

***APPENDIX C***  
***Air Quality/GHG/Energy***

# ***APPENDICES C1-C4***

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Table C.1

Equipment Activity

Equipment	Number of Pieces	Percent Usage (each)	HP (each) or other info	Asphalt (ft2)
<b>Force Main</b>				1400
<b>Excavation and Shoring</b>				
Concrete Saw	1	0.6	60	
Pavement Breaker	1	0.6	100	
Loader	2	0.6	150	
Drill Rig/Auger	2	0.6	150	
Service Crane	2	0.5	250	
Excavator	1	0.8	162	
Generator- PwrTools	1	0.8	50	
Generator- Vent. Fans	1	0.8	50	
Compressor- PwrTools	1	0.8	50	
Forklift	1	0.5	90	
Sweeper	1	0.2	200	
Pumping Equipment (GW)	2	0.5	50	
Workers	24			
Haul Trips -net export	9			
Haul Trips – staging areas	11			
Supply Trips - materials	10			
Concrete or Gravel Truck	4			
<b>Bedding</b>				
Loader	2	0.4	150	
Workers	6			
Generator- Vent. Fans	1	0.8	50	
Supply Trips (materials)	6			
<b>Pipe Laying</b>				
Service Crane	1	0.5	250	
Loader	1	0.3	150	
Generator w/PwrTools	1	0.8	50	
Generator- Vent. Fans	1	0.8	50	
Compressor w/PwrTools	1	0.8	50	
Workers	10			
Supply Trips (materials)	2			
<b>Testing</b>				
Compressor	1	1	50	
Water Truck	1	0.4	150	
Pumping Equipment	1	0.8	100	
Workers	5			
Supply Trips (misc)	1			
<b>Restoration</b>				
Loader	2	0.5	150	
Generator w/PwrTools	1	0.8	50	
Generator- Vent. Fans	1	0.8	50	
Compressor w/PwrTools	1	0.8	50	
Soil Compacter	1	0.8	100	
Roller	1	0.8	90	
Sweeper	1	0.2	150	
Asphalt Paver	1	0.4	100	
Workers	12			
Haul Trips (staging)	11			
Supply Trips (other)	6			
Supply Trips (asphalt)	3			

<b>Pump Stations (Each)</b>			
<b>Excavation and Shoring</b>			
Concrete Saw	1	0.2	60
Pavement Breaker	1	0.3	100
Loader	1	0.8	150
Drill Rig/Auger	1	0.3	150
Service Crane	1	0.3	250
Concrete Pump	1	0.8	100
Excavator	1	0.6	162
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Forklift	1	0.5	90
Sweeper	1	0.2	150
Pumping Equipment	1	0.5	50
Workers	22		
Haul Trips (net export)	19		
Pump Stations			
Supply Trips (materials)	8		
Pump Stations			
Gravel Trips	6		
Pump Stations			
<b>Formwork and Casting</b>			
Concrete Pump	1	0.6	100
Forklift	1	0.2	90
Compressor w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Workers	12		
Supply Trips	4		
Pump Stations			
Concrete Trips	11		
Pump Stations			
<b>Equipment Installation</b>			
Service Crane	1	0.2	250
Forklift	1	0.2	90
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Workers	10		
Supply Trips	4		
Pump Station			
<b>Restoration</b>			
Service Crane	1	0.4	250
Loader	1	0.6	150
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Soil Compacter	1	0.8	100
Roller	1	0.2	90
Sweeper	1	0.2	150
Workers	6		
Haul Trips (staging)	1		
Pump Station			
Haul Trips (shoring)	8		
Pump Station			
Concrete Trips	2		
Pump Station			

<b>Diversion Structures (Each)</b>			
<b>Excavation and Shoring</b>			
Concrete Saw	1	0.2	60
Pavement Breaker	1	0.3	100
Loader	1	0.8	150
Drill Rig/Auger	1	0.3	150
Service Crane	1	0.3	250
Concrete Pump	1	0.8	100
Excavator	1	0.6	162
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Forklift	1	0.5	90
Sweeper	1	0.2	150
Pumping Equipment	1	0.5	50
Workers	22		
Haul Trips -net export	3		
Diversions			
Haul Trips -staging	7		
Diversions			
Supply Trips -materials	5		
Diversions			
Gravel Trips	2		
Diversions			
<b>Formwork and Casting</b>			
Concrete Pump	1	0.6	100
Forklift	1	0.2	90
Compressor w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Workers	12		
Supply Trips	3		
Diversions			
Concrete Trips	1		
Diversions			
<b>Equipment Installation</b>			
Service Crane	1	0.2	250
Forklift	1	0.2	90
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Workers	10		
Supply Trips	3		
Diversions			
<b>Restoration</b>			
Service Crane	1	0.4	250
Loader	1	0.6	150
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Soil Compacter	1	0.8	100
Roller	1	0.2	90
Sweeper	1	0.2	150
Workers	6		
Haul Trips (staging)	7		
Diversions			
Haul Trips (shoring)	3		
Diversions			
Supply Trips (asphalt)	2		
Diversions			

<b>Junction to EVIS</b>			
<b>Excavation and Shoring</b>			
Concrete Saw	1	0.2	60
Pavement Breaker	1	0.3	100
Loader	2	0.4	150
Drill Rig	2	0.3	150
Large Crane	1	0.3	350
Concrete Pump	1	0.8	100
Excavator	1	0.8	162
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	2	0.8	50
Compressor w/PwrTools	1	0.8	50
Forklift	1	0.5	90
Sweeper	1	0.2	150
Pumping Equipment	2	0.5	75
Workers	25		
Haul Trips – staging	14		
Haul Trips - net export	4		
Supply Trips - materials	22		
Concrete or Gravel Trips	3		
<b>Formwork and Casting</b>			
Large Crane	1	0.3	350
Forklift	1	0.3	90
Concrete Pump	1	0.8	100
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Workers	15		
Supply Truck	3		
Concrete Truck	16		
<b>Equipment Installation</b>			
Large Crane	1	0.3	350
Forklift	1	0.4	90
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Workers	10		
Supply Truck	1		
<b>Restoration</b>			
Large Crane	1	0.5	350
Loader	1	0.6	150
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Soil Compacter	1	0.8	100
Roller	1	0.8	90
Sweeper	1	0.2	150
Workers	12		
Haul Trips (staging)	14		
Haul Trips (shoring)	22		
Supply Trips (base)	4		
Supply Trips (for concrete struct	11		
Supply Trips (asphalt)	4		

900

<b>Connecting Sewers (Each)</b>			
<b>Excavation and Shoring</b>			
Concrete Saw	1	0.5	60
Pavement Breaker	1	0.5	100
Loader	1	0.5	150
Drill Rig/Auger	2	0.6	150
Service Crane	2	0.4	250
Excavator	1	0.8	162
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Forklift	1	0.5	90
Sweeper	1	0.2	150
Pumping Equipment	2	0.5	50
Workers	16		
Haul Truck -net export	4		
Haul Truck –staging	15		
	peak day		
Supply Truck (materials)	10		
Concrete or Gravel Truck			
<b>Bedding</b>			
Loader	1	0.5	150
Generator- Vent. Fans	1	0.8	50
Workers	6		
Supply Trips	3		
<b>Pipe Laying</b>			
Service Crane	1	0.5	250
Loader	1	0.3	150
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Workers	8		
Supply Trips	1		
<b>Restoration</b>			
Loader	1	0.4	150
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Soil Compacter	1	0.8	100
Roller	1	0.8	90
Sweeper	1	0.2	150
Asphalt Paver	1	0.5	100
Workers	12		
Haul Truck (staging)	15		
	peak day		
Haul Truck (shoring)	9		
Supply Trips (asphalt)	2		
Concrete Trips	1		

2440



<b>Microtunneling (Each)</b>			
<b>Excavation and Shoring</b>			
Concrete Saw	1	0.2	60
Pavement Breaker	1	0.3	100
Loader	1	0.8	150
Drill Rig/Auger	1	0.6	150
Service Crane	1	0.3	250
Excavator	1	0.6	162
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Forklift	1	0.5	90
Sweeper	1	0.2	150
GW Pumping Equipment	2	0.5	75
Workers	22		
Haul Trips -staging	34		
Supply Trips - materials	17		
Concrete or Gravel Trips	3		
<b>Pipe Installation</b>			
Large Crane	1	0.4	350
Loader	1	0.4	150
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Compressor w/PwrTools	1	0.8	50
Tunnel Boring Machine	1	0.8	250
Slurry Pumps	3	0.8	75
Slurry Mixing/Separation	1	0.8	75
Hydraulic Jack System	1	0.4	75
Water Truck	1	0.4	150
Workers	12		
Haul Trips (daily) – soil	3		
Supply Trips	3		
<b>Restoration</b>			
Large Crane	1	0.4	350
Loader	1	0.6	150
Generator w/PwrTools	1	0.8	50
Generator- Vent. Fans	1	0.8	50
Soil Compacter	1	0.8	100
Roller	1	0.8	90
Sweeper	1	0.2	150
Workers	12		
Supply Trips (asphalt)	3		
Supply Trips (access structures)	6		
Haul Trips (staging)	34		

600

**Notes:**

All vehicle trips reflect peak day round-trips. These are multiplied by 2 to reflect 1-way trips in the calculations.

Trucks transit 20 miles 1-way to offsite locations.

Trucks transit 6 miles 1-way to staging areas.

Onsite vehicle transit is less than 0.5 miles.

Activity reflects peak day. Average day activity is assumed at 50% of peak day based on estimates of 100 ft/day construction vs. 50 ft/day.

Workers transit 15 miles 1-way.

**Table C.2**  
**Offroad Engine Emission Factors - USEPA Standards**

		Emission Factor (g/hp-hr)							
	High HP	PM10	PM2.5	DPM	NOX	SOX	CO	HC	VOC
Tier 1	49	0.48	0.48	0.48	5.26	0.006	4.1		1.74
	74	0.552	0.552	0.552	6.54	0.006	6.9		1.19
	119	0.552	0.552	0.552	6.54	0.005	6.9		1.19
	174	0.274	0.274	0.274	6.54	0.005	6.9		0.82
	299	0.108	0.108	0.108	5.93	0.005	6.9		0.38
	599	0.108	0.108	0.108	5.93	0.005	6.9		0.38
	750	0.108	0.108	0.108	5.93	0.005	6.9		0.38
	2000	0.108	0.108	0.108	5.93	0.005	6.9		0.38
Tier 2	49	0.28	0.28	0.28	4.63	0.006	4.1		0.29
	74	0.192	0.192	0.192	4.75	0.006	3.7		0.23
	119	0.192	0.192	0.192	4.75	0.005	3.7		0.23
	174	0.128	0.128	0.128	4.17	0.005	3.7		0.19
	299	0.088	0.088	0.088	4.15	0.005	2.6		0.12
	599	0.088	0.088	0.088	3.79	0.005	2.6		0.12
	750	0.088	0.088	0.088	3.79	0.005	2.6		0.12
	2000	0.088	0.088	0.088	3.79	0.005	2.6		0.12
Tier 3	49	0.28	0.28	0.28	4.63	0.006	4.1		0.29
	74	0.192	0.192	0.192	2.74	0.006	3.7		0.12
	119	0.192	0.192	0.192	2.74	0.005	3.7		0.12
	174	0.112	0.112	0.112	2.32	0.005	3.7		0.12
	299	0.088	0.088	0.088	2.32	0.005	2.6		0.12
	599	0.088	0.088	0.088	2.32	0.005	2.6		0.12
	750	0.088	0.088	0.088	2.32	0.005	2.6		0.12
	2000	0.088	0.088	0.088	2.32	0.005	2.6		0.12
Tier 4 Interim	49	0.128	0.128	0.128	4.55	0.006	4.1		0.12
	74	0.112	0.112	0.112	2.74	0.006	3.7		0.12
	119	0.008	0.008	0.008	2.14	0.005	3.7		0.11
	174	0.008	0.008	0.008	2.15	0.005	3.7		0.06
	299	0.008	0.008	0.008	1.29	0.005	2.6		0.08
	599	0.008	0.008	0.008	1.29	0.005	2.6		0.08
	750	0.008	0.008	0.008	1.29	0.005	2.6		0.08
	2000	0.048	0.048	0.048	2.24	0.005	2.6		0.12
Tier 4 Final	49	0.008	0.008	0.008	2.75	0.006	4.1		0.12
	74	0.008	0.008	0.008	2.74	0.006	3.7		0.12
	119	0.008	0.008	0.008	0.26	0.005	3.7		0.06
	174	0.008	0.008	0.008	0.26	0.005	3.7		0.06
	299	0.008	0.008	0.008	0.26	0.005	2.2		0.06
	599	0.008	0.008	0.008	0.26	0.005	2.2		0.06
	750	0.008	0.008	0.008	0.26	0.005	2.2		0.06
	2000	0.016	0.016	0.016	2.24	0.005	2.6		0.06

Source:

PM, Nox , CO and VOC are from CalEEMod, Appendix D, Table 3.5 OFFROAD Emission Factor Based on Engine Tier. SOx is a function of fuel sulfur content and does not change with Tier.

**Table C.3**  
**Composite Mitigated Emission Factors**

		Emission Factor (g/hp-hr)							
Mitigation	High HP	PM10	PM2.5	DPM	NOX	SOX	CO	HC	VOC
50% Tier 3, 50% Tier 4f									
4f	49	0.14	0.14	0.14	3.69	0.01	4.10	0.00	0.21
	74	0.10	0.10	0.10	2.74	0.01	3.70	0.00	0.12
	119	0.10	0.10	0.10	1.50	0.00	3.70	0.00	0.09
	174	0.06	0.06	0.06	1.29	0.00	3.70	0.00	0.09
	299	0.05	0.05	0.05	1.29	0.00	2.40	0.00	0.09
	599	0.05	0.05	0.05	1.29	0.00	2.40	0.00	0.09
	750	0.05	0.05	0.05	1.29	0.00	2.40	0.00	0.09
	2000	0.05	0.05	0.05	2.28	0.00	2.60	0.00	0.09

**Table C.4****Construction Groupings used for Localized Impacts**

Grouping ID	Location	Components	Construction Task ID
Grouping 1	Vineland	Force Main- Open Cut - Work Segment 1	2
		Diversion - Vineland	44
		Pump Station - Vineland	14
		Connecting Sewer Vineland	79
Grouping 2	Tujunga	Force Main- Open Cut - Work Segment 1	2
		Diversion - Tujunga	49
		Pump Station - Tujunga	19
		Connecting Sewer Tujunga	84
Grouping 3	Lankershim	Force Main- Open Cut - Work Segment 1	2
		Diversion - Lankershim	54
		Pump Station - Lankershim	24
		Connecting Sewer Lankershim	89
Grouping 4	Laurel Canyon	Force Main- Open Cut - Work Segment 1	2
		Diversion - Laurel Cyn	59
		Pump Station - Laurel Cyn	29
		Connecting Sewer Laurel Cyn	94
		Microtunnel SR-170	109
Grouping 5	Whitsett	Force Main- Open Cut - Work Segment 1	2
		Diversion - Whitsett	64
		Pump Station- Whitsett	34
		Connecting Sewer Whitsett	99
		Microtunnel SR-170	109
Grouping 6	Fulton	Force Main- Open Cut - Work Segment 2	8
		Diversion - Fulton	69
		Pump Station - Fulton	39
		Connecting Sewer Fulton	104
		Microtunnel Tujunga Wash	113
Grouping 7	Sepulveda/Kester	Force Main- Open Cut - Work Segment 2	8
		Microtunnel Sepulveda *	121
		Microtunnel Kester Avenue Storm Drain	117
Grouping 8	Haskell	Force Main- Open Cut - Work Segment 2	8
		Junction - EVIS	74
		Microtunnel I-405 *	125

**Table C.5  
Dust Generation**

Task ID	Task	Peak Day Volume of Soil Handled (cyd/day)	Total Volume of Soil Handled (cyd)	Peak Day Volume of Soil Handled (ton/day)	Total Volume of Soil Handled (ton/yr)
1	<b>Mobilization</b>				
2	<b>Force Main- Open Cut - Work Segment 1</b>				
3	Excavation and Shoring	439	70,240	559.7	89556.0
4	Bedding				
5	Pipe Laying				
6	Testing				
7	Restoration				
8	<b>Force Main- Open Cut - Work Segment 2</b>				
9	Excavation and Shoring	439	70,240	559.7	89556.0
10	Bedding				
11	Pipe Laying				
12	Testing				
13	Restoration				
14	<b>Pump Station - Vineland</b>				
15	Excavation and Shoring	364.50	729	464.7	929.5
16	Formwork and Casting				
17	Equipment Installation				
18	Restoration				
19	<b>Pump Station - Tujunga</b>				
20	Excavation and Shoring	209.50	419	267.1	534.2
21	Formwork and Casting				
22	Equipment Installation				
23	Restoration				
24	<b>Pump Station - Lankershim</b>				
25	Excavation and Shoring	279.00	558	355.7	711.5
26	Formwork and Casting				
27	Equipment Installation				
28	Restoration				
29	<b>Pump Station - Laurel Cyn</b>				
30	Excavation and Shoring	189.00	378	241.0	482.0
31	Formwork and Casting				
32	Equipment Installation				
33	Restoration				
34	<b>Pump Station- Whitsett</b>				
35	Excavation and Shoring	226.00	452	288.2	576.3
36	Formwork and Casting				
37	Equipment Installation				
38	Restoration				
39	<b>Pump Station - Fulton</b>				
40	Excavation and Shoring	226.00	452	288.2	576.3
41	Formwork and Casting				
42	Equipment Installation				
43	Restoration				
44	<b>Diversion - Vineland</b>				
45	Excavation and Shoring	160.62	161	204.8	204.8
46	Formwork and Casting				
47	Equipment Installation				
48	Restoration				
49	<b>Diversion - Tujunga</b>				
50	Excavation and Shoring	183.56	184	234.0	234.0
51	Formwork and Casting				
52	Equipment Installation				
53	Restoration				

54	<b>Diversion - Lankershim</b>				
55	Excavation and Shoring	184.00	184	234.6	234.6
56	Formwork and Casting				
57	Equipment Installation				
58	Restoration				
59	<b>Diversion - Laurel Cyn</b>				
60	Excavation and Shoring	172.00	172	219.3	219.3
61	Formwork and Casting				
62	Equipment Installation				
63	Restoration				
64	<b>Diversion - Whitsett</b>				
65	Excavation and Shoring	184.00	184	234.6	234.6
66	Formwork and Casting				
67	Equipment Installation				
68	Restoration				
69	<b>Diversion - Fulton</b>				
70	Excavation and Shoring	172.00	172	219.3	219.3
71	Formwork and Casting				
72	Equipment Installation				
73	Restoration				
74	<b>Junction - EVIS</b>				
75	Excavation and Shoring	363.00	1815	462.8	2314.1
76	Formwork and Casting				
77	Equipment Installation				
78	Restoration				
79	<b>Connecting Sewer Vineland</b>				
80	Excavation and Shoring	251.00	753	320.0	960.1
81	Bedding				
82	Pipe Laying				
83	Restoration				
84	<b>Connecting Sewer Tujunga</b>				
85	Excavation and Shoring	287.00	287	365.9	365.9
86	Bedding				
87	Pipe Laying				
88	Restoration				
89	<b>Connecting Sewer Lankershim</b>				
90	Excavation and Shoring	287.00	574	365.9	731.9
91	Bedding				
92	Pipe Laying				
93	Restoration				
94	<b>Connecting Sewer Laurel Cyn</b>				
95	Excavation and Shoring	250.67	376	319.6	479.4
96	Bedding				
97	Pipe Laying				
98	Restoration				
99	<b>Connecting Sewer Whitsett</b>				
100	Excavation and Shoring	279.75	1119	356.7	1426.7
101	Bedding				
102	Pipe Laying				
103	Restoration				
104	<b>Connecting Sewer Fulton</b>				
105	Excavation and Shoring	273.33	1,640	348.5	2091.0
106	Bedding				
107	Pipe Laying				
108	Restoration				
109	<b>Microtunnel SR-170</b>				
110	Excavation and Shoring	523.00	1046	666.8	1333.7
111	Pipe Installation				
112	Restoration				

113	<b>Microtunnel Tujunga Wash</b>		
114	Excavation and Shoring	892.00	1784
115	Pipe Installation		
116	Restoration		
117	<b>Microtunnel Kester Avenue Storm Drain</b>		
118	Excavation and Shoring	457.50	915
119	Pipe Installation		
120	Restoration		
121	<b>Microtunnel Sepulveda *</b>		
122	Excavation and Shoring	523.00	1046
123	Pipe Installation		
124	Restoration		
125	<b>Microtunnel I-405 *</b>		
126	Excavation and Shoring	892.00	1784
127	Pipe Installation		
128	Restoration		
129	<b>Commissioning</b>		

1137.3	2274.6
583.3	1166.6
666.8	1333.7
1137.3	2274.6

Table C.6

**Paved Road Dust Emission Factor Derivation**

Emission Source	(k)	(k)	(W)	(E)	(E)	
	Particle Size Multiplier - (sL)	Particle Size Multiplier - PM10 (g/VMT)	Particle Size Multiplier - PM2.5 (g/VMT)	Average Vehicle Weight on Road (tons)	Uncontrolled PM10 Emission Factor (g/VMT)	Uncontrolled PM2.5 Emission Factor (g/VMT)
<b>Onsite Trucks</b>	0.6	1.00	0.25	20.0	<b>13.34</b>	<b>3.34</b>
Offsite Autos	0.6	1.00	0.25	2.4	1.53	0.38
Offsite Roadway (all vehicles) <500 ADT	0.6	1.00	0.25	2.4	1.53	0.38
Offsite Roadway (all vehicles) 500-5000 ADT	0.2	1.00	0.25	2.4	0.56	0.14
<b>Offsite Roadway (all vehicles) 5000-10000 ADT - EPA</b>	0.06	1.00	0.25	2.4	0.19	0.05
Offsite Roadway (all vehicles) >10000 ADT	0.03	1.00	0.25	2.4	0.10	0.03
Offsite Roadway (all vehicles) >10000 ADT Limited Acces	0.015	1.00	0.25	2.4	0.05	0.01
<b>Offsite Roadway (all vehicles) - CARB 2016</b>						
Freeway Statewide	0.015	1.00	0.25	2.4	0.05	0.01
Major LA County	0.013	1.00	0.25	2.4	0.05	0.01
Collector LA County	0.013	1.00	0.25	2.4	0.05	0.01
Local LA County	0.135	1.00	0.25	2.4	0.39	0.10

Notes:

1. Emission factors are calculated using Equation 1 of AP-42 Section 13.2.1 (Jan 2011). Because the emissions are primarily used for peak day or peak hour calculations, the downward adjustment due to annual precipitation (in Equation 2) was not made.
2. Emission factors exclude engine exhaust, tire wear, and brake wear, which are accounted for in EMFAC calculations.
3. The equation is:  $E = k (sL)^{0.91} \times (W)^{1.02}$

**Summary of Daily VMT by Roadway Type**

**Los Angeles - Long Beach - Santa Ana Metro Area**

Metropolitan Area	Interstate/ Other Fwy/ Exprwy	Other Principal Arterial	Minor Arterial	Collector	Local
	Daily Vehicle-Miles Travelled (Thousands)	132,796	67,118	49,528	15,304
Travel Fraction	0.48	0.24	0.18	0.05	0.05

Source: Federal Highway Administration. Highway Statistics 2016 - Urbanized Areas - 2016 Miles and Daily Vehicle Miles Traveled. Table HM-71. Last accessed February 2019. <https://www.fhwa.dot.gov/policyinformation/statistics/2016/>

**Composite Paved Road Dust Emission Factors for Project Trips**

Road Type	Fraction of Travel by Roadway Type					Composite EF	
	Interstate/ Other Fwy/ Exprwy	Other Principal Arterial	Minor Arterial	Collector	Local	PM10 (g/VMT)	PM2.5 (g/VMT)
Vehicle Trips in Los Angeles - Long Beach - Santa Ana Me	0.48	0.24	0.18	0.05	0.05	<b>0.068</b>	<b>0.017</b>

**Table C.7**

**Material Loading/Handling Dust Emission Factors**

PM10 (lb/ton)	0.0560274
PM2.5 (lb/ton)	0.0084841
$EF = (k)(0.0032)[(U/5)^{1.3}]/[(M/2)^{1.4}]$	
EF = lb/ton	
k = Particle Size Constant (0.35 for PM10 and 0.053 for PM2.5)	
U = average wind speed = 2.2 m/s (CalEEMod), 4.9 mph	
M = moisture content = 12% (CalEEMod)	
Soil density (ton/cyd):	1.26
Truck capacity (cyd)	20
Truck capacity (ton)	25.28

Source: AP-42, p. 13.2.4 & CalEEMod



**Table C.8**

**Asphalt Paving**

VOC (lb/acre)	2.62	(lb/ft <sup>2</sup> )	6.01469E-05
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Source: CalEEMod, Appendix A, Section 4.8.

