Appendix C

Energy Calculations

Paseo Marina
Draft EIR
Appendix C
Energy Analysis Spreadsheets

- Appendix C: Energy Analysis
    - Energy Consumption Summary
    - Construction Energy Usage
        - Construction Electricity Consumption
        - Off-Road Equipment
        - On-Road Fuel Usage Rates
        - On-Road Vehicles
        - Construction Water Usage
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        - Total County Fuel Consumption

Paseo Marina (Option A)

Summary of Energy Use During Construction

Electricty		
Water Consumption	58,164	kWh
Temporary Power (lighting, tools)	29,484	kWh
Electric Equipment	8,890	kWh
Total:	**96,538**	kWh
Gasoline		
On Road	101,901	Gallons
Off Road	0	Gallons
Total:	**101,901**	Gallons
Diesel		
On Road	428,125	Gallons
Off Road	249,452	Gallons
Total:	**677,578**	Gallons
Total Mobile	**779,479**	

Summary of Energy Use During Operations

	Baseline (Buildout)	Buildout Without Project Features/MXD	Buildout With Project Features/MXD		Percent Reduction due to Project Features	Project Without Project Features - Baseline (Buildout)	Project (Buildout - Baseline (Buildout)
Electricity							
Electricity (building)	1,037,419	6,818,324	6,818,324	kWh/year	0%	5,780,905	5,780,905
Electricity (water)	84,306	273,184	273,184	kWh/year	0%	188,879	188,879
EV Chargers		863,398	863,398	kWh/year		863,398	863,398
Electricity Total	**1,121,725**	**7,954,906**	**7,954,906**	**kWh/year**	**0%**	**6,833,181**	**6,833,181**
Natural Gas							
Natural Gas (building)	472,624	912,600	912,600			**439,976**	**439,976**
Natural Gas Total	**472,624**	**912,600**	**912,600**	**cu ft/year**	**0%**	**439,976**	**439,976**
Mobile							
Gasoline	280,968	528,762	425,771	Gallons/year	-19%	247,794	144,803
Diesel	55,022	103,548	83,379	Gallons/year	-19%	48,526	28,357
Mobile Total	**335,990**	**632,309**	**509,150**	**Gallons/year**	**-19%**	**296,319**	**173,160**

Paseo Marina (Option B)

Summary of Energy Use During Construction

Electricty		
Water Consumption	61,542	kWh
Temporary Power (lighting, tools)	29,484	kWh
Electric Equipment	8,890	kWh
Total:	**99,916**	kWh
Gasoline		
On Road	102,437	Gallons
Off Road	0	Gallons
Total:	**102,437**	Gallons
Diesel		
On Road	435,884	Gallons
Off Road	252,706	Gallons
Total:	**688,591**	Gallons
Total Mobile	**791,028**	

Summary of Energy Use During Operations

		Baseline (Buildout)	Buildout Without Project Features/MXD	Buildout With Project Features/MXD		Percent Reduction due to Project Features	Project Without Project Features - Baseline (Buildout)	Project (Buildout - Baseline (Buildout)
Electricity								
Electricity (building)		1,037,419	7,876,414	7,876,414	kWh/year	0%	6,838,995	6,838,995
Electricity (water)		84,306	364,764	364,764	kWh/year	0%	280,458	280,458
EV Chargers			892,860	892,860	kWh/year		892,860	892,860
	Electricity Total	**1,121,725**	**9,134,038**	**9,134,038**	**kWh/year**	**0%**	**8,012,313**	**8,012,313**
Natural Gas								
Natural Gas (building)		472,624	1,337,143	1,337,143			**864,519**	**864,519**
Fireplaces			0	0			0	**0**
	Natural Gas Total	**472,624**	**1,337,143**	**1,337,143**	**cu ft/year**	**0%**	**864,519**	**864,519**
Mobile								
Gasoline		280,968	618,376	401,817	Gallons/year	-35%	337,408	120,849
Diesel		55,022	121,097	78,688	Gallons/year	-35%	66,075	23,666
	Mobile Total	**335,990**	**739,472**	**480,504**	**Gallons/year**	**-35%**	**403,482**	**144,515**

Construction Electricity Usage (Option A)

Caterpillar 40-C4.4 Generator[a]

Peak Power Rating - Prime (kW)	36
Typical Load	70%
Average Output (kW)	25.2
Hours per Day	2
Average Daily Output (kWh)	50.4
Building Construction Phase Duration (days)	585
Total Construction (kWh)	29,484
Total Construction (MWh)	29.5

[a]https://www.albancat.com/content/uploads/2014/06/40-C4.4-Spec-Sheet.pdf

Construction Electricity Usage (Option B)

Caterpillar 40-C4.4 Generator[a]

Peak Power Rating - Prime (kW)	36
Typical Load	70%
Average Output (kW)	25.2
Hours per Day	2
Average Daily Output (kWh)	50.4
Building Construction Phase Duration (days)	585
Total Construction (kWh)	29,484
Total Construction (MWh)	29.5

[a]https://www.albancat.com/content/uploads/2014/06/40-C4.4-Spec-Sheet.pdf

Calculation of Diesel Usage During Cosnstruciton (Offroad Equipment) (Option A):

