
4209	1	1		12	1
4208	1	1		12	1
4203	1	1		12	1
4155	1	1		13	1
4153	1	1		13	1
4466	1	1		20	1
4471	1	1		20	1
4140	1	1		56	1
4095	1	1	SPANISH S	56	1
4003	1	1	GENOA	2	1
4019	1	1	GARDNER	2	1
5286	1	1		21	1
5296	1	1	RENO	21	1
5214	1	1		11	1
4032	1	1	FOLSOM	44	1
5556	1	1		5	1
5554	1	1		5	1
4622	1	1	CARSON C	38	1
4841	1	1	CARSON C	5	1
4826	1	1		5	1
4181	1	1	SOUTH LA	59	1
4347	1	1	MINDEN	22	1
4605	1	1	CARSON C	22	1
4333	1	1	RENO	19	1
5728	1	1	RENO	11	1
5720	1	1		11	1
5705	1	1	MINDEN	11	1
5245	1	1		11	1
5270	1	1	RENO	50	1
5265	1	1	RENO	50	1
5021	1	1	SACRAME	57	1
4946	2	1	RENO	25	1
5278	1	1	RENO	23	1
5272	1	1	OAKLAND	23	1
5105	1	1		42	1
5095	1	1		42	1
4123	1	1	SOUTH LA	33	1
4939	1	1		51	1
4856	1	1		46	1
4859	1	1		46	1
5258	1	1		48	1
4916	1	1		48	1

4981	1	1		39	1
4980	1	1		39	1
5118	1	1		58	1
5115	1	1	RENO	58	1
5112	1	1	RENO	58	1
5109	1	1	CARSON (	58	1
5563	1	1		5	1
4130	1	1		8	1
4131	1	1		8	1
4135	1	1		8	1
4137	1	1		8	1
4080	1	1		8	1
4520	1	1	SACRAME	14	1
4709	1	1		34	1
4899	1	1	CARSON (	32	1
4898	1	1		32	1
4897	1	1		32	1
5122	1	1	RENO	50	1
5167	1	1		43	1
5157	1	1	GARDNER	43	1
5147	1	1		50	1
5143	1	1		50	1
4247	1	1		20	1
4246	1	1		20	1
4243	1	1		20	1
4241	1	1	TRUCKEE	20	1
4240	1	1		20	1
4293	1	1	DAYTON	11	1
4952	1	1		7	1
4951	1	1	PLACERVI	7	1
4655	1	1		35	1
4654	1	1		35	1
4651	1	1		35	1
4914	1	1		32	1
4910	1	1		32	1
4689	1	1	CARSON (	58	1
4883	1	1		38	1
4806	1	1	TRUCKEE	24	1
4803	1	1	CARSON (	24	1
4446	1	1		24	1
4442	1	1	TRUCKEE	24	1
5174	1	1		47	1
5171	1	1		47	1
5170	1	1		47	1
5249	1	1		11	1
4678	1	1		42	1
4670	1	1		42	1
4667	1	1		42	1
5194	1	1	CARSON (	30	1
5358	1	1		16	1
5357	1	1		16	1
5211	1	1	SACRAME	11	1
5206	1	1	TAHOE CI	52	1
5204	1	1	RENO	52	1
5387	1	1		24	1

5375	1	1		24	1
5368	1	1		24	1
5371	1	1		24	1
4144	1	1		56	1
5058	1	1	ELDORAD	21	1
5053	1	1		21	1
4561	1	1	BAY AREA	11	1
4553	1	1		11	1
4526	1	1		21	1
5366	1	1		47	1
5364	1	1	CARSON (	47	1
5362	1	1		47	1
4414	1	1		44	1
5576	1	1		24	1
5579	1	1	CARSON (	24	1
5588	1	1	RENO	24	1
5595	1	1		24	1
4844	1	1		23	1
4848	1	1		23	1
5900	1	1		23	1
5903	1	1	MINDEN	23	1
5905	1	1	SHINGE S	23	1
5907	1	1	RENO	23	1
5311	1	1		19	1
5317	1	1	RENO	19	1
5742	1	1		50	1
5858	1	1	RENO	61	1
4467	1	1		20	2
5041	1	1	SACRAME	21	2
4338	1	1	SPARKS	19	2
4901	1	1	CARSON (	32	2
4401	1	1		20	2
4248	1	1		20	2
4244	1	1		20	2
4242	1	1		20	2
4680	1	1		58	2
4668	1	1		42	2
4070	1	1		8	10
5079	1	1		5	11

Total Surveys: 147

Travel Mode:

Car	135	92%
Motorcycle	10	7%
Ferry/Boat	1	1%
Bicycle	1	1%

All Locals Tab

SAMPN	STATUS	SITE	MODE_1
4310	1	6	1
4309	1	6	1
4378	1	6	1
4377	1	6	1
4376	1	6	1
4373	1	6	1
4371	1	6	1
4370	1	6	1
4367	1	6	1
4366	1	6	1
4364	1	6	1
4163	1	1	1
4162	1	3	1
4161	1	2	1
4160	1	2	1
4159	1	2	1
4158	1	2	1
4389	1	37	1
4385	1	37	1
4383	1	37	1
4100	1	31	1
4102	1	31	1
4105	1	31	1
4106	1	31	1
4107	1	31	1
4108	1	31	1
4110	1	31	1
4113	1	31	1
4363	1	26	1
4361	1	26	1
4360	1	26	1
4359	1	26	1
4355	1	26	1
4351	1	26	1
4307	1	26	1
4305	1	26	1
4308	1	26	1
4201	1	12	1
4323	1	6	1
4321	1	6	1
4319	1	6	1
4318	1	6	1
4315	1	6	1
4314	1	6	1
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4473	1	20	1
4474	1	20	1
4476	1	20	1
4477	1	20	1
4141	1	56	1
4083	1	56	1
4085	1	56	1

4086	1	56	1
4087	1	56	1
4088	1	56	1
4090	1	56	1
4092	1	56	1
4096	1	56	1
4099	1	56	1
4342	1	22	1
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4345	1	22	1
4004	1	2	1
4005	1	2	1
4006	1	2	1
4007	1	2	1
4009	1	2	1
4013	1	2	1
4014	1	2	1
4016	1	2	1
4017	1	2	1
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5289	1	21	1
5290	1	21	1
5292	1	21	1
5293	1	21	1
5295	1	21	1
5300	1	21	1
5049	1	21	1
5047	1	21	1
5046	1	21	1
5044	1	21	1
5043	1	21	1
5225	1	11	1
5221	1	11	1
5219	1	11	1
5217	1	11	1
4277	1	28	1
4002	1	2	1
5559	1	5	1
5551	1	5	1
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4615	1	38	1
4614	1	38	1
4613	1	38	1
4612	1	38	1
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4834	1	5	1
4833	1	5	1

4830	1	5	1
4827	1	5	1
4824	1	5	1
4178	1	54	1
4348	1	22	1
4349	1	22	1
4600	1	22	1
4601	1	22	1
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4337	1	19	1
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4341	1	19	1
4186	1	20	1
4188	1	20	1
4190	1	20	1
4191	1	20	1
5730	1	11	1
5724	1	11	1
5712	1	11	1
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5266	1	50	1
5263	1	50	1
5260	1	50	1
5259	1	50	1
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5025	1	9	1
5018	1	57	1
4631	1	57	1
4630	1	57	1
5028	1	4	1
4948	1	25	1
4941	1	25	1
5279	1	23	1
5275	1	23	1
5273	1	23	1
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5003	1	50	1
4999	1	50	1
4998	1	50	1
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5092	1	42	1

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4230	1	18	1
4231	1	18	1
4232	1	18	1
4236	1	18	1
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4455	1	18	1
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4127	1	33	1
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4065	1	33	1
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4934	1	51	1
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4861	1	46	1
4864	1	46	1
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5251	1	48	1
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5011	1	50	1
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4984	1	39	1
4983	1	39	1
4979	1	39	1
4978	1	39	1
4977	1	39	1
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5108	1	58	1
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5567	1	5	1
5566	1	5	1
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4487	1	40	1
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4508	1	14	1
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4073	1	8	1
4075	1	8	1
4081	1	8	1

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4519	1	14	1
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4266	1	60	1
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4716	1	36	1
4718	1	36	1
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4902	1	32	1
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4893	1	32	1
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4972	1	42	1
4968	1	42	1
4962	1	42	1
4961	1	42	1
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5125	1	50	1
5121	1	50	1
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5139	1	50	1
5138	1	50	1
5135	1	50	1
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4329	1	53	1
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4054	1	17	1
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4254	1	41	1
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4249	1	20	1
4245	1	20	1
4238	1	20	1
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4278	1	11	1

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4905	1	32	1
4904	1	32	1
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5082	1	38	1
5081	1	38	1
5080	1	38	1
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4886	1	38	1
4882	1	38	1
4881	1	38	1
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4877	1	38	1
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4874	1	38	1
4872	1	38	1
4871	1	38	1
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4697	1	32	1
4693	1	32	1
4690	1	32	1
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4731	1	29	1
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4960	1	29	1
4957	1	29	1
4728	1	5	1
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5172	1	47	1
5151	1	43	1
4818	1	55	1
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4663	1	42	1
4662	1	42	1
4661	1	42	1
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5192	1	30	1
5181	1	30	1
5203	1	52	1
5201	1	52	1
5200	1	52	1
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5385	1	24	1
5383	1	24	1
5382	1	24	1

