

9745 Rancho Springs Medical Center Expansion Project  
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)	
Utilities - Storm Drains	3	14.7	44	367	16,184.7	0	6.9	0.0	0	20	0.0	
NICU Renovation	5	14.7	74	185	13,597.5	18	6.9	124.2	0	20	0.0	
Helipad Construction	20	14.7	294	146	42,924.0	0	6.9	0.0	0	20	0.0	
Kitchen Service Renovation	5	14.7	74	364	26,754.0	18	6.9	124.2	0	20	0.0	
Grading - Expansion	10	14.7	147	11	1,617.0	0	6.9	0.0	579	20	11,580.0	Total VMT
Building Construction	20	14.7	294	176	51,744.0	18	6.9	124.2	0	20	0.0	229,137.0
Canopy - New	20	14.7	294	91	26,754.0	18	6.9	124.2	0	20	0.0	
Paving - Parking	13	14.7	191	166	31,722.6	0	6.9	0.0	0	20	0.0	
Architectural Coating	8	14.7	118	49	5,762.4	0	6.9	0.0	0	20	0.0	
					217,060.2			496.8			11,580.0	

EMFAC2017 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2023

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. Note 'day' in the unit is operation day.

Region	CalYr	VehClass	Fuel	Population	Pop %	VMT	Fuel Consumption (1,000 gal/day)	Gallons/Day	Fuel Efficiency (mpg)	Total VMT	Total Fuel Consumption		
<b>Workers</b>													
Riverside (SC)	2023 LDA	GAS		600,073.26	69.0%	24106871.96	730.2309972	730,231.00	33.01	149,666.67	4,533.61	GAS	
Riverside (SC)	2023 LDA	DSL		6,022.46	0.7%	252078.6078	4.719917791	4,719.92	53.41	1,502.08	28.13	6,825	
Riverside (SC)	2023 LDA	ELEC		11,812.58	1.4%	472157.3583	0	0.00	NA	2,946.22	NA		
Riverside (SC)	2023 LDT1	GAS		61,620.99	7.1%	2305410.758	81.95823074	81,958.23	28.13	15,369.14	546.38		
Riverside (SC)	2023 LDT1	DSL		25.82	0.0%	564.5507588	0.02156798	21.57	26.18	6.44	0.25		
Riverside (SC)	2023 LDT1	ELEC		500.23	0.1%	20790.57268	0	0.00	NA	124.76	NA	DSL	
Riverside (SC)	2023 LDT2	GAS		186,844.19	21.5%	7271356.285	272.2201339	272,220.13	26.71	46,601.56	1,744.64	36	
Riverside (SC)	2023 LDT2	DSL		1,179.19	0.1%	52389.15473	1.299389383	1,299.39	40.32	294.11	7.29		
Riverside (SC)	2023 LDT2	ELEC		2,202.05	0.3%	66987.29664	0	0.00	NA	549.22	NA		
<b>Delivery/Hauling</b>													
Riverside (SC)	2023 T7 CAIRP	DSL		1,616.62	9.9%	294182.9367	39.17160954	39,171.61	7.51	49.33	6.57	1,149.73	153.09
Riverside (SC)	2023 T7 CAIRP construction	DSL		182.28	1.1%	33237.67149	4.185177576	4,185.18	7.94	5.56	0.70	129.63	16.32
Riverside (SC)	2023 T7 NNOOS	DSL		1,814.86	11.1%	358625.0859	45.54546306	45,545.46	7.87	55.37	7.03	1,290.72	163.92
Riverside (SC)	2023 T7 NOOS	DSL		640.65	3.9%	115577.7942	15.79794969	15,797.95	7.32	19.55	2.67	455.63	62.28
Riverside (SC)	2023 T7 POLA	DSL		2,302.18	14.1%	306554.4753	41.79751742	41,797.52	7.33	70.24	9.58	1,637.30	223.24
Riverside (SC)	2023 T7 Public	DSL		778.39	4.8%	15782.25979	2.629529306	2,629.53	6.00	23.75	3.96	553.59	92.23
Riverside (SC)	2023 T7 Single	DSL		2,988.31	18.4%	215837.3228	28.71903721	28,719.04	7.52	91.18	12.13	2,125.27	282.79
Riverside (SC)	2023 T7 single construction	DSL		1,188.23	7.3%	82456.54956	11.06091942	11,060.92	7.45	36.25	4.86	845.06	113.36
Riverside (SC)	2023 T7 SWCV	DSL		64.75	0.4%	2645.73088	1.306035842	1,306.04	2.03	1.98	0.98	46.05	22.73
Riverside (SC)	2023 T7 SWCV	NG		297.83	1.8%	12106.46352	5.022760484	5,022.76	2.41	9.09	3.77	211.82	87.88
Riverside (SC)	2023 T7 tractor	DSL		3,299.08	20.3%	450138.3803	56.16983873	56,169.84	8.01	100.66	12.56	2,346.28	292.78
Riverside (SC)	2023 T7 tractor construction	DSL		998.52	6.1%	68019.39384	9.161764009	9,161.76	7.42	30.47	4.10	710.14	95.65
Riverside (SC)	2023 T7 utility	DSL		110.77	0.7%	2248.146026	0.337807941	337.81	6.66	3.38	0.51	78.78	11.84
								496.80			69	11,580.00	1,618
												Total Diesel	1,723