Phase Name	Off Road Equipment Type	Units	Hours	HP	Load Factor	Avg. Daily Factor	Number of Days	Diesel Fuel Usage	
Demolition	Air Compressors	1	8	37	0.48	0.6	85	362	
Demolition	Concrete/Industrial Saws	2	8	33	0.73	0.6	85	983	
Demolition	Other Construction Equipment	3	8	82	0.42	0.6	85	2,108	
Demolition	Excavators	2	8	158	0.38	0.6	85	2,450	
Demolition	Rubber Tired Loaders	1	8	150	0.36	0.6	85	1,102	
Demolition	Signal Boards	2	8	6	0.82	0.6	85	201	
Demolition	Skid Steer Loaders	1	8	71	0.37	0.6	85	536	
Demolition	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	85	634	
Demolition	Welders	1	8	46	0.45	0.6	85	422	
Grading Building 1-3	Bore/Drill Rigs	2	8	83	0.5	0.6	285	5,677	
Grading Building 1-3	Cement and Mortar Mixers	1	8	10	0.56	0.6	285	383	
Grading Building 1-3	Other Construction Equipment	2	8	82	0.42	0.6	285	4,711	
Grading Building 1-3	Generator Sets	1	8	14	0.74	0.6	285	709	
Grading Building 1-3	Rollers	2	8	36	0.38	0.6	285	1,871	
Grading Building 1-3	Rubber Tired Loaders	2	8	150	0.36	0.6	285	7,387	
Grading Building 1-3	Signal Boards	2	8	6	0.82	0.6	285	673	
Grading Building 1-3	Skid Steer Loaders	1	8	71	0.37	0.6	285	1,797	
Grading Building 1-3	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	285	2,126	
Grading Building 1-3	Welders	2	8	46	0.45	0.6	285	2,832	
Podium Building 1	Air Compressors	1	8	37	0.48	0.6	174	742	
Podium Building 1	Cement and Mortar Mixers	3	8	10	0.56	0.6	174	702	
Podium Building 1	Concrete/Industrial Saws	3	8	33	0.73	0.6	174	3,018	
Podium Building 1	Cranes	1	8	367	0.29	0.6	174	4,445	
Podium Building 1	Other Construction Equipment	2	8	82	0.42	0.6	174	2,876	
Podium Building 1	Plate Compactors	2	8	8	0.43	0.6	174	287	
Podium Building 1	Signal Boards	2	8	6	0.82	0.6	174	411	
Podium Building 1	Skid Steer Loaders	1	8	71	0.37	0.6	174	1,097	
Podium Building 1	Welders	2	8	46	0.45	0.6	174	1,729	
Podium Building 2	Air Compressors	1	8	37	0.48	0.6	173	737	
Podium Building 2	Cement and Mortar Mixers	3	8	10	0.56	0.6	173	698	
Podium Building 2	Concrete/Industrial Saws	3	8	33	0.73	0.6	173	3,001	
Podium Building 2	Cranes	1	8	367	0.29	0.6	173	4,419	
Podium Building 2	Forklifts	2	8	82	0.2	0.6	173	1,362	
Podium Building 2	Plate Compactors	2	8	8	0.43	0.6	173	286	
Podium Building 2	Signal Boards	2	8	6	0.82	0.6	173	409	
Podium Building 2	Skid Steer Loaders	1	8	71	0.37	0.6	173	1,091	
Podium Building 2	Welders	2	8	46	0.45	0.6	173	1,719	
Podium Building 3	Air Compressors	1	8	37	0.48	0.6	172	733	
Podium Building 3	Cement and Mortar Mixers	3	8	10	0.56	0.6	172	694	
Podium Building 3	Concrete/Industrial Saws	3	8	33	0.73	0.6	172	2,983	
Podium Building 3	Cranes	1	8	367	0.29	0.6	172	4,393	
Podium Building 3	Forklifts	2	8	82	0.2	0.6	172	1,354	
Podium Building 3	Plate Compactors	2	8	8	0.43	0.6	172	284	
Podium Building 3	Signal Boards	2	8	6	0.82	0.6	172	406	
Podium Building 3	Skid Steer Loaders	1	8	71	0.37	0.6	172	1,084	
Podium Building 3	Welders	2	8	46	0.45	0.6	172	1,709	
Building Construction 1	Air Compressors	3	8	37	0.48	0.6	415	5,307	
Building Construction 1	Concrete/Industrial Saws	1	8	33	0.73	0.6	415	2,399	
Building Construction 1	Cranes	1	8	367	0.29	0.6	415	10,600	
Building Construction 1	Forklifts	3	8	82	0.2	0.6	415	4,900	
Building Construction 1	Rubber Tired Loaders	1	8	150	0.36	0.6	415	5,378	
Building Construction 1	Signal Boards	2	8	6	0.82	0.6	415	980	
Building Construction 1	Skid Steer Loaders	1	8	71	0.37	0.6	415	2,616	
Building Construction 1	Welders	2	8	46	0.45	0.6	415	4,123	
Building Construction 2	Air Compressors	3	8	37	0.48	0.6	415	5,307	
Building Construction 2	Concrete/Industrial Saws	1	8	33	0.73	0.6	415	2,399	
Building Construction 2	Cranes	1	8	367	0.29	0.6	415	10,600	
Building Construction 2	Forklifts	3	8	82	0.2	0.6	415	4,900	
Building Construction 2	Rubber Tired Loaders	1	8	150	0.36	0.6	415	5,378	
Building Construction 2	Signal Boards	2	8	6	0.82	0.6	415	980	
Building Construction 2	Skid Steer Loaders	1	8	71	0.37	0.6	415	2,616	
Building Construction 2	Welders	2	8	46	0.45	0.6	415	4,123	
Building Construction 3	Air Compressors	3	8	37	0.48	0.6	150	1,918	
Building Construction 3	Concrete/Industrial Saws	1	8	33	0.73	0.6	150	867	
Building Construction 3	Cranes	1	8	367	0.29	0.6	150	3,831	
Building Construction 3	Forklifts	3	8	82	0.2	0.6	150	1,771	
Building Construction 3	Rubber Tired Loaders	1	8	150	0.36	0.6	150	1,944	
Building Construction 3	Signal Boards	2	8	6	0.82	0.6	150	354	
Building Construction 3	Skid Steer Loaders	1	8	71	0.37	0.6	150	946	
Building Construction 3	Welders	2	8	46	0.45	0.6	150	1,490	
Paving	Air Compressors	2	8	37	0.48	0.6	152	1,296	
Paving	Cement and Mortar Mixers	2	8	10	0.56	0.6	152	409	
Paving	Concrete/Industrial Saws	1	8	33	0.73	0.6	152	879	
Paving	Cranes	1	8	367	0.29	0.6	152	3,883	
Paving	Forklifts	2	8	82	0.2	0.6	152	1,197	
Paving	Pavers	1	8	81	0.42	0.6	152	1,241	
Paving	Paving Equipment	1	8	89	0.36	0.6	152	1,169	
Paving	Plate Compactors	2	8	8	0.43	0.6	152	251	
Paving	Rollers	1	8	36	0.38	0.6	152	499	
Paving	Rubber Tired Loaders	1	8	150	0.36	0.6	152	1,970	
Paving	Signal Boards	2	8	6	0.82	0.6	152	359	
Paving	Skid Steer Loaders	1	8	71	0.37	0.6	152	958	
Paving	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	152	1,134	
Paving	Trenchers	1	8	40	0.5	0.6	152	730	
Paving	Welders	1	8	46	0.45	0.6	152	755	
Grading Building 1-3	Cranes	1	8	367	0.29	0.6	285	7,280	
Podium Building 1	Cranes	1	8	367	0.29	0.6	174	4,445	
Podium Building 2	Other Construction Equipment	1	8	82	0.42	0.6	173	1,430	
Podium Building 2	Cranes	1	8	367	0.29	0.6	173	4,419	
Podium Building 3	Other Construction Equipment	1	8	82	0.42	0.6	172	1,422	
Podium Building 3	Cranes	1	8	367	0.29	0.6	172	4,393	
Building Construction 1	Cranes	1	8	367	0.29	0.6	415	10,600	
Building Construction 1	Other Construction Equipment	1	8	82	0.42	0.6	415	3,430	
Building Construction 2	Cranes	1	8	367	0.29	0.6	415	10,600	
Building Construction 2	Other Construction Equipment	1	8	82	0.42	0.6	415	3,430	
Building Construction 3	Cranes	1	8	367	0.29	0.6	150	3,831	
Building Construction 3	Other Construction Equipment	1	8	82	0.42	0.6	150	1,240	
Paving	Other Construction Equipment	1	8	82	0.42	0.6	152	1,256	
							Total Diesel Usage for Construction (Offr	**249,452.3**	**gallons of diesel fuel**

gallons of diesel fuel per horsepower-hour=	0.05

Notes: Equipment assumptions are provide in the CalEEMod output files and fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Calculation of Diesel Usage During Cosnstruciton (Offroad Equipment) (Option B):

