



APPENDIX D

Energy Consumption Model Data



APPENDIX D.1

Site 2 Construction and Operation Energy Calculations

Table 1. Summary of Energy Use During Construction

Fuel Type	Quantity
Diesel	
Off-Road Construction Equipment	35,251 Gallons
On-Road Motor Vehicles	250,932 Gallons
Total	286,182 Gallons
Gasoline	
Off-Road Construction Equipment	0 Gallons
On-Road Motor Vehicles	159,256 Gallons
Total	159,256 Gallons
Electricity	
Total	23.5 kWh

Table 2. Summary of Annual Energy Use During Operation

Source	Units	Buildout
Natural Gas		
Apartments High Rise	kBTU/yr	11,961,628
Enclosed Parking with Elevators	kBTU/yr	0
High Turnover (Restaurant)	kBTU/yr	705,301
Regional Shopping	kBTU/yr	36,623
Total Natural Gas	kBTU/yr	12,703,552
Transportation/On-Site Sources		
Diesel	gallons	107,348
Gasoline	gallons	583,233
Total	gallons	690,581

Table 3. Water by Land Use

Land Use	Units	Buildout				
		Indoor Use	Outdoor Use	Indoor/Outdoor Use	Indoor Use	Outdoor Use
Buildout	Mgal	0	0	40.120501 / 0.384185	40.120501	0.384185

Water and Wastewater Electricity Intensity (kWh/gallon)

Supply Water	0.009727
Treat Water	0.000111
Distribute Water	0.001272
Wastewater Treatment	0.001911

Source: CalEEMod User's Guide, Appendix D, Table 9.2

Indoor Water Factor	0.013021
Outdoor Water Factor	0.01111

Notes:

Electricity and Natural Gas for the Proposed Project is total operational usage. Electricity, natural gas, and mobile usage was calculated from CalEEMod. Indoor water factor used for entire Project Site for conservative analysis.

Table 4. Off-Road Equipment Fuel Usage During Construction

Phase Name	Off-road Equipment Type	Amount	Hours per Day	Horsepower	Load Factor	Number of Days	Diesel Fuel Usage (Gallons per Project)
Demolition	Concrete/Industrial Saws	1	8	33	0.73	25	241
Demolition	Rubber Tired Dozers	1	1	367	0.4	25	184
Demolition	Tractors/Loaders/Backhoes	2	6	84	0.37	25	466
Grading	Graders	1	6	148	0.41	90	1,638
Grading	Rubber Tired Dozers	1	6	367	0.4	90	3,964
Grading	Tractors/Loaders/Backhoes	1	7	84	0.37	90	979
Building Construction	Cranes	1	4	367	0.29	459	9,770
Building Construction	Forklifts	2	6	82	0.2	459	4,517
Building Construction	Tractors/Loaders/Backhoes	2	8	84	0.37	459	11,413
Architectural Coating	Air Compressors	1	6	37	0.48	120	639
Paving	Cement and Mortar Mixers	4	6	10	0.56	42	282
Paving	Pavers	1	7	81	0.42	42	500
Paving	Rollers	1	7	36	0.38	42	201
Paving	Tractors/Loaders/Backhoes	1	7	84	0.37	42	457
Project Total							35,251

Notes:

Equipment assumptions from CalEEMod.

Fuel usage estimate of 0.05 gallons per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3 E.

Table 5. On-Road Vehicle Fuel Usage During Construction (Peak Days)

Phase	Number of Days	Daily Trips			Total Trips			Trip Length (Miles)			Total Length (Miles)			Fuel Consumption (Gallons)	
		Worker	Vendor	Hauling	Worker Trips	Vendor Trips	Haul Trips	Worker	Vendor	Hauling	Worker	Vendor	Hauling	Gasoline	Diesel
Demolition	25	10	0	0	250	0	0	19	10	20	4,625	0	0	167	133
Grading	90	36	0	180	3,240	0	16,200	19	10	20	59,940	0	324,000	2,163	53,614
Building Construction	459	485	96	0	222,615	44,064	0	19	10	20	4,118,378	449,453	0	148,648	190,580
Paving	42	18	0	0	756	0	0	19	10	20	13,986	0	0	505	403
Architectural Coatings	120	97	0	0	11,640	0	0	19	10	20	215,340	0	0	7,772	6,201
Total	-	646	96	180	238,501	44,064	16,200	n/a	n/a	n/a	4,412,269	449,453	324,000	159,256	250,932

Fuel Efficiency		
Class	Gas	DSL
Workers	27.71	34.72
Vendor/Haul Trucks	0	6.24

Notes:

Fuel efficiency calculated in **Table 6: EMFAC2021 Results - Construction.**

Table 6. EMFAC2021 Results - Construction								
Vehicle Class	Fuel	VMT (miles per day)	Fuel (1,000 gal per day)	Fuel Efficiency (miles per gallon)	Fuel	VMT (miles per day)	Fuel (1,000 gal per day)	Fuel Efficiency (miles per gallon)
LDA	GAS	130,000,000	4,284.21	30.34	DSL	223,728	5.41	41.38
LDT1	GAS	11,251,578	447.26	25.16	DSL	1,780	0.08	23.23
LDT2	GAS	68,121,910	2,727.37	24.98	DSL	235,023	7.14	32.91
Average (LDA, LDT1, LDT2)				27.71				34.72
T7 Tractor Construction	DSL	1,144,774	183.33	6.24				

Construction Worker Fleet Mix

LDA	50%
LDT1	25%
LDT2	25%

Vendor and Delivery/Haul Truck Fleet Mix

HHDT	100%
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Source: EMFAC2021 (v1.0.1) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: 2024

Season: Annual

Vehicle Classification: EMFAC202x Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption.