4812	1	24	1
4570	1	35	1
4564	1	35	1
5077	1	5	1
5076	1	5	1
5068	1	5	1
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5057	1	21	1
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5853	1	61	1
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5861	1	61	1
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4392	2	37	1
4391	2	37	1
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4101	2	31	1
4103	2	31	1
4104	2	31	1
4111	2	31	1
4112	2	31	1
4353	2	26	1
4302	2	26	1
4300	2	26	1
4211	2	12	1
4316	2	6	1
4465	2	20	1

4470	2	20	1
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4093	2	56	1
4097	2	56	1
4010	2	2	1
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5229	2	11	1
5216	2	11	1
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4828	2	5	1
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4183	2	20	1
4184	2	20	1
4189	2	20	1
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5239	2	11	1
5262	2	50	1
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4985	2	39	1
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5572	2	5	1
5571	2	5	1
5569	2	5	1
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4484	2	40	1
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4132	2	8	1
4523	2	14	1
4900	2	32	1
4896	2	32	1
5130	2	50	1
5123	2	50	1
4325	2	10	1
4327	2	53	1
4052	2	17	1

4285	2	11	1
4547	2	7	1
4543	2	7	1
4598	2	7	1
4297	2	35	1
4909	2	32	1
4907	2	32	1
5703	2	32	1
5701	2	32	1
4692	2	32	1
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5199	2	52	1
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5075	2	5	1
5072	2	5	1
4193	2	11	1
4535	2	21	1
5363	2	47	1
5589	2	24	1
5305	2	19	1
5329	2	19	1
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5856	2	61	1
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5048	1	21	2
4346	1	22	2
4121	1	33	2
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5116	1	58	2
5107	1	58	2
4522	1	14	2
4974	1	42	2
5127	1	50	2
4056	1	17	2
5373	1	24	2
5283	1	23	4
5277	1	23	4
4895	1	32	4
5126	1	50	4
4691	1	32	4
5320	1	19	4

5321	1	19	4
5735	1	50	4
5762	1	19	4
5146	2	50	4
4675	2	42	7
4324	1	10	8
4820	1	5	10
5016	1	50	10
4810	2	24	10
4375	1	6	11
4250	1	62	11
4213	1	12	11
4154	1	13	11
4317	1	6	11
4138	1	56	11
4008	1	2	11
4012	1	2	11
5560	1	5	11
5558	1	5	11
4836	1	5	11
4604	1	22	11
5022	1	57	11
5106	1	42	11
5104	1	42	11
5096	1	42	11
4863	1	46	11
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4503	1	14	11
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4964	1	42	11
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4053	1	17	11
4408	1	44	11
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4586	1	7	11
4298	1	35	11
4686	1	58	11
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4732	1	29	11
4956	1	29	11
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4674	1	42	11
4672	1	42	11
4669	1	42	11
5376	1	24	11
5069	1	5	11
5067	1	5	11
5056	1	21	11
4534	1	21	11
5906	1	23	11
5307	1	19	11

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5736	1	50	11
5763	1	50	11
5770	1	19	11
4216	2	12	11
4629	2	38	11
4174	2	54	11
5110	2	58	11
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4051	1	62	12
4011	1	2	12
4040	1	44	12
4177	1	54	12
4268	1	22	12
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5103	1	42	12
4398	1	18	12
4868	1	46	12
4256	1	60	12
4971	1	42	12
4966	1	42	12
5163	1	43	12
4407	1	44	12
4406	1	44	12
4405	1	44	12
4885	1	38	12
4694	1	32	12
4958	1	29	12
4955	1	29	12
4809	1	24	12
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4447	1	24	12
4440	1	24	12
5389	1	24	12
5185	1	30	12
5380	1	24	12
4811	1	24	12
5910	1	23	12
5758	1	19	12
5769	1	19	12
4394	2	37	12
4513	2	14	12
4516	2	14	12
5190	2	30	12
5581	2	24	12
4000	1	2	97
4488	1	40	97
4320	2	6	97
4532	2	21	97

Total Surveys: 598

Travel Mode:

Car	474	79%	All Auto	82.3%
Motorcycle	13	2%	Transit/Boat	2.3%

Public Transit	10	2%	Bicycle	9.4%
Private Shuttle	1	0%	Walk	6.0%
Taxi	1	0%		100.0%
Ferry/boat	3	1%		
Bicycle	56	9%		
Walk	36	6%		
Other	4	1%		
	598			

US Census Data

Take Population in NV vs CA.

B01003 | TOTAL POPULATION
: Total population
2008-2012 American Community Survey 5-Year Estimates

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

	South Lake Tahoe CCD, El Dorado County, California		Lake Tahoe CCD, Placer County, California		Zephyr Cove CCD, Douglas County, Nevada		Incline Village CCD, Washoe County, Nevada	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Total	29,655	+/-682	10,071	+/-968	4,269	+/-455	8,127	+/-708

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Explanation of Symbols:
An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
An '(X)' means that the estimate is not applicable or not available.

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2008-2012 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau | American FactFinder

Total: 52122
CA - 39826 75%
NV - 12296 25%

B08603

TRAVEL TIME TO WORK FOR WORKPLACE GEOGRAPHY
Universe: Workers 16 years and over who did not work at home
2008-2012 American Community Survey 5-Year Estimates

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

	South Lake Tahoe city, California		Stateline CDP, Nevada	
	Estimate	Margin of Error	Estimate	Margin of Error
Total:	10,637	+/-725	3,908	+/-551
Less than 5 minutes	987	+/-230	279	+/-157
5 to 9 minutes	2,582	+/-431	994	+/-277
10 to 14 minutes	2,270	+/-261	671	+/-251
15 to 19 minutes	1,857	+/-339	510	+/-163
20 to 24 minutes	661	+/-185	664	+/-204
25 to 29 minutes	262	+/-119	125	+/-78
30 to 34 minutes	436	+/-136	270	+/-109
35 to 39 minutes	123	+/-102	130	+/-108
40 to 44 minutes	296	+/-140	88	+/-58
45 to 59 minutes	578	+/-163	85	+/-64
60 to 89 minutes	332	+/-127	28	+/-30
90 or more minutes	253	+/-126	64	+/-60

[see Excel spreadsheet "Employee Census Data - Used for Trip Gen"]

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Explanation of Symbols:
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An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
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These tabulations are produced to provide estimates of workers at the location of their workplace. Estimates of counts of workers at the workplace may differ from those of other programs because of variations in definitions, coverage, methods of collection, reference periods, and estimation procedures. The ACS is a household survey which provides data that pertains to individuals, families, and households.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2008-2012 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau | American FactFinder

Travel Time to Work for Workplace Geography

	South Lake	Stateline	Total	Max Travel Time (mins)	Average Travel Time (mins)	Total Travel Time (mins)	Travel Distance (miles) at max time (assume 40 mph average speed)	Average Travel Distance for speed bin (miles)	Total Distance Traveled by speed bin (miles)
Total	10637	3908	14545						
Less than 5 minutes	987	279	1266	5	2.5	3165	3.3	2	2532
5-9 mins	2582	994	3576	9	7	25032	6.0	5	17880
10-14 mins	2270	670	2940	14	11.5	33810	9.3	8	23520
15-19	1857	510	2367	19	16.5	39055.5	12.7	11	26037
20-24	661	664	1325	24	21.5	28487.5	16.0	14	18550
25-29	262	125	387	29	26.5	10255.5	19.3	18	6966
30-34	436	270	706	34	31.5	22239	22.7	21	14826
35-39	123	130	253	39	36.5	9234.5	26.0	24	6072
40-44	296	88	384	44	41.5	15936	29.3	28	10752
45-49	578	85	663	49	46.5	30829.5	32.7	31	20553
60-89	332	28	360	89	69	24840	59.3	46	16560
more than 90	253	64	317	120	104.5	33126.5	80.0	70	22190

US Census Bureau, 2008-2012 American Community Survey 5-year Estimates

Weighted Average Travel Distance	12.82	miles
Weighted Average Travel Time	18.98	minutes

Mode Split By Industry

B08126

MEANS OF TRANSPORTATION TO WORK BY INDUSTRY
Universe: Workers 16 years and over
2008-2012 American Community Survey 5-Year Estimates

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

1 - 105 of 105

	South Lake Tahoe city, California		Stateline CDP, Nevada	
	Estimate	Margin of Error	Estimate	Margin of Error
Total:	10,462	+/-528	549	+/-203
Agriculture, forestry, fishing and hunting, and mining	100	+/-56	0	+/-13
Construction	655	+/-256	11	+/-19
Manufacturing	251	+/-117	0	+/-13
Wholesale trade	26	+/-25	0	+/-13
Retail trade	1,233	+/-273	38	+/-43
Transportation and warehousing, and utilities	408	+/-181	9	+/-14
Information	185	+/-102	0	+/-13
Finance and insurance, and real estate and rental and leasing	494	+/-171	61	+/-78
Professional, scientific, and management, and administrative and waste management services	1,006	+/-233	82	+/-77
Educational services, and health care and social assistance	1,027	+/-206	45	+/-41
Arts, entertainment, and recreation, and accommodation and food services	4,476	+/-391	303	+/-148
Other services (except public administration)	306	+/-120	0	+/-13
Public administration	279	+/-119	0	+/-13
Armed forces	18	+/-27	0	+/-13
Car, truck, or van - drove alone:	6,699	+/-459	296	+/-110
Agriculture, forestry, fishing and hunting, and mining	75	+/-43	0	+/-13
Construction	368	+/-190	11	+/-19
Manufacturing	199	+/-102	0	+/-13
Wholesale trade	6	+/-11	0	+/-13
Retail trade	830	+/-213	21	+/-34
Transportation and warehousing, and utilities	225	+/-106	9	+/-14
Information	114	+/-94	0	+/-13
Finance and insurance, and real estate and rental and leasing	309	+/-132	8	+/-13
Professional, scientific, and management, and administrative and waste management services	624	+/-168	6	+/-10
Educational services, and health care and social assistance	728	+/-159	45	+/-41
Arts, entertainment, and recreation, and accommodation and food services	2,722	+/-319	196	+/-95
Other services (except public administration)	255	+/-113	0	+/-13
Public administration	244	+/-112	0	+/-13
Armed forces	0	+/-24	0	+/-13
Car, truck, or van - carpooled:	1,736	+/-392	139	+/-105
Agriculture, forestry, fishing and hunting, and mining	0	+/-24	0	+/-13
Construction	212	+/-148	0	+/-13
Manufacturing	0	+/-24	0	+/-13
Wholesale trade	10	+/-15	0	+/-13
Retail trade	216	+/-95	17	+/-28
Transportation and warehousing, and utilities	88	+/-140	0	+/-13
Information	30	+/-33	0	+/-13
Finance and insurance, and real estate and rental and leasing	0	+/-24	53	+/-77
Professional, scientific, and management, and administrative and waste management services	139	+/-95	47	+/-65
Educational services, and health care and social assistance	174	+/-100	0	+/-13
Arts, entertainment, and recreation, and accommodation and food services	800	+/-273	22	+/-34
Other services (except public administration)	14	+/-22	0	+/-13
Public administration	35	+/-37	0	+/-13
Armed forces	18	+/-27	0	+/-13
Public transportation (excluding taxicab):	274	+/-130	24	+/-39
Agriculture, forestry, fishing and hunting, and mining	16	+/-31	0	+/-13
Construction	21	+/-33	0	+/-13
Manufacturing	8	+/-13	0	+/-13

