Construction Off-Road Equipment - Phase 1										
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)**
Mass Grading	Excavators	2	8	200	3200	158	0.38	3200	192128	9836.9536
	Graders	1	8	200	1600	187	0.41	1600	122672	6280.8064
	Rubber Tired Dozers	1	8	200	1600	247	0.4	1600	158080	8093.696
	Scrapers	2	8	200	3200	367	0.48	3200	563712	28862.0544
	Tractors/Loaders/Backhoes	2	8	200	3200	97	0.37	3200	114848	5880.2176
Utility Trenching Business Park	Tractors/Loaders/Backhoes	1	7	240	1680	231	0.29	1680	112543.2	5762.21184
Fine Grading Business Park	Excavators	2	8	30	480	158	0.38	480	28819.2	1475.54304
	Graders	1	8	30	240	187	0.41	240	18400.8	942.12096
	Rubber Tired Dozers	1	8	30	240	247	0.4	240	23712	1214.0544
	Scrapers	2	8	30	480	367	0.48	480	84556.8	4329.30816
	Tractors/Loaders/Backhoes	2	8	30	480	97	0.37	480	17227.2	882.03264
Building Construction	Cranes	1	7	320	2240	231	0.29	2240	150057.6	7682.94912
	Forklifts	3	8	320	7680	89	0.2	7680	136704	6999.2448
	Generator Sets	1	8	320	2560	84	0.74	2560	159129.6	8147.43552
	Tractors/Loaders/Backhoes	3	7	320	6720	97	0.37	6720	241180.8	12348.45696
	Welders	1	8	320	2560	46	0.45	2560	52992	2713.1904
Rough Grading	Excavators	2	8	95	1520	158	0.38	1520	91260.8	4672.55296
	Graders	1	8	95	760	187	0.41	760	58269.2	2983.38304
	Rubber Tired Dozers	1	8	95	760	247	0.4	760	75088	3844.5056
	Scrapers	2	8	95	1520	367	0.48	1520	267763.2	13709.47584
	Tractors/Loaders/Backhoes	2	8	95	1520	97	0.37	1520	54552.8	2793.10336
Utility Trenching Residential	Tractors/Loaders/Backhoes	1	8	176	1408	97	0.37	1408	50533.12	2587.295744
Asphalt Paving Business Park	Pavers	2	8	20	320	130	0.42	320	17472	894.5664
	Paving Equipment	2	8	20	320	132	0.36	320	15206.4	778.56768
	Rollers	2	8	20	320	80	0.38	320	9728	498.0736
Architectural Coating Business Park	Air Compressors	1	6	930	5580	78	0.48	5580	208915.2	10696.45824
Finish/ Landscaping Business Park	Skid Steer Loaders	1	8	30	240	78	0.48	240	8985.6	460.06272
Asphalt Paving Residential	Pavers	2	8	20	320	130	0.42	320	17472	894.5664
	Paving Equipment	2	8	20	320	132	0.36	320	15206.4	778.56768
	Rollers	2	8	20	320	80	0.38	320	9728	498.0736
Finish Landscaping Residential	Skid Steer Loaders	1	8	200	1600	78	0.48	1600	59904	3067.0848
Fine Grading Residential	Excavators	2	8	995	15920	158	0.38	15920	955836.8	48938.84416
	Graders	1	8	995	7960	187	0.41	7960	610293.2	31247.01184
	Rubber Tired Dozers	1	8	995	7960	247	0.4	7960	786448	40266.1376
	Scrapers	2	8	995	15920	367	0.48	15920	2804467.2	143588.7206
	Tractors/Loaders/Backhoes	2	8	995	15920	97	0.37	15920	571368.8	29254.08256
Building Construction Residential	Cranes	1	7	995	6965	231	0.29	6965	466585.35	23889.16992
	Forklifts	3	8	995	23880	89	0.2	23880	425064	21763.2768
	Generator Sets	1	8	995	7960	84	0.74	7960	494793.6	25333.43232
	Tractors/Loaders/Backhoes	3	7	995	20895	97	0.37	20895	749921.55	38395.98336
	Welders	1	8	995	7960	46	0.45	7960	164772	8436.3264
Architectural Coating Residential	Air Compressors	1	6	930	5580	78	0.48	5580	208915.2	10696.45824
								Total	**582416.0573**	Diesel