Region	CalYr	VehClass	Mdlyr	Speed	Fuel	Population	VMT	Trips	Fuel_Consumption
Los Angeles	2026	LDA	Aggregate	Aggregate	Gasoline	3294447	1.30E+08	15284837	4284.208
Los Angeles	2026	LDA	Aggregate	Aggregate	Diesel	7603.826	223728	31267.41	5.406711
Los Angeles	2026	LDA	Aggregate	Aggregate	Electricity	213118.2	10198731	1056774	0
Los Angeles	2026	LDT1	Aggregate	Aggregate	Gasoline	309046.7	11251578	1361992	447.2566
Los Angeles	2026	LDT1	Aggregate	Aggregate	Diesel	91.71661	1779.505	253.8392	0.07661
Los Angeles	2026	LDT1	Aggregate	Aggregate	Electricity	1278.599	57366.08	6167.554	0
Los Angeles	2026	LDT2	Aggregate	Aggregate	Gasoline	1657464	68121910	7802414	2727.365
Los Angeles	2026	LDT2	Aggregate	Aggregate	Diesel	5511.927	235022.6	26496.85	7.141327
Los Angeles	2026	T7 Tractor Class	Aggregate	Aggregate	Diesel	16040.14	1144774	233063.2	183.3326
									7654.786848
									7654786.848
		Gas	7458.8296	7458829.6	2722472804	35,378,625.00			2,793,997,199.52
		Diesel	195.957248	195957.248	71524395.52	10,548,851.00			
						45,927,476.00			

Table 7. Water Usage for Control of Fugitive Dust During Construction			
Phase Name	Total Acres	Gallons for Project	Electricity (kWh)
Project	0.8	2,416	23.5

Notes:

Total acres graded based on CalEEMod output sheets.

Water Usage

3,020 gallons per acre per day

Source: Air & Waste Management Association, Air Pollution Engineering Manual, 1992 Edition

Supply Water Electricity Intensity

0.009727 kWh/gallons (CalEEMod default)

Table 8. On road Vehicles - Operational										
Scenario	Annual VMT	Fuel Efficiency (miles/gal)			Fleet Percentage			Fuel Consumption (gallons)		Total Fuel Consumption
		Diesel	Gasoline	Hybrid	Diesel	Gasoline	Hybrid	Diesel	Gasoline/Hybrid	
Project Buildout	18,628,929	9.3	27.7	62.7	5%	86%	3%	107,348	583,233	690,581

Notes:

Percent fleet and fuel efficiency based on **Table 9: EMFAC2021 Emissions Inventory-Operations**

Annual VMT obtained from the CalEEMod Output files.

Table 9. EMFAC2021 Emissions Inventory - Operations				
Fuel	VMT (miles/day)	Fuel Consumption (1,000 gal/day)	Fuel Efficiency (miles per gallon)	Fuel Percentage
Existing				
Diesel	14,920,275	1,702.5	8.8	5.2%
Electricity	11,903,934	0.0	#DIV/0!	4.1%
Gasoline	254,913,259	9,968.6	25.6	88.2%
Natural Gas	906,460	215.4	4.2	0.3%
Hybrid	6,249,014	106.3	58.8	2.2%
Project				
Diesel	15,539,622	1,679.9	9.3	5%
Electricity	18,167,522	0.0	#DIV/0!	6%
Gasoline	249,432,802	9,005.8	27.7	86%
Natural Gas	790,661	163.7	4.8	0%
Hybrid	7,592,518	121.2	62.7	3%

Note: Fuel percentage based on VMT.

Fuel efficiency calculated using fuel consumption and VMT from EMFAC2021.

EMFAC Data - Existing Year							
Source: EMFAC2021 (v1.0.1) Emissions Inventory							
Region Type: County							
Region: Los Angeles							
Calendar Year: 2026							
Season: Annual							
Vehicle Classification: EMFAC202x Categories							
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption.							
Region	CalYr	VehClass	MdIYr	Speed	Fuel	Total VMT	Fuel Consumption
Los Angeles		2026 All Other Buses	Aggregate	Aggregate	Diesel	83653.61	8.890338
Los Angeles		2026 LDA	Aggregate	Aggregate	Diesel	223728	5.406711
Los Angeles		2026 LDT1	Aggregate	Aggregate	Diesel	1779.505	0.07661
Los Angeles		2026 LDT2	Aggregate	Aggregate	Diesel	235022.6	7.141327
Los Angeles		2026 LHD1	Aggregate	Aggregate	Diesel	2790672	134.8456
Los Angeles		2026 LHD2	Aggregate	Aggregate	Diesel	1249448	71.31991
Los Angeles		2026 MDV	Aggregate	Aggregate	Diesel	444014.2	18.09575
Los Angeles		2026 MH	Aggregate	Aggregate	Diesel	62775.38	6.298954
Los Angeles		2026 Motor Coach	Aggregate	Aggregate	Diesel	86910.05	15.39447
Los Angeles		2026 PTO	Aggregate	Aggregate	Diesel	112134	22.06589
Los Angeles		2026 SBUS	Aggregate	Aggregate	Diesel	37526.54	5.057592
Los Angeles		2026 T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	2272.669	0.241934
Los Angeles		2026 T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	3125.518	0.333207