4779

2968

62%

822

17%

Public Transp.

	South Lake Tahoe city, California		Stateline CDP, Nevada	
	Estimate	Margin of Error	Estimate	Margin of Error
Wholesale trade	0	+/-24	0	+/-13
Retail trade	49	+/-54	0	+/-13
Transportation and warehousing, and utilities	25	+/-41	0	+/-13
Information	0	+/-24	0	+/-13
Finance and insurance, and real estate and rental and leasing	0	+/-24	0	+/-13
Professional, scientific, and management, and administrative and waste management services	34	+/-36	0	+/-13
Educational services, and health care and social assistance	15	+/-23	0	+/-13
Arts, entertainment, and recreation, and accommodation and food services	108	+/-90	24	+/-39
Other services (except public administration)	0	+/-24	0	+/-13
Public administration	0	+/-24	0	+/-13
Armed forces	0	+/-24	0	+/-13
Walked:	863	+/-211	90	+/-59
Agriculture, forestry, fishing and hunting, and mining	0	+/-24	0	+/-13
Construction	9	+/-14	0	+/-13
Manufacturing	10	+/-17	0	+/-13
Wholesale trade	0	+/-24	0	+/-13
Retail trade	79	+/-67	0	+/-13
Transportation and warehousing, and utilities	7	+/-12	0	+/-13
Information	26	+/-39	0	+/-13
Finance and insurance, and real estate and rental and leasing	47	+/-55	0	+/-13
Professional, scientific, and management, and administrative and waste management services	30	+/-33	29	+/-42
Educational services, and health care and social assistance	46	+/-40	0	+/-13
Arts, entertainment, and recreation, and accommodation and food services	608	+/-177	61	+/-46
Other services (except public administration)	1	+/-2	0	+/-13
Public administration	0	+/-24	0	+/-13
Armed forces	0	+/-24	0	+/-13
Taxicab, motorcycle, bicycle, or other means:	532	+/-168	0	+/-13
Agriculture, forestry, fishing and hunting, and mining	9	+/-14	0	+/-13
Construction	45	+/-55	0	+/-13
Manufacturing	0	+/-24	0	+/-13
Wholesale trade	10	+/-15	0	+/-13
Retail trade	59	+/-69	0	+/-13
Transportation and warehousing, and utilities	61	+/-78	0	+/-13
Information	0	+/-24	0	+/-13
Finance and insurance, and real estate and rental and leasing	24	+/-39	0	+/-13
Professional, scientific, and management, and administrative and waste management services	69	+/-87	0	+/-13
Educational services, and health care and social assistance	37	+/-50	0	+/-13
Arts, entertainment, and recreation, and accommodation and food services	218	+/-116	0	+/-13
Other services (except public administration)	0	+/-24	0	+/-13
Public administration	0	+/-24	0	+/-13
Armed forces	0	+/-24	0	+/-13
Worked at home:	358	+/-123	0	+/-13
Agriculture, forestry, fishing and hunting, and mining	0	+/-24	0	+/-13
Construction	0	+/-24	0	+/-13
Manufacturing	34	+/-41	0	+/-13
Wholesale trade	0	+/-24	0	+/-13
Retail trade	0	+/-24	0	+/-13
Transportation and warehousing, and utilities	0	+/-24	0	+/-13
Information	15	+/-18	0	+/-13
Finance and insurance, and real estate and rental and leasing	114	+/-73	0	+/-13
Professional, scientific, and management, and administrative and waste management services	110	+/-77	0	+/-13
Educational services, and health care and social assistance	27	+/-28	0	+/-13
Arts, entertainment, and recreation, and accommodation and food services	22	+/-26	0	+/-13
Other services (except public administration)	36	+/-44	0	+/-13
Public administration	0	+/-24	0	+/-13
Armed forces	0	+/-24	0	+/-13

130
3%.

Walk
669
14%.

Bike/Motor
218
5%.
→ 3% bike

82
.5%

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Explanation of Symbols:
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Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

Industry codes are 4-digit codes and are based on the North American Industry Classification System 2007. The industry categories adhere to the guidelines issued in Clarification Memorandum No. 2, "NAICS Alternate Aggregation Structure for Use By U.S. Statistical Agencies," issued by the Office of Management and Budget.

While the 2008-2012 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau | American FactFinder

Mode Split For All Industries

Means of Transportation to Work for Workplace Geography

Stateline CDP, Nevada

Powered by The American Community Survey

	Total:*	One Race						Two or More Races	Hispanic or Latino (any race)
		White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race		
Total:	2,779	2,779	0	Z	Z	0	Z	Z	1,181
Car, truck, or van - drove alone	2,315	2,315	0	Z	Z	0	Z	Z	709
Car, truck, or van - carpooled	344	344	0	Z	Z	0	Z	Z	255
Public transportation (excluding taxicab)	53	53	0	Z	Z	0	Z	Z	57
Walked	56	56	0	Z	Z	0	Z	Z	109
Taxicab, motorcycle, bicycle, or other means	11	11	0	Z	Z	0	Z	Z	31
Worked at home	0	0	0	Z	Z	0	Z	Z	0

Source: U S Census Bureau, 2008-2012 American Community Survey 5-Year Estimates

Except where noted, 'race' refers to people reporting only one race. 'Hispanic' refers to an ethnic category. Hispanics may be of any race

An entry of '+/-0' in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not

Display Margin of Error Back MS Excel

Carpool - 12%.

Walk - 2%.

Bike = .3%.

Public Transit = 2%.

- 33% of employees are housed by Heavenly w/in South Lake/Stateline areas.

Stateline + South Lake Tahoe

Total 13048

Drive Alone - 9381 - 72%.

Public Transp - 237 - 2%.

Walk - 712 - 5%.

Taxi, Motor, Bike - 539 - 4%. (3% Bike - Assumption)

Work @ Home - 357 - 3%.

Carpool - 1822 - 14%.

Mode Split For All Industries

Means of Transportation to Work for Workplace Geography

South Lake Tahoe city, California

Powered by The American Community Survey

	Total:*	One Race						Two or More Races	
		White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race		Hispanic or Latino (any race)
Total:	10,289	9,033	Z	Z	Z	0	1,236	Z	2,579
Car, truck, or van - drove alone	7,066	6,420	Z	Z	Z	0	646	Z	1,262
Car, truck, or van - carpooled	1,478	1,236	Z	Z	Z	0	242	Z	635
Public transportation (excluding taxicab)	184	133	Z	Z	Z	0	51	Z	58
Walked	656	458	Z	Z	Z	0	198	Z	360
Taxicab, motorcycle, bicycle, or other means	528	429	Z	Z	Z	0	99	Z	209
Worked at home	357	357	Z	Z	Z	0	0	Z	35

Source: U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates

Except where noted, 'race' refers to people reporting only one race. 'Hispanic' refers to an ethnic category; Hispanics may be of any race.

An entry of '+/-0' in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not

Display Margin of Error | Back | MS Excel

Carpool = 14%.

Bicycle = 5%.

Walk = 6%.

Public Transit = 2%.