Construction Truck and Construction Worker Vehicle Fuel Efficiency - Phase 1				
		EMFAC 2021 Outputs		
Vehicle Type	Vehicle Class	Fuel Consumption (1,000 gallons/day)	VMT (miles/ day)	Fuel Efficency (miles/gallon)
Construction Truck	MHDT	76.7	686024.2	8.9
	HHDT	662.2	4023776.0	6.1
	HHDT/MHDT	-	-	7.5
Construction Worker Vehicle	LDA	902.6	25990133.0	28.8
	LDT1	88.9	2111319	23.7
	LDT2	492.5	11500757	23.4
	Worker Mix	-	-	26.2

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 Riverside County for the construction year 2023. 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).

Construction Vehicle Fuel Use - Diesel Vehicles - Phase 1						
Phase	Trip Type	Total Trips	Trip Length (miles)	Total VMT	Diesel Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Building Construction- Business Park	Vendor	541440	6.9	3735936	7.5	498124.8
Building Construction- Residential	Vendor	1683540	6.9	11616426	7.5	1548856.8
					Total	**2046981.6**

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 Los Angeles County for the construction year 2022. 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).

Construction Worker Vehicle Fuel Use - Gasoline Vehicles - Phase 1							
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT	Gasoline Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Mass Grading	20	200	8000	14.7	117600	26.2	4488.5
Utility Trenching - Business Park	3	240	1440	14.7	21168	26.2	807.9
Fine Gradng- Business Park	20	30	1200	14.7	17640	26.2	673.3
Building Construction	2232	320	1428480	14.7	20998656	26.2	801475.4
Rough Grading	20	95	3800	14.7	55860	26.2	2132.1
Utility Trenching - Residential	3	176	1056	14.7	15523.2	26.2	592.5
Asphalt Paving- Business Park	15	20	600	14.7	8820	26.2	336.6
Architectural Coating- Business Park	446	930	829560	14.7	12194532	26.2	465440.2
Finish\Landscaping-Business Park	3	30	180	14.7	2646	26.2	101.0
Finish\Landscaping- Residential	3	200	1200	14.7	17640	26.2	673.3
Asphalt Paving- Residential	15	20	600	14.7	8820	26.2	336.6
Fine Grading - Resdiential	20	995	39800	14.7	585060	26.2	22330.5
Building Construction- Residential	2232	995	4441680	14.7	65292696	26.2	2492087.6
Architectural Coating-Residential	446	930	829560	14.7	12194532	26.2	465440.2
						Total	**4256915.8**

Gas

Total Construction Gasoline Usage - Phase 1	4256915.8
Total Construction Diesel Usage - Phase 1	2629397.7

Proposed Project Operational Trips - Phase 1			
Single Family Housing			
Vehicle Class	CalEEMod	Total Project Trips	Total Trips per Vehicle Class
LDA	0.549489	6997	3844.8
LDT1	0.057683	6997	403.6
LDT2	0.177214	6997	1240.0
MDV	0.128182	6997	896.9
LHD1	0.022948	6997	160.6
LHD2	0.006604	6997	46.2
MHD	0.011631	6997	81.4
HHD	0.017777	6997	124.4
OBUS	0.000599	6997	4.2
UBUS	0.000279	6997	2.0
MCY	0.022624	6997	158.3
SBUS	0.001077	6997	7.5
MH	0.003892	6997	27.2