Phase Name	Off Road Equipment Type	Units	Hours	HP	Load Factor	Avg. Daily Factor	Number of Days	Diesel Fuel Usage	
Demolition	Concrete/Industrial Saws	2	8	33	0.73	0.6	85	983	
Demolition	Excavators	2	8	158	0.38	0.6	85	2,450	
Demolition	Signal Boards	2	8	6	0.82	0.6	85	201	
Grading	Excavators	2	8	158	0.38	0.6	308	8,876	
Grading	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	308	2,297	
Podium Building 3	Cranes	1	8	367	0.29	0.6	174	4,445	
Podium Building 3	Welders	2	8	46	0.45	0.6	174	1,729	
Podium Building 1	Cranes	1	8	367	0.29	0.6	173	4,419	
Podium Building 1	Forklifts	2	8	82	0.2	0.6	173	1,362	
Podium Building 2	Cranes	1	8	367	0.29	0.6	172	4,393	
Podium Building 2	Forklifts	2	8	82	0.2	0.6	172	1,354	
Podium Building 2	Welders	2	8	46	0.45	0.6	172	1,709	
Building Construction 3	Forklifts	3	8	82	0.2	0.6	415	4,900	
Building Construction 3	Welders	2	8	46	0.45	0.6	415	4,123	
Building Construction 1	Cranes	1	8	367	0.29	0.6	415	10,600	
Building Construction 1	Forklifts	3	8	82	0.2	0.6	415	4,900	
Building Construction 1	Welders	2	8	46	0.45	0.6	415	4,123	
Building Construction 2	Cranes	1	8	367	0.29	0.6	150	3,831	
Building Construction 2	Forklifts	3	8	82	0.2	0.6	150	1,771	
Building Construction 2	Welders	2	8	46	0.45	0.6	150	1,490	
Paving	Paving Equipment	1	8	89	0.36	0.6	152	1,169	
Paving	Rollers	1	8	36	0.38	0.6	152	499	
Demolition	Rubber Tired Loaders	1	8	150	0.36	0.6	85	1,102	
Demolition	Other Construction Equipment	3	8	82	0.42	0.6	85	2,108	
Demolition	Skid Steer Loaders	1	8	71	0.37	0.6	85	536	
Demolition	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	85	634	
Demolition	Welders	1	8	46	0.45	0.6	85	422	
Grading	Cement and Mortar Mixers	1	8	10	0.56	0.6	308	414	
Grading	Cranes	1	8	367	0.29	0.6	308	7,867	
Grading	Other Construction Equipment	2	8	82	0.42	0.6	308	5,092	
Grading	Generator Sets	1	8	14	0.74	0.6	308	766	
Grading	Rollers	2	8	36	0.38	0.6	308	2,022	
Grading	Bore/Drill Rigs	2	8	83	0.5	0.6	308	6,135	
Grading	Rubber Tired Loaders	2	8	150	0.36	0.6	308	7,983	
Grading	Signal Boards	2	8	6	0.82	0.6	308	727	
Grading	Skid Steer Loaders	1	8	71	0.37	0.6	308	1,942	
Grading	Welders	2	8	46	0.45	0.6	308	3,060	
Podium Building 3	Forklifts	2	8	82	0.2	0.6	174	1,370	
Podium Building 3	Air Compressors	1	8	37	0.48	0.6	174	742	
Podium Building 3	Cement and Mortar Mixers	3	8	10	0.56	0.6	174	702	
Podium Building 3	Concrete/Industrial Saws	3	8	33	0.73	0.6	174	3,018	
Podium Building 3	Other Construction Equipment	2	8	82	0.42	0.6	174	2,876	
Podium Building 3	Plate Compactors	2	8	8	0.43	0.6	174	287	
Podium Building 3	Signal Boards	2	8	6	0.82	0.6	174	411	
Podium Building 3	Skid Steer Loaders	1	8	71	0.37	0.6	174	1,097	
Podium Building 3	Cranes	1	8	367	0.29	0.6	174	4,445	
Podium Building 1	Cranes	1	8	367	0.29	0.6	173	4,419	
Podium Building 1	Air Compressors	1	8	37	0.48	0.6	173	737	
Podium Building 1	Cement and Mortar Mixers	3	8	10	0.56	0.6	173	698	
Podium Building 1	Concrete/Industrial Saws	3	8	33	0.73	0.6	173	3,001	
Podium Building 1	Other Construction Equipment	1	8	82	0.42	0.6	173	1,430	
Podium Building 1	Plate Compactors	2	8	8	0.43	0.6	173	286	
Podium Building 1	Signal Boards	2	8	6	0.82	0.6	173	409	
Podium Building 1	Skid Steer Loaders	1	8	71	0.37	0.6	173	1,091	
Podium Building 1	Welders	2	8	46	0.45	0.6	173	1,719	
Podium Building 2	Air Compressors	1	8	37	0.48	0.6	172	733	
Podium Building 2	Cement and Mortar Mixers	3	8	10	0.56	0.6	172	694	
Podium Building 2	Concrete/Industrial Saws	3	8	33	0.73	0.6	172	2,983	
Podium Building 2	Cranes	1	8	367	0.29	0.6	172	4,393	
Podium Building 2	Other Construction Equipment	1	8	82	0.42	0.6	172	1,422	
Podium Building 2	Plate Compactors	2	8	8	0.43	0.6	172	284	
Podium Building 2	Signal Boards	2	8	6	0.82	0.6	172	406	
Podium Building 2	Skid Steer Loaders	1	8	71	0.37	0.6	172	1,084	
Building Construction 3	Air Compressors	3	8	37	0.48	0.6	415	5,307	
Building Construction 3	Concrete/Industrial Saws	1	8	33	0.73	0.6	415	2,399	
Building Construction 3	Cranes	1	8	367	0.29	0.6	415	10,600	
Building Construction 3	Other Construction Equipment	1	8	82	0.42	0.6	415	3,430	
Building Construction 3	Rubber Tired Loaders	1	8	150	0.36	0.6	415	5,378	
Building Construction 3	Signal Boards	2	8	6	0.82	0.6	415	980	
Building Construction 3	Skid Steer Loaders	1	8	71	0.37	0.6	415	2,616	
Building Construction 1	Cranes	1	8	367	0.29	0.6	415	10,600	
Building Construction 1	Air Compressors	3	8	37	0.48	0.6	415	5,307	
Building Construction 1	Concrete/Industrial Saws	1	8	33	0.73	0.6	415	2,399	
Building Construction 1	Other Construction Equipment	1	8	82	0.42	0.6	415	3,430	
Building Construction 1	Rubber Tired Loaders	1	8	150	0.36	0.6	415	5,378	
Building Construction 1	Signal Boards	2	8	6	0.82	0.6	415	980	
Building Construction 1	Skid Steer Loaders	1	8	71	0.37	0.6	415	2,616	
Building Construction 2	Air Compressors	3	8	37	0.48	0.6	150	1,918	
Building Construction 2	Concrete/Industrial Saws	1	8	33	0.73	0.6	150	867	
Building Construction 2	Cranes	1	8	367	0.29	0.6	150	3,831	
Building Construction 2	Other Construction Equipment	1	8	82	0.42	0.6	150	1,240	
Building Construction 2	Rubber Tired Loaders	1	8	150	0.36	0.6	150	1,944	
Building Construction 2	Signal Boards	2	8	6	0.82	0.6	150	354	
Building Construction 2	Skid Steer Loaders	1	8	71	0.37	0.6	150	946	
Paving	Air Compressors	2	8	37	0.48	0.6	152	1,296	
Paving	Cement and Mortar Mixers	2	8	10	0.56	0.6	152	409	
Paving	Concrete/Industrial Saws	1	8	33	0.73	0.6	152	879	
Paving	Cranes	1	8	367	0.29	0.6	152	3,883	
Paving	Forklifts	2	8	82	0.2	0.6	152	1,197	
Paving	Other Construction Equipment	1	8	82	0.42	0.6	152	1,256	
Paving	Plate Compactors	2	8	8	0.43	0.6	152	251	
Paving	Rubber Tired Loaders	1	8	150	0.36	0.6	152	1,970	
Paving	Signal Boards	2	2	6	0.82	0.6	152	90	
Paving	Skid Steer Loaders	1	8	71	0.37	0.6	152	958	
Paving	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	152	1,134	
Paving	Trenchers	1	8	40	0.5	0.6	152	730	
Paving	Welders	1	8	46	0.45	0.6	152	755	
						Total Diesel Usage for Construction (Offr		**252,706.5**	**gallons of diesel fuel**

gallons of diesel fuel per horsepower-hour=	0.05

Notes: Equipment assumptions are provide in the CalEEMod output files and fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