Travel Time to Work for Workplace Geography

	South Lake	Stateline	Total	Max Travel Time (mins)	Average Travel Time (mins)	Total Travel Time (mins)	Travel Distance (miles) at max time (assume 40 mph average speed)	Average Travel Distance for speed bin (miles)	Total Distance Traveled by speed bin (miles)
Total	10637	3908	14545						
Less than 5 minutes	987	279	1266	5	2.5	3165	3.3	2	2532
5-9 mins	2582	994	3576	9	7	25032	6.0	5	17880
10-14 mins	2270	670	2940	14	11.5	33810	9.3	8	23520
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20-24	661	664	1325	24	21.5	28487.5	16.0	14	18550
25-29	262	125	387	29	26.5	10255.5	19.3	18	6966
30-34	436	270	706	34	31.5	22239	22.7	21	14826
35-39	123	130	253	39	36.5	9234.5	26.0	24	6072
40-44	296	88	384	44	41.5	15936	29.3	28	10752
45-49	578	85	663	49	46.5	30829.5	32.7	31	20553
60-89	332	28	360	89	69	24840	59.3	46	16560
more than 90	253	64	317	120	104.5	33126.5	80.0	70	22190

US Census Bureau, 2008-2012 American Community Survey 5-year Estimates

Weighted Average Travel Distance	12.82	miles
Weighted Average Travel Time	18.98	minutes

Trip Generation Calculations

Heavenly Trip Generation - Visitors Daily (Peak Day)

Prepared By Katy Cole
Date: 03/26/2014

Total Number of new seasonal visitors:	50000	Information from Heavenly		
Days in Summer Season	90	Based on June 15 - September 15 (from Vail EIS)		
Average Number of Visitors per Day	556			
Number of Visitors on a Peak Friday	1000	Information from Heavenly	Math Check	1000

Category 1: Day Visitors from outside of Stateline/Gondola Area (Includes outside of region and in the Basin but outside of the immediate Gondola/Stateline Area which is Cat 2b in survey data spreadsheet)

Percentage of Total Visitors	27%	
Total Category 1 Visitors	270	People Trips
Category 1 Mode Splits		
% of People Trips Via Car	98%	
% People Trips Via Bike/Walk/Transit	2%	
Category 1 Trip Generation		
Trips Via Car	265	People
Bike/Walk/Transit	5	People
Average Vehicle Occupancy	2.43	Based on survey data from the South Lake Tahoe Parking Garage
Category 1 Daily Vehicles Coming to Heavenly	**109**	
Category 1 Daily Vehicles Trips (Inbound and Outbound)	**218**	

Category 2: Visitors that are already in the immediate Gondola/Stateline Area (within 1 mile)

Percentage of Total Visitors	61%	
Total Category 2 Visitors	610	People Trips
Category 2 Mode Splits		
% of People Trips Via Car	30%	
% People Trips Via Bike/Walk/Transit	70%	
Category 2 Trip Generation		
Trips Via Car	183	People
Bike/Walk/Transit	427	People
Average Vehicle Occupancy	2.43	Based on survey data from the South Lake Tahoe Parking Garage
Category 2 Daily Vehicles Coming to Heavenly	**75**	
Category 2 Daily Vehicles Trips (Inbound and Outbound)	**150**	

Category 3: Locals

Percentage of Total Visitors	12%	
Total Category 3 Visitors	120	People Trips
Category 3 Mode Splits		
% of People Trips Via Car	82%	
% People Trips Via Bike/Walk/Transit	18%	
Category 3 Trip Generation		
Trips Via Car	98	People
Bike/Walk/Transit	22	People
Average Vehicle Occupancy	2.43	Based on survey data from the South Lake Tahoe Parking Garage
Category 3 Daily Vehicles Coming to Heavenly	**40**	
Category 3 Daily Vehicles Trips (Inbound and Outbound)	**80**	

Total Daily Vehicle Trips	**448**

Heavenly Trip Generation - Visitors Hourly

Epic Discovery Hours of Operation	9am-7pm	Based on information for Andrew Strain about employee shifts (March 30th email from Rob) and direction from Rob on 4/3/14	
Total Hours of Operation	10	hours	
Average Length of Stay	3	hours	Based on average length of stay at activity from the 2010 Travel Survey (see Travel Survey Data Spreadsheet, Subset 1 Tab)
Arrival/Departure Assumptions	Generally uniform except for the first 3 and last 3 hours of the day. During the 1st 3 hours arrivals will be higher and departures will be minimal. During the last 3, departures will be higher and arrivals will be minimal. This is an assumption, there isn't any data to specifically address this issue. (Assumptions made by Katy)		

Assumed Arrival/Departure Pattern	9am-10am	10am-11am	11am-12pı	12pm-1pm	1pm-2pm	2pm-3pm	3pm-4pm	4pm-5pm (peak hour)	5pm-6pm	6pm-7pm		
% of arrivals occuring during this hour	15%	15%	15%	10%	10%	10%	10%	10%	5%	0%	100%	
% of departures occuring during this hour	0%	5%	10%	10%	10%	10%	10%	15%	15%	15%	100%	Math Check
Vehicles Arriving	34	34	34	22	22	22	22	23	11	0	224	224 Total Inbound
Vehicles Departing	0	11	22	22	22	22	23	34	34	34	224	224 Total Outbound
Total Hourly Vehicles	34	45	56	44	44	44	45	57	45	34	448	448 Total Daily

Heavenly Trip Generation - Employees Daily (Peak Day)

Prepared By Katy Cole
Date: 03/26/2014

Total Number of New Employees	250	Information from Heavenly
Maximum Employees on-site at any given time	200	Information from Heavenly
Average Employees on-site	175	Information from Heavenly
Epic Discovery Hours of Operation	9am-7pm	Based on information for Andrew Strain about employee shifts (March 30th email from Rob) and direction from Rob on 4/3/14
Total Hours of Operation	10	hours

Shifts

Assumption based on hours of operation and 8 hours shifts (with a 1 hour lunch)
Assumption that the employees will be split equally between the shifts

Shift	Shift start/end	AM Commute arrival period	PM Commute departure period	% of workforce in each shift	# of employees per shift (max)
1	7:30am-4:30pm	7:00-7:30am	4:30-5:00pm	25%	50
2	8:30am-5:30pm	8:00-8:30am	5:30-6:00pm	25%	50
3	9:30am-6:30pm	9:00-9:30am	6:30-7:00pm	25%	50
4	10:30am-7:30pm	10:00-10:30am	7:30-8:00pm	25%	50

Commute Characteristics

Based on Census Data Journey to Work information (2008-2012 American Community Survey). Information is for the "Arts, Entertainment, recreation, accommodation, and food service" industry specifically. See PDF Employee Census data sheets.

Daily Trips

Employee Travel Mode	% Based on Census Data	Heavenly Epic Disc Employees Mode (max daily emp)	Average Auto Occupancy	Number of Autos associated with employees per day	Number of Daily Trips per/auto	Total Daily Employee Trips	
Drive Alone	63%	126	1	126	2	252	
Carpool	17%	34	2.43	14	2	28	
Transit/Shuttle	3%	6	na	na	na	na	
Walk	14%	28	na	na	na	na	
Bicycle	3%	6	na	na	na	na	
Total	100%	200	na	na	na	280	140 inbound and 140 outbound

PM Peak Hour Trips

Employee Travel Mode	% Based on Census Data	Heavenly Epic Disc Employees Mode (max hourly emp)	Average Auto Occupancy	Number of Autos associated with employees during PM Peak Hour	Number of PM peak hour Trips per/auto	Total Peak Hour Employee Trips	
Drive Alone	63%	31.0	1	31	1	31	
Carpool	17%	8.0	2.43	3	1	3	
Transit/Shuttle	3%	2.0	na	na	na	na	
Walk	14%	7.0	na	na	na	na	
Bicycle	3%	2.0	na	na	na	na	
Total	100%	50	na	na	na	34	all outbound trips

Heavenly Visitor Trip Length Calculations and Distribution (Peak Day)

Category 1: Day Visitors from outside of Stateline/Gondola Area (Includes outside of region and in the Basin but outside of the immediate Gondola/Stateline Area)

Total Category 1 Visitors	**270**	**People Trips**
Trips Via Car	**265**	**People**
Bike/Walk/Transit	**5**	**People**
Category 1 Daily Vehicles Coming to Heavenly	**109**	**Cars**
Category 1 Daily Vehicles Trips (Inbound and Outbound)	**218**	**Cars**

1a: Visitors that are Day Trips From Outside of the Basin (i.e. Reno, Sacramento, Carson City)

30.00% of Cat 1 (based on category distributions shown on Subset1 tab of travel survey data spreadsheet)

CA Based 40% Percentages were assumed becase day visitors are more likely from NV due to proximity.

NV Based 60%

	Total	CA	NV
Total Category 1a Visitors	81	32	49
Trips Via Car	80	32	48
Bike/Walk/Transit	2	0	1
Category 1 Daily Vehicles Coming to Heavenly	33	13	20
Category 1 Daily Vehicles Trips (Inbound and Outbound)	66	26	40

Average Trip Length
- 13 miles distance to CA LTAB boundary on US 50
- 15 miles distance to NV LTAB boundary on US 50

	CA	NV
Total Basin VMT 1a Visitors	338	594	932

Total Category 1 (1a + 2b)

Total	CA	NV
219	141	78

2b: Visitors in Southshore that are farther away from Gondola (greater than 1 miles)

70.00% of Cat 1 (based on category distributions shown on Subset1 tab of travel survey data spreadsheet

CA Based 75% Based on travel survey data

NV Based 25%

	CA	NV
Total Category 1b Visitors	189	142	47
Trips Via Car	186	140	47
Bike/Walk/Transit	4	3	1
Category 1 Daily Vehicles Coming to Heavenly	76	57	19
Category 1 Daily Vehicles Trips (Inbound and Outbound)	153	115	38

Average Trip Length
- 7 miles distance on US 50 to South Lake Tahoe Border (US 50/Airport Road) - conservative estimate, most will come from South Lake Tahoe
- 13 miles distance on US 50/SR 28 to mid-point of NV (which equates to the SR 28/South Carson City County line

	CA	NV
Total Basin VMT 2b Visitors	803	497	1301

Category 2: Visitors that are already in the immediate Gondola/Stateline Area (within 1 mile)

Total Category 2 Visitors	**610**	**People Trips**
Trips Via Car	**183**	**People**
Bike/Walk/Transit	**427**	**People**
Category 2 Daily Vehicles Coming to	**75**	**Cars**
Category 2 Daily Vehicles Trips (Inb	**150**	**Cars**

