

Appendix E

Energy Calculations



Construction Energy Calculations

**Culver Crossings
Construction Energy Analysis**

Annual Fuel Summary

Heavy-Duty Construction Equipment	
406,700	Total Project Consumption
140,707	Annual Consumption
Haul Trucks	
199,723	Total Project Consumption
69,098	Annual Consumption
Vendor Trucks	
155,206	Total Project Consumption
53,697	Annual Consumption
Workers	
98,493	Total Project Consumption
34,076	Annual Consumption
354,929	Project Consumption of diesel for Haul Trucks and Vendors
122,795	Annual Consumption
761,629	Total Gallons Diesel
98,493	Total Gallons Gasoline

2.9 Estimated Project Construction Duration (years)

263,502 Annual Average Gallons Diesel
34,076 Annual Average Gallons Gasoline

Los Angeles County			Percent of Annual Project Compared to Los Angeles County
Source	Fuel Type	Gallons	
Workers	Gasoline	2,770,000,000	0.0012%
Off-Road/Vendor/Haul Trucks	Diesel	610,204,082	0.043%

Notes:

1 Gasoline and diesel amounts from CEC, 2019. Available: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting>

Annual Electricity Summary

Temporary Construction Trailer - Electricity	12,990 kWh/year
Construction Water Energy Estimates	572 kWh/year
Total	13,562 kWh/year

Culver Crossings
Construction Energy Analysis

Off-Road Equipment

Equipment ≤ 100 hp
pounds diesel fuel/hp-hr (lb/hp-hr):¹ 0.408 lb/hp-hr
diesel density (lb/gal):¹ 7.11 lb/gal
diesel gallons/hp-hr: 0.0574 gal/hp-hr
Total <100 5,074,177 hp-hr
Total diesel gallons: 291,221 gal

Equipment > 100 hp
pounds diesel fuel/hp-hr (lb/hp-hr):¹ 0.367 lb/hp-hr
diesel density (lb/gal):¹ 7.11 lb/gal
diesel gallons/hp-hr: 0.0516 gal/hp-hr
Total >100 2,236,855 hp-hr
Total diesel gallons: 115,479 gal

diesel density (lb/gal):1 406,700 gal

[1. OFFROAD2017 Emission Factor Documentation](#)