Los Angeles	2026 T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	8086.997	0.848308
Los Angeles	2026 T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	51501.72	5.001436
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	133078.6	14.86783
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	137573.6	15.49056
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	420265.3	47.13805
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	170453.9	18.73297
Los Angeles	2026 T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	207768.8	23.26842
Los Angeles	2026 T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	479965.6	54.0014
Los Angeles	2026 T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	426950.3	47.9022
Los Angeles	2026 T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	215295	23.7448
Los Angeles	2026 T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	7049.326	0.784983
Los Angeles	2026 T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	105168.8	10.94138
Los Angeles	2026 T6 OOS Class 4	Aggregate	Aggregate	Diesel	1331.9	0.139207
Los Angeles	2026 T6 OOS Class 5	Aggregate	Aggregate	Diesel	1827.127	0.191509
Los Angeles	2026 T6 OOS Class 6	Aggregate	Aggregate	Diesel	4774.336	0.489297
Los Angeles	2026 T6 OOS Class 7	Aggregate	Aggregate	Diesel	34715.36	3.336222
Los Angeles	2026 T6 Public Class 4	Aggregate	Aggregate	Diesel	24579.86	2.852066
Los Angeles	2026 T6 Public Class 5	Aggregate	Aggregate	Diesel	17067.29	2.004675
Los Angeles	2026 T6 Public Class 6	Aggregate	Aggregate	Diesel	20560.03	2.407028
Los Angeles	2026 T6 Public Class 7	Aggregate	Aggregate	Diesel	113185.1	12.96638
Los Angeles	2026 T6 Utility Class 5	Aggregate	Aggregate	Diesel	25515.56	2.730378
Los Angeles	2026 T6 Utility Class 6	Aggregate	Aggregate	Diesel	4803.132	0.512011
Los Angeles	2026 T6 Utility Class 7	Aggregate	Aggregate	Diesel	6648.871	0.70373
Los Angeles	2026 T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1452148	227.1146
Los Angeles	2026 T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	1758708	264.7096
Los Angeles	2026 T7 NOOS Class 8	Aggregate	Aggregate	Diesel	638605.7	99.0488
Los Angeles	2026 T7 POAK Class 8	Aggregate	Aggregate	Diesel	114.839	0.020626
Los Angeles	2026 T7 POLA Class 8	Aggregate	Aggregate	Diesel	1223613	204.5463
Los Angeles	2026 T7 Public Class 8	Aggregate	Aggregate	Diesel	138989.6	24.04031
Los Angeles	2026 T7 Single Concrete/Trans	Aggregate	Aggregate	Diesel	50186.22	8.092525
Los Angeles	2026 T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	121844.1	20.15253
Los Angeles	2026 T7 Single Other Class 8	Aggregate	Aggregate	Diesel	353090.3	57.90416
Los Angeles	2026 T7 SWCV Class 8	Aggregate	Aggregate	Diesel	60438.47	23.05284
Los Angeles	2026 T7 Tractor Class 8	Aggregate	Aggregate	Diesel	1144774	183.3326
Los Angeles	2026 T7 Utility Class 8	Aggregate	Aggregate	Diesel	20591.83	3.310963
Los Angeles	2026 UBUS	Aggregate	Aggregate	Diesel	5942.457	0.925767
Los Angeles	2026 LDA	Aggregate	Aggregate	Electricity	10198731	0
Los Angeles	2026 LDT1	Aggregate	Aggregate	Electricity	57366.08	0
Los Angeles	2026 LDT2	Aggregate	Aggregate	Electricity	622535.1	0
Los Angeles	2026 LHD1	Aggregate	Aggregate	Electricity	180527.6	0
Los Angeles	2026 LHD2	Aggregate	Aggregate	Electricity	44431.33	0
Los Angeles	2026 MDV	Aggregate	Aggregate	Electricity	669423.7	0
Los Angeles	2026 OBUS	Aggregate	Aggregate	Electricity	2386.032	0

Los Angeles	2026 PTO	Aggregate	Aggregate	Electricity	2440.26	0
Los Angeles	2026 SBUS	Aggregate	Aggregate	Electricity	1500.108	0
Los Angeles	2026 T6 CAIRP Class 4	Aggregate	Aggregate	Electricity	60.40646	0
Los Angeles	2026 T6 CAIRP Class 5	Aggregate	Aggregate	Electricity	75.04267	0
Los Angeles	2026 T6 CAIRP Class 6	Aggregate	Aggregate	Electricity	276.1585	0
Los Angeles	2026 T6 CAIRP Class 7	Aggregate	Aggregate	Electricity	922.9814	0
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	2456.391	0
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	2227.248	0
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	6911.565	0
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	969.0429	0
Los Angeles	2026 T6 Instate Other Class 4	Aggregate	Aggregate	Electricity	4028.498	0
Los Angeles	2026 T6 Instate Other Class 5	Aggregate	Aggregate	Electricity	7710.83	0
Los Angeles	2026 T6 Instate Other Class 6	Aggregate	Aggregate	Electricity	7301.527	0
Los Angeles	2026 T6 Instate Other Class 7	Aggregate	Aggregate	Electricity	3376.995	0
Los Angeles	2026 T6 Instate Tractor Class 6	Aggregate	Aggregate	Electricity	71.53339	0
Los Angeles	2026 T6 Instate Tractor Class 7	Aggregate	Aggregate	Electricity	816.7872	0
Los Angeles	2026 T6 Public Class 4	Aggregate	Aggregate	Electricity	462.9811	0
Los Angeles	2026 T6 Public Class 5	Aggregate	Aggregate	Electricity	312.3559	0
Los Angeles	2026 T6 Public Class 6	Aggregate	Aggregate	Electricity	448.7555	0
Los Angeles	2026 T6 Public Class 7	Aggregate	Aggregate	Electricity	2647.748	0
Los Angeles	2026 T6 Utility Class 5	Aggregate	Aggregate	Electricity	777.2999	0
Los Angeles	2026 T6 Utility Class 6	Aggregate	Aggregate	Electricity	148.542	0
Los Angeles	2026 T6 Utility Class 7	Aggregate	Aggregate	Electricity	237.5281	0
Los Angeles	2026 T6TS	Aggregate	Aggregate	Electricity	15805.79	0
Los Angeles	2026 T7 CAIRP Class 8	Aggregate	Aggregate	Electricity	30423.79	0
Los Angeles	2026 T7 POLA Class 8	Aggregate	Aggregate	Electricity	4919.988	0
Los Angeles	2026 T7 Public Class 8	Aggregate	Aggregate	Electricity	3364.883	0
Los Angeles	2026 T7 Single Concrete/Trans	Aggregate	Aggregate	Electricity	1883.681	0
Los Angeles	2026 T7 Single Dump Class 8	Aggregate	Aggregate	Electricity	2529.011	0
Los Angeles	2026 T7 Single Other Class 8	Aggregate	Aggregate	Electricity	7876.944	0
Los Angeles	2026 T7 SWCV Class 8	Aggregate	Aggregate	Electricity	2737.838	0
Los Angeles	2026 T7 Tractor Class 8	Aggregate	Aggregate	Electricity	12481.58	0
Los Angeles	2026 T7 Utility Class 8	Aggregate	Aggregate	Electricity	285.0349	0
Los Angeles	2026 T7IS	Aggregate	Aggregate	Electricity	43.83662	0
Los Angeles	2026 UBUS	Aggregate	Aggregate	Electricity	19572.77	0
Los Angeles	2026 LDA	Aggregate	Aggregate	Gasoline	1.30E+08	4284.208
Los Angeles	2026 LDT1	Aggregate	Aggregate	Gasoline	11251578	447.2566
Los Angeles	2026 LDT2	Aggregate	Aggregate	Gasoline	68121910	2727.365
Los Angeles	2026 LHD1	Aggregate	Aggregate	Gasoline	5055908	358.0373
Los Angeles	2026 LHD2	Aggregate	Aggregate	Gasoline	715698.1	58.25713
Los Angeles	2026 MCY	Aggregate	Aggregate	Gasoline	1027979	24.77712
Los Angeles	2026 MDV	Aggregate	Aggregate	Gasoline	37575422	1849.076
Los Angeles	2026 MH	Aggregate	Aggregate	Gasoline	152784.2	31.53659