CA Based 50% Based on travel survey data

NV Based 50%

	CA	NV
Total Category 2 Visitors	610	305	305
Trips Via Car	183	92	92
Bike/Walk/Transit	427	214	214
Category 2 Daily Vehicles Coming to Heavenly	75	38	38
Category 2 Daily Vehicles Trips (Inbound and Outbound)	150	75	75

Average Trip Length
- 1 miles based on farthest distance for this category
- 1 miles

	CA	NV
Total Basin VMT 2 Visitors	75	75	150

Category 3: Locals

Total Category 3 Visitors	**120**	**People Trips**
Trips Via Car	**98**	**People**
Bike/Walk/Transit	**22**	**People**
Category 3 Daily Vehicles Coming t	**40**	**Cars**
Category 3 Daily Vehicles Trips (Inb	**80**	**Cars**

CA Based	75%	Based on population census data (2008-2012 American Community Survey 5-year estimates	
NV Based	25%		

		CA	NV
Total Category 3 Visitors	120	90	30
Trips Via Car	98	74	25
Bike/Walk/Transit	22	17	6
Category 3 Daily Vehicles Coming to Heavenly	40	30	10
Category 3 Daily Vehicles Trips (Inbound and Outbound)	80	60	20

Average Trip Length	21	miles	distance on US 50/SR 89 to mid-point of CA around lake (which is around Tahoma
	13	miles	distance on US 50/SR 28 to mid-point of NV (which equates to the SR 28/South Carson City County line

	CA	NV	
Total Basin VMT 3 Visitors	1260	260	1520

Total VMT for Peak Day

	CA	NV	Total
Total Basin VMT (VMT within Lake Tahoe Air Basin (LTAB))	2476	1426	3903
Total Car Trips	276	173	449
	61%	39%	
Average Trip Length	9.0	8.3	8.7

	CA	NV	Total
Visitors - Peak Day	570	430	1000
	57%	43%	
Visitors - Season	29000	22000	50000

Heavenly Employee Trip Length Calculations and Distribution (Peak Day)

Peak Day Conditions (used to develop datily VMT Estimates)

Total Employees On Site (on max day)	200	
% of Employees that live in CA	75%	Based on Tahoe population split from Census data
% of Employees that live in NV	25%	
Employees that live in CA	150	
Employees that live in NV	50	

	Daily	PM Peak
Employees that live in CA Trips	210	26
Employees that live in NV Trips	70	9
Total	280	34

Average Employee Trip Length	12.82	miles	(from EmployeeCensusData_UsedforTripGen Spreadsheet)
Total Daily CA VMT Generated By Employees	2692		
Total Daily NV VMT Generated By Employees	897		
	3589		

Intersection Level of Service Results

SimTraffic Post-Processor **Heavenly Epic Discovery Project**
Average Results from 10 Runs **Existing Summer Friday Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 1 **US 50/Lake Pkwy** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	26	22	84.2%	27.2	2.0	C
	Through	940	923	98.1%	22.7	2.4	C
	Right Turn	34	35	102.1%	22.8	3.6	C
	Subtotal	**1,000**	**979**	**97.9%**	**22.8**	**2.3**	**C**
SB	Left Turn	181	186	103.0%	24.8	4.3	C
	Through	1,003	997	99.4%	8.0	0.4	A
	Right Turn	100	98	98.1%	2.3	0.2	A
	Subtotal	**1,284**	**1,282**	**99.8%**	**10.0**	**0.8**	**A**
EB	Left Turn	138	139	100.4%	18.8	0.6	B
	Through	17	17	102.4%	14.6	2.0	B
	Right Turn	29	30	104.8%	13.8	2.3	B
	Subtotal	**184**	**186**	**101.3%**	**17.6**	**0.5**	**B**
WB	Left Turn	61	61	99.8%	16.9	1.6	B
	Through	17	21	120.6%	13.5	3.4	B
	Right Turn	317	320	101.0%	4.1	0.7	A
	Subtotal	**395**	**402**	**101.7%**	**6.5**	**0.6**	**A**
Total		**2,863**	**2,849**	**99.5%**	**14.4**	**1.1**	**B**

Intersection 2 **US 50/Stateline Ave** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	126	116	92.2%	74.0	16.0	E
	Through	1,112	1,107	99.5%	17.9	1.4	B
	Right Turn	32	34	105.0%	13.1	3.0	B
	Subtotal	**1,270**	**1,256**	**98.9%**	**23.0**	**2.3**	**C**
SB	Left Turn	10	9	86.0%	58.9	17.7	E
	Through	1,005	1,005	100.0%	14.3	0.9	B
	Right Turn	23	28	120.0%	10.9	2.4	B
	Subtotal	**1,038**	**1,041**	**100.3%**	**14.6**	**0.9**	**B**
EB	Left Turn	42	39	92.9%	46.0	6.3	D
	Through	2	1	70.0%	27.0	25.9	C
	Right Turn	140	147	104.6%	12.5	1.7	B
	Subtotal	**184**	**187**	**101.6%**	**19.7**	**1.6**	**B**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**2,492**	**2,485**	**99.7%**	**19.3**	**1.2**	**B**

SimTraffic Post-Processor **Heavenly Epic Discovery Project**
Average Results from 10 Runs **Existing Summer Friday Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 3 **US 50/Transit Way** **Side Street Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	1,255	1,237	98.5%	3.9	0.6	A
	Right Turn	38	40	105.0%	3.4	1.2	A
	Subtotal	**1,293**	**1,277**	**98.7%**	**3.9**	**0.6**	**A**
SB	Left Turn	17	19	111.8%	14.1	2.7	B
	Through	1,128	1,135	100.6%	1.4	0.9	A
	Right Turn						
	Subtotal	**1,145**	**1,154**	**100.8%**	**1.6**	**0.9**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	3	3	93.3%	36.0	23.9	E
	Through						
	Right Turn	15	13	89.3%	21.5	8.8	C
	Subtotal	**18**	**16**	**90.0%**	**24.2**	**10.8**	**C**
Total		**2,456**	**2,447**	**99.6%**	**3.0**	**0.5**	**A**

Intersection 4 **US 50/Friday Ave** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	23	20	87.4%	103.8	21.8	F
	Through	1,275	1,253	98.3%	3.0	0.7	A
	Right Turn						
	Subtotal	**1,298**	**1,273**	**98.1%**	**4.7**	**1.1**	**A**
SB	Left Turn						
	Through	1,119	1,111	99.3%	7.6	3.3	A
	Right Turn	8	9	115.0%	3.9	2.3	A
	Subtotal	**1,127**	**1,121**	**99.4%**	**7.6**	**3.2**	**A**
EB	Left Turn	13	14	103.8%	85.1	21.0	F
	Through						
	Right Turn	24	27	111.3%	33.1	13.0	C
	Subtotal	**37**	**40**	**108.6%**	**50.5**	**16.7**	**D**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**2,462**	**2,434**	**98.9%**	**6.8**	**2.1**	**A**

Intersection 5 **US 50/Park Ave-Heavenly Village Pkwy** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	79	75	94.6%	49.2	3.6	D
	Through	1,211	1,187	98.0%	17.0	1.5	B
	Right Turn	101	101	99.8%	4.6	0.9	A
	Subtotal	**1,391**	**1,362**	**97.9%**	**17.9**	**1.3**	**B**
SB	Left Turn	78	76	97.1%	79.8	10.2	E
	Through	1,080	1,060	98.1%	24.7	5.3	C
	Right Turn	8	6	76.3%	20.8	11.7	C
	Subtotal	**1,166**	**1,142**	**97.9%**	**28.3**	**5.4**	**C**
EB	Left Turn	6	6	103.3%	69.9	21.8	E
	Through	14	17	118.6%	55.0	12.1	D
	Right Turn	135	132	97.6%	33.5	20.9	C
	Subtotal	**155**	**155**	**99.7%**	**37.7**	**18.5**	**D**
WB	Left Turn	288	284	98.4%	74.8	29.4	E
	Through	14	12	85.0%	41.2	9.8	D
	Right Turn	100	99	98.9%	19.4	3.0	B
	Subtotal	**402**	**394**	**98.1%**	**60.1**	**22.7**	**E**
Total		**3,114**	**3,053**	**98.0%**	**28.2**	**5.7**	**C**

Intersection 6 **US 50/Pioneer Trail** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	8	7	91.3%	101.2	32.7	F
	Through	1,094	1,082	98.9%	15.9	1.3	B
	Right Turn	19	19	98.4%	11.6	2.7	B
	Subtotal	**1,121**	**1,108**	**98.8%**	**16.3**	**1.3**	**B**
SB	Left Turn	310	311	100.2%	92.2	16.5	F
	Through	1,213	1,174	96.8%	5.7	0.7	A
	Right Turn	5	5	98.0%	2.5	1.5	A
	Subtotal	**1,528**	**1,490**	**97.5%**	**23.6**	**2.9**	**C**
EB	Left Turn	3	2	63.3%	66.7	45.1	E
	Through						
	Right Turn	9	8	91.1%	21.3	7.5	C
	Subtotal	**12**	**10**	**84.2%**	**31.8**	**12.7**	**C**
WB	Left Turn	16	16	97.5%	82.0	14.8	F
	Through						
	Right Turn	436	433	99.3%	28.2	5.0	C
	Subtotal	**452**	**448**	**99.2%**	**30.0**	**5.1**	**C**
Total		**3,113**	**3,056**	**98.2%**	**21.9**	**2.0**	**C**