**Table C.9**  
**OFFROAD 2017 Output**

OFFROAD2017 (v1.0.1) Emissions Inventory

Region Type: Air District

Region: South Coast AQMD

Calendar Year: 2021

Scenario: All Adopted Rules - Exhaust

Vehicle Classification: OFFROAD2017 Equipment Types

Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd
South Coast	2021	Industrial - Aerial Lifts	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	Industrial - Aerial Lifts	Aggregated	50	Diesel	0.003195766	0.003866877	0.004601903	0.0730416	0.068553954
South Coast	2021	Industrial - Aerial Lifts	Aggregated	75	Diesel	0.002708234	0.003276963	0.003899857	0.0976202	0.050321594
South Coast	2021	Industrial - Aerial Lifts	Aggregated	100	Diesel	0.001386007	0.001677068	0.00199585	0.0469733	0.029056625
South Coast	2021	Industrial - Aerial Lifts	Aggregated	175	Diesel	0.000220842	0.000267219	0.000318013	0.0079271	0.00247136
South Coast	2021	Industrial - Aerial Lifts	Aggregated	300	Diesel	9.77293E-06	1.18252E-05	1.4073E-05	0.0001581	0.000112715
South Coast	2021	Industrial - Aerial Lifts	Aggregated	600	Diesel	5.57319E-06	6.74355E-06	8.02539E-06	0.0001115	3.07824E-05
South Coast	2021	OFF - ConstMin - Plate Compactors	Aggregated	25	Diesel	0.000562748	0.000669717	0.000810357	0.0042507	0.005074767
South Coast	2021	OFF - Light Commercial - Air Compr	Aggregated	25	Diesel	0.000928271	0.001104719	0.00133671	0.0047684	0.008032261
South Coast	2021	OFF - Light Commercial - Air Compr	Aggregated	50	Diesel	0.012558437	0.014945578	0.018084149	0.100836	0.084551913
South Coast	2021	ConstMin - Cranes	Aggregated	25	Diesel	1.91471E-05	2.31679E-05	2.75718E-05	0.0001082	9.70727E-05
South Coast	2021	ConstMin - Cranes	Aggregated	50	Diesel	0.000601951	0.00072836	0.000866809	0.0025534	0.00204028
South Coast	2021	ConstMin - Cranes	Aggregated	75	Diesel	0.000160556	0.000194272	0.0002312	0.0006724	0.001466302
South Coast	2021	ConstMin - Cranes	Aggregated	100	Diesel	0.004544456	0.005498792	0.006544016	0.0343859	0.048605211
South Coast	2021	ConstMin - Cranes	Aggregated	175	Diesel	0.010387373	0.012568722	0.014957818	0.0888189	0.128353722
South Coast	2021	ConstMin - Cranes	Aggregated	300	Diesel	0.013017825	0.015751568	0.018745668	0.0782582	0.186729379
South Coast	2021	ConstMin - Cranes	Aggregated	600	Diesel	0.016964366	0.020526883	0.024428687	0.1646477	0.239447753
South Coast	2021	ConstMin - Cranes	Aggregated	750	Diesel	0.000641539	0.000776262	0.000923816	0.006276	0.008207247
South Coast	2021	ConstMin - Cranes	Aggregated	9999	Diesel	0.00269052	0.003255529	0.003874349	0.0276796	0.037083477
South Coast	2021	ConstMin - Bore/Drill Rigs	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Bore/Drill Rigs	Aggregated	50	Diesel	0.00061382	0.000742722	0.000883901	0.0047542	0.004844009
South Coast	2021	ConstMin - Bore/Drill Rigs	Aggregated	75	Diesel	0.00034978	0.000423233	0.000503683	0.0047398	0.005882929
South Coast	2021	ConstMin - Bore/Drill Rigs	Aggregated	100	Diesel	0.000981698	0.001187855	0.001413646	0.0200599	0.014532011
South Coast	2021	ConstMin - Bore/Drill Rigs	Aggregated	175	Diesel	0.001094064	0.001323817	0.001575452	0.0250977	0.013684633
South Coast	2021	ConstMin - Bore/Drill Rigs	Aggregated	300	Diesel	0.0013781	0.001667501	0.001984464	0.0131719	0.019673347
South Coast	2021	ConstMin - Bore/Drill Rigs	Aggregated	600	Diesel	0.002026352	0.002451885	0.002917946	0.0221608	0.025245116
South Coast	2021	ConstMin - Bore/Drill Rigs	Aggregated	750	Diesel	0.000734207	0.00088839	0.001057258	0.0093548	0.008235549
South Coast	2021	ConstMin - Bore/Drill Rigs	Aggregated	9999	Diesel	0.000969815	0.001173476	0.001396533	0.0064073	0.025816093
South Coast	2021	ConstMin - Excavators	Aggregated	25	Diesel	4.24914E-05	5.14146E-05	6.11876E-05	0.0001444	9.80703E-05
South Coast	2021	ConstMin - Excavators	Aggregated	50	Diesel	0.019822736	0.023985511	0.02854474	0.1905125	0.167382086
South Coast	2021	ConstMin - Excavators	Aggregated	75	Diesel	0.000543832	0.000658037	0.000783118	0.0116646	0.010005211
South Coast	2021	ConstMin - Excavators	Aggregated	100	Diesel	0.013445052	0.016268513	0.019360875	0.2056044	0.165935695
South Coast	2021	ConstMin - Excavators	Aggregated	175	Diesel	0.023480461	0.028411358	0.033811864	0.4028346	0.26657872
South Coast	2021	ConstMin - Excavators	Aggregated	300	Diesel	0.022975333	0.027800153	0.033084479	0.1875247	0.294887165
South Coast	2021	ConstMin - Excavators	Aggregated	600	Diesel	0.034455441	0.041691084	0.049615835	0.3174588	0.3828129
South Coast	2021	ConstMin - Excavators	Aggregated	750	Diesel	0.000801239	0.000969499	0.001153784	0.0060545	0.011969107

**Table C.9**  
**OFFROAD 2017 Output**

OFFROAD2017 (v1.0.1) Emissions Inventory  
 Region Type: Air District  
 Region: South Coast AQMD  
 Calendar Year: 2021  
 Scenario: All Adopted Rules - Exhaust  
 Vehicle Classification: OFFROAD2017 Equipment Types  
 Units: Emissions: tons/day, Fuel Consumption: gallons/year,

hp

Region	CalYr	VehClass	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	r_Hours_hpy	
South Coast	2021	Industrial - Aerial Lifts	0	0	0	0	0	0	0	0	0	0	
South Coast	2021	Industrial - Aerial Lifts	13.777699	0.000622162	0.000572389	0.000622162	0.000127286	0.000112452	447002.278	546731.33	1827.9372	25220016	46.12872
South Coast	2021	Industrial - Aerial Lifts	16.272026	0.001145156	0.001053543	0.001145156	0.000150362	0.00013281	527927.97	458331.36	1537.227	33116931	72.255434
South Coast	2021	Industrial - Aerial Lifts	7.7684293	0.000368848	0.00033934	0.000368848	7.17814E-05	6.34049E-05	252038.135	202522.88	677.17352	15807427	78.052548
South Coast	2021	Industrial - Aerial Lifts	1.469256	8.41675E-05	7.74341E-05	8.41675E-05	1.35774E-05	1.19919E-05	47668.3922	22927.817	76.775087	2991239.6	130.46334
South Coast	2021	Industrial - Aerial Lifts	0.0877995	1.49673E-06	1.377E-06	1.49673E-06	8.11457E-07	7.16608E-07	2848.55749	777.18111	2.5879243	178751.65	230
South Coast	2021	Industrial - Aerial Lifts	0.0623504	1.05621E-06	9.71715E-07	1.05621E-06	5.76293E-07	5.08895E-07	2022.88865	259.06037	0.8626414	126939.58	490
South Coast	2021	OFF - ConstMin - Plate Compactors	0.6961518	0.000198299	0.000182435	0.000198299	1.08327E-05	5.83808E-06	23206.7	117902.3	196.34	943218.4	8
South Coast	2021	OFF - Light Commercial - Air Compr	1.0147979	0.000367148	0.000337777	0.000367148	1.34634E-05	8.50277E-06	33799	61670.4	75.63	1231875	19.975142
South Coast	2021	OFF - Light Commercial - Air Compr	11.351577	0.004314864	0.003969675	0.004314864	0.000146748	9.57893E-05	380768	372416.8	457.43	13779422	37
South Coast	2021	ConstMin - Cranes	0.0119686	7.37114E-06	6.78144E-06	7.37114E-06	1.10082E-07	9.76864E-08	388.309297	937.99992	1.9813189	23449.998	25
South Coast	2021	ConstMin - Cranes	0.1939224	0.000216927	0.000199573	0.000216927	1.77485E-06	1.58277E-06	6291.59882	9123.5032	21.134068	376158.4	41.229601
South Coast	2021	ConstMin - Cranes	0.0787592	0.000136198	0.000125302	0.000136198	7.23351E-07	6.42822E-07	2555.25619	2449.3877	6.6043963	170403.57	69.569863
South Coast	2021	ConstMin - Cranes	4.4259425	0.003362805	0.00309378	0.003362805	4.07837E-05	3.61239E-05	143594.832	109798.93	250.96706	9674890.5	88.114616
South Coast	2021	ConstMin - Cranes	13.371422	0.006886431	0.006335516	0.006886431	0.000123314	0.000109136	433821.06	198591.28	439.19235	29082336	146.44317
South Coast	2021	ConstMin - Cranes	23.318127	0.00755807	0.006953425	0.00755807	0.000215197	0.000190319	756530.936	230022.48	492.68796	50800606	220.85061
South Coast	2021	ConstMin - Cranes	40.355832	0.009507024	0.008746462	0.009507024	0.000372601	0.000329379	1309300.53	238703.83	488.06488	88018036	368.73324
South Coast	2021	ConstMin - Cranes	0.6308912	0.000424238	0.000390299	0.000424238	5.81366E-06	5.14925E-06	20468.5695	2138.4609	5.283517	1369314	640.32688
South Coast	2021	ConstMin - Cranes	2.228552	0.001771881	0.00163013	0.001771881	2.05234E-05	1.81891E-05	72302.9167	5171.6752	10.567034	4852081.9	938.20314
South Coast	2021	ConstMin - Bore/Drill Rigs	0	0	0	0	0	0	0	0	0	0	
South Coast	2021	ConstMin - Bore/Drill Rigs	0.6259503	0.000304115	0.000279786	0.000304115	5.76881E-06	5.10892E-06	20308.2682	17573.279	49.95692	690022.48	39.265438
South Coast	2021	ConstMin - Bore/Drill Rigs	0.7112889	0.000328976	0.000302658	0.000328976	6.56573E-06	5.80544E-06	23076.9852	12290.015	30.500014	895066.48	72.828755
South Coast	2021	ConstMin - Bore/Drill Rigs	3.1925749	0.00064282	0.000591394	0.00064282	2.94875E-05	2.60574E-05	103579.577	47944.179	122.00006	4021909.1	83.88733
South Coast	2021	ConstMin - Bore/Drill Rigs	4.5184459	0.000602821	0.000554595	0.000602821	4.17425E-05	3.68789E-05	146596.002	37675.684	120.42247	5622044.6	149.2221
South Coast	2021	ConstMin - Bore/Drill Rigs	6.4363513	0.000599015	0.000551094	0.000599015	5.94659E-05	5.25326E-05	208820.331	38990.712	121.47419	8105855.9	207.89197
South Coast	2021	ConstMin - Bore/Drill Rigs	11.741246	0.000838283	0.00077122	0.000838283	0.000108493	9.58305E-05	380931.806	35623.292	103.06901	14822349	416.08589
South Coast	2021	ConstMin - Bore/Drill Rigs	5.1215961	0.000307568	0.000282962	0.000307568	4.73297E-05	4.18018E-05	166164.545	9861.8152	19.982768	6351089.2	644.00813
South Coast	2021	ConstMin - Bore/Drill Rigs	3.3835971	0.000628269	0.000578008	0.000628269	3.12539E-05	2.76165E-05	109777.08	2274.4335	3.1551739	4231268.5	1860.3615
South Coast	2021	ConstMin - Excavators	0.0075972	1.36681E-05	1.25746E-05	1.36681E-05	6.89647E-08	6.20069E-08	246.481216	448.91076	1.7619905	11222.769	25
South Coast	2021	ConstMin - Excavators	25.108819	0.008604608	0.007916239	0.008604608	0.000231549	0.000204935	814627.981	1036383.8	1433.0856	37088692	35.78664
South Coast	2021	ConstMin - Excavators	1.8208083	0.000440062	0.000404857	0.000440062	1.6818E-05	1.48612E-05	59074.1215	40242.827	51.685055	2995232.6	74.42898
South Coast	2021	ConstMin - Excavators	30.789714	0.009447285	0.008691502	0.009447285	0.000284263	0.000251302	998938.37	620899.28	981.42872	50801206	81.818756
South Coast	2021	ConstMin - Excavators	68.815947	0.012978104	0.011939855	0.012978104	0.000635533	0.000561667	2232657.6	773581.32	1323.2549	112972286	146.03802
South Coast	2021	ConstMin - Excavators	88.109385	0.009095568	0.008367922	0.009095568	0.000813926	0.000719137	2858611.97	661179.9	1148.2305	144620423	218.73082
South Coast	2021	ConstMin - Excavators	154.90862	0.012871469	0.011841751	0.012871469	0.001431173	0.001264343	5025839.7	754351.76	1186.9943	255142755	338.22782
South Coast	2021	ConstMin - Excavators	2.1815262	0.000368785	0.000339282	0.000368785	2.01453E-05	1.78053E-05	70777.2148	5595.8019	9.9846129	3549053.2	634.23496

**Table C.9**  
**OFFROAD 2017 Output**

OFFROAD2017 (v1.0.1) Emissions Inventory  
 Region Type: Air District  
 Region: South Coast AQMD  
 Calendar Year: 2021  
 Scenario: All Adopted Rules - Exhaust  
 Vehicle Classification: OFFROAD2017 Equipment Types  
 Units: Emissions: tons/day, Fuel Consumption: gallons/year,

			Loaded Emission Factors								
			LF	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr
Region	CalYr	VehClass	PM10	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2
South Coast	2021	Industrial - Aerial Lifts									
South Coast	2021	Industrial - Aerial Lifts	0.0081686	0.0075151	0.0081686	0.9000691	0.0016712	0.9589889	0.0419583	0.0507696	180.89229
South Coast	2021	Industrial - Aerial Lifts	0.0114499	0.0105339	0.0114499	0.5031448	0.0015034	0.976064	0.0270785	0.032765	162.69727
South Coast	2021	Industrial - Aerial Lifts	0.0077264	0.0071083	0.0077264	0.6086571	0.0015036	0.9839617	0.0290331	0.03513	162.72743
South Coast	2021	Industrial - Aerial Lifts	0.0093171	0.0085718	0.0093171	0.2735732	0.001503	0.877514	0.0244467	0.0295805	162.64286
South Coast	2021	Industrial - Aerial Lifts	0.0027726	0.0025508	0.0027726	0.2087944	0.0015032	0.292894	0.0181035	0.0219053	162.64121
South Coast	2021	Industrial - Aerial Lifts	0.0027551	0.0025347	0.0027551	0.0802961	0.0015033	0.2908291	0.0145377	0.0175906	162.64121
South Coast	2021	OFF - ConstMin - Plate Compactors	0.0696139	0.0640448	0.0696139	1.7815275	0.0038029	1.4922178	0.1975562	0.2351082	244.38831
South Coast	2021	OFF - Light Commercial - Air Compr	0.0986879	0.0907928	0.0986879	2.159036	0.0036189	1.2817313	0.249515	0.2969435	272.77317
South Coast	2021	OFF - Light Commercial - Air Compr	0.1036871	0.0953922	0.1036871	2.031801	0.0035264	2.4231101	0.301782	0.3591455	272.78089
South Coast	2021	ConstMin - Cranes	0.1040831	0.0957565	0.1040831	1.3707025	0.0015544	1.5282588	0.2703635	0.3271398	169.00154
South Coast	2021	ConstMin - Cranes	0.1909555	0.175679	0.1909555	1.7960057	0.0015624	2.2476765	0.5298816	0.6411568	170.70489
South Coast	2021	ConstMin - Cranes	0.264655	0.2434826	0.264655	2.8492697	0.0014056	1.3065249	0.3119865	0.3775037	153.04229
South Coast	2021	ConstMin - Cranes	0.1150918	0.1058844	0.1150918	1.6635103	0.0013958	1.1768547	0.1555337	0.1881958	151.47761
South Coast	2021	ConstMin - Cranes	0.0784068	0.0721342	0.0784068	1.461396	0.001404	1.011265	0.1182674	0.1431036	152.24289
South Coast	2021	ConstMin - Cranes	0.0492641	0.045323	0.0492641	1.2171174	0.0014027	0.5100933	0.0848513	0.10267	151.98947
South Coast	2021	ConstMin - Cranes	0.0357653	0.0329041	0.0357653	0.9007988	0.0014017	0.6194022	0.0638197	0.0772218	151.81803
South Coast	2021	ConstMin - Cranes	0.1025878	0.0943807	0.1025878	1.9846466	0.0014058	1.5176474	0.1551346	0.1877128	152.55981
South Coast	2021	ConstMin - Cranes	0.1209191	0.1112456	0.1209191	2.5307022	0.0014006	1.8889482	0.1836102	0.2221683	152.08395
South Coast	2021	ConstMin - Bore/Drill Rigs									
South Coast	2021	ConstMin - Bore/Drill Rigs	0.1459363	0.1342614	0.1459363	2.3245045	0.0027683	2.2813849	0.2945551	0.3564117	300.37608
South Coast	2021	ConstMin - Bore/Drill Rigs	0.121702	0.1119658	0.121702	2.1763416	0.0024289	1.7534355	0.1293982	0.1565718	263.13551
South Coast	2021	ConstMin - Bore/Drill Rigs	0.0529232	0.0486893	0.0529232	1.196416	0.0024277	1.6515292	0.0808229	0.0977957	262.8437
South Coast	2021	ConstMin - Bore/Drill Rigs	0.0355044	0.0326641	0.0355044	0.8059862	0.0024585	1.4781806	0.0644373	0.0779691	266.12368
South Coast	2021	ConstMin - Bore/Drill Rigs	0.0244696	0.0225121	0.0244696	0.8036521	0.0024292	0.5380703	0.0562951	0.0681171	262.92361
South Coast	2021	ConstMin - Bore/Drill Rigs	0.0187267	0.0172286	0.0187267	0.563961	0.0024237	0.4950594	0.0452675	0.0547737	262.29251
South Coast	2021	ConstMin - Bore/Drill Rigs	0.0160355	0.0147526	0.0160355	0.4293714	0.0024676	0.4877251	0.0382789	0.0463174	267.02126
South Coast	2021	ConstMin - Bore/Drill Rigs	0.0491659	0.0452326	0.0491659	2.0202664	0.0024458	0.5014124	0.0758939	0.0918316	264.78707
South Coast	2021	ConstMin - Excavators	0.4032699	0.3710083	0.4032699	2.8935196	0.0020348	4.2599152	1.2536889	1.5169636	224.15039
South Coast	2021	ConstMin - Excavators	0.0768207	0.070675	0.0768207	1.4943633	0.0020672	1.7008679	0.1769745	0.2141392	224.16794
South Coast	2021	ConstMin - Excavators	0.0486488	0.0447569	0.0486488	1.1060746	0.0018592	1.289523	0.0601206	0.0727459	201.2901
South Coast	2021	ConstMin - Excavators	0.0615775	0.0566513	0.0615775	1.0815697	0.0018528	1.3401308	0.0876349	0.1060383	200.68752
South Coast	2021	ConstMin - Excavators	0.0380389	0.0349958	0.0380389	0.781344	0.0018628	1.180711	0.0688214	0.0832739	201.7
South Coast	2021	ConstMin - Excavators	0.0208252	0.0191592	0.0208252	0.6751728	0.0018636	0.429356	0.0526043	0.0636512	201.73501
South Coast	2021	ConstMin - Excavators	0.0167045	0.0153681	0.0167045	0.496812	0.0018574	0.4119959	0.044716	0.0541064	201.03935
South Coast	2021	ConstMin - Excavators	0.0344072	0.0316546	0.0344072	1.1167037	0.0018795	0.5648802	0.0747547	0.0904532	203.53385

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd
South Coast	2021	ConstMin - Excavators	Aggregated	9999	Diesel	0.00110908	0.001341987	0.001597075	0.0096844	0.02706674
South Coast	2021	Industrial - Forklifts	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	Industrial - Forklifts	Aggregated	50	Diesel	0.013064929	0.015808564	0.018813497	0.0873168	0.071310788
South Coast	2021	Industrial - Forklifts	Aggregated	75	Diesel	0.002104286	0.002546186	0.003030172	0.0084269	0.020004698
South Coast	2021	Industrial - Forklifts	Aggregated	100	Diesel	0.069926041	0.08461051	0.100693499	0.7791773	0.774746186
South Coast	2021	Industrial - Forklifts	Aggregated	175	Diesel	0.017103057	0.020694699	0.024628403	0.2161647	0.195879606
South Coast	2021	Industrial - Forklifts	Aggregated	300	Diesel	0.003082869	0.003730272	0.004439332	0.0204352	0.038461064
South Coast	2021	Industrial - Forklifts	Aggregated	600	Diesel	0.000674204	0.000815787	0.000970854	0.0044879	0.007354071
South Coast	2021	Industrial - Forklifts	Aggregated	9999	Diesel	2.06343E-05	2.49675E-05	2.97134E-05	0.0002898	0.000685795
South Coast	2021	OFF - Light Commercial - Generator	Aggregated	25	Diesel	0.022030711	0.026218366	0.031724223	0.1368373	0.209264855
South Coast	2021	OFF - Light Commercial - Generator	Aggregated	50	Diesel	0.024063429	0.028637469	0.034651338	0.2170052	0.217068423
South Coast	2021	ConstMin - Rubber Tired Loaders	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Rubber Tired Loaders	Aggregated	50	Diesel	0.00366765	0.004437856	0.005281415	0.0215906	0.016654281
South Coast	2021	ConstMin - Rubber Tired Loaders	Aggregated	100	Diesel	0.037703644	0.045621409	0.054293247	0.3567128	0.386207946
South Coast	2021	ConstMin - Rubber Tired Loaders	Aggregated	175	Diesel	0.061611458	0.074549864	0.088720499	0.7222038	0.671754361
South Coast	2021	ConstMin - Rubber Tired Loaders	Aggregated	300	Diesel	0.067545603	0.081730179	0.097265668	0.3920912	0.915851917
South Coast	2021	ConstMin - Rubber Tired Loaders	Aggregated	600	Diesel	0.091637186	0.110880995	0.131957548	0.6107595	1.094627527
South Coast	2021	ConstMin - Rubber Tired Loaders	Aggregated	750	Diesel	0.007131229	0.008628788	0.01026897	0.060307	0.084385627
South Coast	2021	ConstMin - Rubber Tired Loaders	Aggregated	9999	Diesel	0.006316279	0.007642698	0.009095442	0.0325123	0.131912945
South Coast	2021	OFF - ConstMin - Cement and Mortar	Aggregated	25	Diesel	0.000830527	0.000988396	0.001195959	0.0057894	0.007473348
South Coast	2021	ConstMin - Pavers	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Pavers	Aggregated	50	Diesel	0.001166398	0.001411341	0.001679613	0.0061964	0.005378468
South Coast	2021	ConstMin - Pavers	Aggregated	75	Diesel	0.001982297	0.002398579	0.002854507	0.0095237	0.017745452
South Coast	2021	ConstMin - Pavers	Aggregated	100	Diesel	0.002326697	0.002815303	0.003350443	0.0353039	0.03246238
South Coast	2021	ConstMin - Pavers	Aggregated	175	Diesel	0.003714489	0.004494532	0.005348865	0.0520933	0.047082967
South Coast	2021	ConstMin - Pavers	Aggregated	300	Diesel	0.001868364	0.00226072	0.002690444	0.0137651	0.033146072
South Coast	2021	ConstMin - Pavers	Aggregated	600	Diesel	0.000306372	0.00037071	0.000441176	0.002405	0.00456515
South Coast	2021	ConstMin - Pavers	Aggregated	750	Diesel	5.03282E-05	6.08971E-05	7.24726E-05	0.0004916	0.000599329
South Coast	2021	OFF - Light Commercial - Pumps	Aggregated	25	Diesel	0.012249914	0.01457841	0.017639876	0.0733276	0.107594238
South Coast	2021	OFF - Light Commercial - Pumps	Aggregated	50	Diesel	0.015422732	0.018354325	0.022208734	0.1333573	0.128706858
South Coast	2021	ConstMin - Rollers	Aggregated	25	Diesel	1.22302E-05	1.47986E-05	1.76115E-05	4.079E-05	2.87055E-05
South Coast	2021	ConstMin - Rollers	Aggregated	50	Diesel	0.016822147	0.020354798	0.024223891	0.1104472	0.104550277
South Coast	2021	ConstMin - Rollers	Aggregated	75	Diesel	0.000342164	0.000414019	0.000492716	0.0013654	0.003347
South Coast	2021	ConstMin - Rollers	Aggregated	100	Diesel	0.01183121	0.014315764	0.017036943	0.1448028	0.146226688
South Coast	2021	ConstMin - Rollers	Aggregated	175	Diesel	0.006898511	0.008347198	0.009933855	0.1265951	0.091601646
South Coast	2021	ConstMin - Rollers	Aggregated	300	Diesel	0.001363881	0.001650296	0.001963988	0.0110726	0.02037551
South Coast	2021	ConstMin - Rollers	Aggregated	600	Diesel	0.00053374	0.000645826	0.000768586	0.0058039	0.007784505
South Coast	2021	OFF - ConstMin - Concrete/Industrial	Aggregated	25	Diesel	2.73047E-05	3.24949E-05	3.93188E-05	0.0001342	0.000248463
South Coast	2021	OFF - ConstMin - Concrete/Industrial	Aggregated	50	Diesel	0.00045193	0.000537835	0.00065078	0.0040391	0.003662845
South Coast	2021	ConstMin - Sweepers/Scrubbers	Aggregated	50	Diesel	0.011177397	0.01352465	0.016095452	0.0654534	0.053799245
South Coast	2021	ConstMin - Sweepers/Scrubbers	Aggregated	75	Diesel	0.001457813	0.001763954	0.002099251	0.0127151	0.015543989
South Coast	2021	ConstMin - Sweepers/Scrubbers	Aggregated	100	Diesel	0.005453738	0.006599023	0.007853383	0.0586692	0.059724915
South Coast	2021	ConstMin - Sweepers/Scrubbers	Aggregated	175	Diesel	0.001510264	0.00182742	0.00217478	0.0154206	0.017604942
South Coast	2021	ConstMin - Sweepers/Scrubbers	Aggregated	300	Diesel	0.000438567	0.000530666	0.000631536	0.0031831	0.006053301
South Coast	2021	ConstMin - Sweepers/Scrubbers	Aggregated	600	Diesel	0.000165187	0.000199876	0.000237869	0.0027033	0.002278433
South Coast	2021	ConstMin - Sweepers/Scrubbers	Aggregated	9999	Diesel	0.000105988	0.000128245	0.000152622	0.0005274	0.0021145
South Coast	2021	ConstMin - Off-Highway Trucks	Aggregated	25	Diesel	0.000136725	0.000165437	0.000196883	0.000625	0.000406839

Region	CalYr	VehClass	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Horsepower			1203.8857
										Total_Activity_hpy	Total_Population_hpy	r_Hours_hpy	
South Coast	2021	ConstMin - Excavators	4.3366109	0.000510144	0.000469332	0.000510144	4.00608E-05	3.53948E-05	140696.564	5910.1057	8.8099526	7115091.6	
South Coast	2021	Industrial - Forklifts	0	0	0	0	0	0	0	0	0	0	
South Coast	2021	Industrial - Forklifts	9.272945	0.005013651	0.004612559	0.005013651	8.5341E-05	7.56845E-05	300850.489	613240.45	847.39077	25997881	42.39427
South Coast	2021	Industrial - Forklifts	0.8034412	0.001583495	0.001456816	0.001583495	7.36508E-06	6.55758E-06	26066.7662	34322.363	67.931326	2513727.3	73.238762
South Coast	2021	Industrial - Forklifts	110.8846	0.054827343	0.050441156	0.054827343	0.001023085	0.000905025	3597528.76	4204106	5586.4762	346555815	82.432702
South Coast	2021	Industrial - Forklifts	35.301736	0.010592802	0.009745378	0.010592802	0.000325869	0.000288128	1145325.93	780219.02	1053.2857	110235476	141.28786
South Coast	2021	Industrial - Forklifts	7.6954901	0.001509971	0.001389174	0.001509971	7.10561E-05	6.28096E-05	249671.7	114210.21	154.07105	23973091	209.90321
South Coast	2021	Industrial - Forklifts	1.9360629	0.000271905	0.000250152	0.000271905	1.78796E-05	1.58019E-05	62813.4302	16999.097	23.81098	6005190.6	353.26527
South Coast	2021	Industrial - Forklifts	0.1537675	5.98891E-06	5.5098E-06	5.98891E-06	1.42104E-06	1.25503E-06	4988.81615	545.55241	0.7003229	480086.12	880
South Coast	2021	OFF - Light Commercial - Generator	26.536954	0.009334911	0.008588118	0.009334911	0.000370386	0.000222292	883624.85	1453035.8	4304.28	20894045	14.379581
South Coast	2021	OFF - Light Commercial - Generator	31.418459	0.009332629	0.008586019	0.009332629	0.000406162	0.000263803	1048634.05	749615.1	2220.56	24737298	33
South Coast	2021	ConstMin - Rubber Tired Loaders	0	0	0	0	0	0	0	0	0	0	
South Coast	2021	ConstMin - Rubber Tired Loaders	1.9644964	0.001370023	0.001260421	0.001370023	1.80527E-05	1.6034E-05	63735.9232	73491.395	86.528257	3052328.3	41.533138
South Coast	2021	ConstMin - Rubber Tired Loaders	47.825773	0.02898017	0.026661756	0.02898017	0.000441042	0.000390348	1551654.53	973903.55	1075.1721	83807066	86.052736
South Coast	2021	ConstMin - Rubber Tired Loaders	113.46199	0.036740057	0.033800853	0.036740057	0.001047164	0.000926061	3681149.23	1313866.9	1410.1767	197065866	149.98921
South Coast	2021	ConstMin - Rubber Tired Loaders	158.9115	0.030685098	0.02823029	0.030685098	0.001467189	0.001297014	5155708.7	1337946.7	1278.6304	276329536	206.53255
South Coast	2021	ConstMin - Rubber Tired Loaders	218.55035	0.041236954	0.037937998	0.041236954	0.002017857	0.001783779	7090625.54	1155926.4	1186.8403	380986944	329.59445
South Coast	2021	ConstMin - Rubber Tired Loaders	19.119495	0.002987863	0.002748834	0.002987863	0.000176555	0.000156051	620310.958	51280.281	54.372486	33273134	648.84851
South Coast	2021	ConstMin - Rubber Tired Loaders	14.672851	0.003263977	0.003002859	0.003263977	0.000135468	0.000119758	476044.496	26575.449	22.801365	25444532	957.44505
South Coast	2021	OFF - ConstMin - Cement and Mortar	1.0116726	0.00029448	0.000270921	0.00029448	1.51612E-05	8.47889E-06	33704.1	101970.05	339.62	1052167.2	10.318395
South Coast	2021	ConstMin - Pavers	0	0	0	0	0	0	0	0	0	0	
South Coast	2021	ConstMin - Pavers	0.688335	0.000432378	0.000397788	0.000432378	6.32901E-06	5.6181E-06	22332.2713	24121.171	68.779861	936172.83	38.811252
South Coast	2021	ConstMin - Pavers	1.2128528	0.001719284	0.001581742	0.001719284	1.1154E-05	9.89914E-06	39349.673	25250.354	73.365185	1839736.7	72.859837
South Coast	2021	ConstMin - Pavers	5.4137234	0.001829844	0.001683457	0.001829844	4.99828E-05	4.41861E-05	175642.292	101280.32	258.49764	8212523.9	81.087068
South Coast	2021	ConstMin - Pavers	9.1033943	0.002304122	0.002119792	0.002304122	8.4054E-05	7.43007E-05	295349.601	86974.952	228.11987	13728905	157.84895
South Coast	2021	ConstMin - Pavers	7.1187004	0.000972899	0.000895067	0.000972899	6.57599E-05	5.81019E-05	230958.393	48620.893	109.47461	10767509	221.45848
South Coast	2021	ConstMin - Pavers	1.2741167	0.000157719	0.000145101	0.000157719	1.17706E-05	1.03992E-05	41337.312	5232.4226	12.036476	1922109.7	367.34603
South Coast	2021	ConstMin - Pavers	0.2664166	2.65235E-05	2.44017E-05	2.65235E-05	2.46164E-06	2.17446E-06	8643.59333	536.44303	1.146331	402332.28	750
South Coast	2021	OFF - Light Commercial - Pumps	13.623238	0.005039449	0.004636293	0.005039449	0.00019479	0.000114209	453987	976028.25	2424.9	10726733	10.990187
South Coast	2021	OFF - Light Commercial - Pumps	18.388786	0.005788123	0.005325073	0.005788123	0.000237721	0.000154544	614320.55	391316.5	972.27	14478711	37
South Coast	2021	ConstMin - Rollers	0.0022117	3.876E-06	3.56592E-06	3.876E-06	2.00813E-08	1.80515E-08	71.7558909	133.12377	0.5895716	3328.0943	25
South Coast	2021	ConstMin - Rollers	14.133965	0.007058637	0.006493946	0.007058637	0.000130171	0.00011536	458560.917	594944.79	1738.6468	21243772	35.707131
South Coast	2021	ConstMin - Rollers	0.1180282	0.000236482	0.000217563	0.000236482	1.08096E-06	9.63331E-07	3829.29657	2818.2303	12.381005	196846.13	69.847426
South Coast	2021	ConstMin - Rollers	21.974344	0.008907395	0.008194803	0.008907395	0.000202809	0.000179352	712933.378	420989.96	1284.6766	36717588	87.217255
South Coast	2021	ConstMin - Rollers	22.844714	0.004209871	0.003873081	0.004209871	0.000211004	0.000186455	741171.58	265858.83	749.93514	38235713	143.81961
South Coast	2021	ConstMin - Rollers	3.7829362	0.000722431	0.000664637	0.000722431	3.49342E-05	3.08758E-05	122733.197	29246.627	96.100179	6321505.6	216.14477
South Coast	2021	ConstMin - Rollers	2.2190731	0.000256395	0.000235884	0.000256395	2.05004E-05	1.81118E-05	71995.3826	10557.381	34.784727	3689663.7	349.48665
South Coast	2021	OFF - ConstMin - Concrete/Industrial	0.0325923	9.28391E-06	8.5412E-06	9.28391E-06	4.13535E-07	2.6904E-07	1069.45	1438.1	2.39	25885.8	18
South Coast	2021	OFF - ConstMin - Concrete/Industrial	0.5122373	0.000166085	0.000152798	0.000166085	6.62195E-06	4.30648E-06	17118.5	12380.8	21.27	408566.4	33
South Coast	2021	ConstMin - Sweepers/Scrubbers	6.5189075	0.004567279	0.004201897	0.004567279	5.99352E-05	5.32064E-05	211498.776	226571.03	324.27455	8077800.1	35.652396
South Coast	2021	ConstMin - Sweepers/Scrubbers	1.7468033	0.001102267	0.001014085	0.001102267	1.61063E-05	1.42572E-05	56673.11	33051.544	57.393726	2402687.8	72.695177
South Coast	2021	ConstMin - Sweepers/Scrubbers	8.3283845	0.004433676	0.004078982	0.004433676	7.68364E-05	6.79752E-05	270205.262	145046.31	206.61741	11471641	79.089505
South Coast	2021	ConstMin - Sweepers/Scrubbers	2.5131543	0.000889042	0.000817918	0.000889042	2.319E-05	2.0512E-05	81536.523	21642.126	30.418675	3459111.5	159.83234
South Coast	2021	ConstMin - Sweepers/Scrubbers	1.5092635	0.000192981	0.000177543	0.000192981	1.39407E-05	1.23184E-05	48966.3925	9906.1324	13.774494	2077353.8	209.70382
South Coast	2021	ConstMin - Sweepers/Scrubbers	0.2038243	0.000115037	0.000105834	0.000115037	1.8795E-06	1.66359E-06	6612.85444	850.13381	1.1478745	280544.16	330
South Coast	2021	ConstMin - Sweepers/Scrubbers	0.2618833	6.09805E-05	5.61021E-05	6.09805E-05	2.41806E-06	2.13746E-06	8496.51601	425.06691	0.5739373	360456.74	848
South Coast	2021	ConstMin - Off-Highway Trucks	0.0443838	4.17922E-05	3.84488E-05	4.17922E-05	4.06248E-07	3.62254E-07	1439.98231	2624.1172	1.7225624	65602.931	25

Region	CalYr	VehClass	PM10	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2
South Coast	2021	ConstMin - Excavators	0.0237411	0.0218418	0.0237411	1.2596334	0.0018644	0.4506942	0.0516144	0.0624535	201.81744
South Coast	2021	Industrial - Forklifts									
South Coast	2021	Industrial - Forklifts	0.0638565	0.0587479	0.0638565	0.9082513	0.0010869	1.1121118	0.1664017	0.2013461	118.10505
South Coast	2021	Industrial - Forklifts	0.208587	0.1919001	0.208587	2.6351331	0.0009702	1.1100375	0.2771886	0.3353982	105.83387
South Coast	2021	Industrial - Forklifts	0.0523857	0.0481948	0.0523857	0.7402441	0.0009775	0.7444779	0.066812	0.0808425	105.94654
South Coast	2021	Industrial - Forklifts	0.0318184	0.0292729	0.0318184	0.5883782	0.0009788	0.6493101	0.0513737	0.0621622	106.03846
South Coast	2021	Industrial - Forklifts	0.0208561	0.0191876	0.0208561	0.5312342	0.0009814	0.2822567	0.0425814	0.0515235	106.2921
South Coast	2021	Industrial - Forklifts	0.0149927	0.0137932	0.0149927	0.405499	0.0009859	0.247462	0.0371752	0.044982	106.75332
South Coast	2021	Industrial - Forklifts	0.0041306	0.0038002	0.0041306	0.4730033	0.0009801	0.1999117	0.0142318	0.0172205	106.0557
South Coast	2021	OFF - Light Commercial - Generator	0.1479368	0.1361019	0.1479368	3.3163663	0.0058698	2.168557	0.3491361	0.4155008	420.54964
South Coast	2021	OFF - Light Commercial - Generator	0.1249224	0.1149286	0.1249224	2.9055818	0.0054367	2.9047353	0.3221024	0.3833285	420.55359
South Coast	2021	ConstMin - Rubber Tired Loaders									
South Coast	2021	ConstMin - Rubber Tired Loaders	0.1486227	0.1367329	0.1486227	1.8066888	0.0019584	2.3421938	0.3978738	0.4814273	213.1124
South Coast	2021	ConstMin - Rubber Tired Loaders	0.1145009	0.1053409	0.1145009	1.5259113	0.0017426	1.4093755	0.1489675	0.1802506	188.96009
South Coast	2021	ConstMin - Rubber Tired Loaders	0.061733	0.0567943	0.061733	1.1287241	0.0017595	1.2134925	0.1035235	0.1252634	190.646
South Coast	2021	ConstMin - Rubber Tired Loaders	0.0367696	0.033828	0.0367696	1.0974549	0.0017581	0.4698384	0.0809391	0.0979363	190.42184
South Coast	2021	ConstMin - Rubber Tired Loaders	0.0358398	0.0329726	0.0358398	0.9513602	0.0017538	0.5308219	0.0796435	0.0963686	189.946
South Coast	2021	ConstMin - Rubber Tired Loaders	0.0297342	0.0273554	0.0297342	0.8397761	0.001757	0.6001543	0.0709675	0.0858707	190.27049
South Coast	2021	ConstMin - Rubber Tired Loaders	0.0424758	0.0390777	0.0424758	1.7166496	0.0017629	0.4230992	0.0821969	0.0994583	190.94521
South Coast	2021	OFF - ConstMin - Cement and Mortar	0.0926743	0.0852603	0.0926743	2.3519016	0.0047713	1.821959	0.2613713	0.3110534	318.37864
South Coast	2021	ConstMin - Pavers									
South Coast	2021	ConstMin - Pavers	0.1529313	0.1406968	0.1529313	1.9023538	0.0022386	2.19164	0.4125526	0.4991886	243.46276
South Coast	2021	ConstMin - Pavers	0.3094431	0.2846876	0.3094431	3.1938912	0.0020075	1.7141153	0.356781	0.431705	218.29367
South Coast	2021	ConstMin - Pavers	0.0737779	0.0678757	0.0737779	1.3088577	0.0020153	1.4234275	0.0938106	0.1135108	218.27708
South Coast	2021	ConstMin - Pavers	0.0555723	0.0511265	0.0555723	1.1355772	0.0020273	1.2564186	0.0895884	0.108402	219.56149
South Coast	2021	ConstMin - Pavers	0.0299186	0.0275251	0.0299186	1.0193083	0.0020222	0.4233041	0.0574559	0.0695217	218.91433
South Coast	2021	ConstMin - Pavers	0.0271703	0.0249967	0.0271703	0.7864401	0.0020277	0.414307	0.0527788	0.0638624	219.49253
South Coast	2021	ConstMin - Pavers	0.0218291	0.0200828	0.0218291	0.493252	0.002026	0.4046005	0.0414205	0.0501188	219.26289
South Coast	2021	OFF - Light Commercial - Pumps	0.1555623	0.1431173	0.1555623	3.3213165	0.0060129	2.2635436	0.3781414	0.4500196	420.53447
South Coast	2021	OFF - Light Commercial - Pumps	0.1323721	0.1217824	0.1323721	2.9434762	0.0054366	3.0498308	0.3527119	0.4197563	420.54443
South Coast	2021	ConstMin - Rollers	0.3856352	0.3547844	0.3856352	2.8559976	0.0019979	4.0579089	1.216822	1.4723546	220.0481
South Coast	2021	ConstMin - Rollers	0.1100216	0.1012199	0.1100216	1.6296048	0.0020289	1.7215188	0.2622035	0.3172663	220.30335
South Coast	2021	ConstMin - Rollers	0.3977953	0.3659717	0.3977953	5.6301192	0.0018183	2.2967169	0.5755675	0.6964367	198.5399
South Coast	2021	ConstMin - Rollers	0.0803277	0.0739015	0.0803277	1.3186855	0.0018289	1.3058444	0.1066949	0.1291009	198.16661
South Coast	2021	ConstMin - Rollers	0.0364576	0.033541	0.0364576	0.7932733	0.0018273	1.0963178	0.0597413	0.072287	197.83597
South Coast	2021	ConstMin - Rollers	0.0378412	0.0348139	0.0378412	1.0672759	0.0018299	0.5799881	0.0714405	0.086443	198.15143
South Coast	2021	ConstMin - Rollers	0.0230098	0.021169	0.0230098	0.698607	0.0018398	0.5208566	0.0478996	0.0579585	199.1469
South Coast	2021	OFF - ConstMin - Concrete/Industrial	0.1187567	0.1092562	0.1187567	3.1782608	0.0052898	1.7166463	0.3492729	0.4156637	416.91028
South Coast	2021	OFF - ConstMin - Concrete/Industrial	0.1346033	0.123835	0.1346033	2.9685515	0.0053668	3.2734828	0.3662669	0.4358879	415.1426
South Coast	2021	ConstMin - Sweepers/Scrubbers	0.1872204	0.1722428	0.1872204	2.205321	0.0024568	2.6830449	0.4581802	0.554398	267.22091
South Coast	2021	ConstMin - Sweepers/Scrubbers	0.1519071	0.1397545	0.1519071	2.1421696	0.0022197	1.7523047	0.2009062	0.2430965	240.73287
South Coast	2021	ConstMin - Sweepers/Scrubbers	0.1279756	0.1177375	0.1279756	1.7239264	0.0022178	1.6934547	0.1574191	0.1904771	240.39419
South Coast	2021	ConstMin - Sweepers/Scrubbers	0.0851033	0.078295	0.0851033	1.6852284	0.0022199	1.4761374	0.1445696	0.1749292	240.57102
South Coast	2021	ConstMin - Sweepers/Scrubbers	0.0307605	0.0282996	0.0307605	0.9648739	0.0022221	0.5073793	0.069906	0.0845862	240.57103
South Coast	2021	ConstMin - Sweepers/Scrubbers	0.1357763	0.1249142	0.1357763	2.6892038	0.0022183	3.1906286	0.1949677	0.2359109	240.57108
South Coast	2021	ConstMin - Sweepers/Scrubbers	0.0560179	0.0515365	0.0560179	1.9424202	0.0022213	0.4844345	0.0973624	0.1178085	240.57108
South Coast	2021	ConstMin - Off-Highway Trucks	0.210941	0.1940657	0.210941	2.0534665	0.0020505	3.1547596	0.6901	0.835021	224.02145

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd
South Coast	2021	ConstMin - Off-Highway Trucks	Aggregated	50	Diesel	0.00105166	0.001272508	0.00151439	0.0090188	0.007412174
South Coast	2021	ConstMin - Off-Highway Trucks	Aggregated	75	Diesel	0.000151	0.00018271	0.00021744	0.0022913	0.001325785
South Coast	2021	ConstMin - Off-Highway Trucks	Aggregated	100	Diesel	0.000434245	0.000525437	0.000625313	0.0051758	0.004657294
South Coast	2021	ConstMin - Off-Highway Trucks	Aggregated	175	Diesel	0.010604605	0.012831572	0.015270631	0.1511194	0.10352209
South Coast	2021	ConstMin - Off-Highway Trucks	Aggregated	300	Diesel	0.019173248	0.02319963	0.027609477	0.1266917	0.196739715
South Coast	2021	ConstMin - Off-Highway Trucks	Aggregated	600	Diesel	0.073620032	0.089080239	0.106012847	0.5330177	0.779767397
South Coast	2021	ConstMin - Off-Highway Trucks	Aggregated	750	Diesel	0.031624465	0.038265603	0.04553923	0.249817	0.342672395
South Coast	2021	ConstMin - Off-Highway Trucks	Aggregated	9999	Diesel	0.046966827	0.05682986	0.06763223	0.3078687	0.911506155
South Coast	2021	ConstMin - Crawler Tractors	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Crawler Tractors	Aggregated	50	Diesel	0.001855603	0.002245279	0.002672068	0.0079939	0.006108144
South Coast	2021	ConstMin - Crawler Tractors	Aggregated	75	Diesel	0.000235516	0.000284975	0.000339143	0.0009238	0.002256838
South Coast	2021	ConstMin - Crawler Tractors	Aggregated	100	Diesel	0.028659544	0.034678049	0.041269744	0.20753	0.291784702
South Coast	2021	ConstMin - Crawler Tractors	Aggregated	175	Diesel	0.020732304	0.025086088	0.029854518	0.1901227	0.25285601
South Coast	2021	ConstMin - Crawler Tractors	Aggregated	300	Diesel	0.019503654	0.023599421	0.028085261	0.1242326	0.289454409
South Coast	2021	ConstMin - Crawler Tractors	Aggregated	600	Diesel	0.04357134	0.052721321	0.062742729	0.3439668	0.61223295
South Coast	2021	ConstMin - Crawler Tractors	Aggregated	750	Diesel	0.001160896	0.001404684	0.001671691	0.006927	0.022145037
South Coast	2021	ConstMin - Crawler Tractors	Aggregated	9999	Diesel	0.003835972	0.004641526	0.0055238	0.020592	0.076636823
South Coast	2021	ConstMin - Graders	Aggregated	25	Diesel	1.34538E-05	1.62791E-05	1.93735E-05	6.322E-05	4.99365E-05
South Coast	2021	ConstMin - Graders	Aggregated	50	Diesel	0.000542983	0.00065701	0.000781896	0.0022338	0.001602081
South Coast	2021	ConstMin - Graders	Aggregated	75	Diesel	0.000215716	0.000261016	0.000310631	0.0017989	0.002157449
South Coast	2021	ConstMin - Graders	Aggregated	100	Diesel	0.005753796	0.006962093	0.008285466	0.0306881	0.054002676
South Coast	2021	ConstMin - Graders	Aggregated	175	Diesel	0.032593857	0.039438567	0.046935154	0.2800431	0.377937506
South Coast	2021	ConstMin - Graders	Aggregated	300	Diesel	0.045839922	0.055466306	0.066009488	0.225738	0.678635026
South Coast	2021	ConstMin - Graders	Aggregated	600	Diesel	0.002026695	0.002452301	0.002918441	0.0081844	0.032159861
South Coast	2021	ConstMin - Graders	Aggregated	9999	Diesel	0.002373105	0.002871457	0.003417271	0.0120397	0.039375869
South Coast	2021	ConstMin - Off-Highway Tractors	Aggregated	25	Diesel	1.44238E-05	1.74528E-05	2.07703E-05	4.796E-05	3.30236E-05
South Coast	2021	ConstMin - Off-Highway Tractors	Aggregated	50	Diesel	0.013255354	0.016038979	0.01908771	0.0951666	0.079809296
South Coast	2021	ConstMin - Off-Highway Tractors	Aggregated	75	Diesel	0.003467336	0.004195477	0.004992965	0.0485192	0.042126223
South Coast	2021	ConstMin - Off-Highway Tractors	Aggregated	100	Diesel	0.004608823	0.005576675	0.006636705	0.0445882	0.051381428
South Coast	2021	ConstMin - Off-Highway Tractors	Aggregated	175	Diesel	0.00463641	0.005610056	0.00667643	0.0691028	0.057488545
South Coast	2021	ConstMin - Off-Highway Tractors	Aggregated	300	Diesel	0.003165217	0.003829913	0.004557913	0.0221121	0.041034878
South Coast	2021	ConstMin - Off-Highway Tractors	Aggregated	600	Diesel	0.007350286	0.008893846	0.010584412	0.0638961	0.078155316
South Coast	2021	ConstMin - Off-Highway Tractors	Aggregated	750	Diesel	0.000494417	0.000598244	0.00071196	0.0028261	0.004600976
South Coast	2021	ConstMin - Off-Highway Tractors	Aggregated	9999	Diesel	0.000680657	0.000823595	0.000980146	0.0042526	0.011987922
South Coast	2021	ConstMin - Other Construction Equi	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Other Construction Equi	Aggregated	50	Diesel	0.007935825	0.009602349	0.011427588	0.0504833	0.04662961
South Coast	2021	ConstMin - Other Construction Equi	Aggregated	75	Diesel	0.00093073	0.001126184	0.001340252	0.0051696	0.009530441
South Coast	2021	ConstMin - Other Construction Equi	Aggregated	100	Diesel	0.012334362	0.014924578	0.017761481	0.1183918	0.139002979
South Coast	2021	ConstMin - Other Construction Equi	Aggregated	175	Diesel	0.00499746	0.006046926	0.007196342	0.0581685	0.063002448
South Coast	2021	ConstMin - Other Construction Equi	Aggregated	300	Diesel	0.005531562	0.006693191	0.00796545	0.0366686	0.081995528
South Coast	2021	ConstMin - Other Construction Equi	Aggregated	600	Diesel	0.015416195	0.018653596	0.022199321	0.1382268	0.21365827
South Coast	2021	ConstMin - Other Construction Equi	Aggregated	750	Diesel	0.002971356	0.003595341	0.004278753	0.0199779	0.042949012
South Coast	2021	ConstMin - Other Construction Equi	Aggregated	9999	Diesel	0.000783956	0.000948587	0.001128897	0.0058678	0.019620794
South Coast	2021	ConstMin - Paving Equipment	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Paving Equipment	Aggregated	50	Diesel	0.000713828	0.000863732	0.001027912	0.0062007	0.005717038
South Coast	2021	ConstMin - Paving Equipment	Aggregated	75	Diesel	0.000138058	0.00016705	0.000198804	0.0010586	0.001462285
South Coast	2021	ConstMin - Paving Equipment	Aggregated	100	Diesel	0.001897221	0.002295638	0.002731999	0.0240031	0.02249119



											Horsepower		
Region	CalYr	VehClass	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activ ity_hpy	Total_Popu lation	r_Hours_h hpy	
South Coast	2021	ConstMin - Off-Highway Trucks	0.9597067	0.000487347	0.000448359	0.000487347	8.84141E-06	7.833E-06	31136.6266	49419.362	31.006122	1427615.4	28.887776
South Coast	2021	ConstMin - Off-Highway Trucks	0.3019627	5.35337E-05	4.9251E-05	5.35337E-05	2.78726E-06	2.46458E-06	9796.84608	6981.0075	4.5934996	469563.52	71.130637
South Coast	2021	ConstMin - Off-Highway Trucks	0.6955294	0.000337645	0.000310633	0.000337645	6.41749E-06	5.67682E-06	22565.6846	13034.369	10.335374	1141422.7	87.570233
South Coast	2021	ConstMin - Off-Highway Trucks	23.837183	0.005251933	0.004831778	0.005251933	0.000220068	0.000194556	773371.137	248516.48	179.14648	39213946	157.79214
South Coast	2021	ConstMin - Off-Highway Trucks	48.625515	0.007677717	0.007063499	0.007677717	0.000448992	0.000396875	1577601.29	379991.36	301.44841	80259615	211.21431
South Coast	2021	ConstMin - Off-Highway Trucks	208.54867	0.028649119	0.026357189	0.028649119	0.001925927	0.001702146	6766131.86	910127.87	676.39282	342690147	376.52967
South Coast	2021	ConstMin - Off-Highway Trucks	69.803152	0.013689158	0.012594025	0.013689158	0.000644416	0.000569724	2264686.39	173180.07	144.12105	114901364	663.47914
South Coast	2021	ConstMin - Off-Highway Trucks	124.74642	0.020903722	0.019231425	0.020903722	0.001151933	0.001018163	4047260.12	161368.95	115.41168	204596955	1267.8831
South Coast	2021	ConstMin - Crawler Tractors	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Crawler Tractors	0.6279886	0.000642412	0.000591019	0.000642412	5.7504E-06	5.12556E-06	20374.4001	19770.229	58.615807	831867.06	42.076754
South Coast	2021	ConstMin - Crawler Tractors	0.0771345	0.000165467	0.00015223	0.000165467	7.06081E-07	6.29561E-07	2502.54309	1604.7801	8.7923711	112146.29	69.882651
South Coast	2021	ConstMin - Crawler Tractors	27.675855	0.024049096	0.022125168	0.024049096	0.000255017	0.000225887	897912.621	461822.62	997.64104	40371105	87.416906
South Coast	2021	ConstMin - Crawler Tractors	30.261707	0.014086325	0.012959419	0.014086325	0.000279163	0.000246992	981807.753	296640.13	662.35862	44240463	149.1385
South Coast	2021	ConstMin - Crawler Tractors	31.873776	0.011550089	0.010626082	0.011550089	0.000294104	0.000260149	1034109.55	226581.05	515.23295	46637994	205.8336
South Coast	2021	ConstMin - Crawler Tractors	110.09356	0.023297193	0.021433418	0.023297193	0.001016562	0.000898569	3571864.41	418768.19	890.96027	161109915	384.72338
South Coast	2021	ConstMin - Crawler Tractors	2.0161471	0.000639602	0.000588434	0.000639602	1.86055E-05	1.64555E-05	65411.6719	4719.7079	10.550845	2952192.1	625.50315
South Coast	2021	ConstMin - Crawler Tractors	6.412432	0.002123219	0.001953361	0.002123219	5.9171E-05	5.23374E-05	208044.295	9621.4011	17.584742	9368169.2	973.68034
South Coast	2021	ConstMin - Graders	0.0048279	6.00188E-06	5.52173E-06	6.00188E-06	4.42327E-08	3.94047E-08	156.635982	266.53571	1.1804195	6663.3929	25
South Coast	2021	ConstMin - Graders	0.1612508	0.000184144	0.000169412	0.000184144	1.47455E-06	1.31611E-06	5231.60569	5962.4039	17.116083	222590.31	37.332309
South Coast	2021	ConstMin - Graders	0.2415188	0.000149548	0.000137584	0.000149548	2.22649E-06	1.97124E-06	7835.81127	5086.8341	12.984615	372143.16	73.158108
South Coast	2021	ConstMin - Graders	3.4320879	0.004462659	0.004105646	0.004462659	3.15587E-05	2.80122E-05	111350.312	59366.832	163.4881	5332976	89.8309
South Coast	2021	ConstMin - Graders	42.098353	0.021070601	0.019384953	0.021070601	0.000388242	0.000343601	1365834.7	433844.18	929.58037	64430604	148.51093
South Coast	2021	ConstMin - Graders	88.648194	0.022372618	0.020582808	0.022372618	0.000818221	0.000723535	2876093.03	628054.76	836.91744	136029289	216.58826
South Coast	2021	ConstMin - Graders	3.815115	0.000988171	0.000909117	0.000988171	3.52118E-05	3.11385E-05	123777.204	16565.861	21.837761	5833094.2	352.11537
South Coast	2021	ConstMin - Graders	3.0075129	0.001238439	0.001139364	0.001238439	2.77348E-05	2.45469E-05	97575.4435	2550.7468	3.5412586	4615121.9	1809.3218
South Coast	2021	ConstMin - Off-Highway Tractors	0.0025235	4.5401E-06	4.17689E-06	4.5401E-06	2.28986E-08	2.05967E-08	81.873199	130.85252	0.5795128	3271.3129	25
South Coast	2021	ConstMin - Off-Highway Tractors	10.423768	0.005461483	0.005024564	0.005461483	9.59752E-05	8.50774E-05	338187.679	358107.35	549.37815	13530067	37.782155
South Coast	2021	ConstMin - Off-Highway Tractors	7.0760668	0.002331796	0.002145253	0.002331796	6.53177E-05	5.77539E-05	229575.195	143443.14	228.90756	10175166	70.935187
South Coast	2021	ConstMin - Off-Highway Tractors	6.1430441	0.004134147	0.003803415	0.004134147	5.66572E-05	5.01387E-05	199304.302	110966.2	170.37677	8832602.3	79.597228
South Coast	2021	ConstMin - Off-Highway Tractors	11.333997	0.002794703	0.002571126	0.002794703	0.000104649	9.25066E-05	367719.055	103218.43	152.41187	16323473	158.14495
South Coast	2021	ConstMin - Off-Highway Tractors	9.7184126	0.001415011	0.00130181	0.001415011	8.97566E-05	7.93204E-05	315303.194	65300.639	101.99426	14023142	214.74739
South Coast	2021	ConstMin - Off-Highway Tractors	31.745075	0.002660731	0.002447872	0.002660731	0.000293278	0.000259099	1029933.99	128009.74	187.76215	45824078	357.97335
South Coast	2021	ConstMin - Off-Highway Tractors	1.4009356	0.000229521	0.000211159	0.000229521	1.29375E-05	1.14342E-05	45451.8137	3219.6261	4.6361025	2051251.7	637.10865
South Coast	2021	ConstMin - Off-Highway Tractors	1.7606169	0.000317968	0.000292531	0.000317968	1.62574E-05	1.43699E-05	57121.2777	1551.2566	2.8975641	2537181.2	1635.5652
South Coast	2021	ConstMin - Other Construction Equi	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Other Construction Equi	5.6153293	0.003629204	0.003338867	0.003629204	5.16784E-05	4.58316E-05	182183.176	199587.09	424.57737	7598835.9	38.072782
South Coast	2021	ConstMin - Other Construction Equi	0.5864438	0.000726046	0.000667963	0.000726046	5.39404E-06	4.78648E-06	19026.5235	12282.908	40.571996	895480.52	72.904602
South Coast	2021	ConstMin - Other Construction Equi	17.047613	0.010054898	0.009250507	0.010054898	0.000157244	0.00013914	553091.038	314149.29	708.00991	25760928	82.002186
South Coast	2021	ConstMin - Other Construction Equi	9.5938314	0.003300673	0.003036619	0.003300673	8.85498E-05	7.83036E-05	311261.295	95508.496	233.71756	14539704	152.23466
South Coast	2021	ConstMin - Other Construction Equi	12.681566	0.003083386	0.002836716	0.003083386	0.000117081	0.000103505	411439.436	87095.811	217.1459	19064673	218.89311
South Coast	2021	ConstMin - Other Construction Equi	48.481543	0.007676236	0.007062137	0.007676236	0.000447773	0.0003957	1572930.27	192329.22	435.43467	73371659	381.48993
South Coast	2021	ConstMin - Other Construction Equi	9.4653596	0.001438273	0.001323211	0.001438273	8.74228E-05	7.7255E-05	307093.168	23311.01	46.857799	14330172	614.73836
South Coast	2021	ConstMin - Other Construction Equi	3.0898174	0.000420061	0.000386456	0.000420061	2.85434E-05	2.52187E-05	100245.723	5110.8355	10.857295	4669490.8	913.64529
South Coast	2021	ConstMin - Paving Equipment	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Paving Equipment	0.8571998	0.000295048	0.000271444	0.000295048	7.90382E-06	6.99635E-06	27810.9033	39437.191	84.692077	1368401.4	34.698247
South Coast	2021	ConstMin - Paving Equipment	0.1381986	0.000104233	9.58946E-05	0.000104233	1.27357E-06	1.12796E-06	4483.70047	3641.1711	9.1559002	244519.41	67.154057
South Coast	2021	ConstMin - Paving Equipment	3.6150461	0.001424736	0.001310757	0.001424736	3.3366E-05	2.95055E-05	117286.19	71341.37	157.36704	6382524.7	89.464566

Region	CalYr	VehClass	PM10	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2
South Coast	2021	ConstMin - Off-Highway Trucks	0.1130356	0.1039928	0.1130356	1.7191869	0.0020507	2.0918219	0.243923	0.2951468	222.59531
South Coast	2021	ConstMin - Off-Highway Trucks	0.0356978	0.032842	0.0356978	0.8840705	0.0018586	1.5279053	0.1006912	0.1218364	201.3572
South Coast	2021	ConstMin - Off-Highway Trucks	0.0979495	0.0901136	0.0979495	1.3510639	0.0018617	1.5014867	0.1259729	0.1524272	201.77051
South Coast	2021	ConstMin - Off-Highway Trucks	0.0443473	0.0407995	0.0443473	0.8741404	0.0018583	1.2760518	0.0895453	0.1083498	201.28115
South Coast	2021	ConstMin - Off-Highway Trucks	0.0316755	0.0291415	0.0316755	0.8116778	0.0018524	0.5226848	0.079102	0.0957134	200.61152
South Coast	2021	ConstMin - Off-Highway Trucks	0.0276821	0.0254675	0.0276821	0.7534461	0.0018609	0.5150255	0.071135	0.0860733	201.50904
South Coast	2021	ConstMin - Off-Highway Trucks	0.0394494	0.0362934	0.0394494	0.9875126	0.0018571	0.7199221	0.0911353	0.1102737	201.15859
South Coast	2021	ConstMin - Off-Highway Trucks	0.0338309	0.0311244	0.0338309	1.4751941	0.0018643	0.498259	0.0760118	0.0919742	201.89132
South Coast	2021	ConstMin - Crawler Tractors									
South Coast	2021	ConstMin - Crawler Tractors	0.2557104	0.2352535	0.2557104	2.4313309	0.0022889	3.181964	0.7386178	0.8937276	249.96925
South Coast	2021	ConstMin - Crawler Tractors	0.4885577	0.4494731	0.4885577	6.6635288	0.0020848	2.7276665	0.6953842	0.8414148	227.74684
South Coast	2021	ConstMin - Crawler Tractors	0.1972499	0.1814699	0.1972499	2.3932089	0.0020916	1.7021545	0.2350647	0.2844283	226.99648
South Coast	2021	ConstMin - Crawler Tractors	0.1054306	0.0969962	0.1054306	1.8925281	0.0020894	1.4229938	0.1551732	0.1877595	226.49702
South Coast	2021	ConstMin - Crawler Tractors	0.0820038	0.0754435	0.0820038	2.0550814	0.0020881	0.8820323	0.1384729	0.1675522	226.29887
South Coast	2021	ConstMin - Crawler Tractors	0.0478818	0.0440512	0.0478818	1.258297	0.0020893	0.7069407	0.0895504	0.1083559	226.27073
South Coast	2021	ConstMin - Crawler Tractors	0.0717388	0.0659997	0.0717388	2.4838222	0.0020868	0.7769423	0.130208	0.1575516	226.13424
South Coast	2021	ConstMin - Crawler Tractors	0.0750462	0.0690425	0.0750462	2.708766	0.0020914	0.7278328	0.1355843	0.164057	226.65055
South Coast	2021	ConstMin - Graders	0.2982501	0.2743901	0.2982501	2.4814855	0.002198	3.1415126	0.6685573	0.8089544	239.91191
South Coast	2021	ConstMin - Graders	0.2739296	0.2520152	0.2739296	2.3832348	0.0021935	3.323033	0.8077351	0.9773595	239.8747
South Coast	2021	ConstMin - Graders	0.1330632	0.1224181	0.1330632	1.9196378	0.0019811	1.6006303	0.1919379	0.2322449	214.89663
South Coast	2021	ConstMin - Graders	0.2770849	0.2549181	0.2770849	3.3530064	0.0019595	1.905416	0.3572511	0.4322738	213.09708
South Coast	2021	ConstMin - Graders	0.1082863	0.0996234	0.1082863	1.9423009	0.0019953	1.439201	0.1675067	0.2026831	216.35235
South Coast	2021	ConstMin - Graders	0.0544594	0.0501027	0.0544594	1.6519335	0.0019917	0.5494915	0.1115835	0.1350161	215.78745
South Coast	2021	ConstMin - Graders	0.0560947	0.0516071	0.0560947	1.8255927	0.0019988	0.4645966	0.1150478	0.1392078	216.56954
South Coast	2021	ConstMin - Graders	0.0888546	0.0817463	0.0888546	2.8251122	0.0019899	0.8638137	0.1702639	0.2060193	215.78092
South Coast	2021	ConstMin - Off-Highway Tractors	0.4595489	0.422785	0.4595489	3.3426532	0.0023178	4.8544142	1.4599794	1.7665751	255.43204
South Coast	2021	ConstMin - Off-Highway Tractors	0.1336593	0.1229666	0.1336593	1.9531799	0.0023488	2.3290196	0.3243994	0.3925233	255.10179
South Coast	2021	ConstMin - Off-Highway Tractors	0.0758818	0.0698113	0.0758818	1.3708809	0.0021256	1.5789213	0.1128348	0.1365302	230.27094
South Coast	2021	ConstMin - Off-Highway Tractors	0.1549837	0.142585	0.1549837	1.9262215	0.002124	1.6715505	0.1727786	0.2090622	230.29456
South Coast	2021	ConstMin - Off-Highway Tractors	0.0566907	0.0521554	0.0566907	1.1661582	0.0021228	1.4017531	0.0940498	0.1138003	229.91074
South Coast	2021	ConstMin - Off-Highway Tractors	0.0334121	0.0307391	0.0334121	0.9689392	0.0021194	0.5221231	0.0747389	0.0904341	229.47677
South Coast	2021	ConstMin - Off-Highway Tractors	0.0192263	0.0176882	0.0192263	0.5647465	0.0021192	0.4617099	0.0531128	0.0642665	229.38834
South Coast	2021	ConstMin - Off-Highway Tractors	0.0370503	0.0340863	0.0370503	0.7427108	0.0020884	0.4562035	0.079811	0.0965714	226.1455
South Coast	2021	ConstMin - Off-Highway Tractors	0.0414974	0.0381776	0.0414974	1.5644379	0.0021217	0.5549927	0.0888312	0.1074857	229.77465
South Coast	2021	ConstMin - Other Construction Equi									
South Coast	2021	ConstMin - Other Construction Equi	0.1581441	0.1454926	0.1581441	2.0319052	0.0022519	2.1998305	0.345807	0.4184264	244.69038
South Coast	2021	ConstMin - Other Construction Equi	0.2684707	0.246993	0.2684707	3.5240785	0.0019946	1.9115704	0.3441569	0.4164298	216.84978
South Coast	2021	ConstMin - Other Construction Equi	0.1292424	0.118903	0.1292424	1.7866987	0.0020212	1.5217698	0.1585418	0.1918356	219.12443
South Coast	2021	ConstMin - Other Construction Equi	0.0751685	0.069155	0.0751685	1.4347974	0.0020166	1.3247113	0.1138105	0.1377107	218.48682
South Coast	2021	ConstMin - Other Construction Equi	0.0535534	0.0492692	0.0535534	1.4241297	0.0020335	0.6368744	0.0960743	0.1162499	220.25828
South Coast	2021	ConstMin - Other Construction Equi	0.0346425	0.0318711	0.0346425	0.9642288	0.0020208	0.6238102	0.0695725	0.0841827	218.79471
South Coast	2021	ConstMin - Other Construction Equi	0.0332337	0.030575	0.0332337	0.9924086	0.00202	0.4616218	0.0686581	0.0830764	218.71292
South Coast	2021	ConstMin - Other Construction Equi	0.0297873	0.0274043	0.0297873	1.391348	0.0020241	0.4160983	0.0555918	0.0672661	219.10486
South Coast	2021	ConstMin - Paving Equipment									
South Coast	2021	ConstMin - Paving Equipment	0.071395	0.0656834	0.071395	1.3833952	0.0019125	1.5004387	0.1727304	0.2090038	207.42317
South Coast	2021	ConstMin - Paving Equipment	0.1411503	0.1298583	0.1411503	1.9801931	0.0017246	1.4334797	0.1869549	0.2262155	187.1453
South Coast	2021	ConstMin - Paving Equipment	0.0739147	0.0680015	0.0739147	1.1668329	0.001731	1.2452698	0.098427	0.1190967	187.54698

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd
South Coast	2021	ConstMin - Paving Equipment	Aggregated	175	Diesel	0.001442869	0.001745871	0.002077731	0.0222102	0.017561087
South Coast	2021	ConstMin - Paving Equipment	Aggregated	300	Diesel	0.000876931	0.001061087	0.001262781	0.0059964	0.013014263
South Coast	2021	ConstMin - Paving Equipment	Aggregated	600	Diesel	0.000889361	0.001076127	0.00128068	0.0057341	0.013752931
South Coast	2021	ConstMin - Paving Equipment	Aggregated	750	Diesel	0.000101309	0.000122584	0.000145885	0.0010177	0.001217464
South Coast	2021	ConstMin - Paving Equipment	Aggregated	9999	Diesel	3.75298E-05	4.5411E-05	5.40429E-05	0.0004663	0.001109867
South Coast	2021	ConstMin - Rough Terrain Forklifts	Aggregated	25	Diesel	1.11408E-06	1.34803E-06	1.60427E-06	2.389E-05	3.17381E-05
South Coast	2021	ConstMin - Rough Terrain Forklifts	Aggregated	50	Diesel	0.000979467	0.001185155	0.001410433	0.0056811	0.00537297
South Coast	2021	ConstMin - Rough Terrain Forklifts	Aggregated	75	Diesel	5.39452E-05	6.52737E-05	7.7681E-05	0.0002192	0.000539375
South Coast	2021	ConstMin - Rough Terrain Forklifts	Aggregated	100	Diesel	0.012294797	0.014876704	0.017704507	0.3405471	0.220911824
South Coast	2021	ConstMin - Rough Terrain Forklifts	Aggregated	175	Diesel	0.005642598	0.006827544	0.008125341	0.0730777	0.061658618
South Coast	2021	ConstMin - Rough Terrain Forklifts	Aggregated	300	Diesel	0.00016069	0.000194435	0.000231394	0.0016888	0.002685495
South Coast	2021	ConstMin - Rough Terrain Forklifts	Aggregated	600	Diesel	5.04753E-05	6.10751E-05	7.26844E-05	0.000612	0.000908021
South Coast	2021	ConstMin - Rough Terrain Forklifts	Aggregated	750	Diesel	9.6127E-06	1.16314E-05	1.38423E-05	0.0001068	0.00014698
South Coast	2021	ConstMin - Rubber Tired Dozers	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Rubber Tired Dozers	Aggregated	50	Diesel	0.000990003	0.001197903	0.001425604	0.0061712	0.004591244
South Coast	2021	ConstMin - Rubber Tired Dozers	Aggregated	75	Diesel	0.001102625	0.001334176	0.00158778	0.0050277	0.00966617
South Coast	2021	ConstMin - Rubber Tired Dozers	Aggregated	100	Diesel	0.003061832	0.003704817	0.004409038	0.0190985	0.028830745
South Coast	2021	ConstMin - Rubber Tired Dozers	Aggregated	175	Diesel	0.002805333	0.003394453	0.00403968	0.0191352	0.033150553
South Coast	2021	ConstMin - Rubber Tired Dozers	Aggregated	300	Diesel	0.002957478	0.003578549	0.004258769	0.0190675	0.038099065
South Coast	2021	ConstMin - Rubber Tired Dozers	Aggregated	600	Diesel	0.024055418	0.029107056	0.034639802	0.2305445	0.307060233
South Coast	2021	ConstMin - Rubber Tired Dozers	Aggregated	750	Diesel	0.000348095	0.000421195	0.000501257	0.0018533	0.006205899
South Coast	2021	ConstMin - Scrapers	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Scrapers	Aggregated	50	Diesel	0.000129739	0.000156984	0.000186824	0.0004604	0.000329346
South Coast	2021	ConstMin - Scrapers	Aggregated	75	Diesel	0.000689436	0.000834217	0.000992788	0.0032162	0.005963592
South Coast	2021	ConstMin - Scrapers	Aggregated	100	Diesel	0.001368459	0.001655835	0.00197058	0.0119385	0.017372822
South Coast	2021	ConstMin - Scrapers	Aggregated	175	Diesel	0.014360333	0.017376003	0.02067888	0.1386123	0.173749847
South Coast	2021	ConstMin - Scrapers	Aggregated	300	Diesel	0.015642312	0.018927197	0.022524929	0.0918807	0.211616417
South Coast	2021	ConstMin - Scrapers	Aggregated	600	Diesel	0.135785186	0.164300076	0.195530668	1.182653	1.878318692
South Coast	2021	ConstMin - Scrapers	Aggregated	750	Diesel	0.005375167	0.006503952	0.00774024	0.0612101	0.089137486
South Coast	2021	ConstMin - Scrapers	Aggregated	9999	Diesel	0.006949859	0.008409329	0.010007796	0.0859814	0.10983864
South Coast	2021	ConstMin - Skid Steer Loaders	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Skid Steer Loaders	Aggregated	50	Diesel	0.006124056	0.007410107	0.00881864	0.0676391	0.064765427
South Coast	2021	ConstMin - Skid Steer Loaders	Aggregated	75	Diesel	0.015506352	0.018762685	0.022329146	0.3461236	0.248726147
South Coast	2021	ConstMin - Skid Steer Loaders	Aggregated	100	Diesel	0.000307499	0.000372074	0.000442799	0.0061655	0.005623783
South Coast	2021	ConstMin - Skid Steer Loaders	Aggregated	175	Diesel	9.42508E-05	0.000114043	0.000135721	0.0020786	0.001219485
South Coast	2021	ConstMin - Skid Steer Loaders	Aggregated	300	Diesel	5.5872E-05	6.76052E-05	8.04557E-05	0.0006582	0.000832658
South Coast	2021	ConstMin - Skid Steer Loaders	Aggregated	600	Diesel	2.52496E-05	3.0552E-05	3.63594E-05	0.0001929	0.000404444
South Coast	2021	ConstMin - Skid Steer Loaders	Aggregated	9999	Diesel	6.61286E-05	8.00156E-05	9.52252E-05	0.0004494	0.001196536
South Coast	2021	ConstMin - Surfacing Equipment	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Surfacing Equipment	Aggregated	50	Diesel	6.92429E-05	8.37839E-05	9.97097E-05	0.0006501	0.000692474
South Coast	2021	ConstMin - Surfacing Equipment	Aggregated	75	Diesel	5.49687E-05	6.65122E-05	7.9155E-05	0.0004706	0.000802445
South Coast	2021	ConstMin - Surfacing Equipment	Aggregated	100	Diesel	0.000259246	0.000313687	0.000373314	0.0037254	0.003467837
South Coast	2021	ConstMin - Surfacing Equipment	Aggregated	175	Diesel	0.000225684	0.000273077	0.000324985	0.0030626	0.00316153
South Coast	2021	ConstMin - Surfacing Equipment	Aggregated	300	Diesel	0.000367841	0.000445088	0.000529691	0.002852	0.006461492
South Coast	2021	ConstMin - Surfacing Equipment	Aggregated	600	Diesel	0.000638752	0.00077289	0.000919803	0.0067511	0.009430233
South Coast	2021	ConstMin - Surfacing Equipment	Aggregated	750	Diesel	0.000349815	0.000423277	0.000503734	0.0031787	0.005398241
South Coast	2021	ConstMin - Surfacing Equipment	Aggregated	9999	Diesel	0.000151293	0.000183065	0.000217862	0.0011733	0.003879482

Region	CalYr	VehClass	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activ ity_hpy	Total_Popu lation	r_Hours_h hpy	Horsepowe
South Coast	2021	ConstMin - Paving Equipment	3.8092411	0.000878572	0.000808287	0.000878572	3.5175E-05	3.10905E-05	123586.632	46211.733	100.7149	6742435.2	145.9031
South Coast	2021	ConstMin - Paving Equipment	2.7518052	0.000472475	0.000434677	0.000472475	2.54155E-05	2.24599E-05	89279.2904	20761.653	44.635014	4852828.4	233.73998
South Coast	2021	ConstMin - Paving Equipment	2.6204815	0.000431251	0.000396751	0.000431251	2.4201E-05	2.1388E-05	85018.6369	11457.802	25.178726	4620547.1	403.26646
South Coast	2021	ConstMin - Paving Equipment	0.5543134	3.03482E-05	2.79204E-05	3.03482E-05	5.12186E-06	4.52423E-06	17984.0892	1529.2143	2.8612188	978279.39	639.7268
South Coast	2021	ConstMin - Paving Equipment	0.2516918	1.80806E-05	1.66342E-05	1.80806E-05	2.32589E-06	2.05427E-06	8165.86357	527.18162	1.1444875	444421.86	843.01471
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.0038202	1.04818E-06	9.64322E-07	1.04818E-06	3.52861E-08	3.11799E-08	123.941803	214.31088	0.6803791	5357.772	25
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.7161735	0.000371124	0.000341434	0.000371124	6.59199E-06	5.84531E-06	23235.4593	21123.832	78.2436	1005059.5	47.579412
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.0196306	3.66127E-05	3.36837E-05	3.66127E-05	1.79876E-07	1.60222E-07	636.893863	461.65175	2.0411374	30626.1	66.340266
South Coast	2021	ConstMin - Rough Terrain Forklifts	55.893753	0.006708699	0.006172003	0.006708699	0.000516397	0.000456197	1813411.26	905690.84	3239.285	87145210	96.219599
South Coast	2021	ConstMin - Rough Terrain Forklifts	12.742035	0.004161603	0.003828675	0.004161603	0.000117637	0.000103999	413401.283	159463.43	592.61022	19876031	124.6432
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.9081706	6.15869E-05	5.66599E-05	6.15869E-05	8.39167E-06	7.41237E-06	29464.5935	6735.814	27.215165	1416292.9	210.26306
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.3369919	1.94792E-05	1.79209E-05	1.94792E-05	3.11414E-06	2.75048E-06	10933.3307	1377.2739	5.443033	529505.34	384.45901
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.0580981	1.03608E-06	9.53189E-07	1.03608E-06	5.36857E-07	4.74189E-07	1884.92815	145.17834	0.6803791	90736.462	625
South Coast	2021	ConstMin - Rubber Tired Dozers	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Rubber Tired Dozers	0.6075895	0.000362331	0.000333344	0.000362331	5.58777E-06	4.95906E-06	19712.573	21017.08	21.875947	866863.34	41.245661
South Coast	2021	ConstMin - Rubber Tired Dozers	0.4906576	0.000778344	0.000716077	0.000778344	4.50329E-06	4.00468E-06	15918.8468	11198.175	17.388573	771082.95	68.857914
South Coast	2021	ConstMin - Rubber Tired Dozers	2.3642966	0.002540006	0.002336806	0.002540006	2.17672E-05	1.92971E-05	76706.9984	44304.445	49.922033	3717741.2	83.913503
South Coast	2021	ConstMin - Rubber Tired Dozers	2.6163259	0.001896586	0.001744859	0.001896586	2.41051E-05	2.13541E-05	84883.8121	28274.394	37.581755	4152361.8	146.85945
South Coast	2021	ConstMin - Rubber Tired Dozers	2.8732815	0.001841596	0.001694268	0.001841596	2.64762E-05	2.34513E-05	93220.4553	20875.86	30.850694	4555895.9	218.23752
South Coast	2021	ConstMin - Rubber Tired Dozers	31.858674	0.013715837	0.01261857	0.013715837	0.000293828	0.000260026	1033619.58	136243.72	189.03062	50251332	368.83412
South Coast	2021	ConstMin - Rubber Tired Dozers	0.9064335	0.000173859	0.000159951	0.000173859	8.36998E-06	7.39819E-06	29408.2369	2211.3909	2.2436869	1438404.7	650.45246
South Coast	2021	ConstMin - Scrapers	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Scrapers	0.0302167	4.24626E-05	3.90656E-05	4.24626E-05	2.75477E-07	2.46625E-07	980.348734	1116.6547	3.4684152	36123.876	32.350088
South Coast	2021	ConstMin - Scrapers	0.3624054	0.000529073	0.000486747	0.000529073	3.32993E-06	2.9579E-06	11757.8438	7052.3496	16.764007	468412.37	66.419335
South Coast	2021	ConstMin - Scrapers	1.596289	0.001291626	0.001188296	0.001291626	1.47174E-05	1.30287E-05	51789.8389	22868.905	37.574498	2068886	90.46721
South Coast	2021	ConstMin - Scrapers	21.416923	0.009305191	0.008560775	0.009305191	0.000197579	0.000174802	694848.489	165889.46	375.16692	27718638	167.09102
South Coast	2021	ConstMin - Scrapers	25.303679	0.009213653	0.00847656	0.009213653	0.000233476	0.000206525	820949.999	147774.33	368.80815	33017914	223.4347
South Coast	2021	ConstMin - Scrapers	312.86506	0.071575877	0.065849807	0.071575877	0.002888519	0.002553563	10150562.4	962569.36	2029.601	406299732	422.09917
South Coast	2021	ConstMin - Scrapers	4.9940988	0.003633666	0.003342973	0.003633666	4.60117E-05	4.07612E-05	162028.036	10384.692	27.169253	6461736.5	622.23668
South Coast	2021	ConstMin - Scrapers	7.2397374	0.004393246	0.004041786	0.004393246	6.67265E-05	5.90898E-05	234885.307	5894.5791	15.029799	9414097	1597.0771
South Coast	2021	ConstMin - Skid Steer Loaders	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Skid Steer Loaders	10.694173	0.002289028	0.002105906	0.002289028	9.86892E-05	8.72844E-05	346960.66	374581.08	1203.8216	16318309	43.564157
South Coast	2021	ConstMin - Skid Steer Loaders	55.806894	0.009982873	0.009184243	0.009982873	0.000515497	0.000455488	1810593.22	1347656.4	3817.3737	94997169	70.490647
South Coast	2021	ConstMin - Skid Steer Loaders	0.9503792	0.000366287	0.000336984	0.000366287	8.7775E-06	7.75687E-06	30834.0072	21611.497	67.442656	1640579.4	75.912347
South Coast	2021	ConstMin - Skid Steer Loaders	0.3835915	5.09375E-05	4.68625E-05	5.09375E-05	3.54367E-06	3.13082E-06	12445.2036	4300.3327	16.114617	654720.6	152.24882
South Coast	2021	ConstMin - Skid Steer Loaders	0.356377	2.37364E-05	2.18375E-05	2.37364E-05	3.29321E-06	2.9087E-06	11562.2594	2958.7529	10.14624	606619.81	205.02551
South Coast	2021	ConstMin - Skid Steer Loaders	0.1030646	1.74403E-05	1.60451E-05	1.74403E-05	9.52126E-07	8.41199E-07	3343.81779	370.60216	1.1936753	175220.7	472.8
South Coast	2021	ConstMin - Skid Steer Loaders	0.1395122	3.95555E-05	3.6391E-05	3.95555E-05	1.28788E-06	1.13868E-06	4526.3185	237.18538	1.1936753	237185.38	1000
South Coast	2021	ConstMin - Surfacing Equipment	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Surfacing Equipment	0.0990762	3.37184E-05	3.10209E-05	3.37184E-05	9.13932E-07	8.08647E-07	3214.41957	5090.8726	21.11675	182876.37	35.922402
South Coast	2021	ConstMin - Surfacing Equipment	0.0664912	4.81621E-05	4.43092E-05	4.81621E-05	6.13095E-07	5.42692E-07	2157.23295	2043.5623	8.1218271	137746.98	67.405325
South Coast	2021	ConstMin - Surfacing Equipment	0.5768211	0.000187349	0.000172361	0.000187349	5.32522E-06	4.70794E-06	18714.3252	13453.401	50.355328	1196884.4	88.965191
South Coast	2021	ConstMin - Surfacing Equipment	0.533418	0.000154425	0.000142071	0.000154425	4.92494E-06	4.35369E-06	17306.1609	8198.0899	31.945853	1109558.4	135.34353
South Coast	2021	ConstMin - Surfacing Equipment	1.0518215	0.000212887	0.000195856	0.000212887	9.71358E-06	8.58483E-06	34125.1889	9589.3995	39.526225	2188329.9	228.20302
South Coast	2021	ConstMin - Surfacing Equipment	3.3278754	0.000340334	0.000313108	0.000340334	3.07487E-05	2.71617E-05	107969.253	17050.266	60.642976	6925018.1	406.15307
South Coast	2021	ConstMin - Surfacing Equipment	1.656735	0.0002095	0.000192274	0.0002095	1.53068E-05	1.3522E-05	53750.9434	5422.195	18.409475	3452256.1	636.68976
South Coast	2021	ConstMin - Surfacing Equipment	0.5456433	8.43645E-05	7.76153E-05	8.43645E-05	5.0402E-06	4.45347E-06	17702.7963	1296.5587	4.8730963	1135569	875.8331

Region	CalYr	VehClass	PM10	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2
South Coast	2021	ConstMin - Paving Equipment	0.0431469	0.0396951	0.0431469	0.862429	0.0017275	1.0907456	0.0708596	0.0857401	187.0727
South Coast	2021	ConstMin - Paving Equipment	0.0322383	0.0296593	0.0322383	0.8880008	0.0017342	0.4091525	0.0598356	0.072401	187.76364
South Coast	2021	ConstMin - Paving Equipment	0.0309048	0.0284324	0.0309048	0.9855771	0.0017343	0.4109213	0.0637343	0.0771185	187.79171
South Coast	2021	ConstMin - Paving Equipment	0.0102721	0.0094503	0.0102721	0.4120805	0.0017336	0.3444602	0.0342904	0.0414914	187.62091
South Coast	2021	ConstMin - Paving Equipment	0.0134712	0.0123935	0.0134712	0.8269212	0.0017329	0.347444	0.0279621	0.0338341	187.52639
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.0647797	0.0595973	0.0647797	1.9614898	0.0021808	1.4763035	0.0688526	0.0833116	236.09635
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.1222689	0.1124874	0.1222689	1.7701553	0.0021718	1.8716855	0.322691	0.3904561	235.94739
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.3958486	0.3641807	0.3958486	5.8315963	0.0019448	2.3703473	0.5832431	0.7057241	212.24186
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.0254908	0.0234515	0.0254908	0.8393907	0.0019621	1.2939644	0.0467161	0.0565265	212.37749
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.0693298	0.0637834	0.0693298	1.0271949	0.0019598	1.2174299	0.0940022	0.1137427	212.27451
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.0143987	0.0132468	0.0143987	0.6278559	0.0019619	0.3948308	0.0375686	0.045458	212.32595
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.0121812	0.0112067	0.0121812	0.5678249	0.0019474	0.3826993	0.0315644	0.0381929	210.73556
South Coast	2021	ConstMin - Rough Terrain Forklifts	0.0037809	0.0034785	0.0037809	0.5363701	0.0019591	0.3899075	0.0350794	0.0424461	212.01601
South Coast	2021	ConstMin - Rubber Tired Dozers									
South Coast	2021	ConstMin - Rubber Tired Dozers	0.1384022	0.1273301	0.1384022	1.753753	0.0021344	2.3572427	0.3781591	0.4575725	232.08569
South Coast	2021	ConstMin - Rubber Tired Dozers	0.3342407	0.3075015	0.3342407	4.1508981	0.0019338	2.1590405	0.4734951	0.572929	210.7008
South Coast	2021	ConstMin - Rubber Tired Dozers	0.226227	0.2081288	0.226227	2.5678251	0.0019387	1.701015	0.2727037	0.3299714	210.57729
South Coast	2021	ConstMin - Rubber Tired Dozers	0.1512398	0.1391406	0.1512398	2.6435305	0.0019222	1.5259049	0.2237062	0.2706845	208.63414
South Coast	2021	ConstMin - Rubber Tired Dozers	0.1338472	0.1231394	0.1338472	2.7690401	0.0019243	1.3858283	0.2149495	0.2600889	208.83011
South Coast	2021	ConstMin - Rubber Tired Dozers	0.0903782	0.0831479	0.0903782	2.0233207	0.0019361	1.5191335	0.158509	0.1917959	209.92726
South Coast	2021	ConstMin - Rubber Tired Dozers	0.0400226	0.0368208	0.0400226	1.4286055	0.0019268	0.4266373	0.0801319	0.0969596	208.66211
South Coast	2021	ConstMin - Scrapers									
South Coast	2021	ConstMin - Scrapers	0.3892254	0.3580874	0.3892254	3.0188845	0.0025251	4.2201287	1.1892253	1.4389626	276.97587
South Coast	2021	ConstMin - Scrapers	0.3740038	0.3440835	0.3740038	4.2156866	0.0023539	2.2735272	0.4873649	0.5897116	256.18578
South Coast	2021	ConstMin - Scrapers	0.2067231	0.1901852	0.2067231	2.7804977	0.0023555	1.9107419	0.21902	0.2650142	255.48399
South Coast	2021	ConstMin - Scrapers	0.1111584	0.1022657	0.1111584	2.0755885	0.0023603	1.6558403	0.1715463	0.207571	255.84322
South Coast	2021	ConstMin - Scrapers	0.0923998	0.0850078	0.0923998	2.1222105	0.0023414	0.9214324	0.15687	0.1898128	253.75977
South Coast	2021	ConstMin - Scrapers	0.0583323	0.0536657	0.0583323	1.5307754	0.0023541	0.963828	0.110661	0.1338998	254.97597
South Coast	2021	ConstMin - Scrapers	0.1862021	0.1713059	0.1862021	4.5677241	0.0023578	3.1366268	0.2754428	0.3332858	255.91551
South Coast	2021	ConstMin - Scrapers	0.1545239	0.1421619	0.1545239	3.8633602	0.002347	3.0242284	0.2444477	0.2957818	254.64366
South Coast	2021	ConstMin - Skid Steer Loaders									
South Coast	2021	ConstMin - Skid Steer Loaders	0.0464477	0.0427319	0.0464477	1.3141859	0.0020025	1.3724979	0.1242661	0.150362	217.00052
South Coast	2021	ConstMin - Skid Steer Loaders	0.0347963	0.0320126	0.0347963	0.8669609	0.0017968	1.2064498	0.054049	0.0653993	194.52074
South Coast	2021	ConstMin - Skid Steer Loaders	0.0739287	0.0680144	0.0739287	1.1350631	0.0017716	1.2443945	0.0620634	0.0750967	191.81758
South Coast	2021	ConstMin - Skid Steer Loaders	0.0257615	0.0237005	0.0257615	0.6167498	0.0017922	1.0512601	0.047667	0.0576771	193.99998
South Coast	2021	ConstMin - Skid Steer Loaders	0.0129565	0.01192	0.0129565	0.4545051	0.0017976	0.3593026	0.0304977	0.0369022	194.52786
South Coast	2021	ConstMin - Skid Steer Loaders	0.0329578	0.0303212	0.0329578	0.7642971	0.0017993	0.3645799	0.0477153	0.0577355	194.76588
South Coast	2021	ConstMin - Skid Steer Loaders	0.0552214	0.0508037	0.0552214	1.6704239	0.0017979	0.6273609	0.0923188	0.1117058	194.76588
South Coast	2021	ConstMin - Surfacing Equipment									
South Coast	2021	ConstMin - Surfacing Equipment	0.0610517	0.0561676	0.0610517	1.2538189	0.0016548	1.1770586	0.1253736	0.1517021	179.391
South Coast	2021	ConstMin - Surfacing Equipment	0.1157744	0.1065124	0.1157744	1.9289542	0.0014738	1.1313491	0.1321364	0.159885	159.83454
South Coast	2021	ConstMin - Surfacing Equipment	0.0518307	0.0476843	0.0518307	0.95939	0.0014732	1.0306587	0.0717213	0.0867827	159.5797
South Coast	2021	ConstMin - Surfacing Equipment	0.0460847	0.042398	0.0460847	0.943487	0.0014697	0.9139549	0.0673502	0.0814937	159.18651
South Coast	2021	ConstMin - Surfacing Equipment	0.0322125	0.0296355	0.0322125	0.9777071	0.0014698	0.4315462	0.0556591	0.0673475	159.15415
South Coast	2021	ConstMin - Surfacing Equipment	0.0162732	0.0149714	0.0162732	0.4509103	0.0014703	0.3228076	0.0305422	0.036956	159.1237
South Coast	2021	ConstMin - Surfacing Equipment	0.0200941	0.0184866	0.0200941	0.5177713	0.0014682	0.304889	0.0335525	0.0405985	158.90545
South Coast	2021	ConstMin - Surfacing Equipment	0.0246	0.022632	0.0246	1.1312247	0.0014697	0.3421315	0.0441159	0.0533802	159.10507

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd
South Coast	2021	ConstMin - Sweepers/Scrubbers	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Tractors/Loaders/Backh	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Tractors/Loaders/Backh	Aggregated	50	Diesel	0.022922452	0.027736167	0.033008331	0.1798405	0.15506466
South Coast	2021	ConstMin - Tractors/Loaders/Backh	Aggregated	75	Diesel	0.00759154	0.009185763	0.010931817	0.0305564	0.072090807
South Coast	2021	ConstMin - Tractors/Loaders/Backh	Aggregated	100	Diesel	0.148722123	0.179953768	0.214159857	2.2522092	1.842612731
South Coast	2021	ConstMin - Tractors/Loaders/Backh	Aggregated	175	Diesel	0.02053828	0.024851319	0.029575123	0.3475365	0.231887226
South Coast	2021	ConstMin - Tractors/Loaders/Backh	Aggregated	300	Diesel	0.012189404	0.014749179	0.017552742	0.0848166	0.168311517
South Coast	2021	ConstMin - Tractors/Loaders/Backh	Aggregated	600	Diesel	0.014305506	0.017309662	0.020599928	0.125091	0.172547839
South Coast	2021	ConstMin - Tractors/Loaders/Backh	Aggregated	750	Diesel	0.000223841	0.000270847	0.000322331	0.001946	0.002242828
South Coast	2021	ConstMin - Tractors/Loaders/Backh	Aggregated	9999	Diesel	0.004627005	0.005598676	0.006662887	0.0326765	0.10589582
South Coast	2021	ConstMin - Trenchers	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	ConstMin - Trenchers	Aggregated	50	Diesel	0.008490492	0.010273495	0.012226308	0.0592473	0.056620667
South Coast	2021	ConstMin - Trenchers	Aggregated	75	Diesel	0.00057168	0.000691733	0.00082322	0.0035624	0.005814369
South Coast	2021	ConstMin - Trenchers	Aggregated	100	Diesel	0.00411938	0.00498445	0.005931907	0.0351174	0.046307728
South Coast	2021	ConstMin - Trenchers	Aggregated	175	Diesel	0.000711436	0.000860838	0.001024468	0.006995	0.009046232
South Coast	2021	ConstMin - Trenchers	Aggregated	300	Diesel	0.001320923	0.001598316	0.001902128	0.0078311	0.019281048
South Coast	2021	ConstMin - Trenchers	Aggregated	600	Diesel	0.001204616	0.001457585	0.001734647	0.0127956	0.01627204
South Coast	2021	ConstMin - Trenchers	Aggregated	750	Diesel	0.000123039	0.000148878	0.000177177	0.0021263	0.001128244
South Coast	2021	ConstMin - Trenchers	Aggregated	9999	Diesel	0.000177909	0.00021527	0.000256189	0.0025703	0.002465537
South Coast	2021	Industrial - Other General Industrial	Aggregated	25	Diesel	1.21045E-05	1.46464E-05	1.74305E-05	4.025E-05	2.77135E-05
South Coast	2021	Industrial - Other General Industrial	Aggregated	50	Diesel	0.023269772	0.028156424	0.033508471	0.1799982	0.149915307
South Coast	2021	Industrial - Other General Industrial	Aggregated	75	Diesel	0.006052939	0.007324056	0.008716232	0.0904824	0.075928189
South Coast	2021	Industrial - Other General Industrial	Aggregated	100	Diesel	0.003959078	0.004790485	0.005701073	0.0233914	0.035992247
South Coast	2021	Industrial - Other General Industrial	Aggregated	175	Diesel	0.003180896	0.003848884	0.00458049	0.0464335	0.035202376
South Coast	2021	Industrial - Other General Industrial	Aggregated	300	Diesel	0.002940666	0.003558206	0.004234559	0.019389	0.042123033
South Coast	2021	Industrial - Other General Industrial	Aggregated	600	Diesel	0.00652514	0.007895419	0.009396202	0.0557579	0.065655921
South Coast	2021	Industrial - Other General Industrial	Aggregated	750	Diesel	0.001057548	0.001279634	0.00152287	0.0135063	0.010098175
South Coast	2021	Industrial - Other General Industrial	Aggregated	9999	Diesel	0.000396205	0.000479408	0.000570535	0.0026678	0.009702869
South Coast	2021	Industrial - Other Material Handling	Aggregated	25	Diesel	0	0	0	0	0
South Coast	2021	Industrial - Other Material Handling	Aggregated	50	Diesel	0.001425735	0.00172514	0.002053059	0.0093814	0.00783336
South Coast	2021	Industrial - Other Material Handling	Aggregated	75	Diesel	0.00019809	0.000239689	0.00028525	0.0017918	0.001915577
South Coast	2021	Industrial - Other Material Handling	Aggregated	100	Diesel	0.003655983	0.004423739	0.005264615	0.0657938	0.048753827
South Coast	2021	Industrial - Other Material Handling	Aggregated	175	Diesel	0.003770701	0.004562549	0.00542981	0.0468169	0.038747694
South Coast	2021	Industrial - Other Material Handling	Aggregated	300	Diesel	0.00509473	0.006164623	0.007336411	0.0273801	0.064646234
South Coast	2021	Industrial - Other Material Handling	Aggregated	600	Diesel	0.005563101	0.006731352	0.008010866	0.0428664	0.072400243
South Coast	2021	Industrial - Other Material Handling	Aggregated	750	Diesel	0.000305205	0.000369299	0.000439496	0.001378	0.003290819
South Coast	2021	Industrial - Other Material Handling	Aggregated	9999	Diesel	0.000133354	0.000161359	0.00019203	0.0020068	0.004767698
South Coast	2021	OFF - ConstMin - Bore/Drill Rigs	Aggregated	25	Diesel	0.000328869	0.000391381	0.000473571	0.0017658	0.002987953
South Coast	2021	OFF - ConstMin - Dumpers/Tenders	Aggregated	25	Diesel	8.4778E-05	0.000100893	0.00012208	0.0004166	0.000771553
South Coast	2021	OFF - ConstMin - Excavators	Aggregated	25	Diesel	0.000594224	0.000707176	0.000855683	0.0029206	0.005407234
South Coast	2021	OFF - ConstMin - Other Constructio	Aggregated	25	Diesel	0.00191608	0.002280294	0.002759156	0.0135299	0.017308121
South Coast	2021	OFF - ConstMin - Pavers	Aggregated	25	Diesel	0.000160924	0.000191513	0.00023173	0.0007903	0.001465625
South Coast	2021	OFF - ConstMin - Paving Equipment	Aggregated	25	Diesel	0.000190466	0.000226671	0.000274271	0.0009361	0.001733176
South Coast	2021	OFF - ConstMin - Rollers	Aggregated	25	Diesel	0.003436153	0.004089306	0.00494806	0.0216229	0.031120963
South Coast	2021	OFF - ConstMin - Rubber Tired Load	Aggregated	25	Diesel	0.000158721	0.000188891	0.000228558	0.0007801	0.001444306
South Coast	2021	OFF - ConstMin - Signal Boards	Aggregated	25	Diesel	0.008795354	0.010467198	0.012665309	0.0664347	0.07931499
South Coast	2021	OFF - ConstMin - Signal Boards	Aggregated	50	Diesel	0.000197795	0.000235393	0.000284825	0.0017451	0.00159459

Region	CalYr	VehClass	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	r_Hours_hpy	Horsepower
South Coast	2021	ConstMin - Sweepers/Scrubbers	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Tractors/Loaders/Backh	21.140224	0.009336211	0.008589314	0.009336211	0.000194764	0.000172544	685871.3	860823.41	1684.7854	32643549	37.921308
South Coast	2021	ConstMin - Tractors/Loaders/Backh	2.9957379	0.005773089	0.005311242	0.005773089	2.74693E-05	2.44508E-05	97193.417	71162.444	317.58498	5109654.4	71.802683
South Coast	2021	ConstMin - Tractors/Loaders/Backh	336.93509	0.107115714	0.098546457	0.107115714	0.003110667	0.002750019	10931487.9	6880011.4	11121.932	571945914	83.131536
South Coast	2021	ConstMin - Tractors/Loaders/Backh	58.804779	0.011705654	0.010769202	0.011705654	0.000543063	0.000479957	1907856.28	702109.96	1279.7325	100724661	143.45995
South Coast	2021	ConstMin - Tractors/Loaders/Backh	35.438052	0.00577434	0.005312393	0.00577434	0.000327277	0.000289241	1149748.56	293119.76	533.02618	60383898	206.00419
South Coast	2021	ConstMin - Tractors/Loaders/Backh	50.079088	0.006247659	0.005747847	0.006247659	0.000462577	0.000408739	1624760.87	254532.29	468.45252	85981057	337.80019
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0.9463833	5.37754E-05	4.94733E-05	5.37754E-05	8.74307E-06	7.72425E-06	30704.3652	2524.4263	4.6962659	1643764.1	651.14361
South Coast	2021	ConstMin - Tractors/Loaders/Backh	16.53458	0.002146413	0.0019747	0.002146413	0.000152732	0.000134953	536446.25	15207.531	24.655396	28145238	1850.7434
South Coast	2021	ConstMin - Trenchers	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	ConstMin - Trenchers	7.4856792	0.003978143	0.003659891	0.003978143	6.89541E-05	6.10971E-05	242864.617	210362.72	552.45705	8391299.4	39.88967
South Coast	2021	ConstMin - Trenchers	0.4316609	0.000392118	0.000360749	0.000392118	3.97377E-06	3.52316E-06	14004.7615	7601.5505	28.250645	536682.06	70.601658
South Coast	2021	ConstMin - Trenchers	4.995382	0.003392443	0.003121047	0.003392443	4.60612E-05	4.07716E-05	162069.668	74359.82	227.88853	6223930.2	83.700179
South Coast	2021	ConstMin - Trenchers	1.1077927	0.000463186	0.000426132	0.000463186	1.02208E-05	9.04166E-06	35941.1151	9698.09	33.900773	1385593.4	142.87282
South Coast	2021	ConstMin - Trenchers	2.63286	0.000766759	0.000705418	0.000766759	2.43025E-05	2.1489E-05	85420.2416	14381.637	46.456616	3276268.5	227.80914
South Coast	2021	ConstMin - Trenchers	3.6585929	0.000642702	0.000591286	0.000642702	3.37894E-05	2.98609E-05	118699.018	11783.289	32.645189	4546436.6	385.83765
South Coast	2021	ConstMin - Trenchers	1.1881458	2.01575E-05	1.85449E-05	2.01575E-05	1.09813E-05	9.69749E-06	38548.0821	2296.4124	5.0223368	1484199.7	646.31235
South Coast	2021	ConstMin - Trenchers	0.0976863	0.000114204	0.000105068	0.000114204	8.97821E-07	7.97303E-07	3169.32498	141.75385	0.6277921	121908.32	860
South Coast	2021	Industrial - Other General Industrial	0.0021178	3.81006E-06	3.50526E-06	3.81006E-06	1.92166E-08	1.72848E-08	68.7082073	139.84024	0.6193172	3496.0059	25
South Coast	2021	Industrial - Other General Industrial	19.94009	0.009786519	0.009003598	0.009786519	0.000183658	0.000162748	646934.27	934963.44	1129.6345	32837302	35.121482
South Coast	2021	Industrial - Other General Industrial	13.140277	0.004407726	0.004055108	0.004407726	0.000121307	0.000107249	426321.831	336911.49	401.93684	24096044	71.520399
South Coast	2021	Industrial - Other General Industrial	2.9153689	0.003285392	0.003022561	0.003285392	2.68353E-05	2.37948E-05	94585.9344	67906.419	90.420307	5342420.6	78.673279
South Coast	2021	Industrial - Other General Industrial	7.5079066	0.001860156	0.001711343	0.001860156	6.93189E-05	6.12785E-05	243585.763	92728.061	112.71573	13767796	148.47497
South Coast	2021	Industrial - Other General Industrial	7.9106518	0.001355936	0.001247461	0.001355936	7.30497E-05	6.45657E-05	256652.386	66624.084	82.988501	14486182	217.43161
South Coast	2021	Industrial - Other General Industrial	23.48916	0.00237705	0.002186886	0.00237705	0.000216973	0.000191715	762079.912	113056.64	134.39183	43068279	380.94428
South Coast	2021	Industrial - Other General Industrial	3.9319395	0.000480932	0.000442457	0.000480932	3.6321E-05	3.2092E-05	127567.447	11387.191	13.624978	7197942	632.10868
South Coast	2021	Industrial - Other General Industrial	1.3589287	0.000196638	0.000180907	0.000196638	1.25521E-05	1.10914E-05	44088.9455	2142.3524	2.4772687	2493162.6	1163.75
South Coast	2021	Industrial - Other Material Handling	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	Industrial - Other Material Handling	0.9270103	0.000619771	0.000570189	0.000619771	8.5279E-06	7.56613E-06	30075.8283	37161.045	49.469183	1315296.3	35.394491
South Coast	2021	Industrial - Other Material Handling	0.2279465	0.000153776	0.000141474	0.000153776	2.10154E-06	1.86047E-06	7395.47351	5163.7384	8.4804313	362639.01	70.227998
South Coast	2021	Industrial - Other Material Handling	9.8707743	0.002197845	0.002022017	0.002197845	9.11505E-05	8.05639E-05	320246.4	168457.39	219.07781	15648336	92.891949
South Coast	2021	Industrial - Other Material Handling	7.4037396	0.00252196	0.002320203	0.00252196	6.83381E-05	6.04283E-05	240206.178	86100.073	118.72604	11733086	136.27266
South Coast	2021	Industrial - Other Material Handling	11.736248	0.002442659	0.002247246	0.002442659	0.000108355	9.57897E-05	380769.637	78601.003	105.29869	18620051	236.8933
South Coast	2021	Industrial - Other Material Handling	15.109605	0.002590935	0.00238366	0.002590935	0.000139529	0.000123323	490214.506	65517.724	86.924421	23938286	365.37114
South Coast	2021	Industrial - Other Material Handling	0.6665374	0.00016395	0.000150834	0.00016395	6.15331E-06	5.44019E-06	21625.0732	1697.0444	2.1201078	1057824.4	623.33333
South Coast	2021	Industrial - Other Material Handling	1.0775095	4.083E-05	3.75636E-05	4.083E-05	9.95811E-06	8.79449E-06	34958.6077	1697.0444	2.1201078	1710055.1	1007.6667
South Coast	2021	OFF - ConstMin - Bore/Drill Rigs	0.3950137	0.000112508	0.000103508	0.000112508	5.21331E-06	3.30745E-06	13147.3	19793.95	24.36	306800.75	15.499723
South Coast	2021	OFF - ConstMin - Dumpers/Tenders	0.1011838	2.91654E-05	2.68322E-05	2.91654E-05	1.28383E-06	8.41094E-07	3343.4	9701.7	14.6	155227.2	16
South Coast	2021	OFF - ConstMin - Excavators	0.7092971	0.000202043	0.00018588	0.000202043	8.99964E-06	5.9299E-06	23571.7	31536	22.57	725328	23
South Coast	2021	OFF - ConstMin - Other Construction	2.3547887	0.000670746	0.000617086	0.000670746	3.54171E-05	1.97418E-05	78475	162976.15	236	2213006	13.57871
South Coast	2021	OFF - ConstMin - Pavers	0.1919445	5.6083E-05	5.15964E-05	5.6083E-05	2.43541E-06	1.6023E-06	6369.25	7526.3	9.11	180631.2	24
South Coast	2021	OFF - ConstMin - Paving Equipment	0.2273504	6.47529E-05	5.95726E-05	6.47529E-05	2.88465E-06	1.89981E-06	7551.85	13165.55	15.86	250145.45	19
South Coast	2021	OFF - ConstMin - Rollers	4.1794566	0.001190449	0.001095213	0.001190449	5.94063E-05	3.50138E-05	139181.8	363937.85	523.24	4348613.6	11.948781
South Coast	2021	OFF - ConstMin - Rubber Tired Load	0.1894577	5.39669E-05	4.96496E-05	5.39669E-05	2.40386E-06	1.58302E-06	6292.6	8183.3	8.52	204582.5	25
South Coast	2021	OFF - ConstMin - Signal Boards	10.880358	0.003099265	0.002851324	0.003099265	0.000169308	9.1267E-05	362791.75	1288515.7	1716.5	7731094.2	6
South Coast	2021	OFF - ConstMin - Signal Boards	0.2264209	7.13567E-05	6.56482E-05	7.13567E-05	2.92706E-06	1.90073E-06	7555.5	4566.15	8.5	168947.55	37

Region	CalYr	VehClass	PM10	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2
South Coast	2021	ConstMin - Sweepers/Scrubbers									
South Coast	2021	ConstMin - Tractors/Loaders/Backh									
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0.0947026	0.0871264	0.0947026	1.5729111	0.0019756	1.8242266	0.2325158	0.2813441	214.4376
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0.3741153	0.3441861	0.3741153	4.671723	0.0017801	1.9801586	0.4919569	0.5952679	194.13373
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0.0620136	0.0570525	0.0620136	1.0667627	0.0018009	1.3038946	0.0861012	0.1041825	195.06529
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0.0384812	0.0354027	0.0384812	0.7623067	0.0017853	1.1424925	0.0675176	0.0816963	193.31499
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0.0316643	0.0291312	0.0316643	0.9229569	0.0017947	0.4651021	0.0668421	0.0808789	194.32891
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0.0240604	0.0221356	0.0240604	0.6645007	0.0017814	0.4817391	0.0550921	0.0666614	192.86009
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0.0108326	0.009966	0.0108326	0.451799	0.0017612	0.3920104	0.0450909	0.0545599	190.64101
South Coast	2021	ConstMin - Tractors/Loaders/Backh	0.0252521	0.0232319	0.0252521	1.245841	0.0017969	0.3844321	0.0544357	0.0658672	194.52569
South Coast	2021	ConstMin - Trenchers									
South Coast	2021	ConstMin - Trenchers	0.1569784	0.1444201	0.1569784	2.234264	0.0027209	2.3379097	0.3350367	0.4053944	295.38655
South Coast	2021	ConstMin - Trenchers	0.2419293	0.222575	0.2419293	3.587354	0.0024517	2.1979539	0.3527158	0.4267861	266.32647
South Coast	2021	ConstMin - Trenchers	0.1804831	0.1660444	0.1804831	2.4636413	0.0024505	1.8682983	0.2191573	0.2651803	265.7619
South Coast	2021	ConstMin - Trenchers	0.1106901	0.1018349	0.1106901	2.1618255	0.0024425	1.6716414	0.1700156	0.2057189	264.73504
South Coast	2021	ConstMin - Trenchers	0.077494	0.0712945	0.077494	1.9486771	0.0024562	0.7914693	0.1335016	0.161537	266.09518
South Coast	2021	ConstMin - Trenchers	0.0468088	0.0430641	0.0468088	1.1851125	0.0024609	0.9319208	0.0877336	0.1061577	266.45979
South Coast	2021	ConstMin - Trenchers	0.0044971	0.0041373	0.0044971	0.2517094	0.0024499	0.4743803	0.0274499	0.0332144	265.07338
South Coast	2021	ConstMin - Trenchers	0.3101975	0.2853817	0.3101975	6.6967949	0.0024386	6.9812489	0.4832289	0.584707	265.3317
South Coast	2021	Industrial - Other General Industrial									
South Coast	2021	Industrial - Other General Industrial	0.3608681	0.3319987	0.3608681	2.6248718	0.0018201	3.8120063	1.1464722	1.3872313	200.58209
South Coast	2021	Industrial - Other General Industrial	0.0986846	0.0907899	0.0986846	1.5117057	0.001852	1.8150531	0.2346461	0.2839218	201.07051
South Coast	2021	Industrial - Other General Industrial	0.06057	0.0557244	0.06057	1.0433884	0.001667	1.2433897	0.0831781	0.1006456	180.5708
South Coast	2021	Industrial - Other General Industrial	0.2036282	0.1873379	0.2036282	2.2307947	0.0016632	1.4497986	0.2453832	0.2969136	180.69418
South Coast	2021	Industrial - Other General Industrial	0.0447377	0.0411587	0.0447377	0.8466351	0.0016672	1.1167482	0.0765022	0.0925676	180.56899
South Coast	2021	Industrial - Other General Industrial	0.0309937	0.0285142	0.0309937	0.9628407	0.0016698	0.443191	0.0672172	0.0813328	180.82025
South Coast	2021	Industrial - Other General Industrial	0.0182755	0.0168135	0.0182755	0.5047834	0.0016682	0.4286684	0.0501673	0.0607025	180.59207
South Coast	2021	Industrial - Other General Industrial	0.022124	0.0203541	0.022124	0.4645402	0.0016709	0.6213204	0.0486498	0.0588662	180.87861
South Coast	2021	Industrial - Other General Industrial	0.0261159	0.0240266	0.0261159	1.2886598	0.0016671	0.3543158	0.0526209	0.0636712	180.48237
South Coast	2021	Industrial - Other Material Handling									
South Coast	2021	Industrial - Other Material Handling	0.1560257	0.1435436	0.1560257	1.9720286	0.0021469	2.3617476	0.3589253	0.4342996	233.37251
South Coast	2021	Industrial - Other Material Handling	0.1404117	0.1291788	0.1404117	1.749097	0.0019189	1.6360933	0.1808742	0.2188578	208.13598
South Coast	2021	Industrial - Other Material Handling	0.0465069	0.0427864	0.0465069	1.0316426	0.0019288	1.3922117	0.0773615	0.0936074	208.86795
South Coast	2021	Industrial - Other Material Handling	0.0711729	0.0654791	0.0711729	1.0935089	0.0019286	1.3212307	0.106414	0.1287609	208.94289
South Coast	2021	Industrial - Other Material Handling	0.0434381	0.039963	0.0434381	1.1496115	0.0019269	0.486903	0.0906002	0.1096262	208.70706
South Coast	2021	Industrial - Other Material Handling	0.0358387	0.0329716	0.0358387	1.0014648	0.00193	0.5929429	0.0769507	0.0931104	209.00121
South Coast	2021	Industrial - Other Material Handling	0.0513199	0.0472143	0.0513199	1.0300993	0.0019261	0.4313569	0.0955361	0.1155987	208.64102
South Coast	2021	Industrial - Other Material Handling	0.007906	0.0072735	0.007906	0.9231821	0.0019282	0.3885802	0.0258218	0.0312444	208.64102
South Coast	2021	OFF - ConstMin - Bore/Drill Rigs	0.1214275	0.1117133	0.1214275	3.2248249	0.0056266	1.9058262	0.3549399	0.4224078	426.32863
South Coast	2021	OFF - ConstMin - Dumpers/Tenders	0.0622141	0.057237	0.0622141	1.6458373	0.0027386	0.8887309	0.180844	0.2152193	215.84008
South Coast	2021	OFF - ConstMin - Excavators	0.0922355	0.0848566	0.0922355	2.4684789	0.0041085	1.3332779	0.2712719	0.322836	323.80421
South Coast	2021	OFF - ConstMin - Other Constructio	0.1003608	0.0923319	0.1003608	2.5897393	0.0052993	2.0244261	0.2866948	0.3411905	352.33686
South Coast	2021	OFF - ConstMin - Pavers	0.1028081	0.0945835	0.1028081	2.6866983	0.0044645	1.4488048	0.2949961	0.3510698	351.86144
South Coast	2021	OFF - ConstMin - Paving Equipment	0.0857147	0.0788575	0.0857147	2.2942392	0.0038185	1.2391675	0.252124	0.3000484	300.94825
South Coast	2021	OFF - ConstMin - Rollers	0.090646	0.0833943	0.090646	2.3696867	0.0045235	1.64646	0.2616437	0.3113777	318.24217
South Coast	2021	OFF - ConstMin - Rubber Tired Load	0.087347	0.0803592	0.087347	2.3376492	0.0038907	1.262614	0.2568944	0.3057256	306.64254
South Coast	2021	OFF - ConstMin - Signal Boards	0.1327414	0.1221221	0.1327414	3.3970586	0.0072515	2.8453959	0.3767047	0.4483098	466.00538
South Coast	2021	OFF - ConstMin - Signal Boards	0.1398529	0.1286647	0.1398529	3.1252576	0.0057368	3.4202017	0.3876616	0.4613494	443.7653



Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd
South Coast	2021	OFF - ConstMin - Skid Steer Loaders	Aggregated		25 Diesel	0.015741437	0.018733611	0.022667669	0.0765085	0.142477585
South Coast	2021	OFF - ConstMin - Tractors/Loaders/	Aggregated		25 Diesel	0.002948841	0.003509364	0.00424633	0.0144933	0.026833409
South Coast	2021	OFF - ConstMin - Trenchers	Aggregated		25 Diesel	0.001389532	0.001653658	0.002000926	0.0075284	0.012622574
South Coast	2021	OFF - Industrial - Aerial Lifts	Aggregated		25 Diesel	0.003152022	0.003751167	0.004538912	0.0179317	0.028406915
South Coast	2021	OFF - Industrial - Other General Indi	Aggregated		25 Diesel	0.003826976	0.004554418	0.005510845	0.0216854	0.035649347
South Coast	2021	OFF - Industrial - Sweepers/Scrubbe	Aggregated		25 Diesel	0.000762141	0.000907011	0.001097483	0.0046788	0.007202886
South Coast	2021	OFF - Light Commercial - Pressure V	Aggregated		25 Diesel	0.000120118	0.00014295	0.000172969	0.0008598	0.001178122
South Coast	2021	OFF - Light Commercial - Pressure V	Aggregated		50 Diesel	8.29061E-05	9.86652E-05	0.000119385	0.0008878	0.001002515
South Coast	2021	OFF - Light Commercial - Welders	Aggregated		25 Diesel	0.010859757	0.012924009	0.015638051	0.0604473	0.094684338
South Coast	2021	OFF - Light Commercial - Welders	Aggregated		50 Diesel	0.054018065	0.064285962	0.077786014	0.4347314	0.38048699
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	Aggregated		25 Diesel	1.85324E-06	2.24242E-06	2.66867E-06	3.457E-05	2.52464E-05
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	Aggregated		50 Diesel	0.000219443	0.000265525	0.000315997	0.0007926	0.000559981
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	Aggregated		75 Diesel	1.54668E-05	1.87148E-05	2.22721E-05	0.0002048	0.000188406
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	Aggregated		100 Diesel	0.000144191	0.000174471	0.000207634	0.0012193	0.001574509
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	Aggregated		175 Diesel	0.000662155	0.000801208	0.000953504	0.0074826	0.006370657
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	Aggregated		300 Diesel	0.000552789	0.000668874	0.000796016	0.003075	0.007107799
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	Aggregated		600 Diesel	0.00096629	0.001169211	0.001391457	0.0053459	0.013520838
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	Aggregated		750 Diesel	0.000213496	0.00025833	0.000307434	0.0010707	0.002096334
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	Aggregated		9999 Diesel	0.000177503	0.000214779	0.000255605	0.0008641	0.003668007
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	Aggregated		25 Diesel	0	0	0	0	0
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	Aggregated		75 Diesel	1.45226E-06	1.75723E-06	2.09125E-06	1.325E-05	1.88909E-05
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	Aggregated		175 Diesel	2.16247E-05	2.61659E-05	3.11395E-05	0.0002622	0.000216109
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	Aggregated		300 Diesel	0.000247278	0.000299206	0.00035608	0.0014486	0.002379766
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	Aggregated		600 Diesel	0.011029942	0.01334623	0.015883117	0.0695105	0.114167335
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	Aggregated		750 Diesel	9.11858E-05	0.000110335	0.000131308	0.0005441	0.000762149

Region	CalYr	VehClass	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Horsepower			
										Total_Activ ity_hpy	Total_Popu lation	r_Hours_h hpy	
South Coast	2021	OFF - ConstMin - Skid Steer Loaders	18.450084	0.005677581	0.005223374	0.005677581	0.000234097	0.00015433	613470.1	977283.85	1170.73	19545677	20
South Coast	2021	OFF - ConstMin - Tractors/Loaders/	3.5198888	0.001004837	0.00092445	0.001004837	4.46607E-05	2.9442E-05	117033.6	162136.65	171.93	3729143	23
South Coast	2021	OFF - ConstMin - Trenchers	1.6701157	0.000475732	0.000437673	0.000475732	2.2132E-05	1.39781E-05	55563.95	58075.15	93.87	1297345.1	22.339074
South Coast	2021	OFF - Industrial - Aerial Lifts	3.739398	0.001130231	0.001039813	0.001130231	5.09472E-05	3.12995E-05	124417.55	270928.55	678.47	4735995.4	17.480607
South Coast	2021	OFF - Industrial - Other General Indi	4.7253722	0.00134602	0.001238339	0.00134602	6.31756E-05	3.95434E-05	157187.25	299628.5	210.08	5398751.5	18.018151
South Coast	2021	OFF - Industrial - Sweepers/Scrubbe	0.9607523	0.00027367	0.000251776	0.00027367	1.32345E-05	8.03998E-06	31959.4	44493.5	68.4	823096.9	18.499262
South Coast	2021	OFF - Light Commercial - Pressure V	0.149909	5.31935E-05	4.8938E-05	5.31935E-05	2.2233E-06	1.2442E-06	4945.75	20560.45	142.19	290609.35	14.134387
South Coast	2021	OFF - Light Commercial - Pressure V	0.150966	3.68811E-05	3.39307E-05	3.68811E-05	1.95161E-06	1.25889E-06	5004.15	7686.9	53.31	292102.2	38
South Coast	2021	OFF - Light Commercial - Welders	11.97578	0.004382361	0.004031772	0.004382361	0.000165181	0.000100336	398842.8	1019244.3	1587.12	15506003	15.213236
South Coast	2021	OFF - Light Commercial - Welders	52.170055	0.018980511	0.01746207	0.018980511	0.000674429	0.000439711	1747875.5	1468497.2	2286.55	67550871	46
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.0048605	1.15173E-07	1.05959E-07	1.15173E-07	4.48823E-08	3.96709E-08	157.694266	218.19109	0.1368827	5454.7773	25
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.047193	7.36489E-05	6.7757E-05	7.36489E-05	4.2974E-07	3.85183E-07	1531.12616	1255.6254	1.0950619	52966.504	42.183364
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.0281528	1.13293E-05	1.04229E-05	1.13293E-05	2.59823E-07	2.29779E-07	913.386763	501.94902	0.547531	35138.485	70.004091
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.1583876	0.000117964	0.000108527	0.000117964	1.46005E-06	1.29274E-06	5138.71015	2203.949	1.6425929	196344.65	89.087655
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	1.136734	0.000393988	0.000362469	0.000393988	1.04898E-05	9.27787E-06	36880.0815	9789.8538	8.2129646	1412693.6	144.30181
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	1.3295519	0.000216294	0.00019899	0.000216294	1.22758E-05	1.08516E-05	43135.8484	7395.2271	5.8859579	1654664	223.74755
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	2.4868608	0.000427005	0.000392845	0.000427005	2.29633E-05	2.02974E-05	80683.4595	7441.9041	5.338427	3097389.4	416.20926
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.5022787	8.74019E-05	8.04097E-05	8.74019E-05	4.63741E-06	4.09953E-06	16295.8795	979.80667	0.6844137	624642.5	637.51607
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.4206578	9.25475E-05	8.51437E-05	9.25475E-05	3.88387E-06	3.43335E-06	13647.7805	682.49736	0.4106482	524892.35	769.07601
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0	0	0	0	0	0	0	0	0	0	0
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0.0016895	1.39349E-06	1.28201E-06	1.39349E-06	1.55763E-08	1.37891E-08	54.8126228	28.491507	0.1424575	2108.3715	74
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0.0389247	1.55995E-05	1.43516E-05	1.55995E-05	3.5923E-07	3.17699E-07	1262.87046	286.19719	0.2849151	48578.731	169.73868
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0.5554599	8.69255E-05	7.99715E-05	8.69255E-05	5.12808E-06	4.53359E-06	18021.2856	3148.8813	5.6983014	684708.51	217.445
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	33.775191	0.003719706	0.00342213	0.003719706	0.000311937	0.000275669	1095798.87	107276.22	76.784611	42181595	393.20545
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0.2704255	3.89762E-05	3.58581E-05	3.89762E-05	2.49748E-06	2.20718E-06	8773.6568	494.89747	0.2849151	337463.38	681.88543

Region	CalYr	VehClass	PM10	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2
South Coast	2021	OFF - ConstMin - Skid Steer Loaders	0.0961837	0.088489	0.0961837	2.413707	0.0039658	1.2961274	0.266675	0.3173653	312.56213
South Coast	2021	OFF - ConstMin - Tractors/Loaders/	0.0892227	0.0820849	0.0892227	2.3826242	0.0039656	1.286906	0.261837	0.3116077	312.54218
South Coast	2021	OFF - ConstMin - Trenchers	0.1214214	0.1117077	0.1214214	3.2216707	0.0056488	1.9214781	0.3546514	0.4220645	426.26511
South Coast	2021	OFF - Industrial - Aerial Lifts	0.0790214	0.0726997	0.0790214	1.9861019	0.003562	1.253715	0.2203772	0.2622671	261.44428
South Coast	2021	OFF - Industrial - Other General Indi	0.0825557	0.0759512	0.0825557	2.1864873	0.0038748	1.3300326	0.2347205	0.2793369	289.82204
South Coast	2021	OFF - Industrial - Sweepers/Scrubbe	0.1100943	0.1012867	0.1100943	2.8976391	0.0053241	1.8822173	0.3066006	0.36488	386.49972
South Coast	2021	OFF - Light Commercial - Pressure V	0.0606091	0.0557604	0.0606091	1.3423608	0.0025332	0.979692	0.1368628	0.1628781	170.80749
South Coast	2021	OFF - Light Commercial - Pressure V	0.0418079	0.0384633	0.0418079	1.1364349	0.0022123	1.0063534	0.0939811	0.1118453	171.13271
South Coast	2021	OFF - Light Commercial - Welders	0.093583	0.0860964	0.093583	2.0219342	0.0035274	1.2908208	0.2319044	0.2759854	255.73648
South Coast	2021	OFF - Light Commercial - Welders	0.0930391	0.085596	0.0930391	1.8650805	0.0033059	2.1309772	0.2647871	0.3151185	255.72846
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.0069914	0.006432	0.0069914	1.5325369	0.0027245	2.0984406	0.1124978	0.1361223	295.04928
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.4604195	0.4235859	0.4604195	3.5007481	0.0026865	4.9548592	1.3718552	1.6599448	295.02944
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.10676	0.0982192	0.10676	1.775415	0.0024484	1.9296136	0.1457488	0.176356	265.29397
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.1989381	0.1830231	0.1989381	2.6553079	0.0024623	2.05627	0.243168	0.2942333	267.11036
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.0923472	0.0849594	0.0923472	1.4932239	0.0024587	1.7538574	0.1552032	0.1877959	266.4401
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.0432836	0.0398209	0.0432836	1.4223748	0.0024566	0.6153512	0.1106211	0.1338516	266.06284
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.0456485	0.0419966	0.0456485	1.4454282	0.0024549	0.5714995	0.1033	0.124993	265.85473
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.0463317	0.0426251	0.0463317	1.1112651	0.0024583	0.5675958	0.1131738	0.1369403	266.25757
South Coast	2021	Oil Drilling - Drill Rig (Mobile)	0.0583826	0.053712	0.0583826	2.3139216	0.0024501	0.545084	0.111976	0.1354909	265.36734
South Coast	2021	Oil Drilling - Workover Rig (Mobile)									
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0.2188489	0.201341	0.2188489	2.9668332	0.0024463	2.0801496	0.2280788	0.2759753	265.3317
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0.1063295	0.0978232	0.1063295	1.4730457	0.0024486	1.7872069	0.1473982	0.1783518	265.31898
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0.0420369	0.0386739	0.0420369	1.150846	0.0024799	0.700555	0.1195828	0.1446951	268.61838
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0.0291994	0.0268635	0.0291994	0.8962055	0.0024487	0.5456526	0.0865843	0.104767	265.13285
South Coast	2021	Oil Drilling - Workover Rig (Mobile)	0.0382439	0.0351844	0.0382439	0.7478284	0.0024506	0.5338276	0.0894725	0.1082617	265.34425

**Table C.10**

**Onroad Vehicles Emission Factors**

	Year	Vehicle Type	Units	PM10 brake wear	PM10 tire wear	PM2.5 brake wear	PM2.5 tire wear	PM10	PM2.5	DPM
<b>Onsite Transit</b>										
	2021	Construction Trucks	g/mi					0.226	0.216	0.226
	2021	Worker Vehicles	g/mi					0.011	0.010	
	2022	Construction Trucks	g/mi					0.096	0.092	0.096
	2022	Worker Vehicles	g/mi					0.010	0.010	
	2023	Construction Trucks	g/mi					0.015	0.014	0.015
	2023	Worker Vehicles	g/mi					0.010	0.009	
<b>Offsite Transit</b>										
	2021	Construction Trucks	g/mi	0.130	0.012	0.056	0.003	0.093	0.089	0.093
	2021	Worker Vehicles	g/mi	0.037	0.008	0.016	0.002	0.002	0.002	
	2022	Construction Trucks	g/mi	0.130	0.012	0.056	0.003	0.031	0.029	0.031
	2022	Worker Vehicles	g/mi	0.037	0.008	0.016	0.002	0.002	0.002	
	2023	Construction Trucks	g/mi	0.130	0.012	0.056	0.003	0.011	0.010	0.011
	2023	Worker Vehicles	g/mi	0.037	0.008	0.016	0.002	0.002	0.002	

**Table C.10**  
**Onroad Vehicles Emission Factors**

	Year	Vehicle Type	NOX	SOX	CO	VOC	CO2	CH4	N2O
<b>Onsite Transit</b>									
	2021	Construction Trucks	10.922	0.023	2.747	1.606	2420.649	0.075	0.380
	2021	Worker Vehicles	0.112	0.007	1.585	0.093	690.872	0.023	0.011
	2022	Construction Trucks	8.359	0.023	1.477	0.611	2402.155	0.028	0.378
	2022	Worker Vehicles	0.098	0.007	1.454	0.081	671.416	0.020	0.010
	2023	Construction Trucks	7.097	0.023	0.827	0.101	2386.155	0.005	0.375
	2023	Worker Vehicles	0.087	0.006	1.343	0.071	652.010	0.018	0.009
<b>Offsite Transit</b>									
	2021	Construction Trucks	3.451	0.010	0.524	0.152	1010.721	0.007	0.159
	2021	Worker Vehicles	0.062	0.003	0.879	0.016	295.396	0.004	0.006
	2022	Construction Trucks	2.285	0.009	0.213	0.060	970.237	0.003	0.153
	2022	Worker Vehicles	0.054	0.003	0.805	0.014	286.269	0.003	0.005
	2023	Construction Trucks	1.448	0.009	0.082	0.012	926.478	0.001	0.146
	2023	Worker Vehicles	0.047	0.003	0.743	0.012	277.134	0.003	0.005

**Table C.11**

**EMFAC2017 Output Onsite Transit**

**Fleet Mix Exhaust**

EMFAC2017 (v1.0.2) Emission Rates

Region Type: Air District

Region: SOUTH COAST AQMD

Calendar Year: 2021, 2022, 2023

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	ROG_RUNEX	TOG_RUNEX	CO_RUNEX	NOx_RUNEX
SOUTH COA	2021	LDA	Aggregated		5 GAS	703572.64	0.072765034	0.10613654	1.323487664	0.07780464
SOUTH COA	2021	LDA	Aggregated		5 DSL	6270.252	0.204104315	0.23235919	3.316266196	0.165219442
SOUTH COA	2021	LDT1	Aggregated		5 GAS	76040.931	0.191343101	0.27901852	2.891742108	0.243656881
SOUTH COA	2021	LDT1	Aggregated		5 DSL	28.172251	0.82031371	0.93387262	3.98996244	0.845090694
SOUTH COA	2021	LDT2	Aggregated		5 GAS	238735.49	0.117150688	0.17087683	1.890206743	0.167818419
SOUTH COA	2021	LDT2	Aggregated		5 DSL	1614.203	0.259831107	0.29580044	2.20170859	0.15607967
SOUTH COA	2021	T6 instate c	Aggregated		5 DSL	522.39171	1.606150969	1.82848062	2.74711446	10.92158484
SOUTH COA	2022	LDA	Aggregated		5 GAS	703289.23	0.062486588	0.09115534	1.218867335	0.068403702
SOUTH COA	2022	LDA	Aggregated		5 DSL	6598.4082	0.185680527	0.21138493	3.22017522	0.144392394
SOUTH COA	2022	LDT1	Aggregated		5 GAS	77501.88	0.165929829	0.24201177	2.563589337	0.212511355
SOUTH COA	2022	LDT1	Aggregated		5 DSL	26.074143	0.787234263	0.89621387	3.904590654	0.805374334
SOUTH COA	2022	LDT2	Aggregated		5 GAS	239733.82	0.103665862	0.15122466	1.729558944	0.146523219
SOUTH COA	2022	LDT2	Aggregated		5 DSL	1740.4892	0.259881546	0.29585786	2.256641015	0.154863088
SOUTH COA	2022	T6 instate c	Aggregated		5 DSL	529.83661	0.611084846	0.69567358	1.476521684	8.358995233
SOUTH COA	2023	LDA	Aggregated		5 GAS	703546.26	0.054055099	0.0788624	1.133045539	0.060806237
SOUTH COA	2023	LDA	Aggregated		5 DSL	6895.6032	0.170455536	0.19405229	3.146079082	0.127784867
SOUTH COA	2023	LDT1	Aggregated		5 GAS	78950.85	0.143847109	0.20986415	2.277944336	0.185827938
SOUTH COA	2023	LDT1	Aggregated		5 DSL	24.257946	0.753139633	0.8573994	3.822347425	0.763905177
SOUTH COA	2023	LDT2	Aggregated		5 GAS	241029.57	0.09193185	0.13413142	1.590198734	0.128758401
SOUTH COA	2023	LDT2	Aggregated		5 DSL	1857.1127	0.259301148	0.29519712	2.308761354	0.153618465
SOUTH COA	2023	T6 instate c	Aggregated		5 DSL	536.64013	0.100581243	0.11450409	0.826990203	7.096974228

**Table C.11**

**EMFAC2017 Output Onsite Transit**

EMFAC2017 (v1.0.2) Emission Rates

Region Type: Air District

Region: SOUTH COAST AQMD

Calendar Year: 2021, 2022, 2023

Season: Annual

Vehicle Classification: EMFAC2011 C:

Units: miles/day for VMT, g/mile for

Region	CalYr	VehClass	SOx_RUNEX	CO2_RUNEX	CH4_RUNEX	PM10_RUNE X	PM2_5_RUN EX	N2O_RUNEX
SOUTH COA	2021	LDA	0.00638321	645.0416327	0.01867426	0.010301093	0.009471604	0.008564014
SOUTH COA	2021	LDA	0.004935665	522.093961	0.009480255	0.032851316	0.031430183	0.0820659
SOUTH COA	2021	LDT1	0.007406658	748.4639584	0.043478854	0.015009157	0.013801121	0.017409342
SOUTH COA	2021	LDT1	0.010244583	1083.670411	0.038102004	0.580967193	0.555834809	0.170337898
SOUTH COA	2021	LDT2	0.008034513	811.9105208	0.028748157	0.010730716	0.009866675	0.013347782
SOUTH COA	2021	LDT2	0.006629892	701.3089926	0.012068658	0.017098941	0.016359248	0.110236007
SOUTH COA	2021	T6 instate c	0.022869089	2420.648705	0.074601553	0.225538572	0.215781873	0.380492267
SOUTH COA	2022	LDA	0.00621577	628.1213277	0.016378738	0.009776553	0.008989256	0.007896086
SOUTH COA	2022	LDA	0.004809761	508.775757	0.008624506	0.02747726	0.026288606	0.079972464
SOUTH COA	2022	LDT1	0.007220493	729.6515407	0.038063181	0.013879853	0.012762516	0.01561795
SOUTH COA	2022	LDT1	0.010116674	1070.140315	0.036565527	0.547980243	0.52427486	0.168211155
SOUTH COA	2022	LDT2	0.007757886	783.956617	0.025735598	0.010213002	0.009390654	0.012041714
SOUTH COA	2022	LDT2	0.006448528	682.124351	0.012071001	0.015788032	0.015105048	0.107220449
SOUTH COA	2022	T6 instate c	0.022694369	2402.154998	0.028383308	0.095840149	0.091694147	0.377585314
SOUTH COA	2023	LDA	0.006046288	610.9947234	0.014470813	0.009360669	0.008606835	0.007343326
SOUTH COA	2023	LDA	0.004684452	495.5205963	0.007917334	0.022818411	0.021831297	0.077888937
SOUTH COA	2023	LDT1	0.007034647	710.8712597	0.033346978	0.012908309	0.011868972	0.014077056
SOUTH COA	2023	LDT1	0.009966349	1054.238913	0.034981896	0.513035454	0.490841768	0.165711676
SOUTH COA	2023	LDT2	0.007489121	756.797075	0.023100265	0.009793882	0.0090052	0.01094
SOUTH COA	2023	LDT2	0.006272349	663.4881598	0.012044043	0.01407213	0.013463375	0.104291099
SOUTH COA	2023	T6 instate c	0.02254321	2386.155069	0.004671738	0.015125799	0.014471464	0.375070348

**Table C.12**

**EMFAC2017 Output Offsite Transit**

**Fleet Mix Exhaust**

EMFAC2017 (v1.0.2) Emission Rates

Region Type: Air District

Region: SOUTH COAST AQMD

Calendar Year: 2021

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSO AK	ROG_RUNLO SS
SOUTH CO/	2021	LDA	Aggregated	Aggregated	GAS	6444755.1	251960829	30445139	0.01262065	0	0.2466915	0.10723619	0.22183409
SOUTH CO/	2021	LDA	Aggregated	Aggregated	DSL	55086.241	2235697.58	261421.07	0.02082125	0	0	0	0
SOUTH CO/	2021	LDA	Aggregated	Aggregated	ELEC	107407.07	4288811.56	537483.79	0	0	0	0.00488803	0
SOUTH CO/	2021	LDT1	Aggregated	Aggregated	GAS	715053.16	26787165.5	3291669.8	0.03701929	0	0.40192922	0.2250494	0.76445591
SOUTH CO/	2021	LDT1	Aggregated	Aggregated	DSL	416.23737	9768.77969	1451.6303	0.20596927	0	0	0	0
SOUTH CO/	2021	LDT1	Aggregated	Aggregated	ELEC	3765.9989	150723.395	18801.157	0	0	0	0.00488803	0
SOUTH CO/	2021	LDT2	Aggregated	Aggregated	GAS	2207488.8	84313978.7	10346295	0.0212536	0	0.34414716	0.1335708	0.42776569
SOUTH CO/	2021	LDT2	Aggregated	Aggregated	DSL	12809.411	562270.347	63393.993	0.02112619	0	0	0	0
SOUTH CO/	2021	LDT2	Aggregated	Aggregated	ELEC	17082.504	567118.955	86612.028	0	0	0	0.00488803	0
SOUTH CO/	2021	T6 instate c	Aggregated	Aggregated	DSL	4437.4451	301960.518	20061.517	0.15192321	0.07429046	0	0	0
SOUTH CO/	2022	LDA	Aggregated	Aggregated	GAS	6542832.2	252244146	30915701	0.01080758	0	0.2250043	0.10080865	0.21362234
SOUTH CO/	2022	LDA	Aggregated	Aggregated	DSL	58937.503	2358229.53	279973.44	0.01829717	0	0	0	0
SOUTH CO/	2022	LDA	Aggregated	Aggregated	ELEC	127532.62	5177709.15	637025.37	0	0	0	0.00488803	0
SOUTH CO/	2022	LDT1	Aggregated	Aggregated	GAS	736905.6	27300895.6	3399511.9	0.03195965	0	0.36138904	0.20714415	0.70681942
SOUTH CO/	2022	LDT1	Aggregated	Aggregated	DSL	387.15705	9037.12241	1348.4078	0.19485653	0	0	0	0
SOUTH CO/	2022	LDT1	Aggregated	Aggregated	ELEC	5339.0416	221507.355	26794.468	0	0	0	0.00488803	0
SOUTH CO/	2022	LDT2	Aggregated	Aggregated	GAS	2246302.8	84740129.3	10535910	0.01874812	0	0.31555438	0.12651227	0.41333726
SOUTH CO/	2022	LDT2	Aggregated	Aggregated	DSL	14234.593	607996.511	70193.215	0.02071687	0	0	0	0
SOUTH CO/	2022	LDT2	Aggregated	Aggregated	ELEC	22589.961	734756.074	114302.65	0	0	0	0.00488803	0
SOUTH CO/	2022	T6 instate c	Aggregated	Aggregated	DSL	4575.9521	306224.809	20687.702	0.05996844	0.05763476	0	0	0
SOUTH CO/	2023	LDA	Aggregated	Aggregated	GAS	6635002.3	252710543	31352477	0.00931944	0	0.20578921	0.09518282	0.20633327
SOUTH CO/	2023	LDA	Aggregated	Aggregated	DSL	62492.98	2469815.67	297086.56	0.01616178	0	0	0	0
SOUTH CO/	2023	LDA	Aggregated	Aggregated	ELEC	150700.4	6237105.78	751566.02	0	0	0	0.00488803	0
SOUTH CO/	2023	LDT1	Aggregated	Aggregated	GAS	758467.65	27812996.5	3504562.5	0.02755616	0	0.32530788	0.19095322	0.65691426
SOUTH CO/	2023	LDT1	Aggregated	Aggregated	DSL	360.77991	8408.61821	1256.8795	0.18343979	0	0	0	0
SOUTH CO/	2023	LDT1	Aggregated	Aggregated	ELEC	7122.9337	303507.533	35798.189	0	0	0	0.00488803	0
SOUTH CO/	2023	LDT2	Aggregated	Aggregated	GAS	2285150.1	85272415.5	10723315	0.01656031	0	0.28969463	0.12002029	0.40044102
SOUTH CO/	2023	LDT2	Aggregated	Aggregated	DSL	15594.683	650362.807	76635.827	0.02016682	0	0	0	0
SOUTH CO/	2023	LDT2	Aggregated	Aggregated	ELEC	28809.637	917592.842	145405.45	0	0	0	0.00488803	0
SOUTH CO/	2023	T6 instate c	Aggregated	Aggregated	DSL	4709.5694	310115.842	21291.78	0.01192461	0.04989581	0	0	0



**Table C.12**

**EMFAC2017 Output Offsite Transit**

EMFAC2017 (v1.0.2) Emission Rates

Region Type: Air District

Region: SOUTH COAST AQMD

Calendar Year: 2021

Season: Annual

Vehicle Classification: EMFAC2011 C

Units: miles/day for VMT, trips/day

Region	Calendar Year	Vehicle Category	ROG_RESTLO		TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSO		TOG_RUNLO	TOG_REST	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX
			SS	ROG_DIURN				AK	SS						
SOUTH CO/	2021	LDA	0.2524712	0.27883813	0.01840518	0	0.27009419	0.10723619	0.22183409	0.252471	0.278838	0.759762	0	2.206402	
SOUTH CO/	2021	LDA	0	0	0.02370361	0	0	0	0	0	0	0.276436	0	0	
SOUTH CO/	2021	LDA	0.00821683	0.02395657	0	0	0	0.00488803	0	0.008217	0.023957	0	0	0	
SOUTH CO/	2021	LDT1	0.55612794	0.69732625	0.05396961	0	0.44005877	0.2250494	0.76445591	0.556128	0.697326	1.571537	0	2.378676	
SOUTH CO/	2021	LDT1	0	0	0.23448232	0	0	0	0	0	0	1.197052	0	0	
SOUTH CO/	2021	LDT1	0.00813007	0.02376912	0	0	0	0.00488803	0	0.00813	0.023769	0	0	0	
SOUTH CO/	2021	LDT2	0.37288708	0.38520242	0.03099498	0	0.37679666	0.1335708	0.42776569	0.372887	0.385202	1.071322	0	2.777754	
SOUTH CO/	2021	LDT2	0	0	0.02405076	0	0	0	0	0	0	0.170547	0	0	
SOUTH CO/	2021	LDT2	0.00826092	0.02403983	0	0	0	0.00488803	0	0.008261	0.02404	0	0	0	
SOUTH CO/	2021	T6 instate c	0	0	0.17295302	0.084574	0	0	0	0	0	0.52411	1.899405	0	
SOUTH CO/	2022	LDA	0.23673979	0.25811978	0.015764	0	0.24635021	0.10080865	0.21362234	0.23674	0.25812	0.701627	0	2.147026	
SOUTH CO/	2022	LDA	0	0	0.02083011	0	0	0	0	0	0	0.261314	0	0	
SOUTH CO/	2022	LDA	0.00824744	0.02402653	0	0	0	0.00488803	0	0.008247	0.024027	0	0	0	
SOUTH CO/	2022	LDT1	0.5168044	0.63870121	0.04660628	0	0.39567361	0.20714415	0.70681942	0.516804	0.638701	1.403424	0	2.296185	
SOUTH CO/	2022	LDT1	0	0	0.2218312	0	0	0	0	0	0	1.137842	0	0	
SOUTH CO/	2022	LDT1	0.00818702	0.02388892	0	0	0	0.00488803	0	0.008187	0.023889	0	0	0	
SOUTH CO/	2022	LDT2	0.3618268	0.36969346	0.02734551	0	0.34549157	0.12651227	0.41333726	0.361827	0.369693	0.983937	0	2.68634	
SOUTH CO/	2022	LDT2	0	0	0.02358478	0	0	0	0	0	0	0.172241	0	0	
SOUTH CO/	2022	LDT2	0.00828232	0.02408701	0	0	0	0.00488803	0	0.008282	0.024087	0	0	0	
SOUTH CO/	2022	T6 instate c	0	0	0.06826951	0.0656128	0	0	0	0	0	0.212931	1.910553	0	
SOUTH CO/	2023	LDA	0.22265412	0.24010945	0.01359515	0	0.22531258	0.09518282	0.20633327	0.222654	0.240109	0.654134	0	2.086917	
SOUTH CO/	2023	LDA	0	0	0.01839912	0	0	0	0	0	0	0.249281	0	0	
SOUTH CO/	2023	LDA	0.00827363	0.02408649	0	0	0	0.00488803	0	0.008274	0.024086	0	0	0	
SOUTH CO/	2023	LDT1	0.48054792	0.58566716	0.04020025	0	0.35617052	0.19095322	0.65691426	0.480548	0.585667	1.257694	0	2.215973	
SOUTH CO/	2023	LDT1	0	0	0.20883401	0	0	0	0	0	0	1.077999	0	0	
SOUTH CO/	2023	LDT1	0.00822407	0.02396714	0	0	0	0.00488803	0	0.008224	0.023967	0	0	0	
SOUTH CO/	2023	LDT2	0.35107988	0.355226	0.02416071	0	0.31717887	0.12002029	0.40044102	0.35108	0.355226	0.908941	0	2.598328	
SOUTH CO/	2023	LDT2	0	0	0.02295858	0	0	0	0	0	0	0.173719	0	0	
SOUTH CO/	2023	LDT2	0.00829981	0.02412553	0	0	0	0.00488803	0	0.0083	0.024126	0	0	0	
SOUTH CO/	2023	T6 instate c	0	0	0.01357526	0.0568026	0	0	0	0	0	0.081803	2.062742	0	