Phase	Construction Phase	Equipment	Number	Hours/Day	HP	Load	Days	Total hp-hr
P1	Demolition	Air Compressors	1	8	78	0.5	25	7,488
P1	Demolition	Backhoes	1	8	97	0.4	25	7,178
P1	Demolition	Crawler Tractors	1	8	212	0.4	25	18,232
P1	Demolition	Dumpers/Tenders	1	8	16	0.4	25	1,216
P1	Demolition	Excavators	1	8	158	0.4	25	12,008
P1	Demolition	Forklifts	1	8	89	0.2	25	3,560
P1	Demolition	Generator Sets	1	8	84	0.7	25	12,432
P1	Demolition	Jackhammers (Backhoes)	2	8	97	0.4	25	14,356
P1	Demolition	Skid Steer Loaders	2	8	65	0.4	25	9,620
P1	Demolition	Sweepers/Scrubbers	1	8	64	0.5	25	5,888
P1	Site Preparation	Excavators	1	8	158	0.4	28	13,449
P1	Site Preparation	Forklifts	1	8	89	0.2	28	3,987
P1	Site Preparation	Loaders	1	8	97	0.4	28	8,039
P1	Site Preparation	Scrapers	1	8	367	0.5	28	39,460
P1	Site Preparation	Sweepers/Scrubbers	1	8	64	0.5	28	6,595
P1	Grading/Excavation	Bore/Drill Rigs	1	8	221	0.5	85	75,140
P1	Grading/Excavation	Crawler Tractors	1	8	212	0.4	85	61,989
P1	Grading/Excavation	Excavators	2	8	158	0.4	85	81,654
P1	Grading/Excavation	Pile Drivers (Excavators)	2	8	158	0.4	85	81,654
P1	Grading/Excavation	Sweepers/Scrubbers	1	8	64	0.5	85	20,019
P1	Drainage/Utility/Trenching	Backhoes	1	8	97	0.4	27	7,752
P1	Drainage/Utility/Trenching	Forklifts	1	8	89	0.2	27	3,845
P1	Drainage/Utility/Trenching	Skid Steer Loaders	1	8	65	0.4	27	5,195
P1	Foundations/Concrete Pours	Cement and Mortar Mixers	102	8	9	0.6	168	690,924
P1	Foundations/Concrete Pours	Pumps	2	8	84	0.7	168	167,086
P1	Building Construction	Air Compressors	1	8	78	0.5	310	92,851
P1	Building Construction	Cement and Mortar Mixers	1	8	9	0.6	310	12,499
P1	Building Construction	Cranes	1	8	231	0.3	310	166,135
P1	Building Construction	Forklifts	1	8	89	0.2	310	44,144
P1	Building Construction	Generator Sets	1	8	84	0.7	310	154,157
P1	Building Construction	Pumps	1	8	84	0.7	310	154,157
P1	Building Construction	Sweepers/Scrubbers	1	8	64	0.5	310	73,011
P1	Architectural Coating	Air Compressors	1	8	78	0.5	127	38,039
P1	Architectural Coating	Generator Sets	1	8	84	0.7	127	63,155
P1	Paving	Crushing/Proc. Equipment	1	8	85	0.8	110	58,344
P1	Paving	Dumpers/Tenders	1	8	16	0.4	110	5,350
P1	Paving	Pavers	1	8	130	0.4	110	48,048
P1	Paving	Paving Equipment	1	8	132	0.4	110	41,818
P1	Paving	Rollers	1	8	80	0.4	110	26,752
P1	Paving	Signal Boards	1	8	6	0.8	110	4,330
P1	Paving	Sweepers/Scrubbers	1	8	64	0.5	110	25,907
P2	Demolition	Air Compressors	3	8	78	0.5	25	22,464
P2	Demolition	Backhoes	1	8	97	0.4	25	7,178
P2	Demolition	Crawler Tractors	1	8	212	0.4	25	18,232
P2	Demolition	Dumpers/Tenders	1	8	16	0.4	25	1,216
P2	Demolition	Excavators	1	8	158	0.4	49	23,536
P2	Demolition	Forklifts	1	8	89	0.2	49	6,978
P2	Demolition	Generator Sets	1	8	84	0.7	49	24,367

Phase	Construction Phase	Equipment	Number	Hours/Day	HP	Load	Days	Total hp-hr
P2	Demolition	Jackhammers (Backhoes)	3	8	97	0.4	49	42,207
P2	Demolition	Skid Steer Loaders	1	8	65	0.4	49	9,428
P2	Demolition	Sweepers/Scrubbers	1	8	64	0.5	49	11,540
P2	Site Preparation	Excavators	2	8	158	0.4	61	58,599
P2	Site Preparation	Forklifts	1	8	89	0.2	61	8,686
P2	Site Preparation	Loaders	2	8	97	0.4	61	35,029
P2	Site Preparation	Scrapers	1	8	367	0.5	61	85,966
P2	Site Preparation	Sweepers/Scrubbers	1	8	64	0.5	61	14,367
P2	Grading/Excavation	Bore/Drill Rigs	2	8	221	0.5	147	259,896
P2	Grading/Excavation	Crawler Tractors	1	8	212	0.4	147	107,204
P2	Grading/Excavation	Excavators	3	8	158	0.4	147	211,821
P2	Grading/Excavation	Pile Drivers (Excavators)	2	8	158	0.4	147	141,214
P2	Grading/Excavation	Sweepers/Scrubbers	2	8	64	0.5	147	69,243
P2	Drainage/Utility/Trenching	Backhoes	1	8	97	0.4	48	13,782
P2	Drainage/Utility/Trenching	Forklifts	2	8	89	0.2	48	13,670
P2	Drainage/Utility/Trenching	Skid Steer Loaders	1	8	65	0.4	48	9,235
P2	Foundations/Concrete Pours	Cement and Mortar Mixers	133	8	9	0.6	280	1,501,517
P2	Foundations/Concrete Pours	Pumps	3	8	84	0.7	280	417,715
P2	Building Construction	Air Compressors	1	8	78	0.5	273	81,769
P2	Building Construction	Cement and Mortar Mixers	2	8	9	0.6	273	22,015
P2	Building Construction	Cranes	1	8	231	0.3	273	146,306
P2	Building Construction	Crawler Tractors	1	8	212	0.4	273	199,093
P2	Building Construction	Forklifts	2	8	89	0.2	273	77,750
P2	Building Construction	Generator Sets	2	8	84	0.7	273	271,515
P2	Building Construction	Sweepers/Scrubbers	1	8	64	0.5	273	64,297
P2	Architectural Coating	Air Compressors	1	8	78	0.5	97	29,053
P2	Paving	Crushing/Proc. Equipment	2	8	85	0.8	67	71,074
P2	Paving	Dumpers/Tenders	1	8	16	0.4	67	3,259
P2	Building Construction	Cranes	1	8	231	0.3	273	146,306
P2	Building Construction	Crawler Tractors	1	8	212	0.4	273	199,093
P2	Building Construction	Forklifts	2	8	89	0.2	273	77,750
P2	Building Construction	Generator Sets	2	8	84	0.7	273	271,515
P2	Building Construction	Sweepers/Scrubbers	1	8	64	0.5	273	64,297
P2	Architectural Coating	Air Compressors	1	8	78	0.5	97	29,053
P2	Paving	Crushing/Proc. Equipment	2	8	85	0.8	67	71,074
P2	Paving	Dumpers/Tenders	1	8	16	0.4	67	3,259
							Total >100	2,236,855
							Total <100	5,074,177