Intersection 7 **Bellamy Ct/Heavenly Village Pkwy** **Side Street Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	31	31	98.7%	8.3	4.3	A
	Through						
	Right Turn	131	124	94.3%	4.4	1.1	A
	Subtotal	**162**	**154**	**95.1%**	**5.1**	**1.5**	**A**
EB	Left Turn	32	35	109.7%	2.7	0.2	A
	Through	104	103	99.1%	0.6	0.1	A
	Right Turn						
	Subtotal	**136**	**138**	**101.6%**	**1.1**	**0.1**	**A**
WB	Left Turn						
	Through	125	120	95.6%	0.4	0.7	A
	Right Turn	26	26	98.8%	0.0	0.0	A
	Subtotal	**151**	**145**	**96.2%**	**0.3**	**0.6**	**A**
Total		**449**	**438**	**97.4%**	**2.3**	**0.8**	**A**

Intersection 8 **Lake Pkwy-Montreal Rd/** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	36	32	88.6%	6.6	0.4	A
	Through	204	213	104.3%	7.8	0.4	A
	Right Turn	7	7	98.6%	4.2	1.2	A
	Subtotal	**247**	**252**	**101.8%**	**7.5**	**0.4**	**A**
SB	Left Turn	12	12	96.7%	8.0	1.2	A
	Through	223	212	95.2%	9.3	0.7	A
	Right Turn	173	171	98.6%	6.2	0.9	A
	Subtotal	**408**	**394**	**96.7%**	**7.9**	**0.8**	**A**
EB	Left Turn	114	114	100.4%	5.3	0.3	A
	Through	6	7	113.3%	5.5	1.1	A
	Right Turn	68	66	96.5%	3.4	0.2	A
	Subtotal	**188**	**187**	**99.4%**	**4.6**	**0.2**	**A**
WB	Left Turn	9	7	78.9%	4.3	0.9	A
	Through	6	5	85.0%	6.3	2.1	A
	Right Turn	10	11	113.0%	3.1	0.4	A
	Subtotal	**25**	**24**	**94.0%**	**4.2**	**0.9**	**A**
Total		**868**	**856**	**98.6%**	**7.0**	**0.5**	**A**

SimTraffic Post-Processor **Heavenly Epic Discovery Project**
Average Results from 10 Runs **Existing Plus Project Summer Friday Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 1 **US 50/Lake Pkwy** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	26	24	91.9%	32.6	3.5	C
	Through	943	945	100.3%	30.7	2.8	C
	Right Turn	34	34	100.9%	30.4	4.0	C
	Subtotal	**1,003**	**1,004**	**100.1%**	**30.7**	**2.8**	**C**
SB	Left Turn	187	189	101.2%	23.5	2.5	C
	Through	1,006	1,011	100.5%	8.4	0.5	A
	Right Turn	100	101	100.8%	2.4	0.2	A
	Subtotal	**1,293**	**1,301**	**100.6%**	**10.1**	**0.7**	**B**
EB	Left Turn	138	143	103.5%	19.0	0.8	B
	Through	17	17	99.4%	13.8	1.8	B
	Right Turn	29	33	112.1%	14.5	1.5	B
	Subtotal	**184**	**192**	**104.5%**	**17.8**	**0.7**	**B**
WB	Left Turn	61	60	98.0%	17.5	1.8	B
	Through	17	20	115.3%	14.1	1.3	B
	Right Turn	334	335	100.3%	4.5	0.7	A
	Subtotal	**412**	**414**	**100.6%**	**6.8**	**0.7**	**A**
Total		**2,892**	**2,911**	**100.7%**	**17.3**	**1.2**	**B**

Intersection 2 **US 50/Stateline Ave** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	127	129	101.2%	73.4	4.1	E
	Through	1,115	1,136	101.9%	25.2	1.9	C
	Right Turn	32	34	105.3%	19.2	2.5	B
	Subtotal	**1,274**	**1,298**	**101.9%**	**29.8**	**1.9**	**C**
SB	Left Turn	10	9	87.0%	75.1	15.3	E
	Through	1,008	1,016	100.8%	15.8	1.8	B
	Right Turn	23	26	114.3%	12.3	2.8	B
	Subtotal	**1,041**	**1,051**	**101.0%**	**16.2**	**1.8**	**B**
EB	Left Turn	42	41	97.4%	43.7	3.7	D
	Through	2	3	145.0%	44.3	25.6	D
	Right Turn	141	146	103.4%	12.3	1.0	B
	Subtotal	**185**	**190**	**102.5%**	**19.6**	**2.3**	**B**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**2,500**	**2,539**	**101.5%**	**23.4**	**1.7**	**C**

SimTraffic Post-Processor **Heavenly Epic Discovery Project**
Average Results from 10 Runs **Existing Plus Project Summer Friday Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 3 **US 50/Transit Way** **Side Street Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	1,259	1,275	101.2%	10.3	1.3	B
	Right Turn	38	39	101.3%	10.0	2.3	A
	Subtotal	**1,297**	**1,313**	**101.2%**	**10.3**	**1.3**	**B**
SB	Left Turn	17	15	90.0%	14.4	3.3	B
	Through	1,132	1,150	101.6%	1.8	1.3	A
	Right Turn						
	Subtotal	**1,149**	**1,166**	**101.4%**	**2.0**	**1.3**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	3	3	100.0%	38.9	32.3	E
	Through						
	Right Turn	15	17	110.7%	20.7	5.3	C
	Subtotal	**18**	**20**	**108.9%**	**23.6**	**3.9**	**C**
Total		**2,464**	**2,498**	**101.4%**	**6.5**	**1.0**	**A**

Intersection 4 **US 50/Friday Ave** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	24	24	99.6%	106.0	10.3	F
	Through	1,279	1,290	100.9%	9.6	0.4	A
	Right Turn						
	Subtotal	**1,303**	**1,314**	**100.8%**	**11.4**	**0.6**	**B**
SB	Left Turn						
	Through	1,123	1,137	101.3%	9.7	3.6	A
	Right Turn	8	7	91.3%	7.3	9.4	A
	Subtotal	**1,131**	**1,145**	**101.2%**	**9.6**	**3.6**	**A**
EB	Left Turn	13	14	103.8%	76.7	10.0	E
	Through						
	Right Turn	24	24	99.2%	44.8	17.9	D
	Subtotal	**37**	**37**	**100.8%**	**56.4**	**10.2**	**E**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**2,471**	**2,496**	**101.0%**	**11.3**	**1.6**	**B**

Intersection 5 **US 50/Park Ave-Heavenly Village Pkwy** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	79	80	100.9%	56.3	5.6	E
	Through	1,211	1,226	101.2%	24.5	1.7	C
	Right Turn	114	112	97.9%	11.5	0.9	B
	Subtotal	**1,404**	**1,417**	**100.9%**	**25.3**	**1.8**	**C**
SB	Left Turn	82	84	102.9%	80.8	7.0	F
	Through	1,080	1,069	99.0%	27.8	4.3	C
	Right Turn	8	7	87.5%	24.8	6.7	C
	Subtotal	**1,170**	**1,161**	**99.2%**	**31.6**	**4.3**	**C**
EB	Left Turn	6	5	75.0%	68.2	21.9	E
	Through	14	15	106.4%	63.2	17.2	E
	Right Turn	135	131	96.8%	40.6	22.1	D
	Subtotal	**155**	**150**	**96.8%**	**43.3**	**20.6**	**D**
WB	Left Turn	330	327	99.2%	101.4	28.0	F
	Through	18	16	91.1%	44.0	8.2	D
	Right Turn	105	103	98.0%	24.0	4.3	C
	Subtotal	**453**	**447**	**98.6%**	**81.4**	**21.2**	**F**
Total		**3,182**	**3,175**	**99.8%**	**36.4**	**5.3**	**D**

Intersection 6 **US 50/Pioneer Trail** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	8	9	107.5%	96.9	17.0	F
	Through	1,103	1,120	101.5%	21.8	1.0	C
	Right Turn	19	19	98.4%	16.4	4.7	B
	Subtotal	**1,130**	**1,147**	**101.5%**	**22.2**	**1.1**	**C**
SB	Left Turn	324	304	93.9%	102.0	11.6	F
	Through	1,241	1,229	99.0%	6.1	0.8	A
	Right Turn	5	4	80.0%	2.6	2.0	A
	Subtotal	**1,570**	**1,537**	**97.9%**	**25.0**	**1.6**	**C**
EB	Left Turn	3	2	76.7%	64.1	18.2	E
	Through						
	Right Turn	9	10	115.6%	27.6	10.5	C
	Subtotal	**12**	**13**	**105.8%**	**33.7**	**11.9**	**C**
WB	Left Turn	16	15	95.6%	77.0	18.8	E
	Through						
	Right Turn	440	450	102.3%	34.0	5.3	C
	Subtotal	**456**	**465**	**102.0%**	**35.4**	**5.2**	**D**
Total		**3,168**	**3,162**	**99.8%**	**25.6**	**1.7**	**C**

Intersection 7 **Bellamy Ct/Heavenly Village Pkwy** **Side Street Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	33	29	88.8%	8.0	1.3	A
	Through						
	Right Turn	143	138	96.2%	4.9	1.0	A
	Subtotal	**176**	**167**	**94.8%**	**5.4**	**1.0**	**A**
EB	Left Turn	40	41	101.5%	2.9	0.2	A
	Through	113	116	102.7%	0.6	0.1	A
	Right Turn						
	Subtotal	**153**	**157**	**102.4%**	**1.2**	**0.1**	**A**
WB	Left Turn						
	Through	164	163	99.5%	0.5	0.4	A
	Right Turn	27	28	101.9%	0.1	0.0	A
	Subtotal	**191**	**191**	**99.8%**	**0.4**	**0.3**	**A**
Total		**520**	**514**	**98.9%**	**2.3**	**0.5**	**A**