EMFAC Emissions Inventory (Option A)
Region Type: Air Basin
Region: South Coast
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	Veh_Class	Fuel	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)	Miles per Gallon
South Coast	LDA	GAS	Aggregate	4,079,718	153,812,692	19,249,547	4,944	0	31.1
South Coast	LDT1	GAS	Aggregate	480,760	17,733,494	2,225,423	662	0	26.8
South Coast	LDT2	GAS	Aggregate	1,420,578	53,205,335	6,674,513	2,112	0	25.2
						Construction Worker Trip (Composite LDA/LDT1/LDT2):			**28.6**
South Coast	HHDT	DSL	Aggregate	59,068	7,175,177	592,244	0	1026.9	**7.0**

Calculation of Gasoline and Diesel Usage During Construction (Onroad Vehicles) (Option A):

Phase Name	Daily Woker Trips	Daily Vendor Trips	Daily Haul Trips	Days	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Trip Length (miles)			Total Length (miles)			Avg. Daily Factor	Gallons of Fuel	
								Worker	Vendor	Haul	Worker	Vendor	Haul	(worker and vendor)	Gasoline	Diesel
Demolition	40	8	60	85	3400	680	5100	18.5	10.2	40.4	62900	6936	206040	0.6	1,321.7	30,084.7
Grading Building 1-3	60	8	120	285	17100	2280	34543	18.5	10.2	40.4	316350	23256	1395537	0.6	6,647.6	201,730.8
Podium Building 1	75	140	0	174	13050	24360	0	18.5	10.2	20	241425	248472	0	0.6	5,073.2	21,337.3
Podium Building 2	75	140	0	173	12975	24220	0	18.5	10.2	20	240037.5	247044	0	0.6	5,044.0	21,214.6
Construction Building 1	225	140	0	172	38700	24080	0	18.5	10.2	20	715950	245616	0	0.6	15,044.6	21,092.0
Podium Building 3	75	140	0	415	31125	58100	0	18.5	10.2	20	575812.5	592620	0	0.6	12,099.8	50,890.6
Construction Building 2	225	140	0	415	93375	58100	0	18.5	10.2	20	1727438	592620	0	0.6	36,299.5	50,890.6
Architectural Coating	0	10	0	150	0	1500	0	18.5	10.2	20	0	15300	0	0.6	0.0	1,313.9
Construction Building 3	225	140	0	152	34200	21280	0	18.5	10.2	20	632700	217056	0	0.6	13,295.2	18,639.4
Paving	70	48	0	260	18200	12480	0	18.5	10.2	20	336700	127296	0	0.6	7,075.2	10,931.4
														Total:	**101,901.0**	**428,125.4**

Worker Miles per gallon=	28.55	gasoline
Vedor/Haul miles per gallon=	6.99	diesel

Notes: Consistent with CalEEMod worker vehicles are assumed to be gasoline and 50% LDA, 25%LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy Duty Trucks (T7).

Calculation of Gasoline and Diesel Usage During Construction (Onroad Vehicles) (Option B):

Phase Name	Daily Woker Trips	Daily Vendor Trips	Days	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Trip Length (miles)			Total Length (miles)			Avg. Daily Factor	Gallons of Fuel	
							Worker	Vendor	Haul	Worker	Vendor	Haul	(worker and vendor)	Gasoline	Diesel
Demolition	40	8	85	3400	680	5100	18.5	10.2	40.4	62900	6936	206040	0.6	1,321.7	30,084.7
Grading Building 1-3	60	8	308	18480	2464	35857	18.5	10.2	40.4	341880	25132.8	1448623	0.6	7,184.1	209,489.8
Podium Building 1	75	140	174	13050	24360	0	18.5	10.2	20	241425	248472	0	0.6	5,073.2	21,337.3
Podium Building 2	75	140	173	12975	24220	0	18.5	10.2	20	240037.5	247044	0	0.6	5,044.0	21,214.6
Construction Building 1	225	140	172	38700	24080	0	18.5	10.2	20	715950	245616	0	0.6	15,044.6	21,092.0
Podium Building 3	75	140	415	31125	58100	0	18.5	10.2	20	575812.5	592620	0	0.6	12,099.8	50,890.6
Construction Building 2	225	140	415	93375	58100	0	18.5	10.2	20	1727438	592620	0	0.6	36,299.5	50,890.6
Architectural Coating	0	10	150	0	1500	0	18.5	10.2	20	0	15300	0	0.6	0.0	1,313.9
Construction Building 3	225	140	152	34200	21280	0	18.5	10.2	20	632700	217056	0	0.6	13,295.2	18,639.4
Paving	70	48	260	18200	12480	0	18.5	10.2	20	336700	127296	0	0.6	7,075.2	10,931.4
0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0.0	0.0
0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0.0	0.0
													Total:	**102,437.5**	**435,884.3**

Worker Miles per gallon=	28.55	gasoline
Vedor/Haul miles per gallon=	6.99	diesel

Notes: Consistent with CalEEMod worker vehicles are assumed to be gasoline and 50% LDA, 25%LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy Duty Trucks (T7).

Water Usage for Control of Fugitive Dust during Construction (Option A):

Phase	Days	Average Daily Acreage Distrubed	Gallons Per Year	Electricity (kWhr)
Demolition	85	5.0	1,283,500	12,485
Grading Building 1-3	285	5.0	4,303,500	41,860
Podium Building 1	174	0.0	0	0
Podium Building 2	173	0.0	0	0
Construction Building 1	172	0.0	0	0
Podium Building 3	415	0.0	0	0
Construction Building 2	415	0.0	0	0
Architectural Coating	150	0.0	0	0
Construction Building 3	152	0.0	0	0
Paving	260	0.5	392,600	3,819
		Total:	**5,979,600**	**58,164**

Water application rate=	3020	gal/acre/day
kWhr equivalent=	0.01	kWhr

Notes: 1) Gallons per year of water usage for dust control is calculated based on a minimum control efficiency of 66% (three times daily) with an application rate of 3,020 gal/acre/day (Air & Waste Management Association Air Pollution Engineering Manual (1992 Edition)) and average of 26 construction days per month.
2) CalEEMod Default: Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity).

Water Usage for Control of Fugitive Dust during Construction (Option B):

Phase	Days	Average Daily Acreage Distrubed	Gallons Per Year	Electricity (kWhr)
Demolition	85	5.0	1,283,500	12,485
Grading Building 1-3	308	5.0	4,650,800	45,238
Podium Building 1	174	0.0	0	0
Podium Building 2	173	0.0	0	0
Construction Building 1	172	0.0	0	0
Podium Building 3	415	0.0	0	0
Construction Building 2	415	0.0	0	0
Architectural Coating	150	0.0	0	0
Construction Building 3	152	0.0	0	0
Paving	260	0.5	392,600	3,819
0	0	0.5	0	0
0	0	0.5	0	0
		Total:	**6,326,900**	**61,542**

Water application rate=	3020	gal/acre/day
kWhr equivalent=	0.01	kWhr

Notes: 1) Gallons per year of water usage for dust control is calculated based on a minimum control efficiency of 66% (three times daily) with an application rate of 3,020 gal/acre/day (Air & Waste Management Association Air Pollution Engineering Manual (1992 Edition)) and average of 26 construction days per month.
2) CalEEMod Default: Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity).

Paseo Marina (Existing Conditions)

Los Angeles-South Coast County, Annual

Trip Summary Information

Total	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
Total	**3,595.00**	**3,410.00**	**1,657.00**	**8,890,920**

Gasoline and Diesel Usage

	Buildout Year		Existing (Baseline) Year	
	Gasoline	*Diesel*	*Gasoline*	*Diesel*
Miles/Gallon	28.6	11.6	24.3	9.6
% Fleet Mix	92.8%	7.2%	94.0%	6.0%
Total (Gallons):	**288,609**	**55,097**	**344,560**	**55,780**

Energy by Land Use - Natural Gas

Total	*kBTU/yr*	cu ft/year
Total	**496,255**	**472,624**

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
Total	1,037,419

Water Detail

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
	7.465	0.140	84,308
	0.000	0.000	0
Total	7.47	0.14	84,306

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

Paseo Marina Project - Buildout Operations Without Project Features/MXD (Option A)
Los Angeles-South Coast County, Annual

Total	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
	6,244	6,452	5,517	16,732,069

Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	29.3	11.8
% Fleet Mix	92.7%	7.3%
Total (Gallons):	**528,762**	**103,548**

Energy by Land Use - Natural Gas

	kBTU/yr	cu ft/year
Land Uses	958,230	**912,600**
Total	958,230	**912,600**

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
Total	**6,818,324**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Total	23.74	0.96	**273,184**

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

Paseo Marina Project - Buildout Operations Without Project Features/MXD (Option B)
Los Angeles-South Coast County, Annual

Total	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
	6,939	6,649	5,390	19,567,806

Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	29.3	11.8
% Fleet Mix	92.7%	7.3%
Total (Gallons):	**618,376**	**121,097**

Energy by Land Use - Natural Gas

	kBTU/yr	cu ft/year
Land Uses	1,404,000	**1,337,143**
Total	1,404,000	**1,337,143**

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
Total	**7,876,414**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Total	31.51	1.50	364,764

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

Paseo Marina Project - Buildout Operations with Project Fetures and MXD (Option A)
Los Angeles-South Coast County, Annual

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Mitigated*
	Weekday	*Saturday*	*Sunday*	
Total	4,974	5,140	4,395	13,473,036

Mitigated Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	29.3	11.8
% Fleet Mix	92.7%	7.3%
Total (Gallons):	**425,771**	**83,379**

Note: Fleet mix is 92.3% gasoline @ 30.6 miles/gallon and 7.7% diesel @ 12.1 miles/gallon.

Energy by Land Use - Natural Gas (Mitigated)

	kBTU/yr	cu ft/year
Land Uses	958,230	912,600
Total	958,230	**912,600**

Energy by Land Use - Electricity (Mitigated)

Land Uses	*kWH/yr*
Total	**6,818,324**

Reduction in natural gas usage reflects implementation of GHG-PDF-2 (Reduction in natural gas fireplaces).

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Total	23.74	0.96	**273,184**

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr ofelectricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod). The City of Los Angeles Green Building Code (Chapter IX, Article 9, of the LAMC) requires newly constructed non-residential and high-rise residential buildings to reduce indoor water use by at least 20 percent by: (1) using water saving fixtures or flow restrictions; and/or (2) demonstrating a 20 percent reduction in baseline water

Paseo Marina Project - Buildout Operations with Project Fetures and MXD (Option B)
Los Angeles-South Coast County, Annual

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Mitigated*
	Weekday	*Saturday*	*Sunday*	
Total	4,470	4,283	3,472	12,715,036

Mitigated Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	29.3	11.8
% Fleet Mix	92.7%	7.3%
Total (Gallons):	**401,817**	**78,688**

Note: Fleet mix is 92.3% gasoline @ 30.6 miles/gallon and 7.7% diesel @ 12.1 miles/gallon.

Energy by Land Use - Natural Gas (Mitigated)

	kBTU/yr	cu ft/year
Land Uses	1,404,000	**1,337,143**
Fireplaces	-	0
Total	1,404,000	**1,337,143**

Energy by Land Use - Electricity (Mitigated)

Land Uses	*kWH/yr*
Total	**7,876,414**

Note: Reduction in electricity usage reflects implementation of CalGreen and GHG-PDF-1 (Exceed baseline requirements for lighting by 25%). Reduction in natural gas usage reflects implementation of GHG-PDF-2 (Reduction in natural gas fireplaces).

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Total	31.51	1.50	364,764

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr ofelectricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod). The City of Los Angeles Green Building Code (Chapter IX, Article 9, of the LAMC) requires newly constructed non-residential and high-rise residential buildings to reduce indoor water use by at least 20 percent by: (1) using water saving fixtures or flow restrictions; and/or (2) demonstrating a 20 percent reduction in baseline water

EMFAC Emissions Inventory (Option A)
Region Type: Air Basin
Region: South Coast
Calendar Year: 2026
Season: Annual

Region	CalYr	Season	Veh_Class	Fuel	MdYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
South Coast	2026	Annual	HHDT	DSL	Aggregated	Aggregated	62,369	7,578,127	634,806	0.00	1,028.60
South Coast	2026	Annual	HHDT	GAS	Aggregated	Aggregated	51	6,638	1,027	1.47	0.00
South Coast	2026	Annual	LDA	DSL	Aggregated	Aggregated	42,630	1,610,941	203,194	0.00	30.77
South Coast	2026	Annual	LDA	GAS	Aggregated	Aggregated	4,187,856	151,809,382	19,744,735	4,507.99	0.00
South Coast	2026	Annual	LDT1	DSL	Aggregated	Aggregated	197	4,860	713	0.00	0.21
South Coast	2026	Annual	LDT1	GAS	Aggregated	Aggregated	521,800	18,505,352	2,419,987	642.25	0.00
South Coast	2026	Annual	LDT2	DSL	Aggregated	Aggregated	12,201	472,831	59,382	0.00	12.25
South Coast	2026	Annual	LDT2	GAS	Aggregated	Aggregated	1,500,003	54,105,074	7,049,551	1,946.71	0.00
South Coast	2026	Annual	LHDT1	DSL	Aggregated	Aggregated	84,469	3,343,657	1,062,512	0.00	144.51
South Coast	2026	Annual	LHDT1	GAS	Aggregated	Aggregated	107,091	3,784,881	1,595,490	343.72	0.00
South Coast	2026	Annual	LHDT2	DSL	Aggregated	Aggregated	34,322	1,304,546	431,723	0.00	62.67
South Coast	2026	Annual	LHDT2	GAS	Aggregated	Aggregated	18,657	635,998	277,964	66.38	0.00
South Coast	2026	Annual	MCY	GAS	Aggregated	Aggregated	207,061	1,375,740	414,121	38.76	0.00
South Coast	2026	Annual	MDV	DSL	Aggregated	Aggregated	26,599	968,712	129,119	0.00	32.43
South Coast	2026	Annual	MDV	GAS	Aggregated	Aggregated	980,977	33,032,008	4,562,971	1,467.67	0.00
South Coast	2026	Annual	MH	DSL	Aggregated	Aggregated	7,292	72,793	729	0.00	6.54
South Coast	2026	Annual	MH	GAS	Aggregated	Aggregated	19,677	198,229	1,969	36.25	0.00
South Coast	2026	Annual	MHDT	DSL	Aggregated	Aggregated	75,062	4,647,457	748,261	0.00	402.70
South Coast	2026	Annual	MHDT	GAS	Aggregated	Aggregated	15,276	832,630	305,646	154.65	0.00
South Coast	2026	Annual	OBUS	DSL	Aggregated	Aggregated	3,576	262,677	34,848	0.00	28.87
South Coast	2026	Annual	OBUS	GAS	Aggregated	Aggregated	4,005	155,211	80,123	29.21	0.00
South Coast	2026	Annual	SBUS	DSL	Aggregated	Aggregated	3,950	124,602	45,584	0.00	15.64
South Coast	2026	Annual	SBUS	GAS	Aggregated	Aggregated	1,808	70,232	7,231	7.32	0.00
South Coast	2026	Annual	UBUS	DSL	Aggregated	Aggregated	27	4,009	108	0.00	0.59
South Coast	2026	Annual	UBUS	GAS	Aggregated	Aggregated	475	34,374	1,900	7.11	0.00

