

Mammoth Lake Zoning Code Draft EIR Appendix C, Greenhouse Gas Emissions Data Worksheets

C.1 Mobile Source Emissions

C.2 CalEEMod Output - Operations (Annual)

Appendix C.1
Mobile Source Emissions

Town of Mammoth Lakes - Land Use Element / Zoning Code Amendments and Mobility Element Update
Mobile Source Emissions - GHG

Emission Factors (tons/mi) ^a		
Year	Period	CO2
	2015 Annual	1.17E-04
	2030 Annual	8.74E-05

Scenario	Annual VMT	CO2 (MT/yr)
Existing	41,283,000	4,368
Existing with Mobility Element	40,364,700	4,271
Future New FAR with Existing Network	49,757,012	3,944
Future New FAR with Mobility Element	48,250,124	3,825

Notes:

- a. California Air Resources Board, EMFAC2014, Mono County.
- b. LSC Transportation Consultants, Inc., Mammoth Mobility Element, Transportation Impact Analysis, (2016).
 Daily VMT for Scenarios 3-6 are based on the adjusted values shown in Table 3.

Appendix C.2
CalEEMod Output - Operations (Annual)

Mammoth Lakes Ops Net New FAR

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	341.38	1000sqft	7.84	341,377.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	54
Climate Zone	1			Operational Year	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Trips - Mobile emissions calculated outside of CalEEMod

Water And Wastewater - See "Operational Inputs"

Solid Waste -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2030
tblWater	IndoorWaterUseRate	25,286,877.38	27,071,701.00
tblWater	OutdoorWaterUseRate	15,498,408.72	16,592,333.00

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7291	3.0000e-005	3.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1000e-003	6.1000e-003	2.0000e-005	0.0000	6.4300e-003
Energy	0.0105	0.0953	0.0800	5.7000e-004		7.2400e-003	7.2400e-003		7.2400e-003	7.2400e-003	0.0000	1,452.8112	1,452.8112	0.0640	0.0147	1,458.7220
Waste						0.0000	0.0000		0.0000	0.0000	72.7621	0.0000	72.7621	4.3001	0.0000	163.0646
Water						0.0000	0.0000		0.0000	0.0000	8.5886	58.5378	67.1264	0.8847	0.0214	92.3235
Total	1.7396	0.0953	0.0831	5.7000e-004	0.0000	7.2500e-003	7.2500e-003	0.0000	7.2500e-003	7.2500e-003	81.3507	1,511.3550	1,592.7057	5.2488	0.0361	1,714.1166

5.0 Energy Detail

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,349.1099	1,349.1099	0.0620	0.0128	1,354.3896
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,498.5768	1,498.5768	0.0689	0.0143	1,504.4415
NaturalGas Mitigated	0.0105	0.0953	0.0800	5.7000e-004		7.2400e-003	7.2400e-003		7.2400e-003	7.2400e-003	0.0000	103.7013	103.7013	1.9900e-003	1.9000e-003	104.3324
NaturalGas Unmitigated	0.0140	0.1270	0.1067	7.6000e-004		9.6500e-003	9.6500e-003		9.6500e-003	9.6500e-003	0.0000	138.2684	138.2684	2.6500e-003	2.5300e-003	139.1099

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Strip Mall	1.94329e+006	0.0105	0.0953	0.0800	5.7000e-004		7.2400e-003	7.2400e-003		7.2400e-003	7.2400e-003	0.0000	103.7013	103.7013	1.9900e-003	1.9000e-003	104.3324
Total		0.0105	0.0953	0.0800	5.7000e-004		7.2400e-003	7.2400e-003		7.2400e-003	7.2400e-003	0.0000	103.7013	103.7013	1.9900e-003	1.9000e-003	104.3324

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Strip Mall	4.71442e+006	1,349.1099	0.0620	0.0128	1,354.3896
Total		1,349.1099	0.0620	0.0128	1,354.3896

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7291	3.0000e-005	3.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1000e-003	6.1000e-003	2.0000e-005	0.0000	6.4300e-003
Unmitigated	1.7291	3.0000e-005	3.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1000e-003	6.1000e-003	2.0000e-005	0.0000	6.4300e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3956					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3333					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.9000e-004	3.0000e-005	3.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1000e-003	6.1000e-003	2.0000e-005	0.0000	6.4300e-003
Total	1.7291	3.0000e-005	3.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1000e-003	6.1000e-003	2.0000e-005	0.0000	6.4300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	67.1264	0.8847	0.0214	92.3235
Unmitigated	67.1264	0.8848	0.0214	92.3372

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Strip Mall	27.0717 / 16.5923	67.1264	0.8847	0.0214	92.3235
Total		67.1264	0.8847	0.0214	92.3235

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	72.7621	4.3001	0.0000	163.0646
Unmitigated	72.7621	4.3001	0.0000	163.0646

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Strip Mall	358.45	72.7621	4.3001	0.0000	163.0646
Total		72.7621	4.3001	0.0000	163.0646

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation
