

Energy Calculations

APPENDIX F

Kia Dealership Calabasas Project: Energy Calculations

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Los Angeles (SC)

Calendar Year: 2025

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption
Los Angeles	2025	HHDT	Aggregate	Aggregate	Gasoline	38.0097023	2730.11477	760.498124	0.65926157
Los Angeles	2025	LDA	Aggregate	Aggregate	Gasoline	3261717.88	128067965	15146578.4	4326.79884
Los Angeles	2025	LDT1	Aggregate	Aggregate	Gasoline	307303.616	11174163.8	1354474.76	452.812407
Los Angeles	2025	LDT2	Aggregate	Aggregate	Gasoline	1598846.9	65845213.9	7529127.14	2702.16035
Los Angeles	2025	LHDT1	Aggregate	Aggregate	Gasoline	123869.955	4952849.99	1845477.76	357.899358
Los Angeles	2025	LHDT2	Aggregate	Aggregate	Gasoline	18894.4929	706862.803	281499.791	58.684482
Los Angeles	2025	MCY	Aggregate	Aggregate	Gasoline	150473.456	988230.886	300946.913	23.8977683
Los Angeles	2025	MDV	Aggregate	Aggregate	Gasoline	952282.793	36302116.5	4421639.45	1830.76438
Los Angeles	2025	MH	Aggregate	Aggregate	Gasoline	14653.5274	147454.46	1465.93888	30.4704749
Los Angeles	2025	MHDT	Aggregate	Aggregate	Gasoline	14350.9696	779405.278	287134.199	149.535558
Los Angeles	2025	OBUS	Aggregate	Aggregate	Gasoline	3574.77631	137680.663	71524.1243	27.0962254
Los Angeles	2025	SBUS	Aggregate	Aggregate	Gasoline	1407.56684	61982.3162	5630.26737	6.89058457
Los Angeles	2025	UBUS	Aggregate	Aggregate	Gasoline	434.388786	30651.9785	1737.55514	6.64377592
							249197307		9974.31347

24.98 MPG

Kia Dealership Calabasas Project Energy Calculations

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Los Angeles (SC)

Calendar Year: 2025

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption		
Los Angeles	2025	HHDT	Aggregate	Aggregate	Diesel	53941.6164	6714617.67	839109.565	1096.96105		
Los Angeles	2025	LDA	Aggregate	Aggregate	Diesel	8115.47098	234266.265	33198.0117	5.77506153		
Los Angeles	2025	LDT1	Aggregate	Aggregate	Diesel	107.136004	2101.61697	300.654505	0.09123334		
Los Angeles	2025	LDT2	Aggregate	Aggregate	Diesel	5200.08586	223595.116	25066.8345	6.948577		
Los Angeles	2025	LHDT1	Aggregate	Aggregate	Diesel	58715.6702	2596323.51	738569.267	126.231447		
Los Angeles	2025	LHDT2	Aggregate	Aggregate	Diesel	26698.0785	1155746.82	335828.242	66.4798879		
Los Angeles	2025	MDV	Aggregate	Aggregate	Diesel	11031.5042	427142.278	51916.9392	17.7816375		
Los Angeles	2025	MH	Aggregate	Aggregate	Diesel	5521.46755	58425.65	552.146755	5.8683984		
Los Angeles	2025	MHDT	Aggregate	Aggregate	Diesel	60424.4732	2523668.14	741487.057	282.307321		
Los Angeles	2025	OBUS	Aggregate	Aggregate	Diesel	2154.5367	166927.585	28085.5501	23.9932479		
Los Angeles	2025	SBUS	Aggregate	Aggregate	Diesel	1545.16291	30783.48	22373.959	4.19705522		
Los Angeles	2025	UBUS	Aggregate	Aggregate	Diesel	6.35643167	939.474467	25.4257267	0.16146728		
							14134537.6		1636.79639		
									8.64 MPG		All Diesel
									6.12 MPG		Hauling (HHDT)