Proposed Project Operational Trips - Phase 1			
Industrial Park			
Vehicle Class	CalEEMod	Total Project	Total Trips per Vehicle Class
LDA	0.427945	10380	4442.1
LDT1	0.057683	10380	598.7
LDT2	0.177214	10380	1839.5
MDV	0.128182	10380	1330.5
LHD1	0.022948	10380	238.2
LHD2	0.006604	10380	68.5
MHD	0.0378	10380	392.4
HHD	0.119	10380	1235.2
OBUS	0	10380	0.0
UBUS	0	10380	0.0
MCY	0.022624	10380	234.8
SBUS	0	10380	0.0
MH	0	10380	0.0

Proposed Project Operational Trips – Fuel Efficiency - Phase 1						
Fuel	Vehicle Class	EMFAC2021 Outputs1				
		Fleet Mix (%)2	Consumption (1,000 gallons/day)	VMT (miles/day)	Fuel Efficiency3 (miles/gallon)	
Gas	LDA	50%	785.4	25,830,313.6	32.9	16.6
	LDT1	4%	71.3	1,930,019.6	27.1	1.0
	LDT2	27%	500.1	13,625,833.6	27.2	7.3
	MDV	17%	397.6	8,732,815.8	22.0	3.7
	LHD1	2%	55.1	849,007.0	15.4	0.3
	MCY	0%	4.2	179,557.7	42.7	0.1
	MH	0%	7.5	36,780.9	4.9	0.0
	Fleet Mix	–	–	–	29.0	29.0
Diesel	LHD2	5%	16.7	296,797.3	17.7	0.9
	MHDT	13%	76.2	704,312.5	9.2	1.2
	HHDT	82%	673.5	4,584,095.0	6.8	5.6
	Fleet Mix	–	–	–	7.7	7.7

Notes:

[1] EMFAC2021 was run for Riverside County for the operational year 2030. 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 - Phase 1						
Land Use	Total Annual VMT2 (miles/year)	Fuel Type	Portion of Fleet3 (%)	VMT by Fuel Type (miles/year)	Fleet Mix Efficiency4 (miles/gallon)	Fuel Usage (gallons/ year)
Single Family Housing	30,441,534	Gas	96%	29345243	29.0	1010998.4
		Diesel	4%	1096261	7.7	142478.9
Industrial Park	18,055,581	Gas	84%	15105227	29.0	520403.2
		Diesel	16%	2950354	7.7	383452.0
City Park	2,660,116	Gas	96%	2564317	29.0	88345.5
		Diesel	4%	95796	7.7	12450.4
					Total Gasoline/year	**1619747.1**
					Total Diesel/year	**538381.3**

Notes:

[1] Calculated for operational year 2030 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 Riverside County and total VMT.

Electricity Usage - Phase 1	
Electricity by Land Use	**kWh/year**
Industrial Park	29499900
Single Family Housing	5909780
City Park	0
Total	**35,409,680**

Natural Gas Usage - Phase 1			
Natural Gas by Land Use	**kBTU/year**	**BTU/year**	**therms/year**
Industrial Park	11,010,300	11,010,300,000	110,125
Single Family Housing	20,988,900	20,988,900,000	209,931
City Park	0	-	0
Total	**31,999,200**	**31,999,200,000**	**320,056**