Los Angeles	2026 OBUS	Aggregate	Aggregate	Gasoline	134349.6	26.16972
Los Angeles	2026 SBUS	Aggregate	Aggregate	Gasoline	68409.3	7.541192
Los Angeles	2026 T6TS	Aggregate	Aggregate	Gasoline	775953.5	147.1739
Los Angeles	2026 T7IS	Aggregate	Aggregate	Gasoline	2555.603	0.599899
Los Angeles	2026 UBUS	Aggregate	Aggregate	Gasoline	30711.8	6.645485
Los Angeles	2026 All Other Buses	Aggregate	Aggregate	Natural Gas	20858.74	2.358339
Los Angeles	2026 SBUS	Aggregate	Aggregate	Natural Gas	39944.04	9.43046
Los Angeles	2026 T6 CAIRP Class 7	Aggregate	Aggregate	Natural Gas	33.23848	0.003379
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Natural Gas	605.187	0.075379
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Natural Gas	503.1877	0.062131
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Natural Gas	1625.462	0.201278
Los Angeles	2026 T6 Instate Delivery Class	Aggregate	Aggregate	Natural Gas	4955.23	0.602421
Los Angeles	2026 T6 Instate Other Class 4	Aggregate	Aggregate	Natural Gas	836.8864	0.103045
Los Angeles	2026 T6 Instate Other Class 5	Aggregate	Aggregate	Natural Gas	1630.056	0.197158
Los Angeles	2026 T6 Instate Other Class 6	Aggregate	Aggregate	Natural Gas	1516.409	0.18449
Los Angeles	2026 T6 Instate Other Class 7	Aggregate	Aggregate	Natural Gas	6138.733	0.753841
Los Angeles	2026 T6 Instate Tractor Class 6	Aggregate	Aggregate	Natural Gas	25.64048	0.003048
Los Angeles	2026 T6 Instate Tractor Class 7	Aggregate	Aggregate	Natural Gas	3026.555	0.362982
Los Angeles	2026 T6 Public Class 4	Aggregate	Aggregate	Natural Gas	3249.022	0.409085
Los Angeles	2026 T6 Public Class 5	Aggregate	Aggregate	Natural Gas	2793.538	0.352452
Los Angeles	2026 T6 Public Class 6	Aggregate	Aggregate	Natural Gas	2819.927	0.358066
Los Angeles	2026 T6 Public Class 7	Aggregate	Aggregate	Natural Gas	15780.9	1.919809
Los Angeles	2026 T6 Utility Class 5	Aggregate	Aggregate	Natural Gas	146.5696	0.016969
Los Angeles	2026 T6 Utility Class 6	Aggregate	Aggregate	Natural Gas	44.8432	0.005217
Los Angeles	2026 T6 Utility Class 7	Aggregate	Aggregate	Natural Gas	65.41594	0.007514
Los Angeles	2026 T7 CAIRP Class 8	Aggregate	Aggregate	Natural Gas	5442.96	0.971648
Los Angeles	2026 T7 POLA Class 8	Aggregate	Aggregate	Natural Gas	15329.12	2.672624
Los Angeles	2026 T7 Public Class 8	Aggregate	Aggregate	Natural Gas	68479.8	11.51121
Los Angeles	2026 T7 Single Concrete/Trans	Aggregate	Aggregate	Natural Gas	4544.455	0.777369
Los Angeles	2026 T7 Single Dump Class 8	Aggregate	Aggregate	Natural Gas	8383.965	1.515145
Los Angeles	2026 T7 Single Other Class 8	Aggregate	Aggregate	Natural Gas	26680.33	4.678336
Los Angeles	2026 T7 SWCV Class 8	Aggregate	Aggregate	Natural Gas	222098.5	36.01059
Los Angeles	2026 T7 Tractor Class 8	Aggregate	Aggregate	Natural Gas	37617.06	6.842735
Los Angeles	2026 UBUS	Aggregate	Aggregate	Natural Gas	411284.7	133.0407
Los Angeles	2026 LDA	Aggregate	Aggregate	Plug-in Hybrid	4790507	82.36214
Los Angeles	2026 LDT1	Aggregate	Aggregate	Plug-in Hybrid	44903.97	0.699903
Los Angeles	2026 LDT2	Aggregate	Aggregate	Plug-in Hybrid	904945.9	14.79296
Los Angeles	2026 MDV	Aggregate	Aggregate	Plug-in Hybrid	508656.7	8.487519