Year	Type	Fuel Type	CC1 VMT	CC2 VMT	Total VMT	Fuel Consumption (gal)
2023	Worker	Gasoline	168,227	64,239	232,466	9,104
2023	Vendor	Diesel	197,920	5,796	203,716	28,522
2023	Haul	Diesel	386,520	560,012	946,532	158,488
2024	Worker	Gasoline	763,959	411,100	1,175,059	45,166
2024	Vendor	Diesel	169,436	399,731	569,167	78,982
2024	Haul	Diesel	0	249,388	249,388	41,235
2025	Worker	Gasoline	0	1,170,502	1,170,502	44,223
2025	Vendor	Diesel	0	347,277	347,277	47,703
2025	Haul	Diesel	0	0	0	0

Vehicle Type	gallons/mile			
	2023	2024	2025	2026
Haul	0.16744	0.165345	0.163052	0.160756677
Vendor	0.140008	0.138767	0.137363	0.135957296
Worker	0.039164	0.038437	0.037781	0.037118687

Source: EMFAC2021

Fuel Type	Fuel Consumption (gal)			
	2023	2024	2025	Total
Worker	9,104	45,166	44,223	98,493
Vendor	28,522	78,982	47,703	155,206
Haul	158,488	41,235	0	199,723

Construction VMT - PA1

Phase	Subphase	Phase Start Date	Phase End Date	Year	Working Days	Worker Trip Number	Vendor Trip Number	Haul Trip Number	Worker Trips	Vendor Trips	Haul Trips	Worker VMT	Vendor VMT	Haul VMT
PA1	Demolition	2/16/2023	3/16/2023	2023	25	30	4	178	750	100	178	11025	690	5340
PA1	Site Preparation	3/1/2023	4/1/2023	2023	28	8	4	40	224	112	40	3293	773	1200
PA1	Grading/Excavation	3/17/2023	6/23/2023	2023	85	12	4	12666	1020	340	12666	14994	2346	379980
PA1	Drainage/Utilities/Trenching	6/24/2023	7/25/2023	2023	27	20	4	0	540	108	0	7938	745	0
PA1	Foundations/Concrete Pours	7/26/2023	12/31/2023	2023	136	60	204	0	8160	27744	0	119952	191434	0
PA1	Foundations/Concrete Pours	1/1/2024	2/6/2024	2024	32	60	204	0	1920	6528	0	28224	45043	0
PA1	Building Construction	12/26/2023	12/31/2023	2023	5	150	56	0	750	280	0	11025	1932	0
PA1	Building Construction	1/1/2024	12/20/2024	2024	305	150	56	0	45750	17080	0	672525	117852	0
PA1	Architectural Coating	6/15/2024	11/9/2024	2024	127	20	4	0	2540	508	0	37338	3505	0
PA1	Paving	7/5/2024	11/9/2024	2024	110	16	4	0	1760	440	0	25872	3036	0

Worker, Vendor, Haul Trip Lengths

	Default Trip Length (mi)
Worker	14.7
Vendor	6.9
Haul	30.0

Trip Type	2023	2024	Total
Worker	168,227	763,959	932,186
Vendor	197,920	169,436	367,356
Haul	386,520	0	386,520