Construction Off-Road Equipment - Phase 2										
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)**
Fine Grading Business Park	Excavators	2	8	30	480	158	0.38	480	28819.2	1475.54304
	Graders	1	8	30	240	187	0.41	240	18400.8	942.12096
	Rubber Tired Dozers	1	8	30	240	247	0.4	240	23712	1214.0544
	Scrapers	2	8	30	480	367	0.48	480	84556.8	4329.30816
	Tractors/Loaders/Backhoes	2	8	30	480	97	0.37	480	17227.2	882.03264
Rough Grading	Excavators	2	8	65	1040	158	0.38	1040	62441.6	3197.00992
	Graders	1	8	65	520	187	0.41	520	39868.4	2041.26208
	Rubber Tired Dozers	1	8	65	520	247	0.4	520	51376	2630.4512
	Scrapers	2	8	65	1040	367	0.48	1040	183206.4	9380.16768
	Tractors/Loaders/Backhoes	2	8	65	1040	97	0.37	1040	37325.6	1911.07072
Utility Trenching	Tractors/Loaders/Backhoes	1	8	300	2400	97	0.37	2400	86136	4410.1632
Architectural Coating Business Park	Air Compressors	1	6	780	4680	78	0.48	4680	175219.2	8971.22304
Finishing/ Landscaping Business Park	Skid Steer Loaders	1	8	40	320	78	0.48	320	11980.8	613.41696
Asphalt Paving	Pavers	2	8	20	320	130	0.42	320	17472	894.5664
	Paving Equipment	2	8	20	320	132	0.36	320	15206.4	778.56768
	Rollers	2	8	20	320	80	0.38	320	9728	498.0736
Finishing/ Landscaping Residential	Skid Steer Loaders	1	8	200	1600	78	0.48	1600	59904	3067.0848
Fine Grading Residential	Excavators	2	8	780	12480	158	0.38	12480	749299.2	38364.11904
	Graders	1	8	780	6240	187	0.41	6240	478420.8	24495.14496
	Rubber Tired Dozers	1	8	780	6240	247	0.4	6240	616512	31565.4144
	Scrapers	2	8	780	12480	367	0.48	12480	2198476.8	112562.0122
	Tractors/Loaders/Backhoes	2	8	780	12480	97	0.37	12480	447907.2	22932.84864
Building Construction	Cranes	1	7	780	5460	231	0.29	5460	365765.4	18727.18848
	Forklifts	3	8	780	18720	89	0.2	18720	333216	17060.6592
	Generator Sets	1	8	780	6240	84	0.74	6240	387878.4	19859.37408
	Tractors/Loaders/Backhoes	3	7	780	16380	97	0.37	16380	587878.2	30099.36384
	Welders	1	8	780	6240	46	0.45	6240	129168	6613.4016
Architectural Coating	Air Compressors	1	6	780	4680	78	0.48	4680	175219.2	8971.22304
									Total	**378486.8659** Diesel

Construction Truck and Construction Worker Vehicle Fuel Efficiency - Phase 2				
		EMFAC 2021 Outputs		
Vehicle Type	Vehicle Class	Fuel Consumption (1,000 gallons/day)	VMT (miles/ day)	Fuel Efficency (miles/gallon)
Construction Truck	MHDT	78.6	711810.7	9.1
	HHDT	675.1	4288158.0	6.4
	HHDT/MHDT	-	-	7.7
Construction Worker Vehicle	LDA	843.2	25836353.0	30.6
	LDT1	80.1	2017862	25.2
	LDT2	495.7	12519105	25.3
	Worker Mix	-	-	27.9

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 Riverside County for the construction year 2026. 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).

Construction Vehicle Fuel Use - Diesel Vehicles - Phase 2						
Phase	Trip Type	Total Trips	Trip Length (miles)	Total VMT	Diesel Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Building Construction	Vendor	878280	6.9	6060132	7.7	787030.1
					Total	**787030.1**

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 Riverside County for the construction year 2026. 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).

Construction Worker Vehicle Fuel Use - Gasoline Vehicles - Phase 2							
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT	Gasoline Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Fine Grading Business Park	20	30	1200	14.7	17640	27.9	632.3
Rough Grading	20	65	2600	14.7	38220	27.9	1369.9
Utility Trenching	3	300	1800	14.7	26460	27.9	948.4
Architectural Coating Business Park	331	780	516360	14.7	7590492	27.9	272060.6
Finishing/ Landscaping Business Park	3	40	240	14.7	3528	27.9	126.5
Asphalt Paving	15	200	6000	14.7	88200	27.9	3161.3
Finishing/Landscaping Residential	3	20	120	14.7	1764	27.9	63.2
Fine Grading Residential	20	780	31200	14.7	458640	27.9	16438.7
Building Construction	1654	780	2580240	14.7	37929528	27.9	1359481.3
Architectural Coating Residential	331	780	516360	14.7	7590492	27.9	272060.6
						Total	**1926342.8**