Fuel Type	VMT Sum	Fuel Sum
Diesel	14920275.1	1702.474754
Electricity	11903933.8	0
Gasoline	2.55E+08	9968.643936

Natural Gas	906460.4708	215.42742
Hybrid	6249013.57	106.342522

EMFAC Data - Buildout Year

Source: EMFAC2021 (v1.0.1) Emissions Inventory
 Region Type: County
 Region: Los Angeles
 Calendar Year: 2029
 Season: Annual
 Vehicle Classification: EMFAC202x Categories
 Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption.

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Total VMT	Fuel Consumption
Los Angeles		2031 All Other Buses	Aggregate	Aggregate	Diesel	83049.86332	8.432802087
Los Angeles		2031 LDA	Aggregate	Aggregate	Diesel	132366.1428	2.936794816
Los Angeles		2031 LDT1	Aggregate	Aggregate	Diesel	107.8132772	0.004013081
Los Angeles		2031 LDT2	Aggregate	Aggregate	Diesel	261645.8057	7.365825796
Los Angeles		2031 LHD1	Aggregate	Aggregate	Diesel	2979888.99	141.7485583
Los Angeles		2031 LHD2	Aggregate	Aggregate	Diesel	1357725.09	75.7744181
Los Angeles		2031 MDV	Aggregate	Aggregate	Diesel	444451.7041	16.68669782
Los Angeles		2031 MH	Aggregate	Aggregate	Diesel	69236.19072	6.955415535
Los Angeles		2031 Motor Coach	Aggregate	Aggregate	Diesel	89335.2261	14.9932133
Los Angeles		2031 PTO	Aggregate	Aggregate	Diesel	108018.7108	20.13647311
Los Angeles		2031 SBUS	Aggregate	Aggregate	Diesel	29361.11523	3.859614312
Los Angeles		2031 T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	2087.298475	0.214884444
Los Angeles		2031 T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	2887.553352	0.298026583
Los Angeles		2031 T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	7342.987038	0.750154211
Los Angeles		2031 T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	51227.18648	4.676695336
Los Angeles		2031 T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	127833.4902	13.95964919
Los Angeles		2031 T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	132465.2607	14.58055717
Los Angeles		2031 T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	404567.0303	44.40010034
Los Angeles		2031 T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	176520.3077	19.34091734
Los Angeles		2031 T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	196444.2068	21.42257091
Los Angeles		2031 T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	455746.4897	49.9116338
Los Angeles		2031 T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	405112.9099	44.28065719
Los Angeles		2031 T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	212052.8263	23.2062675
Los Angeles		2031 T6 Instate Tractor Class	Aggregate	Aggregate	Diesel	6553.92309	0.706695138
Los Angeles		2031 T6 Instate Tractor Class	Aggregate	Aggregate	Diesel	109217.8671	11.10779445
Los Angeles		2031 T6 OOS Class 4	Aggregate	Aggregate	Diesel	1445.693909	0.140529339
Los Angeles		2031 T6 OOS Class 5	Aggregate	Aggregate	Diesel	1983.232073	0.193634255
Los Angeles		2031 T6 OOS Class 6	Aggregate	Aggregate	Diesel	5182.242147	0.49733742
Los Angeles		2031 T6 OOS Class 7	Aggregate	Aggregate	Diesel	37681.34447	3.335717354