Source: Haul trip length = distance to landfill

Construction VMT - PA2

Phase	Subphase	Phase Start Date	Phase End Date	Year	Working Days	Worker Trip Number	Vendor Trip Number	Haul Trip Number	Worker Trips	Vendor Trips	Haul Trips	Worker VMT	Vendor VMT	Haul VMT
PA2	Demolition	7/11/2023	9/5/2023	2023	49	40	4	820	1960	196	820	28812	1352	24600
PA2	Site Preparation	8/15/2023	10/24/2023	2023	61	10	4	160	610	244	160	8967	1684	4800
PA2	Grading/Excavation	9/6/2023	12/31/2023	2023	100	18	4	17687	1800	400	17687	26460	2760	530612
PA2	Grading/Excavation	1/1/2024	2/23/2024	2024	47	18	4	8313	846	188	8313	12436	1297	249388
PA2	Drainage/Utilities/Trenching	2/24/2024	4/19/2024	2024	48	20	4	0	960	192	0	14112	1325	0
PA2	Foundations/Concrete Pours	4/22/2024	12/31/2024	2024	218	120	264	0	26160	57552	0	384552	397109	0
PA2	Foundations/Concrete Pours	1/1/2025	3/13/2025	2025	62	120	264	0	7440	16368	0	109368	112939	0
PA2	Building Construction	2/6/2025	12/20/2025	2025	273	250	122	0	68250	33306	0	1003275	229811	0
PA2	Architectural Coating	8/10/2025	12/1/2025	2025	97	24	4	0	2328	388	0	34222	2677	0
PA2	Paving	9/15/2025	12/1/2025	2025	67	24	4	0	1608	268	0	23638	1849	0

Worker, Vendor, Haul Trip Lengths

	Default Trip Length (mi)
Worker	14.7
Vendor	6.9
Haul	30.0

Trip Type	2023	2024	2025	Total
Worker	64,239	411,100	1,170,502	1,645,841
Vendor	5,796	399,731	347,277	752,804
Haul	560,012	249,388	0	809,400

Source: Haul trip length = distance to landfill

**Culver Crossings
Construction Energy Analysis**

Temporary Construction Trailer - Electricity			
Land Use	Square Feet	Energy Use per year (kWh)	Total Energy Use (kWh)
General Office	1,000	12,990	37,546
Note: CalEEMod 2016.3.2 used to estimate energy use for temporary construction office			

Construction Water GHG Emissions Total	Electricity Emission Factor (MT CO2e/MWh)	Electricity Emission Factor (lbs CO2e/MWh)
8.72	0.23	512.23

**Culver Crossings
Construction Energy**

Construction Water Energy Estimates

Source	Gallons per Day	Number of Days	Total Construction Water Use (Mgal)	Electricity Demand from Water Conveyance (kWh)	Annual Electricity Demand from Water Conveyance (kWh)
Project Construction	2,000	1,055	2.11	1,652.1	571.6
Total			2.110	1,652.1	571.6

CalEEMod Water Electricity Factors	Electricity Intensity Factor for Recycled Non-Potable Water	Electricity Intensity Factor for Recycled Water Conveyance
	419	364

Construction Water GHG	Electricity Emission (MT CO2e/MWh)	Electricity Emission (lbs CO2e/MWh)
0.38	0.23	512.23

Sources and Assumptions:

Next 10 and Pacific Institute, The Future of California's Water-Energy-Climate Nexus, Table 4, https://pacinst.org/wp-content/uploads/2021/09/Water-Energy-Report_Sept-2021.pdf

-Assumes use of non-potable recycled water and conveyance of recycled water to the South Coast Region

-Conservatively assumes a water consumption rate of 2,000 gpd during construction per Section 4.14.1 Utilities and Service Systems - Water of the Draft EIR