					MPG	Gallons Per Mile
Totals	284,940,959.31		9,249.49	1,765.78	**25.9**	0.04
Total (GAS)	264,545,748.64	0.93			**28.6**	0.03
Total (DSL)	20,395,210.67	0.07			**11.6**	0.09

Baseline Year
Calendar Year: 2020
Season: Annual

Region	CalYr	Season	Veh_Class	Fuel	MdYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
South Coast	2020	Annual	HHDT	DSL	Aggregated	Aggregated	56,120	6,743,707	559,369	0.00	1,073.95
South Coast	2020	Annual	HHDT	GAS	Aggregated	Aggregated	62	5,725	1,245	1.47	0.00
South Coast	2020	Annual	LDA	DSL	Aggregated	Aggregated	31,076	1,254,452	146,424	0.00	27.91
South Coast	2020	Annual	LDA	GAS	Aggregated	Aggregated	3,953,775	155,194,410	18,642,464	5,389.41	0.00
South Coast	2020	Annual	LDT1	DSL	Aggregated	Aggregated	319	7,980	1,139	0.00	0.37
South Coast	2020	Annual	LDT1	GAS	Aggregated	Aggregated	437,140	16,649,906	2,009,947	669.90	0.00
South Coast	2020	Annual	LDT2	DSL	Aggregated	Aggregated	7,213	323,322	35,806	0.00	9.82
South Coast	2020	Annual	LDT2	GAS	Aggregated	Aggregated	1,346,079	52,129,905	6,303,494	2,298.92	0.00
South Coast	2020	Annual	LHDT1	DSL	Aggregated	Aggregated	56,903	2,486,530	715,768	0.00	117.79
South Coast	2020	Annual	LHDT1	GAS	Aggregated	Aggregated	108,459	4,003,593	1,615,879	390.69	0.00
South Coast	2020	Annual	LHDT2	DSL	Aggregated	Aggregated	22,880	965,315	287,800	0.00	50.75
South Coast	2020	Annual	LHDT2	GAS	Aggregated	Aggregated	17,784	634,396	264,957	71.05	0.00
South Coast	2020	Annual	MCY	GAS	Aggregated	Aggregated	167,287	1,221,839	334,574	34.08	0.00
South Coast	2020	Annual	MDV	DSL	Aggregated	Aggregated	16,089	669,900	79,575	0.00	26.39
South Coast	2020	Annual	MDV	GAS	Aggregated	Aggregated	921,419	33,053,258	4,259,404	1,782.51	0.00
South Coast	2020	Annual	MH	DSL	Aggregated	Aggregated	5,531	58,524	553	0.00	5.71
South Coast	2020	Annual	MH	GAS	Aggregated	Aggregated	19,817	197,548	1,982	39.66	0.00
South Coast	2020	Annual	MHDT	DSL	Aggregated	Aggregated	64,883	4,028,069	635,977	0.00	404.94
South Coast	2020	Annual	MHDT	GAS	Aggregated	Aggregated	14,534	804,969	290,799	164.24	0.00
South Coast	2020	Annual	OBUS	DSL	Aggregated	Aggregated	3,045	227,229	29,935	0.00	28.57
South Coast	2020	Annual	OBUS	GAS	Aggregated	Aggregated	4,050	176,715	81,028	36.25	0.00
South Coast	2020	Annual	SBUS	DSL	Aggregated	Aggregated	3,809	120,609	43,960	0.00	16.16
South Coast	2020	Annual	SBUS	GAS	Aggregated	Aggregated	1,187	49,914	4,747	5.55	0.00
South Coast	2020	Annual	UBUS	DSL	Aggregated	Aggregated	41	5,505	165	0.00	0.86
South Coast	2020	Annual	UBUS	GAS	Aggregated	Aggregated	456	33,185	1,822	8.00	0.00

					MPG	Gallons Per Mile
Totals	281,046,505.26		10,891.73	1,763.22	**22.2**	0.05
Total (GAS)	264,155,363.07	0.94			**24.3**	0.04
Total (DSL)	16,891,142.18	0.06			**9.6**	0.10

EMFAC Emission inventories for County (Option A)
EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: **2023** (Construction Start Year)
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2023	HHDT	Aggregatec	Aggregatec	DSL	0.00	1026.93
Los Angeles	2023	HHDT	Aggregatec	Aggregatec	GAS	1.43	0.00
Los Angeles	2023	LDA	Aggregatec	Aggregatec	DSL	0.00	30.23
Los Angeles	2023	LDA	Aggregatec	Aggregatec	GAS	4943.66	0.00
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.28
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	GAS	661.89	0.00
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	DSL	0.00	11.48
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	GAS	2111.84	0.00
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	DSL	0.00	134.84
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	GAS	366.24	0.00
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	DSL	0.00	58.29
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	GAS	69.12	0.00
Los Angeles	2023	MCY	Aggregatec	Aggregatec	GAS	36.85	0.00
Los Angeles	2023	MDV	Aggregatec	Aggregatec	DSL	0.00	30.50
Los Angeles	2023	MDV	Aggregatec	Aggregatec	GAS	1617.67	0.00
Los Angeles	2023	MH	Aggregatec	Aggregatec	DSL	0.00	6.25
Los Angeles	2023	MH	Aggregatec	Aggregatec	GAS	38.12	0.00
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	DSL	0.00	396.57
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	GAS	159.42	0.00
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	DSL	0.00	28.42
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	GAS	32.39	0.00
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	DSL	0.00	16.02
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	GAS	6.51	0.00
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.81
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	GAS	7.76	0.00
						3,669,304,439	635,325,862
					Fuel Usage for Project Construction	101,901	677,578
					Percentage of County for Construction	0.0028%	0.107%

EMFAC Emission inventories for County

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: **2027** (Operational Start Year)
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2027	HHDT	Aggregatec	Aggregatec	DSL	0.00	1026.53
Los Angeles	2027	HHDT	Aggregatec	Aggregatec	GAS	1.48	0.00
Los Angeles	2027	LDA	Aggregatec	Aggregatec	DSL	0.00	30.77
Los Angeles	2027	LDA	Aggregatec	Aggregatec	GAS	4387.66	0.00
Los Angeles	2027	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.17
Los Angeles	2027	LDT1	Aggregatec	Aggregatec	GAS	635.57	0.00
Los Angeles	2027	LDT2	Aggregatec	Aggregatec	DSL	0.00	12.40
Los Angeles	2027	LDT2	Aggregatec	Aggregatec	GAS	1902.24	0.00
Los Angeles	2027	LHDT1	Aggregatec	Aggregatec	DSL	0.00	146.48
Los Angeles	2027	LHDT1	Aggregatec	Aggregatec	GAS	336.62	0.00
Los Angeles	2027	LHDT2	Aggregatec	Aggregatec	DSL	0.00	63.57
Los Angeles	2027	LHDT2	Aggregatec	Aggregatec	GAS	65.34	0.00
Los Angeles	2027	MCY	Aggregatec	Aggregatec	GAS	39.21	0.00
Los Angeles	2027	MDV	Aggregatec	Aggregatec	DSL	0.00	32.79
Los Angeles	2027	MDV	Aggregatec	Aggregatec	GAS	1426.47	0.00
Los Angeles	2027	MH	Aggregatec	Aggregatec	DSL	0.00	6.59
Los Angeles	2027	MH	Aggregatec	Aggregatec	GAS	35.61	0.00
Los Angeles	2027	MHDT	Aggregatec	Aggregatec	DSL	0.00	403.75
Los Angeles	2027	MHDT	Aggregatec	Aggregatec	GAS	152.98	0.00
Los Angeles	2027	OBUS	Aggregatec	Aggregatec	DSL	0.00	28.94
Los Angeles	2027	OBUS	Aggregatec	Aggregatec	GAS	28.29	0.00
Los Angeles	2027	SBUS	Aggregatec	Aggregatec	DSL	0.00	15.47
Los Angeles	2027	SBUS	Aggregatec	Aggregatec	GAS	7.56	0.00
Los Angeles	2027	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.13
Los Angeles	2027	UBUS	Aggregatec	Aggregatec	GAS	7.10	0.00
						3,294,542,958	645,171,789
					Net Fuel Usage for Project Operation	144,803	28,357
					Percentage of County for Operation	0.0044%	0.0044%