Los Angeles	2031 T6 Public Class 4	Aggregate	Aggregate	Diesel	22010.76381	2.495782274
Los Angeles	2031 T6 Public Class 5	Aggregate	Aggregate	Diesel	15411.50483	1.762493792
Los Angeles	2031 T6 Public Class 6	Aggregate	Aggregate	Diesel	18426.60466	2.080061564
Los Angeles	2031 T6 Public Class 7	Aggregate	Aggregate	Diesel	100573.8728	11.15604992
Los Angeles	2031 T6 Utility Class 5	Aggregate	Aggregate	Diesel	21511.44148	2.252587762
Los Angeles	2031 T6 Utility Class 6	Aggregate	Aggregate	Diesel	4057.306588	0.423787873
Los Angeles	2031 T6 Utility Class 7	Aggregate	Aggregate	Diesel	5514.166801	0.571477726
Los Angeles	2031 T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1475819.88	212.1034588
Los Angeles	2031 T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	1954806.557	264.0726015
Los Angeles	2031 T7 NOOS Class 8	Aggregate	Aggregate	Diesel	709811.1672	98.82532076
Los Angeles	2031 T7 POAK Class 8	Aggregate	Aggregate	Diesel	123.587071	0.021669841
Los Angeles	2031 T7 POLA Class 8	Aggregate	Aggregate	Diesel	1431481.865	230.6399776
Los Angeles	2031 T7 Public Class 8	Aggregate	Aggregate	Diesel	111292.6484	18.67122143
Los Angeles	2031 T7 Single Concrete/Tran:	Aggregate	Aggregate	Diesel	43038.49016	6.631371779
Los Angeles	2031 T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	112394.4237	18.09564385
Los Angeles	2031 T7 Single Other Class 8	Aggregate	Aggregate	Diesel	350187.4115	56.0312731
Los Angeles	2031 T7 SWCV Class 8	Aggregate	Aggregate	Diesel	36769.33583	13.88090676
Los Angeles	2031 T7 Tractor Class 8	Aggregate	Aggregate	Diesel	1215991.089	185.2844597
Los Angeles	2031 T7 Utility Class 8	Aggregate	Aggregate	Diesel	18838.6418	2.968889308
Los Angeles	2031 UBUS	Aggregate	Aggregate	Diesel	22.79632199	0.002875046
Los Angeles	2031 LDA	Aggregate	Aggregate	Electricity	13077917.67	0
Los Angeles	2031 LDT1	Aggregate	Aggregate	Electricity	144759.7696	0
Los Angeles	2031 LDT2	Aggregate	Aggregate	Electricity	1255536.051	0
Los Angeles	2031 LHD1	Aggregate	Aggregate	Electricity	1094236.903	0
Los Angeles	2031 LHD2	Aggregate	Aggregate	Electricity	273739.6898	0
Los Angeles	2031 MDV	Aggregate	Aggregate	Electricity	1223203.619	0
Los Angeles	2031 OBUS	Aggregate	Aggregate	Electricity	15171.12551	0
Los Angeles	2031 PTO	Aggregate	Aggregate	Electricity	15978.42346	0
Los Angeles	2031 SBUS	Aggregate	Aggregate	Electricity	10826.25677	0
Los Angeles	2031 T6 CAIRP Class 4	Aggregate	Aggregate	Electricity	445.1086111	0
Los Angeles	2031 T6 CAIRP Class 5	Aggregate	Aggregate	Electricity	586.4537827	0
Los Angeles	2031 T6 CAIRP Class 6	Aggregate	Aggregate	Electricity	1734.692998	0
Los Angeles	2031 T6 CAIRP Class 7	Aggregate	Aggregate	Electricity	5683.321755	0
Los Angeles	2031 T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	19204.35136	0
Los Angeles	2031 T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	19165.44398	0
Los Angeles	2031 T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	58788.45887	0
Los Angeles	2031 T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	9854.953674	0
Los Angeles	2031 T6 Instate Other Class 4	Aggregate	Aggregate	Electricity	33273.20414	0
Los Angeles	2031 T6 Instate Other Class 5	Aggregate	Aggregate	Electricity	73078.56185	0
Los Angeles	2031 T6 Instate Other Class 6	Aggregate	Aggregate	Electricity	65820.93897	0
Los Angeles	2031 T6 Instate Other Class 7	Aggregate	Aggregate	Electricity	26132.02399	0
Los Angeles	2031 T6 Instate Tractor Class 6	Aggregate	Aggregate	Electricity	1167.074492	0
Los Angeles	2031 T6 Instate Tractor Class 7	Aggregate	Aggregate	Electricity	6061.976875	0

Los Angeles	2031 T6 Public Class 4	Aggregate	Aggregate	Electricity	2968.842506	0
Los Angeles	2031 T6 Public Class 5	Aggregate	Aggregate	Electricity	2079.474149	0
Los Angeles	2031 T6 Public Class 6	Aggregate	Aggregate	Electricity	2468.360466	0
Los Angeles	2031 T6 Public Class 7	Aggregate	Aggregate	Electricity	15128.34325	0
Los Angeles	2031 T6 Utility Class 5	Aggregate	Aggregate	Electricity	4941.5695	0
Los Angeles	2031 T6 Utility Class 6	Aggregate	Aggregate	Electricity	936.6969756	0
Los Angeles	2031 T6 Utility Class 7	Aggregate	Aggregate	Electricity	1432.735673	0
Los Angeles	2031 T6TS	Aggregate	Aggregate	Electricity	101338.3756	0
Los Angeles	2031 T7 CAIRP Class 8	Aggregate	Aggregate	Electricity	172927.253	0
Los Angeles	2031 T7 POLA Class 8	Aggregate	Aggregate	Electricity	45488.53521	0
Los Angeles	2031 T7 Public Class 8	Aggregate	Aggregate	Electricity	22568.60351	0
Los Angeles	2031 T7 Single Concrete/Tran:	Aggregate	Aggregate	Electricity	11286.07476	0
Los Angeles	2031 T7 Single Dump Class 8	Aggregate	Aggregate	Electricity	15325.95393	0
Los Angeles	2031 T7 Single Other Class 8	Aggregate	Aggregate	Electricity	53858.50568	0
Los Angeles	2031 T7 SWCV Class 8	Aggregate	Aggregate	Electricity	18574.03769	0
Los Angeles	2031 T7 Tractor Class 8	Aggregate	Aggregate	Electricity	74222.10203	0
Los Angeles	2031 T7 Utility Class 8	Aggregate	Aggregate	Electricity	2144.331582	0
Los Angeles	2031 T7IS	Aggregate	Aggregate	Electricity	284.6890407	0
Los Angeles	2031 UBUS	Aggregate	Aggregate	Electricity	187181.7791	0
Los Angeles	2031 LDA	Aggregate	Aggregate	Gasoline	120169284.4	3655.666967
Los Angeles	2031 LDT1	Aggregate	Aggregate	Gasoline	10521712.77	384.7916685
Los Angeles	2031 LDT2	Aggregate	Aggregate	Gasoline	72175917.41	2645.035827
Los Angeles	2031 LHD1	Aggregate	Aggregate	Gasoline	4747277.358	312.4907371
Los Angeles	2031 LHD2	Aggregate	Aggregate	Gasoline	655180.164	49.5746435
Los Angeles	2031 MCY	Aggregate	Aggregate	Gasoline	1083800.299	25.88972752
Los Angeles	2031 MDV	Aggregate	Aggregate	Gasoline	39085024.16	1752.199136
Los Angeles	2031 MH	Aggregate	Aggregate	Gasoline	145413.8248	30.01860808
Los Angeles	2031 OBUS	Aggregate	Aggregate	Gasoline	100392.8441	18.74064769
Los Angeles	2031 SBUS	Aggregate	Aggregate	Gasoline	71374.13666	7.733175075
Los Angeles	2031 T6TS	Aggregate	Aggregate	Gasoline	646412.3193	117.0962386
Los Angeles	2031 T7IS	Aggregate	Aggregate	Gasoline	1999.229656	0.422944331
Los Angeles	2031 UBUS	Aggregate	Aggregate	Gasoline	29012.83559	6.143943911
Los Angeles	2031 All Other Buses	Aggregate	Aggregate	Natural Gas	21993.69728	2.378383592
Los Angeles	2031 SBUS	Aggregate	Aggregate	Natural Gas	42783.51679	9.911256913
Los Angeles	2031 T6 CAIRP Class 7	Aggregate	Aggregate	Natural Gas	29.28929729	0.00290249
Los Angeles	2031 T6 Instate Delivery Class	Aggregate	Aggregate	Natural Gas	733.7488669	0.090038175
Los Angeles	2031 T6 Instate Delivery Class	Aggregate	Aggregate	Natural Gas	660.4620759	0.080429947
Los Angeles	2031 T6 Instate Delivery Class	Aggregate	Aggregate	Natural Gas	2082.523212	0.254040769
Los Angeles	2031 T6 Instate Delivery Class	Aggregate	Aggregate	Natural Gas	5072.214529	0.616398476
Los Angeles	2031 T6 Instate Other Class 4	Aggregate	Aggregate	Natural Gas	1083.682071	0.130111858
Los Angeles	2031 T6 Instate Other Class 5	Aggregate	Aggregate	Natural Gas	2286.387052	0.271177091
Los Angeles	2031 T6 Instate Other Class 6	Aggregate	Aggregate	Natural Gas	2065.219403	0.24579016
Los Angeles	2031 T6 Instate Other Class 7	Aggregate	Aggregate	Natural Gas	5833.093552	0.722153973