Gas

Total Construction Gasoline Usage - Phase 2	1926342.8
Total Construction Diesel Usage - Phase 2	1165517.0

Proposed Project Operational Trips - Phase 2			
Single Family Housing			
Vehicle Class	CalEEMod	Total Project Trips	Total Trips per Vehicle Class
LDA	0.550598	5526	3042.6
LDT1	0.057914	5526	320.0
LDT2	0.177789	5526	982.5
MDV	0.127256	5526	703.2
LHD1	0.022645	5526	125.1
LHD2	0.006537	5526	36.1
MHD	0.011583	5526	64.0
HHD	0.017521	5526	96.8
OBUS	0.000596	5526	3.3
UBUS	0.000275	5526	1.5
MCY	0.022474	5526	124.2
SBUS	0.001071	5526	5.9
MH	0.003741	5526	20.7

Proposed Project Operational Trips - Phase 2			
Industrial Park			
Vehicle Class	CalEEMod	Total Project	Total Trips per Vehicle Class
LDA	0.428585	7434	3186.1
LDT1	0.057914	7434	430.5
LDT2	0.177789	7434	1321.7
MDV	0.127256	7434	946.0
LHD1	0.022645	7434	168.3
LHD2	0.006537	7434	48.6
MHD	0.0378	7434	281.0
HHD	0.119	7434	884.6
OBUS	0	7434	0.0
UBUS	0	7434	0.0
MCY	0.022474	7434	167.1
SBUS	0	7434	0.0
MH	0	7434	0.0

Proposed Project Operational Trips – Fuel Efficiency - Phase 2						
Fuel	Vehicle Class	EMFAC2021 Outputs1				
		Fleet Mix (%)2	Consumption (1,000 gallons/day)	VMT (miles/day)	Fuel Efficiency3 (miles/gallon)	
Gas	LDA	50%	774.7	25,849,611.0	33.4	16.8
	LDT1	4%	69.7	1,915,027.0	27.5	1.0
	LDT2	27%	501.1	13,856,772.0	27.7	7.5
	MDV	17%	392.2	8,758,728.0	22.3	3.8
	LHD1	2%	53.3	833,247.8	15.6	0.3
	MCY	0%	4.2	179,415.3	42.8	0.1
	MH	0%	7.2	35,112.9	4.9	0.0
	Fleet Mix	–	–	–	29.5	29.5
Diesel	LHD2	5%	16.3	289,754.3	17.8	0.9
	MHDT	12%	74.8	695,214.2	9.3	1.1
	HHDT	83%	676.2	4,672,470.0	6.9	5.7
	Fleet Mix	–	–	–	7.8	7.8

Notes:

[1] EMFAC2021 was run for Riverside County for the operational year 2031. 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 - Phase 2						
Land Use	Total Annual VMT2 (miles/year)	Fuel Type	Portion of Fleet3 (%)	VMT by Fuel Type (miles/year)	Fleet Mix Efficiency4 (miles/gallon)	Fuel Usage (gallons/ year)
Single Family Housing	24,041,427	Gas	96%	23184567	29.5	787124.2
		Diesel	4%	856860	7.8	110401.5
Industrial Park	12,937,020	Gas	84%	10823926	29.5	367476.1
		Diesel	16%	2113094	7.8	272259.8
Civic Center	3,017,976	Gas	96%	2910412	29.5	98809.5
		Diesel	4%	107564	7.8	13859.0
Elementary School	1,755,627	Gas	96%	1693055	29.5	57479.8
		Diesel	4%	62572	7.8	8062.1
Multi-Family Housing	11,436,034	Gas	96%	11028442	29.5	374419.5
		Diesel	4%	407592	7.8	52515.8
					Total Gasoline/year	**1685309.1**
					Total Diesel/year	**457098.2**

Notes:

[1] Calculated for operational year 2031 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 Riverside County and total VMT.