Intersection 8 **Lake Pkwy-Montreal Rd/** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	36	38	105.3%	12.8	0.6	B
	Through	204	201	98.5%	13.8	0.4	B
	Right Turn	7	7	104.3%	10.4	0.8	B
	Subtotal	**247**	**246**	**99.7%**	**13.6**	**0.4**	**B**
SB	Left Turn	12	11	93.3%	8.1	1.3	A
	Through	223	223	100.0%	9.8	0.8	A
	Right Turn	188	188	100.1%	7.0	2.4	A
	Subtotal	**423**	**422**	**99.9%**	**8.5**	**1.4**	**A**
EB	Left Turn	134	127	94.8%	5.4	0.3	A
	Through	6	7	113.3%	6.7	1.2	A
	Right Turn	68	71	104.3%	3.8	0.4	A
	Subtotal	**208**	**205**	**98.4%**	**4.9**	**0.2**	**A**
WB	Left Turn	9	9	98.9%	4.4	0.4	A
	Through	6	7	116.7%	5.6	0.4	A
	Right Turn	10	11	114.0%	3.1	0.4	A
	Subtotal	**25**	**27**	**109.2%**	**4.1**	**0.3**	**A**
Total		**903**	**901**	**99.7%**	**8.9**	**0.7**	**A**

SimTraffic Post-Processor **Heavenly Epic Discovery Project**
Average Results from 10 Runs **Cumulative Summer Friday Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 1 **US 50/Lake Pkwy** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	30	29	95.3%	35.3	2.3	D
	Through	990	1,010	102.1%	34.2	2.2	C
	Right Turn	40	43	108.0%	38.0	4.4	D
	Subtotal	**1,060**	**1,082**	**102.1%**	**34.4**	**2.3**	**C**
SB	Left Turn	220	222	101.0%	28.3	2.6	C
	Through	1,150	1,156	100.5%	9.7	0.7	A
	Right Turn	140	136	97.4%	2.8	0.2	A
	Subtotal	**1,510**	**1,515**	**100.3%**	**11.8**	**0.6**	**B**
EB	Left Turn	140	139	98.9%	19.7	1.0	B
	Through	20	18	91.0%	15.0	1.9	B
	Right Turn	30	30	100.3%	14.1	2.8	B
	Subtotal	**190**	**187**	**98.3%**	**18.3**	**0.7**	**B**
WB	Left Turn	70	68	97.4%	17.4	1.4	B
	Through	20	19	97.0%	13.9	2.5	B
	Right Turn	320	314	98.2%	4.2	0.4	A
	Subtotal	**410**	**402**	**98.0%**	**6.9**	**0.4**	**A**
Total		**3,170**	**3,185**	**100.5%**	**19.2**	**0.8**	**B**

Intersection 2 **US 50/Stateline Ave** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	126	97.1%	80.1	11.6	F
	Through	1,180	1,211	102.6%	28.0	1.5	C
	Right Turn	40	42	105.0%	21.0	2.6	C
	Subtotal	**1,350**	**1,379**	**102.1%**	**32.5**	**2.1**	**C**
SB	Left Turn	20	20	99.5%	76.5	9.5	E
	Through	1,150	1,172	101.9%	21.3	6.9	C
	Right Turn	30	33	109.0%	18.4	8.5	B
	Subtotal	**1,200**	**1,225**	**102.1%**	**22.1**	**6.9**	**C**
EB	Left Turn	50	52	103.6%	41.1	3.0	D
	Through	10	10	96.0%	49.0	9.1	D
	Right Turn	150	144	95.7%	16.7	3.2	B
	Subtotal	**210**	**205**	**97.6%**	**24.4**	**2.1**	**C**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**2,760**	**2,809**	**101.8%**	**27.4**	**3.4**	**C**

SimTraffic Post-Processor **Heavenly Epic Discovery Project**
Average Results from 10 Runs **Cumulative Summer Friday Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 3 **US 50/Transit Way** **Side Street Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	1,330	1,347	101.3%	12.1	1.4	B
	Right Turn	40	41	101.8%	10.4	1.9	B
	Subtotal	**1,370**	**1,387**	**101.3%**	**12.1**	**1.4**	**B**
SB	Left Turn	20	20	98.0%	16.6	2.7	C
	Through	1,280	1,293	101.0%	4.0	3.8	A
	Right Turn						
	Subtotal	**1,300**	**1,312**	**100.9%**	**4.2**	**3.8**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	7	74.0%	62.6	26.7	F
	Through						
	Right Turn	20	22	110.5%	35.6	10.7	E
	Subtotal	**30**	**30**	**98.3%**	**42.2**	**11.9**	**E**
Total		**2,700**	**2,729**	**101.1%**	**8.6**	**2.2**	**A**

Intersection 4 **US 50/Friday Ave** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	30	27	90.3%	106.1	15.9	F
	Through	1,290	1,308	101.4%	10.4	1.0	B
	Right Turn						
	Subtotal	**1,320**	**1,335**	**101.1%**	**12.3**	**1.3**	**B**
SB	Left Turn						
	Through	1,260	1,251	99.3%	14.0	5.4	B
	Right Turn	20	21	106.5%	11.9	6.2	B
	Subtotal	**1,280**	**1,272**	**99.4%**	**13.9**	**5.4**	**B**
EB	Left Turn	70	71	101.7%	108.5	23.2	F
	Through						
	Right Turn	30	34	111.7%	80.7	28.6	F
	Subtotal	**100**	**105**	**104.7%**	**99.7**	**23.9**	**F**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**2,700**	**2,712**	**100.4%**	**16.5**	**3.2**	**B**

Intersection 5 **US 50/Park Ave-Heavenly Village Pkwy** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	87	96.4%	58.5	3.9	E
	Through	1,220	1,234	101.1%	24.0	1.0	C
	Right Turn	110	117	106.2%	11.2	0.4	B
	Subtotal	**1,420**	**1,437**	**101.2%**	**25.0**	**0.9**	**C**
SB	Left Turn	80	81	101.8%	82.7	9.7	F
	Through	1,210	1,182	97.7%	26.9	5.3	C
	Right Turn	10	10	100.0%	19.6	7.5	B
	Subtotal	**1,300**	**1,273**	**97.9%**	**30.4**	**5.2**	**C**
EB	Left Turn	10	10	98.0%	61.3	7.2	E
	Through	40	37	92.3%	54.4	5.6	D
	Right Turn	150	148	98.9%	33.2	10.7	C
	Subtotal	**200**	**195**	**97.5%**	**38.7**	**8.2**	**D**
WB	Left Turn	300	304	101.5%	75.1	15.6	E
	Through	20	25	122.5%	35.0	9.2	C
	Right Turn	110	112	102.0%	23.7	6.5	C
	Subtotal	**430**	**441**	**102.6%**	**59.8**	**11.7**	**E**
Total		**3,350**	**3,347**	**99.9%**	**32.4**	**3.9**	**C**

Intersection 6 **US 50/Pioneer Trail** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	12	122.0%	97.3	16.0	F
	Through	1,100	1,115	101.4%	23.9	0.7	C
	Right Turn	20	22	111.5%	20.7	5.0	C
	Subtotal	**1,130**	**1,150**	**101.8%**	**24.6**	**0.9**	**C**
SB	Left Turn	350	328	93.7%	87.5	16.7	F
	Through	1,320	1,314	99.5%	7.6	0.8	A
	Right Turn	10	11	109.0%	5.0	1.5	A
	Subtotal	**1,680**	**1,652**	**98.4%**	**23.4**	**3.7**	**C**
EB	Left Turn	10	8	83.0%	80.1	35.2	F
	Through	10	10	96.0%	82.9	24.6	F
	Right Turn	10	14	137.0%	39.1	19.8	D
	Subtotal	**30**	**32**	**105.3%**	**62.8**	**23.8**	**E**
WB	Left Turn	20	20	98.0%	90.3	11.9	F
	Through	10	8	78.0%	88.3	29.5	F
	Right Turn	490	494	100.8%	35.4	4.4	D
	Subtotal	**520**	**522**	**100.3%**	**38.3**	**4.6**	**D**
Total		**3,360**	**3,355**	**99.9%**	**26.5**	**2.4**	**C**

SimTraffic Post-Processor **Heavenly Epic Discovery Project**
Average Results from 10 Runs **Cumulative Summer Friday Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 7 **Bellamy Ct/Heavenly Village Pkwy** **Side Street Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	40	36	89.3%	7.1	0.5	A
	Through						
	Right Turn	140	143	102.4%	4.6	0.4	A
	Subtotal	**180**	**179**	**99.4%**	**5.1**	**0.4**	**A**
EB	Left Turn	40	38	94.8%	2.8	0.3	A
	Through	130	135	103.9%	0.6	0.1	A
	Right Turn						
	Subtotal	**170**	**173**	**101.8%**	**1.1**	**0.2**	**A**
WB	Left Turn						
	Through	140	135	96.3%	0.2	0.0	A
	Right Turn	30	27	90.7%	0.0	0.0	A
	Subtotal	**170**	**162**	**95.3%**	**0.2**	**0.0**	**A**
Total		**520**	**514**	**98.8%**	**2.2**	**0.2**	**A**

Intersection 8 **Lake Pkwy-Montreal Rd/** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	39	97.5%	13.0	0.5	B
	Through	210	215	102.3%	14.3	0.4	B
	Right Turn	10	8	75.0%	10.4	0.8	B
	Subtotal	**260**	**261**	**100.5%**	**14.0**	**0.4**	**B**
SB	Left Turn	20	19	96.0%	8.3	1.2	A
	Through	230	233	101.3%	9.8	0.6	A
	Right Turn	180	172	95.3%	6.7	0.5	A
	Subtotal	**430**	**424**	**98.6%**	**8.5**	**0.5**	**A**
EB	Left Turn	120	122	101.8%	5.8	0.5	A
	Through	10	12	116.0%	5.6	1.1	A
	Right Turn	70	67	95.6%	3.5	0.2	A
	Subtotal	**200**	**201**	**100.3%**	**5.0**	**0.3**	**A**
WB	Left Turn	10	9	90.0%	4.4	0.9	A
	Through	10	10	97.0%	6.0	0.8	A
	Right Turn	20	21	105.5%	3.4	0.5	A
	Subtotal	**40**	**40**	**99.5%**	**4.2**	**0.5**	**A**
Total		**930**	**926**	**99.5%**	**9.1**	**0.2**	**A**