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**PROJECT CONSTRUCTION - ON-ROAD**

Phase	Phase Length (Days)	Equipment	Amount	Daily Usage Hours	Total Usage Hours	Horse Power	Load Factor	Fuel Used (Gallons)
Utilities (Storm Drains)	367	Trenchers	1	6	2,202	78	0.5	4,929
NICU Renovation	185	Air Compressors	1	6	1,110	78	0.48	2,385
		Welders	1	6	1,110	46	0.45	1,319
Helipad Construction	146	Cement and Mortar Mixers	4	6	3,504	9	0.56	1,014
		Pavers	1	7	1,022	130	0.42	2,881
		Rollers	2	7	2,044	80	0.38	3,566
		Tractors/Loaders/Backhoes	1	7	1,022	97	0.37	2,105
Kitchen Service Renovation	364	Air Compressors	1	6	2,184	78	0.48	4,693
		Welders	1	8	2,912	46	0.45	3,460
Grading - Expansion	11	Graders	1	8	88	187	0.41	348
		Rubber Tired Dozers	1	8	88	247	0.4	449
		Tractors/Loaders/Backhoes	2	7	154	97	0.37	97
Building Construction	176	Cranes	1	8	1,408	231	0.29	4,869
		Forklifts	2	7	2,464	89	0.2	2,517
		Generator Sets	1	8	1,408	84	0.74	5,023
		Tractors/Loaders/Backhoes	1	6	1,056	97	0.37	2,175
		Welders	3	8	4,224	46	0.45	5,018
Canopy - New	91	Cranes	1	8	728	231	0.29	2,518
		Forklifts	2	7	1,274	89	0.2	1,302
		Generator Sets	1	8	728	84	0.74	2,597
		Tractors/Loaders/Backhoes	1	6	546	97	0.37	1,125
		Welders	3	8	2,184	46	0.45	2,595
Paving - Parking	166	Cement and Mortar Mixers	1	6	996	9	0.56	288
		Pavers	1	6	996	130	0.42	2,807
		Paving Equipment	1	8	1,328	132	0.36	3,258
		Rollers	1	7	1,162	80	0.38	2,027
		Tractors/Loaders/Backhoes	1	8	1,328	97	0.37	2,735
Architectural Coating	49	Air Compressors	1	6	294	78	0.48	632
					39,564			
								68,732

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**VEHICLES**

EMFAC2017 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2023

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. Note 'day' in the unit is operation day.

Daily Trips  
Tip Length  
Daily VMT  
Annual VMT

Daily Trips	355
Tip Length	7.5
Daily VMT	2,654
Annual VMT	968,658

Region	CalYr	VehClass	Fuel	Population	Pop %	VMT	Fuel Consumption (1,000 gal/day)	Gallons/Day	Fuel Efficiency		VMT	Gallons or kWh/Day	Gallons or kWh/Year
Riverside (SC)	2023	LDA	GAS	600,073.26	97.1%	24106871.96	730.2309972	730,231.00	33.01	mpg	2,577	78	28,495
Riverside (SC)	2023	LDA	DSL	6,022.46	1.0%	252078.6078	4.719917791	4,719.92	53.41	mpg	26	0	177
Riverside (SC)	2023	LDA	ELEC	11,812.58	1.9%	472157.3583	0	0.00	3.40	kWh/mile	51	15	5,446
							734.95	734,950.92			2,654		

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**ELECTRICITY & NATURAL GAS**

**LandUseSubType**

Hospital

**LandUseUnitAmount**

36.0

**LandUseSizeMetric**

1000sf

**EnergyUseLandUseSubType**

Hospital

**kWh/Year**

663,480.0

**kBTU/Year**

2,718,720.0