Operational Energy Calculations

**Culver Crossings
Operational Energy Demand**

Electricity	kWh/yr	MWh/yr
Existing		
Building Energy - Los Angeles	1,151,231	1,151
Building Energy - Culver City	52,980	53
Water Use - Los Angeles	13,284	13
Water Use - Culver City	136	0
Subtotal Existing - Los Angeles	1,164,515	1,165
Subtotal Existing - Culver City	53,117	53
Existing Total	1,217,631	1,218
Project		
Los Angeles - Office	4,996,260	4,996
Los Angeles - Parking	2,015,661	2,016
Los Angeles - Restaurant	1,387,929	1,388
Culver City - Office	2,261,180	2,261
Culver City - Parking	904,346	904
Los Angeles - Building Total	8,399,850	8,400
Culver City - Building Total	3,165,526	3,166
		-
EV Charging - Los Angeles Site	118,844	119
EV Charging - Culver City Site	77,088	77
Total Building Energy	11,565,376	11,565
Total	11,761,308	11,761.31
Total (including water, see below)	12,139,321	12,139
Total Net Electricity	10,921,690	10,922
Total - Los Angeles Site	8,794,737	8,795
Total - Culver City Site	3,344,584	3,345

Source: California Air Resources Board, CalEEMod, Version 2020.4.0.

Water	Mgal/yr	MWh/yr
Existing		
Los Angeles Site	1.0	13.3
Culver City Site	0.0	0.1
Existing Total	1.0	13.4
Project		
Los Angeles Site	21.2	276.0
Culver City Site	7.8	102.0
Total	29.0	378.0
Electricity Intensity Factors		
	kWh/Mgal	
Electricity Factor - Supply	9,727	
Electricity Factor - Treat	111	
Electricity Factor - Distribute	1,272	
Electricity Factor - Wastewater Treatment	1,911	
Electricity from Water Demand		
	kWh/yr	MWh/yr
Existing Total	13,420.08	13.4
Project Total	378,012.91	378.0

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Water Demand based on Project Water supply Assessment

Sewage Facilities Charge, Sewage Generation Factor for Residential and Commercial Categories, 2012.

Natural Gas	kBtu/yr	cubic foot (cf)
Existing Site		
Building Energy	697,538	673,949
Mobile Sources	397,804	384,351
Existing Site Total	1,095,341	1,058,301
Project		
Los Angeles - Restaurant	7,388,065	7,138,227
Mobile Sources	1,294,728	1,250,945
Total	8,682,793	8,389,172
Total Net	7,587,452	7,330,872

Source: California Air Resources Board, CalEEMod, Version 2020.4.0.

Conversion factor of 1,035 Btu per cubic foot based on United States Energy Information Administration data

(see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, February 28, 2018,

https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm. Accessed March 2020.)

Electricity	MWh/yr
SCE System Sales (2026)	120,000,000
LADWP 2026-2027 Total Energy Sales	27,428,711
Net Annual - Los Angeles	7,630.22
Net Annual - Culver City	3,291.47
Percent Project of LADWP	0.028%
Percent of SCE	0.003%

Source: Los Angeles Department of Water and Power, 2017 Long-Term Resource Plan, Appendix A, 2017. <https://efiling.energy.ca.gov/getdocument.aspx?tn=227897>

CEC. 2018. The California Energy Demand 2018–2030 Revised Forecast. Available at: http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-03/TN222287_20180120T141708_The_California_Energy_Demand_20182030_Revised_Forecast.pdf

Natural Gas	million cubic foot (cf)
SoCalGas 2026	896,805
Net Annual	7.331
Percent Net Project of SoCalGas	0.0008%

Source: California Gas and Electric Utilities, 2020 California Gas Report, p. 145,2020.

**Culver Crossings
Operational Energy Analysis**

Estimated Electricity demand from Electric Vehicle Supply Equipment (EVSE)

Land Use Type	Number of EVSE Charging Spaces	Average Charge (kWh/day) ^a	Days/Year	Electricity Demand (kWh/yr)	Electricity Demand (MWh/yr)
Culver City	48	4.4	365	77,088	77
Los Angeles	74	4.4	365	118,844	119
Total	122	4.4	365	195,932	196

Notes:

- a. Estimated based on reference sources listed below.
- b. Project would install EV charging spaces for 10 percent of its parking capacity for immediate use
- c. Project would install pre-wiring for EV charging spaces for 30 percent of its parking capacity for future use (so 20% in addition to the immediate use).

Sources:

US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions.

Available at: https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html.

US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace.

Available at: https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf.

UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs.

Available at: <http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf>.