Electricity Usage - Phase 2	
Electricity by Land Use	**kWh/year**
Single Family Housing	4667290
Industrial Park	21137000
Civic Center	1102800
Elementary School	439545
Multi-Family Housing	1,544,400
City Park	-
Total	**28,891,035**

Natural Gas Usage - Phase 2			
Natural Gas by Land Use	**kBTU/year**	**BTU/year**	**therms/year**
Single Family Housing	16,576,100	16,576,100,000	165,794
Industrial Park	7,889,000	7,889,000,000	78,906
Civic Center	411600	411,600,000	4,117
Elementary School	544885	544,885,000	5,450
Multi-Family Housing	5609050	5,609,050,000	56,102
City Park	0	-	-
Total	**31,030,635**	**31,030,635,000**	**310,368**

Construction Off-Road Equipment - Phase 3										
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)**
Fine Grading	Excavators	2	8	30	480	158	0.38	480	28819.2	1475.54304
	Graders	1	8	30	240	187	0.41	240	18400.8	942.12096
	Rubber Tired Dozers	1	8	30	240	247	0.4	240	23712	1214.0544
	Scrapers	2	8	30	480	367	0.48	480	84556.8	4329.30816
	Tractors/Loaders/Backhoes	2	8	30	480	97	0.37	480	17227.2	882.03264
Building Construction	Cranes	1	7	260	1820	231	0.29	1820	121921.8	6242.39616
	Forklifts	3	8	260	6240	89	0.2	6240	111072	5686.8864
	Generator Sets	1	8	260	2080	84	0.74	2080	129292.8	6619.79136
	Tractors/Loaders/Backhoes	3	7	260	5460	97	0.37	5460	195959.4	10033.12128
	Welders	1	8	260	2080	46	0.45	2080	43056	2204.4672
Asphalt Paving	Pavers	2	8	20	320	130	0.42	320	17472	894.5664
	Paving Equipment	2	8	20	320	132	0.36	320	15206.4	778.56768
	Rollers	2	8	20	320	80	0.38	320	9728	498.0736
Architectural Coating	Air Compressors	1	6	130	780	78	0.48	780	29203.2	1495.20384
Finishing/Landscaping	Skid Steer Loaders	1	8	30	240	78	0.48	240	8985.6	460.06272
									Total	**43756.19584** Diesel

Construction Truck and Construction Worker Vehicle Fuel Efficiency - Phase 3				
		EMFAC 2021 Outputs		
Vehicle Type	Vehicle Class	Fuel Consumption (1,000 gallons/day)	VMT (miles/ day)	Fuel Efficency (miles/gallon)
Construction Truck	MHDT	78.8	716483.2	9.1
	HHDT	675.3	4369406.0	6.5
	HHDT/MHDT	-	-	7.8
Construction Worker Vehicle	LDA	827.0	25826570.0	31.2
	LDT1	77.6	1991124	25.7
	LDT2	496.9	12822914	25.8
	Worker Mix	-	-	28.5

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 Riverside County for the construction year 2027. 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).

Construction Vehicle Fuel Use - Diesel Vehicles - Phase 3						
Phase	Trip Type	Total Trips	Trip Length (miles)	Total VMT	Diesel Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Building Construction	Vendor	167960	6.9	1158924	7.8	148580.0
					Total	**148580.0**

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 Riverside County for the construction year 2027. 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).