Los Angeles	2031 T6 Instate Tractor Class 6	Aggregate	Aggregate	Natural Gas	36.07891204	0.004185486
Los Angeles	2031 T6 Instate Tractor Class 7	Aggregate	Aggregate	Natural Gas	3045.937424	0.363825164
Los Angeles	2031 T6 Public Class 4	Aggregate	Aggregate	Natural Gas	3456.05443	0.434473538
Los Angeles	2031 T6 Public Class 5	Aggregate	Aggregate	Natural Gas	2784.740625	0.351499721
Los Angeles	2031 T6 Public Class 6	Aggregate	Aggregate	Natural Gas	3054.863998	0.384786369
Los Angeles	2031 T6 Public Class 7	Aggregate	Aggregate	Natural Gas	16580.50526	2.025188344
Los Angeles	2031 T6 Utility Class 5	Aggregate	Aggregate	Natural Gas	120.8039535	0.013702541
Los Angeles	2031 T6 Utility Class 6	Aggregate	Aggregate	Natural Gas	27.90953492	0.003194367
Los Angeles	2031 T6 Utility Class 7	Aggregate	Aggregate	Natural Gas	40.24680919	0.004532117
Los Angeles	2031 T7 CAIRP Class 8	Aggregate	Aggregate	Natural Gas	5183.154364	0.878151305
Los Angeles	2031 T7 POLA Class 8	Aggregate	Aggregate	Natural Gas	30015.00263	4.8273981
Los Angeles	2031 T7 Public Class 8	Aggregate	Aggregate	Natural Gas	78044.67684	12.8606613
Los Angeles	2031 T7 Single Concrete/Tractor	Aggregate	Aggregate	Natural Gas	3555.00357	0.584700165
Los Angeles	2031 T7 Single Dump Class 8	Aggregate	Aggregate	Natural Gas	8003.564543	1.399511257
Los Angeles	2031 T7 Single Other Class 8	Aggregate	Aggregate	Natural Gas	26824.92548	4.634120658
Los Angeles	2031 T7 SWCV Class 8	Aggregate	Aggregate	Natural Gas	231381.3666	35.27549576
Los Angeles	2031 T7 Tractor Class 8	Aggregate	Aggregate	Natural Gas	37889.00464	6.787881882
Los Angeles	2031 UBUS	Aggregate	Aggregate	Natural Gas	255993.5751	78.12156543
Los Angeles	2031 LDA	Aggregate	Aggregate	Plug-in Hybrid	5244960.066	84.46849438
Los Angeles	2031 LDT1	Aggregate	Aggregate	Plug-in Hybrid	111922.4108	1.689682147
Los Angeles	2031 LDT2	Aggregate	Aggregate	Plug-in Hybrid	1419697.665	22.12168106
Los Angeles	2031 MDV	Aggregate	Aggregate	Plug-in Hybrid	815937.9919	12.8995851

Fuel Type	VMT Sum	Fuel Sum
Diesel	15539622.06	1679.889559
Electricity	18167522.34	0
Gasoline	249432801.8	9005.804264
Natural Gas	790661.2489	163.657557
Hybrid	7592518.133	121.1794427



APPENDIX D.2

Site 3 Construction and Operation Energy Calculations

Table 1. Summary of Energy Use During Construction

Fuel Type	Quantity
Diesel	
Off-Road Construction Equipment	53,162 Gallons
On-Road Motor Vehicles	273,166 Gallons
Total	326,327 Gallons
Gasoline	
Off-Road Construction Equipment	0 Gallons
On-Road Motor Vehicles	256,723 Gallons
Total	256,723 Gallons
Electricity	
Total	32.3 kWh