**Culver Crossings
Operational Energy Analysis
Fuel Usage from VMT**

Daily VMT: 37,134 miles/day
Annual VMT⁴: 13,553,910 miles/year

Fuel Type: ¹	Gasoline	Diesel	Electricity	Natural Gas	Plug-in Hybrid
Percent:	88.2%	5.2%	4.1%	0.3%	2.2%
Miles per Gallon Fuel:	25.0	8.8	-	4.2	58.8
Annual VMT by Fuel Type (miles):	11,956,216	701,134	560,310	42,596	293,654
Annual Fuel Usage (gallons):	477,331	80,033	-	10,123	4,995
Annual Natural Gas Use (kbtu):				1,294,728	
Annual Fuel Savings from Electric Vehicles: ²	-	-	22,369		

	Los Angeles County Fuel Consumption ³	
	Gasoline	Diesel
Los Angeles County:	2,770,000,000	610,204,082
Existing Total:	159,408	23,179
Project Annual Total:	482,326	80,538
Project Mobile Sources:	482,326	80,033
Project Emergency Generator:	-	504
Net Annual Total:	322,918	57,359
Percent Net Project of Los Angeles County:	0.0117%	0.0094%

Notes:

1. California Air Resources Board, EMFAC2021 (South Coast Air Basin; Annual; 2026', Aggregate Fleet).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.
3. California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2020. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed March 2022. Diesel is adjusted to account for retail (49%) and non-retail (51%) diesel sales.
4. City of LA VMT Calculator Tool

**Culver Crossings
Operational Energy Analysis
Fuel Usage from VMT**

Annual VMT (Traffic Study)⁴: 3,977,333 miles/year

Fuel Type: ¹	Gasoline	Diesel	Electricity	Natural Gas	Plug-in Hybrid
Percent:	91.9%	4.7%	1.7%	0.3%	1.4%
Miles per Gallon Fuel:	23.1	8.0	-	4.0	51.7
Annual VMT by Fuel Type (miles):	3,655,698	186,585	68,428	12,314	54,308
Annual Fuel Usage (gallons):	158,357	23,179	-	3,110	1,051
Annual Natural Gas Use (kbtu):				397,804	
Annual Fuel Savings from Electric Vehicles: ²	-	-	2,964		

	Los Angeles County Fuel Consumption ³	
	Gasoline	Diesel
Los Angeles County:	2,770,000,000	610,204,082
Existing Annual Total:	159,408	23,179
Percent Net Project of Los Angeles County:	0.0058%	0.0038%

Notes:

1. California Air Resources Board, EMFAC2021 (South Coast Air Basin; Annual; 2026', Aggregate Fleet).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.
3. California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2020. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed March 2022. Diesel is adjusted to account for retail (49%) and non-retail (51%) diesel sales.
4. CalEEMod v 2020.4.0 Default VMT

Culver Crossings

Emergency Generator Fuel Use

	Total CO₂ MT/yr	Fuel Type	Factor KGCO₂/gal	Gallons
Emergency Generator	5.1206	diesel	10.15	504

Assumptions

10.15 KGCO₂/gal diesel
8.91 KGCO₂/gal gasoline
1 MT = 1,000 kilograms

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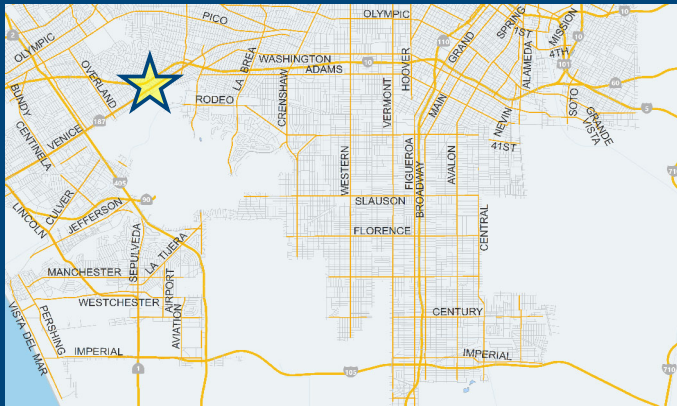


Project Information

Project:

Scenario:

Address:



TDM Strategies

Select each section to show individual strategies
Use to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No

- A** Parking
- B** Transit
- C** Education & Encouragement
- D** Commute Trip Reductions
- E** Shared Mobility
- F** Bicycle Infrastructure
 - Implement/Improve On-street Bicycle Facility Select Proposed Prj or Mitigation to include this strategy
 Proposed Prj Mitigation
 - Include Bike Parking Per LAMC Select Proposed Prj or Mitigation to include this strategy
 Proposed Prj Mitigation
 - Include Secure Bike Parking and Showers Select Proposed Prj or Mitigation to include this strategy
 Proposed Prj Mitigation