Construction Worker Vehicle Fuel Use - Gasoline Vehicles - Phase 3							
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT	Gasoline Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Fine Grading	20	30	1200	14.7	17640	28.5	618.9
Building Construction	772	260	401440	14.7	5901168	28.5	207058.5
Asphalt Paving	15	20	600	14.7	8820	28.5	309.5
Architectural Coating	134	130	34840	14.7	512148	28.5	17970.1
Finishing/ Landscaping	3	30	180	14.7	2646	28.5	92.8
						Total	**226049.9**

Gas

Total Construction Gasoline Usage	226049.9
Total Construction Diesel Usage	192336.2

Proposed Project Operational Trips - Phase 3			
Strip Mall			
Vehicle Class	CalEEMod	Total Project Trips	Total Trips per Vehicle Class
LDA	0.54674	20726	11331.7
LDT1	0.057179	20726	1185.1
LDT2	0.175858	20726	3644.8
MDV	0.130671	20726	2708.3
LHD1	0.023703	20726	491.3
LHD2	0.006761	20726	140.1
MHD	0.011662	20726	241.7
HHD	0.018217	20726	377.6
OBUS	0.000605	20726	12.5
UBUS	0.000288	20726	6.0
MCY	0.022975	20726	476.2
SBUS	0.001086	20726	22.5
MH	0.004255	20726	88.2

Proposed Project Operational Trips – Fuel Efficiency - Phase 3						
Fuel	Vehicle Class	EMFAC2021 Outputs1				
		Fleet Mix (%)2	Consumption (1,000 gallons/day)	VMT (miles/day)	Fuel Efficiency3 (miles/gallon)	
Gas	LDA	51%	797.8	25,823,953.0	32.4	16.4
	LDT1	4%	73.2	1,948,082.0	26.6	1.0
	LDT2	26%	499.0	13,378,140.0	26.8	7.0
	MDV	17%	404.0	8,713,041.0	21.6	3.7
	LHD1	2%	56.8	862,401.3	15.2	0.3
	MCY	0%	4.2	179,857.7	42.6	0.2
	MH	0%	7.9	38,646.3	4.9	0.0
	Fleet Mix	–	–	–	28.6	28.6
Diesel	LHD2	5%	17.2	303,258.1	17.7	1.0
	MHDT	13%	77.6	712,975.6	9.2	1.2
	HHDT	82%	674.3	4,517,142.0	6.7	5.5
	Fleet Mix	–	–	–	7.6	7.6

Notes:

[1] EMFAC2021 was run for Riverside County for the operational year 2029. 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 - Phase 3						
Land Use	Total Annual VMT2 (miles/year)	Fuel Type	Portion of Fleet3 (%)	VMT by Fuel Type (miles/year)	Fleet Mix Efficiency4 (miles/gallon)	Fuel Usage (gallons/ year)
Strip Mall	23,805,466	Gas	96%	22933234	28.6	802847.4
		Diesel	4%	872232	7.6	114461.8
					Total Gasoline/year	**802847.4**
					Total Diesel/year	**114461.8**

Notes:

[1] Calculated for operational year 2029 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 Riverside County and total VMT.

Electricity Usage - Phase 3	
Electricity by Land Use	**kWh/year**
Strip Mall	6798400
Other Asphalt Surfaces	0
Total	**6,798,400**

Natural Gas Usage - Phase 3			
Natural Gas by Land Use	**kBTU/year**	**BTU/year**	**therms/year**
Strip Mall	1,232,000	1,232,000,000	12,322
Other Asphalt Surfaces	-	-	-
Total	**1,232,000**	**1,232,000,000**	**12,322**

Construction Off-Road Equipment - Off-Site Improvements										
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)**
Paving	Pavers	2	8	150	2400	130	0.42	2400	131040	6709.248
	Paving Equipment	2	8	150	2400	132	0.36	2400	114048	5839.2576
	Rollers	2	8	150	2400	80	0.38	2400	72960	3735.552
Finishing/Landscaping	Skid Steer Loaders	1	8	80	640	97	0.37	640	22969.6	1176.04352
Utility Trenching	Tractors/Loders/ Backhoes	1	8	50	400	97	0.37	400	14356	735.0272
									Total	**18195.12832** Diesel