Table 4. Off-Road Equipment Fuel Usage During Construction

Phase Name	Off-road Equipment Type	Amount	Hours per Day	Horsepower	Load Factor	Number of Days	Diesel Fuel Usage (Gallons per Project)
Demolition	Concrete/Industrial Saws	1	8	33	0.73	25	241
Demolition	Rubber Tired Dozers	1	1	367	0.4	25	184
Demolition	Tractors/Loaders/Backhoes	2	6	84	0.37	25	466
Grading	Graders	1	6	148	0.41	121	2,203
Grading	Rubber Tired Dozers	1	6	367	0.4	121	5,329
Grading	Tractors/Loaders/Backhoes	1	7	84	0.37	121	1,316
Building Construction	Cranes	1	4	367	0.29	477	10,153
Building Construction	Forklifts	2	6	82	0.2	477	4,694
Building Construction	Welders	3	8	46	0.45	477	11,849
Building Construction	Generator Sets	1	8	14	0.74	477	1,977
Building Construction	Tractors/Loaders/Backhoes	2	8	84	0.37	477	11,860
Architectural Coating	Air Compressors	1	6	37	0.48	180	959
Paving	Cement and Mortar Mixers	4	6	10	0.56	44	296
Paving	Pavers	1	7	81	0.42	44	524
Paving	Rollers	1	7	36	0.38	44	211
Paving	Paving Equipment	1	6	89	0.36	44	423
Paving	Tractors/Loaders/Backhoes	1	7	84	0.37	44	479
Project Total							53,162

Notes:

Equipment assumptions from CalEEMod.

Fuel usage estimate of 0.05 gallons per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3 E.

Table 5. On-Road Vehicle Fuel Usage During Construction (Peak Days)

Phase	Number of Days	Daily Trips			Total Trips			Trip Length (Miles)			Total Length (Miles)			Fuel Consumption (Gallons)	
		Worker	Vendor	Hauling	Worker Trips	Vendor Trips	Haul Trips	Worker	Vendor	Hauling	Worker	Vendor	Hauling	Gasoline	Diesel
Demolition	25	13	0	0	325	0	0	19	10	20	6,013	0	0	214	170
Grading	121	72	0	180	8,712	0	21,780	19	10	20	161,172	0	435,600	5,726	73,741
Building Construction	477	750	0	0	357,750	0	0	19	10	20	6,618,375	0	0	235,145	186,830
Paving	44	13	0	0	572	0	0	19	10	20	10,582	0	0	376	299
Architectural Coatings	180	129	0	0	23,220	0	0	19	10	20	429,570	0	0	15,262	12,126
Total	-	977	0	180	390,579	0	21,780	n/a	n/a	n/a	7,225,712	0	435,600	256,723	273,166

Fuel Efficiency		
Class	Gas	DSL
Workers	28.15	35.42
Vendor/Haul Trucks	0	6.30

Notes:

Fuel efficiency calculated in **Table 6: EMFAC2021 Results - Construction.**

Table 6. EMFAC2021 Results - Construction								
Vehicle Class	Fuel	VMT (miles per day)	Fuel (1,000 gal per day)	Fuel Efficiency (miles per gallon)	Fuel	VMT (miles per day)	Fuel (1,000 gal per day)	Fuel Efficiency (miles per gallon)
LDA	GAS	127,000,000	4,134.43	30.72	DSL	201,834	4.80	42.05
LDT1	GAS	11,091,280	432.90	25.62	DSL	916	0.04	24.09
LDT2	GAS	69,171,014	2,709.66	25.53	DSL	241,831	7.22	33.50
Average (LDA, LDT1, LDT2)				28.15				35.42
T7 Tractor Construction	DSL	1,158,956	184.09	6.30				

Construction Worker Fleet Mix

LDA	50%
LDT1	25%
LDT2	25%

Vendor and Delivery/Haul Truck Fleet Mix

HHDT	100%
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Source: EMFAC2021 (v1.0.1) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: 2026

Season: Annual

Vehicle Classification: EMFAC202x Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption.

Region	CalYr	VehClass	MdYr	Speed	Fuel	Population	VMT	Trips	Fuel_Consumption
Los Angeles	2027	LDA	Aggregate	Aggregate	Gasoline	3252973	1.27E+08	15084514	4134.431
Los Angeles	2027	LDA	Aggregate	Aggregate	Diesel	6767.857	201833.6	28082.93	4.799535
Los Angeles	2027	LDA	Aggregate	Aggregate	Electricity	229681	10815622	1134019	0
Los Angeles	2027	LDT1	Aggregate	Aggregate	Gasoline	305004.2	11091280	1345171	432.8991
Los Angeles	2027	LDT1	Aggregate	Aggregate	Diesel	46.31413	915.8441	129.7694	0.038013
Los Angeles	2027	LDT1	Aggregate	Aggregate	Electricity	1549.984	70978.91	7540.376	0
Los Angeles	2027	LDT2	Aggregate	Aggregate	Gasoline	1690655	69171014	7955024	2709.655
Los Angeles	2027	LDT2	Aggregate	Aggregate	Diesel	5724.009	241831.3	27452.66	7.218912
Los Angeles	2027	T7 Tractor Class	Aggregate	Aggregate	Diesel	16727.37	1158956	243048.7	184.0889
									7473.13046
									7473130.46
			Gas	7276.9851	7276985.1	2656099562	35,378,625.00	2,727,692,617.90	
			Diesel	196.14536	196145.36	71593056.4	10,548,851.00		
							45,927,476.00		

Table 7. Water Usage for Control of Fugitive Dust During Construction			
Phase Name	Total Acres	Gallons for Project	Electricity (kWh)
Project	1.1	3,322	32.3

Notes:

Total acres graded based on CalEEMod output sheets.

Water Usage

3,020 gallons per acre per day

Source: Air & Waste Management Association, Air Pollution Engineering Manual, 1992 Edition

Supply Water Electricity Intensity

0.009727 kWh/gallons (CalEEMod default)