Paseo Marina

All Electric Calculation

CAPCOA Consumption Rate[a]

	Natural Gas (Therm/yr/KSF)							Electricity (kWh/yr/KSF)						
Building Type	**Water Heater**	**Primary Heat**	**Cooking**	**Dryer**	**Cooling**	**Misc**	**Refrig.**	**Water Heater**	**Primary Heat**	**Cooking**	**Dryer**	**Cooling**	**Misc**	**Refrig.**
General Office Building	20	119	1	0	18	43	1	46	396	9	0	3103	2714	11
Apartments Mid Rise	268	48	20	17	0	35	0	1052	350	262	365	397	560	0
Strip Mall	1	4	0	0	7	34	3	24	28	27		1249	2867	162
High Turnover (Sit Down Restaurant)	90	37	702	0	48	67	4	35	268	1279		3254	8965	6236

Project Energy Demand

		Natural Gas (Therm/yr/KSF)								Electricity (kWh/yr/KSF)									
Project Uses	**Amount (DU/KSF)**	**Water Heater**	**Primary Heat**	**Cooking**	**Dryer**	**Cooling**	**Misc**	**Refrig.**	**Total**	**Water Heater**	**Primary Heat**	**Cooking**	**Dryer**	**Cooling**	**Misc**	**Refrig.**	**title 24 Total**	**Non-title 24 total**	**Total**
General Office Building	90	1,800	10,710	90	0	1,620	3,870	90		4,140	35,640	810	0	279,270	244,260	990	319,050	246,060	**565,110**
Apartments Mid Rise	425	113,900	20,400	8,500	7,225	0	14,875	0	**164,900**	447,100	148,750	111,350	155,125	168,725	238,000	0	764,575	504,475	**1,269,050**
Strip Mall	20	20	80	0	0	140	680	60	**980**	480	560	540	0	24,980	57,340	3,240	26,020	61,120	**87,140**
High Turnover (Sit Down Restaurant)	20	1,800	740	14,040	0	960	1,340	80	**18,960**	700	5,360	25,580	0	65,080	179,300	124,720	71,140	304,020	**375,160**
Total		117,520	31,930	22,630	7,225	2,720	20,765	230	184,840	452,420	190,310	138,280	155,125	538,055	718,900	128,950			**2,296,460**

	Total Annual Consumption		Title 24		Non-Title 24	
CalEEMod 2022 Default	Electricity (kWh/yr)	Natural Gas (kBTU/yr)	Electricity (kWh/yr)	Natural Gas (kBTU/yr)	Electricity (kWh/yr)	Natural Gas (kBTU/yr)
Enclosed Parking	1,900,349	-	1,802,537	-	97,812	-
General Office	1,433,588	1,808,267	1,044,951	1,412,373	388,637	395,894
Apartments Mid Rise	1,395,485	4,218,278	350,016	3,534,378	1,045,469	683,900
Strip Mall	199,131	98,483	128,474	23,157	70,656	75,326
High Turnover (Sit Down Restaurant)	651,402	1,894,593	311,846	348,142	339,555	1,546,450
	5,579,954	8,019,620	3,637,824	5,318,050	1,942,130	2,701,570

	Total Annual Consumption		Title 24		Non-Title 24		
With Adjustment for Input to CalEEMod	Electricity (kWh/yr)	Natural Gas (kBTU/yr)	Electricity (kWh/yr)	Natural Gas (kBTU/yr)	Electricity (kWh/yr)	Natural Gas (kBTU/yr)	
Enclosed Parking	1,900,349	-	1,802,537	-	97,812	-	1,900,349
General Office	1,998,698	-	1,364,001	-	634,697	-	1,998,698
Apartments Mid Rise	2,664,535	-	1,114,591	-	1,549,944	-	2,664,535
Strip Mall	286,271	-	154,494	-	131,776	-	286,271
High Turnover (Sit Down Restaurant)	1,026,562	1,404,000	382,986	-	643,575	1,404,000	1,026,562
	7,876,414	1,404,000	4,818,609		3,057,805	1,404,000	7,876,414

Peak Electricity Demand Calculations (Option A)

Electrical Load Factor Equation

$$f_{Load} = \frac{\text{Average load}}{\text{Maximum load in given time period}}$$

Load Factor (%)[1] **52%**

Project Electricity Demand (Operational)

Annual Demand	**Baseline (Existing)**	**Project**
Building (MWh)	1,037	6,818
Water (MWh)	84	273
Total (MWh)	1,122	7,955
Average Daily Demand		
Building (kWh)	2,842	18,680
Water (kWh)	231	748
Total (kWh)	3,073	21,794
Average Load		
Building (kW)	118	778
Water (kW)	10	31
Total (kW)	128	908

Peak Load Calculation

Peak Load (kW)[2]	237	1,528
Systemwide Peak Load (MW)		5,854
Percent of Peak		0.026%

[1]2017 Report: System Efficiency of California's Electric Grid. California Public Utilities Cor 2017. Page 11, Figure 6. Visual estimate.

[2] Peak Load is conservatively calculated without any reductions from removal of existing uses.

Peak Electricity Demand Calculations (Option B)

Electrical Load Factor Equation

$$f_{Load} = \frac{\text{Average load}}{\text{Maximum load in given time period}}$$

Load Factor (%)[1] **52%**

Project Electricity Demand (Operational)

Annual Demand	**Baseline (Existing)**	**Project**
Building (MWh)	1,037	7,876
Water (MWh)	84	365
Total (MWh)	1,122	9,134
Average Daily Demand		
Building (kWh)	2,842	21,579
Water (kWh)	231	999
Total (kWh)	3,073	25,025
Average Load		
Building (kW)	118	899
Water (kW)	10	42
Total (kW)	128	1,043

Peak Load Calculation

Peak Load (kW)[2]	237	1,771
Systemwide Peak Load (MW)		5,854
Percent of Peak		0.030%

[1]2017 Report: System Efficiency of California's Electric Grid. California Public Utilities Cor 2017. Page 11, Figure 6. Visual estimate.

[2] Peak Load is conservatively calculated without any reductions from removal of existing uses.

