

Proposed Project Construction Off-Road Equipment										
Phase	Off-Road Equipment Type	Amount	Usage Hour/Day	Total Usage Days	Total Usage Hours/Equipment	Horsepower	Load Factor	Total Usage Hours/ Equipment	Horsepower-Hour	Fuel Usage (gallons)
Demolition	Concrete/Industrial Saws	1	8	45	360	81	0.73	360	21286.8	1089.88416
	Excavators	3	8	45	1080	158	0.38	1080	64843.2	3319.97184
	Rubber Tired Dozers	2	8	45	720	247	0.4	720	71136	3642.1632
Site Preparation	Rubber Tired Dozers	3	8	30	720	247	0.4	720	71136	3642.1632
	Tractors/Loaders/Backhoes	4	8	30	960	97	0.37	960	34454.4	1764.06528
Grading	Excavators	1	8	25	200	158	0.38	200	12008	614.8096
	Graders	1	8	25	200	187	0.41	200	15334	785.1008
	Rubber Tired Dozers	1	8	25	200	247	0.4	200	19760	1011.712
	Tractors/Loaders/Backhoes	3	8	25	600	97	0.37	600	21534	1102.5408
Building Construction	Cranes	1	7	425	2975	231	0.29	2975	199295.25	10203.9168
	Forklifts	3	8	425	10200	89	0.2	10200	181560	9295.872
	Generator Sets	1	8	425	3400	84	0.74	3400	211344	10820.8128
	Tractors/Loaders/Backhoes	3	7	425	8925	97	0.37	8925	320318.25	16400.2944
	Welders	1	8	425	3400	46	0.45	3400	70380	3603.456
Paving	Cement and Mortar Mixes	2	6	15	180	9	0.56	180	907.2	46.44864
	Pavers	1	8	15	120	130	0.42	120	6552	335.4624
	Paving Equipment	2	8	15	240	132	0.36	240	11404.8	583.92576
	Tractors/Loaders/Backhoes	1	8	15	120	97	0.37	120	4306.8	220.50816
	Rollers	2	8	15	240	80	0.38	240	7296	373.5552
Architectural Coating	Air Compressors	1	8	260	2080	78	0.48	2080	77875.2	3987.21024
									Total	72843.87328

Diesel

Proposed Project Construction Truck and Construction Worker Vehicle Fuel Efficiency				
Vehicle Type	Vehicle Class	EMFAC 2021 Outputs		Fuel Efficiency (miles/gallon)
		Fuel Consumption (1,000 gallons/day)	VMT (miles/day)	
Construction Truck	MHDT	129.3	1155909.0	8.9
	HHDT	202.3	1220548.0	6.0
	HHDT/MHDT	-	-	7.5
Construction Worker Vehicle	LDA	1408.4	42285386.0	30.0
	LDT1	139.0	3495530	25.2
	LDT2	872.9	21321177	24.4
	Worker Mix	-	-	27.4

Notes:

¹ For construction trucks assumes 50 percent HHDT and 50 percent MHDT vehicles, consistent with assumptions in CalEEMod for hauling trucks. For construction worker vehicles assumes 50 percent LDA, 25 percent LDT1, and 25 percent LDT2 vehicles, consistent with assumptions in CalEEMod for worker vehicles.

² EMFAC2021 was run for Orange County for the construction year 2024. Data was aggregated over all vehicle model years and speed bins.

³ The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Proposed Project Construction Vehicle Fuel Use - Diesel Vehicles						
Phase	Trip Type	Total Trips	Trip Length (miles)	Total VMT	Diesel Fuel Efficiency (miles/gallon)	Fuel Usage (gallons/year)
Demolition	Hauling	250	35	8750	6.0	1458.3
Grading	Hauling	6875	35	240625	6.0	40104.2
Building Construction	Vendor	33150	6.9	228735	7.5	30498.0
					Total	70602.2

Diesel

¹ Assumes 100 percent HHDT vehicles for haul trucks and 50 percent HHDT/50 percent MHDT vehicles for MHDT, consistent with assumptions in CalEEMod.

² EMFAC2021 was run for Orange County for the construction year 2024. Data was aggregated over all vehicle model years and speed bins.

³ The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Proposed Project Construction Worker Vehicle Fuel Use - Gasoline Vehicles							
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT	Gasoline Fuel Efficiency (miles/gallon)	Fuel Usage (gallons/year)
Demolition	15	45	1350	14.7	19845	27.4	724.3
Site Preparation	18	30	1080	14.7	15876	27.4	579.4
Grading	15	25	750	14.7	11025	27.4	402.4
Building Construction	200	425	170000	14.7	2499000	27.4	91204.4
Paving	20	15	600	14.7	8820	27.4	321.9
Architectural Coating	38	260	19760	14.7	290472	27.4	10601.2
					Total		103833.5

Gas

Total Construction Gasoline Usage	103833.5
Total Construction Diesel Usage	143446.0

Proposed Project Operational Trips			
Congregate Care (Assisted Living)			
Vehicle Class	CalEEMod	Total Project Trips	Total Trips per Vehicle Class
LDA	0.548528	537	294.6
LDT1	0.060762	537	32.6
LDT2	0.184345	537	99.0
MDV	0.125235	537	67.3
LHD1	0.024171	537	13.0
LHD2	0.006748	537	3.6
MHD	0.014885	537	8.0
HHD	0.004939	537	2.7
OBUS	0.000666	537	0.4
UBUS	0.000374	537	0.2
MCY	0.024916	537	13.4
SBUS	0.000699	537	0.4
MH	0.003732	537	2.0