SimTraffic Post-Processor **Heavenly Epic Discovery Project**
Average Results from 10 Runs **Cumulative Plus Project Summer Friday Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 1 **US 50/Lake Pkwy** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	30	27	89.7%	34.7	2.7	C
	Through	993	989	99.6%	33.0	3.6	C
	Right Turn	40	40	99.3%	34.8	4.1	C
	Subtotal	**1,063**	**1,056**	**99.3%**	**33.1**	**3.5**	**C**
SB	Left Turn	226	217	96.2%	28.8	4.6	C
	Through	1,153	1,165	101.0%	10.1	0.9	B
	Right Turn	140	140	99.9%	2.7	0.2	A
	Subtotal	**1,519**	**1,522**	**100.2%**	**12.1**	**1.1**	**B**
EB	Left Turn	140	141	100.4%	19.4	1.1	B
	Through	20	22	110.5%	14.5	2.8	B
	Right Turn	30	30	99.7%	15.7	1.4	B
	Subtotal	**190**	**193**	**101.3%**	**18.3**	**0.8**	**B**
WB	Left Turn	70	67	95.6%	17.9	1.9	B
	Through	20	22	111.5%	14.3	3.2	B
	Right Turn	337	335	99.4%	4.4	0.7	A
	Subtotal	**427**	**424**	**99.4%**	**7.1**	**0.5**	**A**
Total		**3,199**	**3,195**	**99.9%**	**18.8**	**1.3**	**B**

Intersection 2 **US 50/Stateline Ave** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	131	124	94.5%	79.7	12.6	E
	Through	1,183	1,187	100.3%	26.5	2.2	C
	Right Turn	40	42	105.3%	20.7	3.9	C
	Subtotal	**1,354**	**1,352**	**99.9%**	**31.2**	**1.9**	**C**
SB	Left Turn	20	19	94.0%	80.6	19.0	F
	Through	1,153	1,189	103.1%	26.2	17.2	C
	Right Turn	30	29	97.3%	23.1	15.7	C
	Subtotal	**1,203**	**1,237**	**102.8%**	**27.0**	**17.1**	**C**
EB	Left Turn	50	50	100.0%	39.6	4.4	D
	Through	10	11	107.0%	42.8	9.3	D
	Right Turn	151	153	101.1%	17.8	2.5	B
	Subtotal	**211**	**213**	**101.1%**	**24.1**	**2.0**	**C**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**2,768**	**2,803**	**101.3%**	**28.8**	**7.8**	**C**

SimTraffic Post-Processor **Heavenly Epic Discovery Project**
Average Results from 10 Runs **Cumulative Plus Project Summer Friday Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 3 **US 50/Transit Way** **Side Street Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	1,334	1,319	98.9%	11.2	1.9	B
	Right Turn	40	42	104.5%	11.1	2.3	B
	Subtotal	**1,374**	**1,361**	**99.0%**	**11.2**	**1.9**	**B**
SB	Left Turn	20	21	103.0%	18.6	2.0	C
	Through	1,284	1,317	102.6%	5.9	4.0	A
	Right Turn						
	Subtotal	**1,304**	**1,338**	**102.6%**	**6.1**	**3.9**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	10	96.0%	61.4	31.0	F
	Through						
	Right Turn	20	22	111.5%	35.1	18.1	E
	Subtotal	**30**	**32**	**106.3%**	**43.6**	**22.3**	**E**
Total		**2,708**	**2,730**	**100.8%**	**9.1**	**2.6**	**A**

Intersection 4 **US 50/Friday Ave** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	31	30	96.1%	102.2	16.0	F
	Through	1,294	1,285	99.3%	10.1	0.7	B
	Right Turn						
	Subtotal	**1,325**	**1,315**	**99.2%**	**12.2**	**0.8**	**B**
SB	Left Turn						
	Through	1,264	1,274	100.8%	17.4	4.8	B
	Right Turn	20	20	102.0%	14.2	6.8	B
	Subtotal	**1,284**	**1,294**	**100.8%**	**17.4**	**4.9**	**B**
EB	Left Turn	70	67	95.6%	103.2	32.4	F
	Through						
	Right Turn	30	29	95.3%	84.0	31.3	F
	Subtotal	**100**	**96**	**95.5%**	**97.4**	**30.0**	**F**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**2,709**	**2,704**	**99.8%**	**17.7**	**3.1**	**B**

Intersection 5 **US 50/Park Ave-Heavenly Village Pkwy** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	87	97.0%	60.3	6.6	E
	Through	1,220	1,202	98.5%	25.0	2.0	C
	Right Turn	123	122	99.0%	12.0	1.5	B
	Subtotal	**1,433**	**1,411**	**98.5%**	**26.1**	**1.8**	**C**
SB	Left Turn	84	83	98.8%	88.0	8.7	F
	Through	1,210	1,201	99.2%	30.5	4.3	C
	Right Turn	10	9	93.0%	19.7	7.6	B
	Subtotal	**1,304**	**1,293**	**99.1%**	**34.1**	**4.4**	**C**
EB	Left Turn	10	10	100.0%	60.0	15.4	E
	Through	40	35	87.0%	57.9	10.9	E
	Right Turn	150	150	100.1%	44.7	20.5	D
	Subtotal	**200**	**195**	**97.5%**	**47.8**	**17.9**	**D**
WB	Left Turn	342	335	98.0%	133.1	36.3	F
	Through	24	25	103.3%	43.3	13.9	D
	Right Turn	115	116	100.7%	28.9	6.0	C
	Subtotal	**481**	**476**	**98.9%**	**103.3**	**28.5**	**F**
Total		**3,418**	**3,374**	**98.7%**	**41.2**	**5.7**	**D**

Intersection 6 **US 50/Pioneer Trail** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	10	96.0%	91.0	20.8	F
	Through	1,109	1,096	98.9%	24.2	1.2	C
	Right Turn	20	19	94.5%	22.6	3.0	C
	Subtotal	**1,139**	**1,125**	**98.8%**	**24.7**	**1.1**	**C**
SB	Left Turn	364	343	94.1%	93.8	10.7	F
	Through	1,348	1,348	100.0%	7.2	0.6	A
	Right Turn	10	11	109.0%	4.4	2.1	A
	Subtotal	**1,722**	**1,701**	**98.8%**	**24.5**	**1.8**	**C**
EB	Left Turn	10	11	110.0%	98.1	37.3	F
	Through	10	12	115.0%	77.5	26.5	E
	Right Turn	10	11	113.0%	39.9	11.2	D
	Subtotal	**30**	**34**	**112.7%**	**71.2**	**20.0**	**E**
WB	Left Turn	20	19	93.0%	85.3	18.0	F
	Through	10	9	94.0%	86.8	15.9	F
	Right Turn	494	478	96.8%	34.2	7.6	C
	Subtotal	**524**	**506**	**96.6%**	**37.1**	**7.4**	**D**
Total		**3,415**	**3,366**	**98.6%**	**27.0**	**1.6**	**C**

Intersection 7 **Bellamy Ct/Heavenly Village Pkwy** **Side Street Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	42	42	99.5%	9.5	3.4	A
	Through						
	Right Turn	152	153	100.5%	6.6	3.5	A
	Subtotal	**194**	**195**	**100.3%**	**7.2**	**3.5**	**A**
EB	Left Turn	48	45	94.0%	3.2	0.3	A
	Through	139	136	97.6%	0.6	0.1	A
	Right Turn						
	Subtotal	**187**	**181**	**96.7%**	**1.2**	**0.1**	**A**
WB	Left Turn						
	Through	179	186	104.1%	0.6	0.5	A
	Right Turn	31	31	100.0%	0.1	0.1	A
	Subtotal	**210**	**217**	**103.5%**	**0.5**	**0.4**	**A**
Total		**591**	**593**	**100.3%**	**2.9**	**1.3**	**A**

Intersection 8 **Lake Pkwy-Montreal Rd/** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	42	104.8%	14.8	5.2	B
	Through	210	205	97.6%	14.8	2.3	B
	Right Turn	10	11	107.0%	11.7	3.5	B
	Subtotal	**260**	**258**	**99.0%**	**14.6**	**2.8**	**B**
SB	Left Turn	20	19	96.0%	10.0	3.0	A
	Through	230	230	99.8%	11.1	2.9	B
	Right Turn	195	200	102.4%	7.7	2.5	A
	Subtotal	**445**	**448**	**100.8%**	**9.5**	**2.8**	**A**
EB	Left Turn	140	139	99.1%	5.9	0.4	A
	Through	10	12	116.0%	6.0	1.4	A
	Right Turn	70	71	101.0%	3.6	0.3	A
	Subtotal	**220**	**221**	**100.5%**	**5.2**	**0.4**	**A**
WB	Left Turn	10	9	92.0%	4.5	0.5	A
	Through	10	10	103.0%	6.1	0.7	A
	Right Turn	20	19	94.0%	3.1	0.4	A
	Subtotal	**40**	**38**	**95.8%**	**4.2**	**0.4**	**A**
Total		**965**	**965**	**100.0%**	**9.7**	**2.1**	**A**