G Neighborhood Enhancement

Proposed Project Land Use Type	Value	Unit
Office General Office	536	ksf

Analysis Results

Proposed Project	With Mitigation
3,786 Daily Vehicle Trips	3,786 Daily Vehicle Trips
37,134 Daily VMT	37,134 Daily VMT
0.0 Household VMT per Capita	0.0 Household VMT per Capita
11.2 Work VMT per Employee	11.2 Work VMT per Employee

Significant VMT Impact?

Household: No	Household: No
Threshold = 6.0 15% Below APC	Threshold = 6.0 15% Below APC
Work: No	Work: No
Threshold = 11.6 15% Below APC	Threshold = 11.6 15% Below APC



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Report 1: Project & Analysis Overview

Date: December 17, 2021

Project Name: Project Crossings

Project Scenario:

Project Address: 8876 W VENICE BLVD, 90034



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Project Information			
Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	0	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	0	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
Retail	General Retail	0.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	0.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
	Office	General Office	536.000
Medical Office		0.000	ksf
Industrial	Light Industrial	0.000	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
School	University	0	Students
	High School	0	Students
	Middle School	0	Students
	Elementary	0	Students
	Private School (K-12)	0	Students

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<i>Other</i>	<i>0</i>	<i>Trips</i>
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Project Address: 8876 W VENICE BLVD, 90034



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Analysis Results			
Total Employees: 2,144			
Total Population: 0			
Proposed Project		With Mitigation	
3,786	Daily Vehicle Trips	3,786	Daily Vehicle Trips
37,134	Daily VMT	37,134	Daily VMT
0	Household VMT per Capita	0	Household VMT per Capita
11.2	Work VMT per Employee	11.2	Work VMT per Employee
Significant VMT Impact?			
APC: South Los Angeles			
Impact Threshold: 15% Below APC Average			
Household = 6.0			
Work = 11.6			
Proposed Project		With Mitigation	
VMT Threshold	Impact	VMT Threshold	Impact
Household > 6.0	No	Household > 6.0	No
Work > 11.6	No	Work > 11.6	No

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Report 2: TDM Inputs

Date: December 17, 2021

Project Name: Project Crossings

Project Scenario:

Project Address: 8876 W VENICE BLVD, 90034



Version 1.3

TDM Strategy Inputs				
Strategy Type	Description	Proposed Project	Mitigations	
Parking	<i>Reduce parking supply</i>	<i>City code parking provision (spaces)</i>	<i>0</i>	
		<i>Actual parking provision (spaces)</i>	<i>0</i>	
	<i>Unbundle parking</i>	<i>Monthly cost for parking (\$)</i>	<i>\$0</i>	
	<i>Parking cash-out</i>	<i>Employees eligible (%)</i>	<i>0%</i>	
	<i>Price workplace parking</i>	<i>Daily parking charge (\$)</i>	<i>\$0.00</i>	<i>\$0.00</i>
		<i>Employees subject to priced parking (%)</i>	<i>0%</i>	<i>0%</i>
	<i>Residential area parking permits</i>	<i>Cost of annual permit (\$)</i>	<i>\$0</i>	<i>\$0</i>
(cont. on following page)				

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Report 2: TDM Inputs

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Project Name: Project Crossings

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Version 1.3

TDM Strategy Inputs, Cont.			
Strategy Type	Description	Proposed Project	Mitigations
Transit	<i>Reduce transit headways</i>	<i>Reduction in headways (increase in frequency) (%)</i>	0%
		<i>Existing transit mode share (as a percent of total daily trips) (%)</i>	0%
		<i>Lines within project site improved (<50%, >=50%)</i>	0
	<i>Implement neighborhood shuttle</i>	<i>Degree of implementation (low, medium, high)</i>	0
		<i>Employees and residents eligible (%)</i>	0%
	<i>Transit subsidies</i>	<i>Employees and residents eligible (%)</i>	0%
<i>Amount of transit subsidy per passenger (daily equivalent) (\$)</i>		\$0.00	
Education & Encouragement	<i>Voluntary travel behavior change program</i>	<i>Employees and residents participating (%)</i>	0%
	<i>Promotions and marketing</i>	<i>Employees and residents participating (%)</i>	0%
(cont. on following page)			

