

7761 National City Carmax
Energy Calculations

PROJECT CONSTRUCTION - ON-ROAD

Phase	Worker Trips/Day	Worker Trip Length	Worker VMT/Day	Phase Length (Days)	Work VMT (Total)	Vendor Trips (Total)	Vendor Trip Length	Vendor VMT (Total)	Hauling Trips	Hauling Trip Length	Hauling VMT (Total)	
Site Preparation	18	10.8	194.40	10	1,944.00	0	7.3	0	0	20	0	
Grading	15	10.8	162.00	130	21,060.00	0	7.3	0	20,797	20	415,940.00	
Building Construction	165	10.8	1,782.00	230	409,860.00	65	7.3	474.50	0	20	0	
Architectural Coatings	33	10.8	356.40	20	7,128.00	0	7.3	0	0	20	0	
Paving	15	10.8	162.00	20	3,240.00	0	7.3	0	0	20	0	Total VMT
					443,232.00			474.50			415,940.00	859,646.50

EMFAC2017 (v1.0.2) Emission Rates

Region Type: Air District
Region: SAN DIEGO COUNTY APCD
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	Fuel	SD Population	Pop %	SD VMT	Fuel Consumption (1,000 gal/day)	SD Gallons/Day	Fuel Efficiency (mpg)	Total VMT	Total Fuel Consumption		
Workers													
San Diego County APCD	2021	LDA	GAS	1,405,370.34	66.6%	54,325,093.78	1,782.11	1,782,112.46	30.48	295,117.58	9,681.21	GAS	
San Diego County APCD	2021	LDA	DSL	16,466.05	0.8%	635,343.57	13.96	13,956.97	45.52	3,457.75	75.96	15,411.77	
San Diego County APCD	2021	LDA	ELEC	25,194.85	1.2%	1,016,385.30	0.00	0.00	NA	5,290.74	NA		
San Diego County APCD	2021	LDT1	GAS	167,731.34	7.9%	5,908,845.81	230.79	230,789.59	25.60	35,222.36	1,375.73		
San Diego County APCD	2021	LDT1	DSL	122.75	0.0%	2,248.50	0.10	99.82	22.52	25.78	1.14		
San Diego County APCD	2021	LDT1	ELEC	676.89	0.0%	28,400.04	0.00	0.00	NA	142.14	NA	DSL	
San Diego County APCD	2021	LDT2	GAS	489,176.14	23.2%	17,914,883.58	759.48	759,478.82	23.59	102,723.44	4,354.83	94.98	
San Diego County APCD	2021	LDT2	DSL	2,855.05	0.1%	121,070.41	3.61	3,609.70	33.54	599.54	17.88		
San Diego County APCD	2021	LDT2	ELEC	3,108.08	0.1%	106,352.43	0.00	0.00	NA	652.67	NA		
Delivery/Hauling													
San Diego County APCD	2021	T7 CAIRP	DSL	1,877.95	11.9%	333,495.86	50.07	50,070.29	6.66	56.34	8.46	49,385.60	7,414.64
San Diego County APCD	2021	T7 CAIRP construction	DSL	174.77	1.1%	31,581.27	5.49	5,490.54	5.75	5.24	0.91	4,596.16	799.06
San Diego County APCD	2021	T7 NNOOS	DSL	2,026.69	12.8%	406,553.25	58.76	58,758.69	6.92	60.80	8.79	53,297.25	7,702.99
San Diego County APCD	2021	T7 NOOS	DSL	737.37	4.7%	131,026.46	20.13	20,134.02	6.51	22.12	3.40	19,390.99	2,979.69
San Diego County APCD	2021	T7 POLA	DSL	231.08	1.5%	29,275.80	5.62	5,623.06	5.21	6.93	1.33	6,076.74	1,167.17
San Diego County APCD	2021	T7 Public	DSL	1,485.61	9.4%	30,113.83	5.95	5,945.86	5.06	44.57	8.80	39,067.97	7,713.82
San Diego County APCD	2021	T7 Single	DSL	2,092.36	13.2%	137,751.65	22.95	22,952.19	6.00	62.77	10.46	55,024.15	9,168.13
San Diego County APCD	2021	T7 single construction	DSL	1,114.26	7.0%	78,347.32	14.74	14,743.51	5.31	33.43	6.29	29,302.46	5,514.18
San Diego County APCD	2021	T7 SWCV	DSL	636.64	4.0%	26,012.27	11.72	11,724.39	2.22	19.10	8.61	16,742.25	7,546.16
San Diego County APCD	2021	T7 SWCV	DSL	841.79	5.3%	34,235.23	13.98	13,984.93	2.45	25.25	10.32	22,137.08	9,042.89
San Diego County APCD	2021	T7 tractor	DSL	3,541.85	22.4%	484,557.39	67.27	67,269.37	7.20	106.26	14.75	93,142.26	12,930.61
San Diego County APCD	2021	T7 tractor construction	DSL	930.47	5.9%	64,629.65	12.25	12,250.16	5.28	27.91	5.29	24,469.29	4,638.01
San Diego County APCD	2021	T7 utility	DSL	125.78	0.8%	2,551.98	0.43	434.17	5.88	3.77	0.64	3,307.82	562.76
										474.50	88.05	415,940.00	77,180.10
												Total Diesel	77,363.12