Construction Truck and Construction Worker Vehicle Fuel Efficiency - Off Site Improvements				
		EMFAC 2021 Outputs		
Vehicle Type	Vehicle Class	Fuel Consumption (1,000 gallons/day)	VMT (miles/ day)	Fuel Efficency (miles/gallon)
Construction Truck	MHDT	77.6	696366.1	9.0
	HHDT	668.1	4114264.2	6.2
	HHDT/MHDT	-	-	7.6
Construction Worker Vehicle	LDA	885.4	26012016.0	29.4
	LDT1	86.1	2083796	24.2
	LDT2	496.2	11902838	24.0
	Worker Mix	-	-	26.7

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 Riverisde 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).

Construction Worker Vehicle Fuel Use - Gasoline Vehicles - Off-Site Improvements							
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT	Gasoline Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Utility Trenching	3	50	300	14.7	4410	28.5	154.7
Paving	15	150	4500	14.7	66150	28.5	2321.1
Finishing/Landscaping	3	80	480	14.7	7056	28.5	247.6
						Total	**2723.4**

Gas

Total Construction Gasoline Usage - Off-Site Improvements	2723.4
Total Construction Diesel Usage - Off-Site Improvements	18195.1

Construction Off-Road Equipment - Off-Site Roadway Improvements										
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)**
Site Preparation	Rubber Tired Dozers	3	8	50	1200	247	0.4	1200	118560	6070.272
	Tractors/Loaders/Backhoes	4	8	50	1600	97	0.37	1600	57424	2940.1088
Grading	Excavators	2	8	145	2320	158	0.38	2320	139292.8	7131.79136
	Graders	1	8	145	1160	187	0.41	1160	88937.2	4553.58464
	Rubber Tired Dozers	1	8	145	1160	247	0.4	1160	114608	5867.9296
	Scrapers	2	8	145	2320	367	0.48	2320	408691.2	20924.98944
	Tractors/Loaders/Backhoes	2	8	145	2320	97	0.37	2320	83264.8	4263.15776
Paving	Pavers	2	8	100	1600	130	0.42	1600	87360	4472.832
	Paving Equipment	2	8	100	1600	132	0.36	1600	76032	3892.8384
	Rollers	2	8	100	1600	80	0.38	1600	48640	2490.368
Architectural Coating	Air Compressors	1	6	100	600	78	0.48	600	22464	1150.1568
									Total	**63758.0288** Diesel

Construction Truck and Construction Worker Vehicle Fuel Efficiency - Off Site Roadway Improvements				
		EMFAC 2021 Outputs		
Vehicle Type	Vehicle Class	Fuel Consumption (1,000 gallons/day)	VMT (miles/ day)	Fuel Efficency (miles/gallon)
	MHDT	77.6	696366.1	9.0
	HHDT	668.1	4114264.2	6.2
Construction Truck	HHDT/MHDT	-	-	7.6
	LDA	885.4	26012016.0	29.4
	LDT1	86.1	2083796	24.2
	LDT2	496.2	11902838	24.0
Construction Worker Vehicle	Worker Mix	-	-	26.7

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 Riverisde 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).

Construction Worker Vehicle Fuel Use - Gasoline Vehicles - Off-Site Roadway Improvements							
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT	Gasoline Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Site Preparation	12	50	1200	14.7	17640	28.5	618.9
Grading	12	145	3480	15.7	54636	29.5	1852.1
Paving	12	100	2400	16.7	40080	30.5	1314.1
Architectural Coating	12	100	2400	17.7	42480	31.5	1348.6
						Total	**5133.7**

Gas

Total Construction Gasoline Usage - Off-Site Roadway Improvement	5133.7
Total Construction Diesel Usage - Off-Site Roadway Improvements	63758.0