Kia Dealership Calabasas Project: Energy Calculations

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Los Angeles (SC)

Calendar Year: 2026

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption
Los Angeles	2026	HHDT	Aggregate	Aggregate	Gasoline	31.7148317	2530.34468	634.550353	0.59500826
Los Angeles	2026	LDA	Aggregate	Aggregate	Gasoline	3219652.79	125598332	14941928.7	4156.99911
Los Angeles	2026	LDT1	Aggregate	Aggregate	Gasoline	303121.718	10988219.3	1336831.01	436.919481
Los Angeles	2026	LDT2	Aggregate	Aggregate	Gasoline	1632990.63	66847121.8	7689350.93	2677.27635
Los Angeles	2026	LHDT1	Aggregate	Aggregate	Gasoline	123929.22	4960391.72	1846360.72	351.17062
Los Angeles	2026	LHDT2	Aggregate	Aggregate	Gasoline	18802.3027	702537.446	280126.295	57.2172191
Los Angeles	2026	MCY	Aggregate	Aggregate	Gasoline	153887.314	1005181.47	307774.628	24.2350508
Los Angeles	2026	MDV	Aggregate	Aggregate	Gasoline	964398.546	36646219.4	4482010.2	1803.34991
Los Angeles	2026	MH	Aggregate	Aggregate	Gasoline	14307.0337	146047.572	1431.27565	30.1805053
Los Angeles	2026	MHDT	Aggregate	Aggregate	Gasoline	14018.6448	760040.596	280485.046	144.283686
Los Angeles	2026	OBUS	Aggregate	Aggregate	Gasoline	3466.02939	130669.041	69348.316	25.4669394
Los Angeles	2026	SBUS	Aggregate	Aggregate	Gasoline	1439.39443	63136.5028	5757.57771	6.9857751
Los Angeles	2026	UBUS	Aggregate	Aggregate	Gasoline	435.243322	30711.795	1740.97329	6.64548497
							247881139		9721.32514

25.50 MPG

Kia Dealership Calabasas Project: Energy Calculations

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: 2027

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption		
Los Angeles	2026	HHDT	Aggregate	Aggregate	Diesel	55277.3799	6819808.69	861655.494	1098.59029		
Los Angeles	2026	LDA	Aggregate	Aggregate	Diesel	7348.7165	212062.087	30172.5007	5.14976454		
Los Angeles	2026	LDT1	Aggregate	Aggregate	Diesel	88.7979738	1718.50539	245.829895	0.07420405		
Los Angeles	2026	LDT2	Aggregate	Aggregate	Diesel	5437.83471	230831.669	26139.7556	7.02553896		
Los Angeles	2026	LHDT1	Aggregate	Aggregate	Diesel	61552.2201	2704306.1	774249.496	130.827682		
Los Angeles	2026	LHDT2	Aggregate	Aggregate	Diesel	28207.8919	1209848.54	354819.794	69.1013368		
Los Angeles	2026	MDV	Aggregate	Aggregate	Diesel	11199.9232	428851.971	52578.8877	17.49813		
Los Angeles	2026	MH	Aggregate	Aggregate	Diesel	5685.02692	60243.6309	568.502692	6.05475308		
Los Angeles	2026	MHDT	Aggregate	Aggregate	Diesel	61381.3802	2536950.69	754101.065	282.497854		
Los Angeles	2026	OBUS	Aggregate	Aggregate	Diesel	2204.35975	167083.665	28903.3218	23.7955661		
Los Angeles	2026	SBUS	Aggregate	Aggregate	Diesel	1484.91963	29449.6402	21501.6363	4.00274451		
Los Angeles	2026	UBUS	Aggregate	Aggregate	Diesel	6.30137858	935.37048	25.2055143	0.16104319		
							14402090.6		1644.7789		
									8.76 MPG		All Diesel
									6.21 MPG		Hauling (HHDT)