EMFAC Emission inventories for County (Option A)

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: **2023** (Construction Start Year)

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2023	HHDT	Aggregatec	Aggregatec	DSL	0.00	1026.93
Los Angeles	2023	HHDT	Aggregatec	Aggregatec	GAS	1.43	0.00
Los Angeles	2023	LDA	Aggregatec	Aggregatec	DSL	0.00	30.23
Los Angeles	2023	LDA	Aggregatec	Aggregatec	GAS	4943.66	0.00
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.28
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	GAS	661.89	0.00
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	DSL	0.00	11.48
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	GAS	2111.84	0.00
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	DSL	0.00	134.84
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	GAS	366.24	0.00
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	DSL	0.00	58.29
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	GAS	69.12	0.00
Los Angeles	2023	MCY	Aggregatec	Aggregatec	GAS	36.85	0.00
Los Angeles	2023	MDV	Aggregatec	Aggregatec	DSL	0.00	30.50
Los Angeles	2023	MDV	Aggregatec	Aggregatec	GAS	1617.67	0.00
Los Angeles	2023	MH	Aggregatec	Aggregatec	DSL	0.00	6.25
Los Angeles	2023	MH	Aggregatec	Aggregatec	GAS	38.12	0.00
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	DSL	0.00	396.57
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	GAS	159.42	0.00
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	DSL	0.00	28.42
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	GAS	32.39	0.00
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	DSL	0.00	16.02
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	GAS	6.51	0.00
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.81
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	GAS	7.76	0.00
						3,669,304,439	635,325,862
					Fuel Usage for Project Construction	101,901	677,578
					Percentage of County for Construction	0.0028%	0.107%

EMFAC Emission inventories for County

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: **2026** (Operational Start Year)
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2026	HHDT	Aggregatec	Aggregatec	DSL	0.00	1028.60
Los Angeles	2026	HHDT	Aggregatec	Aggregatec	GAS	1.47	0.00
Los Angeles	2026	LDA	Aggregatec	Aggregatec	DSL	0.00	30.77
Los Angeles	2026	LDA	Aggregatec	Aggregatec	GAS	4507.99	0.00
Los Angeles	2026	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.21
Los Angeles	2026	LDT1	Aggregatec	Aggregatec	GAS	642.25	0.00
Los Angeles	2026	LDT2	Aggregatec	Aggregatec	DSL	0.00	12.25
Los Angeles	2026	LDT2	Aggregatec	Aggregatec	GAS	1946.71	0.00
Los Angeles	2026	LHDT1	Aggregatec	Aggregatec	DSL	0.00	144.51
Los Angeles	2026	LHDT1	Aggregatec	Aggregatec	GAS	343.72	0.00
Los Angeles	2026	LHDT2	Aggregatec	Aggregatec	DSL	0.00	62.67
Los Angeles	2026	LHDT2	Aggregatec	Aggregatec	GAS	66.38	0.00
Los Angeles	2026	MCY	Aggregatec	Aggregatec	GAS	38.76	0.00
Los Angeles	2026	MDV	Aggregatec	Aggregatec	DSL	0.00	32.43
Los Angeles	2026	MDV	Aggregatec	Aggregatec	GAS	1467.67	0.00
Los Angeles	2026	MH	Aggregatec	Aggregatec	DSL	0.00	6.54
Los Angeles	2026	MH	Aggregatec	Aggregatec	GAS	36.25	0.00
Los Angeles	2026	MHDT	Aggregatec	Aggregatec	DSL	0.00	402.70
Los Angeles	2026	MHDT	Aggregatec	Aggregatec	GAS	154.65	0.00
Los Angeles	2026	OBUS	Aggregatec	Aggregatec	DSL	0.00	28.87
Los Angeles	2026	OBUS	Aggregatec	Aggregatec	GAS	29.21	0.00
Los Angeles	2026	SBUS	Aggregatec	Aggregatec	DSL	0.00	15.64
Los Angeles	2026	SBUS	Aggregatec	Aggregatec	GAS	7.32	0.00
Los Angeles	2026	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.59
Los Angeles	2026	UBUS	Aggregatec	Aggregatec	GAS	7.11	0.00
						3,376,063,945	644,511,225
					Net Fuel Usage for Project Operation	148,741	28,395
					Percentage of County for Operation	0.0044%	0.0044%

EMFAC Emission inventories for County (Option B)
EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: **2023** (Construction Start Year)
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2023	HHDT	Aggregatec	Aggregatec	DSL	0.00	1026.93
Los Angeles	2023	HHDT	Aggregatec	Aggregatec	GAS	1.43	0.00
Los Angeles	2023	LDA	Aggregatec	Aggregatec	DSL	0.00	30.23
Los Angeles	2023	LDA	Aggregatec	Aggregatec	GAS	4943.66	0.00
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.28
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	GAS	661.89	0.00
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	DSL	0.00	11.48
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	GAS	2111.84	0.00
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	DSL	0.00	134.84
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	GAS	366.24	0.00
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	DSL	0.00	58.29
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	GAS	69.12	0.00
Los Angeles	2023	MCY	Aggregatec	Aggregatec	GAS	36.85	0.00
Los Angeles	2023	MDV	Aggregatec	Aggregatec	DSL	0.00	30.50
Los Angeles	2023	MDV	Aggregatec	Aggregatec	GAS	1617.67	0.00
Los Angeles	2023	MH	Aggregatec	Aggregatec	DSL	0.00	6.25
Los Angeles	2023	MH	Aggregatec	Aggregatec	GAS	38.12	0.00
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	DSL	0.00	396.57
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	GAS	159.42	0.00
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	DSL	0.00	28.42
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	GAS	32.39	0.00
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	DSL	0.00	16.02
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	GAS	6.51	0.00
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.81
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	GAS	7.76	0.00
						3,669,304,439	635,325,862
					Fuel Usage for Project Construction	102,437	688,591
					Percentage of County for Construction	0.0028%	0.108%

EMFAC Emission inventories for County

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: **2027** (Operational Start Year)
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2027	HHDT	Aggregatec	Aggregatec	DSL	0.00	1026.53
Los Angeles	2027	HHDT	Aggregatec	Aggregatec	GAS	1.48	0.00
Los Angeles	2027	LDA	Aggregatec	Aggregatec	DSL	0.00	30.77
Los Angeles	2027	LDA	Aggregatec	Aggregatec	GAS	4387.66	0.00
Los Angeles	2027	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.17
Los Angeles	2027	LDT1	Aggregatec	Aggregatec	GAS	635.57	0.00
Los Angeles	2027	LDT2	Aggregatec	Aggregatec	DSL	0.00	12.40
Los Angeles	2027	LDT2	Aggregatec	Aggregatec	GAS	1902.24	0.00
Los Angeles	2027	LHDT1	Aggregatec	Aggregatec	DSL	0.00	146.48
Los Angeles	2027	LHDT1	Aggregatec	Aggregatec	GAS	336.62	0.00
Los Angeles	2027	LHDT2	Aggregatec	Aggregatec	DSL	0.00	63.57
Los Angeles	2027	LHDT2	Aggregatec	Aggregatec	GAS	65.34	0.00
Los Angeles	2027	MCY	Aggregatec	Aggregatec	GAS	39.21	0.00
Los Angeles	2027	MDV	Aggregatec	Aggregatec	DSL	0.00	32.79
Los Angeles	2027	MDV	Aggregatec	Aggregatec	GAS	1426.47	0.00
Los Angeles	2027	MH	Aggregatec	Aggregatec	DSL	0.00	6.59
Los Angeles	2027	MH	Aggregatec	Aggregatec	GAS	35.61	0.00
Los Angeles	2027	MHDT	Aggregatec	Aggregatec	DSL	0.00	403.75
Los Angeles	2027	MHDT	Aggregatec	Aggregatec	GAS	152.98	0.00
Los Angeles	2027	OBUS	Aggregatec	Aggregatec	DSL	0.00	28.94
Los Angeles	2027	OBUS	Aggregatec	Aggregatec	GAS	28.29	0.00
Los Angeles	2027	SBUS	Aggregatec	Aggregatec	DSL	0.00	15.47
Los Angeles	2027	SBUS	Aggregatec	Aggregatec	GAS	7.56	0.00
Los Angeles	2027	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.13
Los Angeles	2027	UBUS	Aggregatec	Aggregatec	GAS	7.10	0.00
						3,294,542,958	645,171,789
					Net Fuel Usage for Project Operation	120,849	23,666
					Percentage of County for Operation	0.0037%	0.0037%