Proposed Project Operational Trips – Fuel Efficiency					
Fuel	Vehicle Class	EMFAC2021 Outputs ¹			
		Fleet Mix (%) ²	Consumption (1,000 gallons/day)	VMT (miles/day)	Fuel Efficiency ³ (miles/gallon)
Gas	LDA	51%	1,326.2	41,577,927.1	31.4
	LDT1	4%	130.0	3,392,265.4	26.1
	LDT2	27%	849.8	21,784,157.5	25.6
	MDV	16%	610.0	12,693,098.0	20.8
	LHD1	2%	113.3	1,657,395.4	14.6
	MCY	0%	7.8	330,192.4	42.4
	MH	0%	11.4	55,665.0	4.9
	Fleet Mix	–	–	–	27.6
Diesel	LHD2	15%	23.8	422,248.8	17.7
	MHDT	41%	129.2	1,163,540.0	9.0
	HHDT	44%	202.2	1,251,031.0	6.2
	Fleet Mix	–	–	–	9.1

Notes:

¹ EMFAC2021 was run for Orange County for the operational year 2026. Data was aggregated over all vehicle model years and speed bins.

² Fleet mix is based on assumptions made in CalEEMod for the proposed project.

³ The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Proposed Project Operational Trips – Fuel Usage						
Land Use	Total Annual VMT ² (miles/year)	Fuel Type	Portion of Fleet ³ (%)	VMT by Fuel Type (miles/year)	Fleet Mix Efficiency ⁴ (miles/gallon)	Fuel Usage (gallons/year)
Congregate Care (Assisted Living)	1,834,190	Gas	97%	1785452	27.6	64579.2
		Diesel	3%	48738	9.1	5378.8
					Total Gasoline/year	64579.2
					Total Diesel/year	5378.8

Notes:

¹ Calculated for operational year 2026 only. Future years will likely use less fuel due to more efficient cars.

² Total VMT is based on project's trip generation and trip lengths.

³ Fleet distribution is based on EMFAC2021 output and CalEEMod assumptions.

⁴ Fuel efficiency is based on fuel consumption and VMT data from EMFAC2021 for Orange County and total VMT.

Proposed Project Electricity Usage	
Electricity by Land Use	kWh/year
Congregate Care (Assisted Living)	816606
City Park	0
Enclosed Parking Lot	434,700
Total	1,251,306

Proposed Project Natural Gas Usage			
Natural Gas by Land Use	kBTU/year	BTU/year	therms/year
Congregate Care (Assisted Living)	2,374,870	2,374,870,000	23,753
City Park	-	-	-
Enclosed Parking Lot	-	-	-
Total	2,374,870	2,374,870,000	23,753

Existing Uses Operational Trips			
Unrefrigerated Warehouse			
Vehicle Class	CalEEMod	Total Project Trips	Total Trips per Vehicle Class
LDA	0.5462	947	517.3
LDT1	0.059546	947	56.4
LDT2	0.18591	947	176.1
MDV	0.127866	947	121.1
LHD1	0.024295	947	23.0
LHD2	0.006605	947	6.3
MHD	0.014499	947	13.7
HHD	0.004906	947	4.6
OBUS	0.000657	947	0.6
UBUS	0.000381	947	0.4
MCY	0.024552	947	23.3
SBUS	0.000713	947	0.7
MH	0.003869	947	3.7

Existing Uses Operational Trips – Fuel Efficiency					
Fuel	Vehicle Class	EMFAC2021 Outputs ¹			
		Fleet Mix (%) ²	Consumption (1,000 gallons/day)	VMT (miles/day)	Fuel Efficiency ³ (miles/gallon)
Gas	LDA	53%	1,477.5	42,617,006.0	28.8
	LDT1	4%	146.6	3,561,400.0	24.3
	LDT2	25%	881.8	20,509,218.0	23.3
	MDV	15%	650.6	12,350,244.0	19.0
	LHD1	2%	122.4	1,625,999.0	13.3
	MCY	0%	7.4	306,702.6	41.7
	MH	0%	12.6	61,712.1	4.9
	Fleet Mix	–	–	–	25.4
Diesel	LHD2	3%	2.3	82667.4	35.9
	MHDT	47%	127.7	1,137,257.0	8.9
	HHDT	49%	200.2	1,181,254.0	5.9
	Fleet Mix	–	–	–	8.4

Notes:

¹ EMFAC2021 was run for Orange County for the operational year 2022. Data was aggregated over all vehicle model years and speed bins.

² Fleet mix is based on assumptions made in CalEEMod for the proposed project.

³ The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Existing Uses Operational Trips – Fuel Usage						
Land Use	Total Annual VMT ² (miles/year)	Fuel Type	Portion of Fleet ³ (%)	VMT by Fuel Type (miles/year)	Fleet Mix Efficiency ⁴ (miles/gallon)	Fuel Usage (gallons/year)
Strip Mall and General Office Building	2,300,756	Gas	97%	2240911	25.4	88066.4
		Diesel	3%	59843	8.4	7161.4
					Total Gasoline/year	88066.4
					Total Diesel/year	7161.4

Notes:

¹ Calculated for operational year 2022 only. Future years will likely use less fuel due to more efficient cars.

² Total VMT is based on project's trip generation and trip lengths.

³ Fleet distribution is based on EMFAC2021 output and CalEEMod assumptions.

⁴ Fuel efficiency is based on fuel consumption and VMT data from EMFAC2021 for Orange County and total VMT.

Existing Uses Electricity Usage	
Electricity by Land Use	kWh/year
General Office Building	571547
Strip Mall	140408
Total	711,955

Existing Uses Natural Gas Usage			
Natural Gas by Land Use	kBTU/year	BTU/year	therms/year
General Office Building	377,891	377,891,000	3,780
Strip Mall	22,043	22,043,200	220
Total	399,934	399,934,200	4,000