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Report 2: TDM Inputs

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Project Scenario:

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TDM Strategy Inputs, Cont.				
Strategy Type		Description	Proposed Project	Mitigations
Commuter Trip Reductions	<i>Required commute trip reduction program</i>	<i>Employees participating (%)</i>	0%	0%
	<i>Alternative Work Schedules and Telecommute</i>	<i>Employees participating (%)</i>	0%	0%
		<i>Type of program</i>	0	0
	<i>Employer sponsored vanpool or shuttle</i>	<i>Degree of implementation (low, medium, high)</i>	0	0
		<i>Employees eligible (%)</i>	0%	0%
		<i>Employer size (small, medium, large)</i>	0	0
<i>Ride-share program</i>	<i>Employees eligible (%)</i>	0%	0%	
Shared Mobility	<i>Car share</i>	<i>Car share project setting (Urban, Suburban, All Other)</i>	0	0
	<i>Bike share</i>	<i>Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)</i>	0	0
		<i>School carpool program</i>	<i>Level of implementation (Low, Medium, High)</i>	0
(cont. on following page)				

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Report 2: TDM Inputs

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Project Scenario:

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TDM Strategy Inputs, Cont.				
Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	<i>Implement/Improve on-street bicycle facility</i>	<i>Provide bicycle facility along site (Yes/No)</i>	0	0
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	Includes indoor bike parking/lockers, showers, & repair station (Yes/No)	Yes	Yes
Neighborhood Enhancement	<i>Traffic calming improvements</i>	<i>Streets with traffic calming improvements (%)</i>	0%	0%
		<i>Intersections with traffic calming improvements (%)</i>	0%	0%
	<i>Pedestrian network improvements</i>	<i>Included (within project and connecting off-site/within project only)</i>	0	0

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Report 3: TDM Outputs

Date: December 17, 2021

Project Name: Project Crossings

Project Scenario:

Project Address: 8876 W VENICE BLVD, 90034



Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Compact Infill

		Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction		Source
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: December 17, 2021

Project Name: Project Crossings

Project Scenario:

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TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Compact Infill

		Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction		Source
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
		Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
Neighborhood Enhancement	Traffic calming improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
	COMBINED TOTAL	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
MAX. TDM EFFECT	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%

$$= \text{Minimum}(X\%, 1 - [(1-A) * (1-B) \dots])$$

where X%=

PLACE	urban	75%
TYPE	compact infill	40%
MAX:	suburban center	20%
	suburban	15%

Note: $(1 - [(1-A) * (1-B) \dots])$ reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B, ...). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G*) for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: December 17, 2021

Project Name: Project Crossings

Project Scenario:

Project Address: 8876 W VENICE BLVD, 90034



Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	6.5	0	0
Home Based Other Production	0	0.0%	0	5.1	0	0
Non-Home Based Other Production	557	-4.5%	532	6.3	3,509	3,352
Home-Based Work Attraction	2,473	-21.6%	1,940	12.5	30,913	24,250
Home-Based Other Attraction	1,115	-25.6%	830	6.6	7,359	5,478
Non-Home Based Other Attraction	557	-4.5%	532	8.5	4,735	4,522

MXD Methodology with TDM Measures

	<i>Proposed Project</i>			<i>Project with Mitigation Measures</i>		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-1.2%	0	0	-1.2%	0	0
Home Based Other Production	-1.2%	0	0	-1.2%	0	0
Non-Home Based Other Production	-1.2%	525	3,310	-1.2%	525	3,310
Home-Based Work Attraction	-1.2%	1,916	23,948	-1.2%	1,916	23,948
Home-Based Other Attraction	-1.2%	820	5,410	-1.2%	820	5,410
Non-Home Based Other Attraction	-1.2%	525	4,466	-1.2%	525	4,466

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0

Total Employees: 2,144

APC: South Los Angeles

	<i>Proposed Project</i>	<i>Project with Mitigation Measures</i>
<i>Total Home Based Production VMT</i>	0	0
<i>Total Home Based Work Attraction VMT</i>	23,948	23,948
<i>Total Home Based VMT Per Capita</i>	0.0	0.0
<i>Total Work Based VMT Per Employee</i>	11.2	11.2