PROJECT CONSTRUCTION - ON-ROAD

Phase	Phase Length (Days)	Equipment	Amount	Daily Usage Hours	Total Usage Hours	Horse Power	Load Factor	Fuel Used (Gallons)
Site Preparation	10	Rubber Tired Dozer	3	8	240	247	0.40	1,224
	10	Tractors/Loaders/Backhoes	4	8	320	97	0.37	659
Grading	130	Excavators	1	8	1,040	158	0.38	3,224
	130	Graders	1	8	1,040	187	0.41	4,116
	130	Rubber Tired Dozer	1	8	1,040	247	0.40	5,305
	130	Tractors/Loaders/Backhoes	3	8	3,120	97	0.37	6,427
Building Construction	230	Cranes	1	7	1,610	231	0.29	5,568
	230	Forklifts	3	8	5,520	89	0.20	5,639
	230	Generator Sets	1	8	1,840	84	0.74	6,564
	230	Tractors/Loaders/Backhoes	3	7	4,830	97	0.37	9,949
	230	Welders	1	8	1,840	46	0.45	2,186
Paving	20	Pavers	2	8	320	130	0.42	902
	20	Paving Equipment	2	8	320	132	0.36	785
	20	Rollers	2	8	320	80	0.38	558
Architectural Coatings	20	Air Compressors	1	6	120	78	0.48	258
								53,364

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VEHICLES

EMFAC2017 (v1.0.2) Emissions Inventory

Region Type: Air District

Region: San Diego County APCD

Calendar Year: 2022

Season: Annual

Vehicle Classification: EMFAC2011 Categories

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

Daily Trips	939.00
Tip Length	7.48
Daily VMT	7,023.72
Annual VMT	2,563,657.80

Region	CalYr	VehClass	Fuel	SD Population	Pop %	SD VMT	SD Trips	Fuel Consumption (1,000 gal/day)	SD Gallons/Day	Fuel Efficiency	VMT	Gallons or kWh/Day	Gallons or kWh/Year
San Diego County APCD	2022	LDA	GAS	1,435,699.42	96.8%	55,007,780.65	6,783,861.73	1,756.77	1,756,768.47	31.31 mpg	6,802.22	217.24	79,292.89
San Diego County APCD	2022	LDA	DSL	17,133.82	1.2%	652,152.32	80,255.84	13.99	13,986.90	46.63 mpg	81.18	1.74	635.49
San Diego County APCD	2022	LDA	ELEC	29,615.72	2.0%	1,220,433.52	147,126.82	0.00	0.00	3.40 kWh/mile	140.32	41.27	15,063.42
								1,770.76	1,770,755.37		7,023.72	260.25	94,991.80

ELECTRICITY & NATURAL GAS

LandUseSubType	LandUseUnitAmount	LandUseSizeMetric
Automobile Care Center	18.774	1000 sq ft
Parking Lot	8.68	acres

EnergyUseLandUseSubType	kWh/Year	kBTU/Year
Automobile Care Center	156,012.00	217,027.00
Parking Lot	132335	0
Total/year	288,347.00	217,027.00