Kia Dealership Project: Energy Calculations

Construction Phase	Worker Trips/day	Worker Miles/trip	Days	Worker Miles
Demolition	10	18.5	20	3,700
Site Preparation	5	18.5	2	185
Grading	7.5	18.5	40	5,550
Construction	23.8	18.5	200	87,968
Paving	17.5	18.5	10	3,238
Painting	4.8	18.5	10	880
Total Worker Miles				101,520

	EMFAC 2025	Gasoline	Avg. miles/gal	24.98
Worker Fuel Use			Total gallons	4,063

Construction Phase	Vendor Trips/day	Vendor Miles/trip	Days	Vendor Miles
Demolition	0	10.2	20	-
Site Preparation	0	10.2	2	-
Grading	0	10.2	40	-
Construction	10.6003964	10.2	200	21,625
Paving	0	10.2	10	-
Painting	0	10.2	10	-
Total Vendor Miles				21,625

	EMFAC 2025	Diesel	Avg. miles/gal	8.64
Vendor Fuel Use			Total gallons	2,504

Construction Phase	Haul Trips/day	Haul Miles/trip	Days	Haul Miles
Demolition	10.65	5.0	20	1,065
Site Preparation	0	5.0	2	-
Grading	44.4	5.0	40	8,875
Total Hauling Miles				9,940

	EMFAC 2025	Diesel HHDT Only (T7 tractor construction)	Avg. miles/gal	6.12
Hauling Fuel Use			Total gallons	1,624

Kia Dealership Calabasas Project: Energy Calculations

Construction Phase	Equipment	Qty	Hrs/day	HP	Load Factor	#Days	HP hr
Demolition	Concrete/Industrial	1	8	33	0.73	20	3,854
Demolition	Rubber Tired Dozer	1	1	367	0.4	20	2,936
Demolition	Tractors/Loaders/E	2	6	84	0.37	20	7,459
Site Preparation	Tractors/Loaders/E	1	8	84	0.37	2	497
Site Preparation	Graders	1	8	148	0.41	2	971
Grading	Graders	1	6	148	0.41	40	14,563
Grading	Rubber Tired Dozer	1	6	367	0.4	40	35,232
Grading	Tractors/Loaders/E	1	7	84	0.37	40	8,702
Building Constructio	Cranes	1	4	367	0.29	200	85,144
Building Constructio	Forklifts	2	6	82	0.2	200	39,360
Building Constructio	Tractors/Loaders/E	2	8	84	0.37	200	99,456
Paving	Pavers	1	7	81	0.42	10	2,381
Paving	Rollers	1	7	36	0.38	10	958
Paving	Cement and Morta	4	6	10	0.56	10	1,344
Paving	Tractors/Loaders/E	1	7	84	0.37	10	2,176
Architectural Coatin	Air Compressors	1	6	37	0.48	10	1,066

Total HP 306,100

HP = horsepower
gallons of diesel fuel per HP----hour= 0.05

Gallons 15,305

Kia Dealership Calabasas Project: Energy Calculations

Light-duty (up to 8,500 lb GVWR)	% VMT	Heavy-duty (> 8,500 lb GVWR)	% VMT
LDA	49.93249476	LHD1	2.65371054
LDT1	4.30691205	LHD2	0.67278389
LDT2	23.61768931	MH	0.28196881
MDV	14.18351829	MHD	1.09165171
MCY	2.17043255	HHD	0.87645398
		OBUS	0.08549190
		SBUS	0.06470650
		UBUS	0.06218740
% of VMT			
	94.2%		5.8%

Vehicle Class	% VMT	Annual VMT	EMFAC 2027 M	Gal/year	Fuel
All		4,324,322			
light duty	94.2%	4,073,989	25.50	159,772	gasoline
heavy-duty	5.8%	250,333	8.76	28,589	diesel