**Table C.12**

**EMFAC2017 Output Offsite Transit**

EMFAC2017 (v1.0.2) Emission Rates

Region Type: Air District

Region: SOUTH COAST AQMD

Calendar Year: 2021

Season: Annual

Vehicle Classification: EMFAC2011 C

Units: miles/day for VMT, trips/day

Region	Calendar Year	Vehicle Category	NOx_RUNE	NOx_STRE		CO2_RUNE	CO2_STRE		CH4_RUNE	CH4_STRE		PM10_RU	PM10_IDL	PM10_STR	PM10_PM
			X	NOx_IDLEX	X	X	CO2_IDLEX	X	X	CH4_IDLEX	X	NEX	EX	EX	TW
SOUTH CO/	2021	LDA	0.044024	0	0.197538	279.3081	0	56.20809	0.003216	0	0.054462	0.001741	0	0.001988	0.008
SOUTH CO/	2021	LDA	0.085227	0	0	214.5019	0	0	0.000967	0	0	0.009992	0	0	0.008
SOUTH CO/	2021	LDA	0	0	0	0	0	0	0	0	0	0	0	0	0.008
SOUTH CO/	2021	LDT1	0.132698	0	0.283606	324.9244	0	65.83929	0.008311	0	0.079127	0.002694	0	0.002846	0.008
SOUTH CO/	2021	LDT1	1.113904	0	0	456.1544	0	0	0.009567	0	0	0.155981	0	0	0.008
SOUTH CO/	2021	LDT1	0	0	0	0	0	0	0	0	0	0	0	0	0.008
SOUTH CO/	2021	LDT2	0.093291	0	0.311755	351.9595	0	72.22594	0.00515	0	0.073336	0.001839	0	0.001977	0.008
SOUTH CO/	2021	LDT2	0.048846	0	0	293.5877	0	0	0.000981	0	0	0.006314	0	0	0.008
SOUTH CO/	2021	LDT2	0	0	0	0	0	0	0	0	0	0	0	0	0.008
SOUTH CO/	2021	T6 instate c	3.451152	5.082113	1.90878	1010.721	660.5245	0	0.007056	0.003451	0	0.09269	0.011811	0	0.012
SOUTH CO/	2022	LDA	0.038672	0	0.185258	271.9399	0	54.74368	0.002813	0	0.05049	0.00165	0	0.001892	0.008
SOUTH CO/	2022	LDA	0.070553	0	0	209.0169	0	0	0.00085	0	0	0.008486	0	0	0.008
SOUTH CO/	2022	LDA	0	0	0	0	0	0	0	0	0	0	0	0	0.008
SOUTH CO/	2022	LDT1	0.115458	0	0.261428	316.7269	0	64.10486	0.00724	0	0.072234	0.002476	0	0.002641	0.008
SOUTH CO/	2022	LDT1	1.051194	0	0	450.4063	0	0	0.009051	0	0	0.147108	0	0	0.008
SOUTH CO/	2022	LDT1	0	0	0	0	0	0	0	0	0	0	0	0	0.008
SOUTH CO/	2022	LDT2	0.081381	0	0.283197	339.8278	0	69.7851	0.004596	0	0.068108	0.001746	0	0.001893	0.008
SOUTH CO/	2022	LDT2	0.045978	0	0	285.484	0	0	0.000962	0	0	0.005997	0	0	0.008
SOUTH CO/	2022	LDT2	0	0	0	0	0	0	0	0	0	0	0	0	0.008
SOUTH CO/	2022	T6 instate c	2.2854	3.806472	2.239794	970.2371	641.9214	0	0.002785	0.002677	0	0.030619	0.003505	0	0.012
SOUTH CO/	2023	LDA	0.034332	0	0.174216	264.4895	0	53.27103	0.002478	0	0.046882	0.001577	0	0.001812	0.008
SOUTH CO/	2023	LDA	0.058778	0	0	203.5612	0	0	0.000751	0	0	0.007182	0	0	0.008
SOUTH CO/	2023	LDA	0	0	0	0	0	0	0	0	0	0	0	0	0.008
SOUTH CO/	2023	LDT1	0.10062	0	0.241629	308.5407	0	62.39232	0.006307	0	0.06602	0.002289	0	0.002461	0.008
SOUTH CO/	2023	LDT1	0.98587	0	0	443.616	0	0	0.00852	0	0	0.13776	0	0	0.008
SOUTH CO/	2023	LDT1	0	0	0	0	0	0	0	0	0	0	0	0	0.008
SOUTH CO/	2023	LDT2	0.071383	0	0.25836	328.0391	0	67.41099	0.00411	0	0.063284	0.00167	0	0.001824	0.008
SOUTH CO/	2023	LDT2	0.043171	0	0	277.6246	0	0	0.000937	0	0	0.005578	0	0	0.008
SOUTH CO/	2023	LDT2	0	0	0	0	0	0	0	0	0	0	0	0	0.008
SOUTH CO/	2023	T6 instate c	1.448145	3.002229	2.602364	926.4783	616.6626	0	0.000554	0.002318	0	0.010558	0.001163	0	0.012

**Table C.12**

**EMFAC2017 Output Offsite Transit**

EMFAC2017 (v1.0.2) Emission Rates

Region Type: Air District

Region: SOUTH COAST AQMD

Calendar Year: 2021

Season: Annual

Vehicle Classification: EMFAC2011 C

Units: miles/day for VMT, trips/day

Region	Calendar Year	Vehicle Category	PM10_PM		PM2_5_RUNE		PM2_5_ID		PM2_5_ST		PM2_5_P		PM2_5_PMB		SOx_RUNE		N2O_RUN		N2O_IDLE		N2O_STRE	
			BW	X	LEX	REX	MTW	W	X	SOx_IDLEX	SOx_STREX	EX	X	X								
SOUTH CO/	2021	LDA	0.03675	0.001601106		0	0.001828	0.002	0.015750005	0.002764	0	0.000556	0.004873	0	0.026578							
SOUTH CO/	2021	LDA	0.03675	0.009560147		0	0	0.002	0.015750005	0.002028	0	0	0.033717	0	0							
SOUTH CO/	2021	LDA	0.03675	0		0	0	0.002	0.015750005	0	0	0	0	0	0							
SOUTH CO/	2021	LDT1	0.03675	0.002476858		0	0.002617	0.002	0.015750005	0.003215	0	0.000652	0.009626	0	0.030171							
SOUTH CO/	2021	LDT1	0.03675	0.149233704		0	0	0.002	0.015750005	0.004312	0	0	0.071701	0	0							
SOUTH CO/	2021	LDT1	0.03675	0		0	0	0.002	0.015750005	0	0	0	0	0	0							
SOUTH CO/	2021	LDT2	0.03675	0.001690806		0	0.001818	0.002	0.015750005	0.003483	0	0.000715	0.007503	0	0.034226							
SOUTH CO/	2021	LDT2	0.03675	0.006040854		0	0	0.002	0.015750005	0.002775	0	0	0.046148	0	0							
SOUTH CO/	2021	LDT2	0.03675	0		0	0	0.002	0.015750005	0	0	0	0	0	0							
SOUTH CO/	2021	T6 instate c	0.13034	0.0886798	0.0113	0	0.003	0.055860016	0.009549	0.00624	0	0.158871	0.103825	0	0							
SOUTH CO/	2022	LDA	0.03675	0.001517114		0	0.00174	0.002	0.015750005	0.002691	0	0.000542	0.004493	0	0.025616							
SOUTH CO/	2022	LDA	0.03675	0.008119357		0	0	0.002	0.015750005	0.001976	0	0	0.032855	0	0							
SOUTH CO/	2022	LDA	0.03675	0		0	0	0.002	0.015750005	0	0	0	0	0	0							
SOUTH CO/	2022	LDT1	0.03675	0.002277129		0	0.002428	0.002	0.015750005	0.003134	0	0.000634	0.008634	0	0.028864							
SOUTH CO/	2022	LDT1	0.03675	0.140744635		0	0	0.002	0.015750005	0.004258	0	0	0.070798	0	0							
SOUTH CO/	2022	LDT1	0.03675	0		0	0	0.002	0.015750005	0	0	0	0	0	0							
SOUTH CO/	2022	LDT2	0.03675	0.001605737		0	0.00174	0.002	0.015750005	0.003363	0	0.000691	0.006771	0	0.032289							
SOUTH CO/	2022	LDT2	0.03675	0.005737517		0	0	0.002	0.015750005	0.002699	0	0	0.044874	0	0							
SOUTH CO/	2022	LDT2	0.03675	0		0	0	0.002	0.015750005	0	0	0	0	0	0							
SOUTH CO/	2022	T6 instate c	0.13034	0.029294319	0.003353	0	0.003	0.055860016	0.009166	0.006065	0	0.152508	0.100901	0	0							
SOUTH CO/	2023	LDA	0.03675	0.001449663		0	0.001667	0.002	0.015750005	0.002617	0	0.000527	0.004179	0	0.024672							
SOUTH CO/	2023	LDA	0.03675	0.006871474		0	0	0.002	0.015750005	0.001924	0	0	0.031997	0	0							
SOUTH CO/	2023	LDA	0.03675	0		0	0	0.002	0.015750005	0	0	0	0	0	0							
SOUTH CO/	2023	LDT1	0.03675	0.002104575		0	0.002263	0.002	0.015750005	0.003053	0	0.000617	0.007777	0	0.027624							
SOUTH CO/	2023	LDT1	0.03675	0.131800579		0	0	0.002	0.015750005	0.004194	0	0	0.06973	0	0							
SOUTH CO/	2023	LDT1	0.03675	0		0	0	0.002	0.015750005	0	0	0	0	0	0							
SOUTH CO/	2023	LDT2	0.03675	0.001535919		0	0.001678	0.002	0.015750005	0.003246	0	0.000667	0.006151	0	0.030491							
SOUTH CO/	2023	LDT2	0.03675	0.00533644		0	0	0.002	0.015750005	0.002625	0	0	0.043639	0	0							
SOUTH CO/	2023	LDT2	0.03675	0		0	0	0.002	0.015750005	0	0	0	0	0	0							
SOUTH CO/	2023	T6 instate c	0.13034	0.010101506	0.001113	0	0.003	0.055860016	0.008753	0.005826	0	0.145629	0.096931	0	0							

**Table C.13****Operational GHG - Indirect Emissions**

O&M Cost (\$/yr)	Electricity Cost (\$/kW-hr)	CO2e Emission Factor (lb CO2e/MW-hr)	CO2e Emissions (tonnes/yr)
\$255,700	\$0.16	529.9	384

Notes:

Indirect emissions from the use of electrical pumps.

**Annual O&M Costs**

Station	Number of Pumps	hp	O&M Cost (\$)
Vineland	3	150	\$136,247
Tujunga	2	50	\$27,374
Lankershim	2	60	\$31,729
Laurel Cany	2	30	\$18,665
Witsett	2	40	\$23,020
Fulton	2	30	\$18,665
Total			\$255,700

Source:

East West Valley Interceptor Sewer Concept Report. Pg 20.  
 Power – electricity costs were based on a unit cost of \$0.16 per kWh

**CO2e emission factor**

529.9 lb CO2e/MW-hr

Source:

e-Grid 2016, WECC California  
 Available: <https://www.epa.gov/energy/egrid-summary-tables>. Accessed 3/2019.

**Table C.14**

**GHG Emission Factors**

	<b>CO2</b>	<b>CH4</b>	<b>N2O</b>	<b>Fuel</b>
	(kg CO2/gal fuel)	(kg CH4/gal fuel)	(kg N2O/gal fuel)	
offroad construction equipment <sup>[1],[2]</sup>	10.21	0.000576	0.000256	diesel
	(kg CO2/gal fuel)	(g CH4/mile)	(g N2O/mile)	
onroad medium and heavy duty vehicles <sup>[1],[3]</sup>	10.21	0.0051	0.0048	diesel
onroad light duty vehicles <sup>[1],[3]</sup>	8.78	0.2024	0.022	gasoline
	kg CO2/gal	kg/MMBtu	kg/MMBtu	
non-transport fuel combustion <sup>[4],[5]</sup>	5.72	0.003	0.0006	propane
	kg CO2/MMBtu	kg/MMBtu	kg/MMBtu	
non-transport fuel combustion <sup>[4],[5]</sup>	53.06	0.001	0.0001	natural gas

**Notes:**

- [1] CO2 emission factors: 2016 Climate Registry Default Emission Factors, *Table 13.1, US Default CO2 Emission Factors for Transport Fuels*
- [2] N2O and CH4 emission factors: 2016 Climate Registry Default Emission Factors, *Table 13.7, Default CH4 and N2O Emission Factors for Non-Highway Vehicles.*
- [3] N2O and CH4 emission factors: 2016 Climate Registry Default Emission Factors, *Table 13.4, Default CH4 and N2O Emission Factors for Highway Vehicles by Technology Type.*
- [4] CO2 emission factors: 2016 Climate Registry Default Emission Factors, *Table 12.1, Default Factors for Calculating CO2 Emissions from Fossil Fuel and Biomass Combustion*
- [5] CH4 and N2O emission factors: 2016 Climate Registry Default Emission Factors, *Table 12.9.1, Default CH4 and N2O Emission Factors by Fuel Type, Industrial and Energy Sectors*

**Fuel density**

Diesel (lb/gal)	7.04
Gasoline (lb/gal)	6.15

**Global Warming Potentials (GWP):**

<b>CO2</b>	<b>CH4</b>	<b>N2O</b>
1	28	265

IPCC 2015. Intergovernmental Panel on Climate Change. *5th Assessment Report.*

**Table C.15**

**SOx Emission Factor**

Offroad Construction Equipment less than 100 hp	0.005552064 g/hp-hr
Offroad Construction Equipment greater than 100 hp	0.004994136 g/hp-hr
SOx (gms/hp-hr) = (S content in X/1,000,000) x (MW SO2/ MW S) x BSF =	
Where:	
X = S content in parts per million (ppm)	15 ppm
S MW = Molecular Weight	32
SO2 MW = Molecular Weight	64
BSFC for offroad construction equipment less than 100 hp (per CARB OFFROAD 2017 Diesel Emission Factors excel spreadsheet)	0.408 (lb/hp-hr)
BSFC for offroad construction equipment greater than 100 hp (per CARB OFFROAD 2017 Diesel Emission Factors excel spreadsheet)	0.367 (lb/hp-hr)
BSFC for offroad construction equipment less than 100 hp	185.1 (g/hp-hr)
BSFC for offroad construction equipment greater than 100 hp	166.5 (g/hp-hr)

**Table C.16****Constants**

HC to VOC	1.053	EPA, 2010. Conversion Factors for Hydrocarbon Emission Components, EPA-420-R-10-015. July. Available online: <a href="https://nepis.epa.gov/Exe/ZyPDF.cgi/P10081RP.PDF?Dockey=P10081RP.PDF">https://nepis.epa.gov/Exe/ZyPDF.cgi/P10081RP.PDF?Dockey=P10081RP.PDF</a>	
kW to hp	1.34102209		
g to lb	0.002204586		
g to mton	0.000001		
hp to kW	0.74599		
short ton to gram	907,185		
yd <sup>3</sup> to ft <sup>3</sup>	27		
ft <sup>2</sup> to acres	0.00002296		
density of concrete (lb/ft <sup>3</sup> )	89	2400 lb/yd <sup>3</sup>	Construction/Demolition and Inert Debris Tools and Resources Calculations. <a href="https://www.calrecycle.ca.gov/SWFAilities/CDI/Tools/Calculations">https://www.calrecycle.ca.gov/SWFAilities/CDI/Tools/Calculations</a>
density of soil (lb/ft <sup>3</sup> )	94	2550 lb/yd <sup>3</sup>	Source: CalRecycle: Calculations: Construction and Demolition and Inert Debris (CDI), Construction/Demolition and Inert Debris Tools and Resources Calculations.
bbl to gal	42		
scf to gal	7.48		
HEV natural gas	1020	Btu/scf	
l to gal	0.264172		

# ***APPENDICE C5***

EMFAC2017 (v1.0.2) Emissions Inventory  
 Region Type: Sub-Area  
 Region: Los Angeles (SC)  
 Calendar Year: 2021

Season: Annual; Model Year: Aggregated; Speed: Aggregated

Vehicle Classification: EMFAC2011 Categories  
 Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Calendar Year	Vehicle Category	Fuel	Population	VMT	trips/day	tons/day	tons/trip/veh	Worker Fleet Mix	
					Trips	C02	C02	0.0024006	metric ton / trip / vehicle
2021	LDA	GAS	3.91E+06	1.51E+08	1.84E+07	4.84E+04	2.62E-03		
2021	LDA	DSL	3.26E+04	1.30E+06	1.54E+05	3.16E+02	2.05E-03		
2021	LDA	ELEC	6.62E+04	2.65E+06	3.31E+05	0.00E+00	0.00E+00		
2021	LDT1	GAS	4.44E+05	1.67E+07	2.05E+06	6.22E+03	3.04E-03		
2021	LDT1	DSL	2.91E+02	7.20E+03	1.04E+03	3.75E+00	3.62E-03		
2021	LDT1	ELEC	2.51E+03	9.96E+04	1.25E+04	0.00E+00	0.00E+00		
2021	LDT2	GAS	1.35E+06	5.15E+07	6.32E+06	2.08E+04	3.29E-03		
2021	LDT2	DSL	8.03E+03	3.50E+05	3.98E+04	1.16E+02	2.92E-03		
2021	LDT2	ELEC	1.09E+04	3.64E+05	5.53E+04	0.00E+00	0.00E+00		
2022	LDA	GAS	3.95E+06	1.50E+08	1.86E+07	4.69E+04	2.52E-03		
2022	LDA	DSL	3.48E+04	1.37E+06	1.65E+05	3.24E+02	1.97E-03		
2022	LDA	ELEC	7.81E+04	3.18E+06	3.90E+05	0.00E+00	0.00E+00		
2022	LDT1	GAS	4.58E+05	1.70E+07	2.12E+06	6.18E+03	2.92E-03		
2022	LDT1	DSL	2.71E+02	6.63E+03	9.61E+02	3.41E+00	3.55E-03		
2022	LDT1	ELEC	3.51E+03	1.45E+05	1.75E+04	0.00E+00	0.00E+00		
2022	LDT2	GAS	1.37E+06	5.18E+07	6.44E+06	2.02E+04	3.13E-03		
2022	LDT2	DSL	8.92E+03	3.78E+05	4.40E+04	1.22E+02	2.78E-03		
2022	LDT2	ELEC	1.44E+04	4.70E+05	7.28E+04	0.00E+00	0.00E+00		
2023	LDA	GAS	3.99E+06	1.49E+08	1.88E+07	4.55E+04	2.42E-03		
2023	LDA	DSL	3.67E+04	1.43E+06	1.74E+05	3.29E+02	1.89E-03		
2023	LDA	ELEC	9.17E+04	3.81E+06	4.57E+05	0.00E+00	0.00E+00		
2023	LDT1	GAS	4.72E+05	1.74E+07	2.19E+06	6.14E+03	2.81E-03		
2023	LDT1	DSL	2.52E+02	6.13E+03	8.95E+02	3.12E+00	3.48E-03		
2023	LDT1	ELEC	4.64E+03	1.97E+05	2.32E+04	0.00E+00	0.00E+00		
2023	LDT2	GAS	1.40E+06	5.22E+07	6.57E+06	1.96E+04	2.99E-03		
2023	LDT2	DSL	9.77E+03	4.04E+05	4.80E+04	1.27E+02	2.64E-03		
2023	LDT2	ELEC	1.83E+04	5.85E+05	9.23E+04	0.00E+00	0.00E+00		



Construction Category	Subtask	# Workers	<i>days</i>		<i>metric tons / task</i>	
			Duration	# Trips	C02	
Force Main	Excavation & Shoring	24	1276	61248	147.0	
Force Main	Bedding	6	1276	15312	36.8	
Force Main	Pipe Laying	10	1276	25520	61.3	
Force Main	Testing	5	1276	12760	30.6	
Force Main	Restoration	12	1276	30624	73.5	
Pump Stations	Excavation & Shoring	22	1650	72600	174.3	
Pump Stations	Framework & Casting	12	1650	39600	95.1	
Pump Stations	Equipment Installation	10	1650	33000	79.2	
Pump Stations	Restoration	6	1650	19800	47.5	
Diversion Structures	Excavation & Shoring	22	792	34848	83.7	
Diversion Structures	Framework & Casting	12	792	19008	45.6	
Diversion Structures	Equipment Installation	10	792	15840	38.0	
Diversion Structures	Restoration	6	792	9504	22.8	
Junction to EVIS	Excavation & Shoring	25	198	9900	23.8	
Junction to EVIS	Framework & Casting	15	198	5940	14.3	
Junction to EVIS	Equipment Installation	10	198	3960	9.5	
Junction to EVIS	Restoration	12	198	4752	11.4	
Connecting Sewers	Excavation & Shoring	16	330	10560	25.4	
Connecting Sewers	Bedding	6	330	3960	9.5	
Connecting Sewers	Pipe Laying	8	330	5280	12.7	
Connecting Sewers	Restoration	12	330	7920	19.0	
Microtunneling	Excavation & Shoring	22	1012	44528	106.9	
Microtunneling	Pipe Installation	12	1012	24288	58.3	
Microtunneling	Restoration	12	1012	24288	58.3	

*Data based on Project Description Table 2-3*

*Some categories above contain multiple tasks (for example, there are 6 pump stations). Days represent total worker-days across all tasks.*

		Worker CO2 Emissions																													
		2021	346.6	MT CO2		2022	576.9	MT CO2		2023	360.9	MT CO2																			
		Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23
Metric Tonnes CO2 per Month		12.0	16.9	31.6	31.6	31.6	47.4	47.4	64.1	64.1	47.4	57.1	43.0	43.0	43.0	43.0	43.0	43.0	43.0	59.6	59.6	52.3	52.3	52.3	52.3	52.3	52.3	36.4	36.4	26.7	0.0

Construction Category	Subtask	CO2	Percent of a tasks occurring in Month...																																
			Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Force Main	Excavation & Shoring	147.0	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	0%
Force Main	Bedding	36.8	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	0%
Force Main	Pipe Laying	61.3	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	0%	
Force Main	Testing	30.6	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	0%	
Force Main	Restoration	73.5	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	0%	
Pump Stations	Excavation & Shoring	174.3	0%	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	0%	
Pump Stations	Framework & Casting	95.1	0%	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	0%	
Pump Stations	Equipment Installation	79.2	0%	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	0%	
Pump Stations	Restoration	47.5	0%	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	0%	
Diversion Structures	Excavation & Shoring	83.7	0%	0%	0%	0%	0%	8%	8%	8%	8%	8%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	8%	8%	8%	8%	8%	0%	0%	0%	0%	0%	0%
Diversion Structures	Framework & Casting	45.6	0%	0%	0%	0%	0%	8%	8%	8%	8%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	8%	8%	8%	8%	8%	0%	0%	0%	0%	0%	0%	0%
Diversion Structures	Equipment Installation	38.0	0%	0%	0%	0%	0%	8%	8%	8%	8%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	8%	8%	8%	8%	8%	0%	0%	0%	0%	0%	0%	0%
Diversion Structures	Restoration	22.8	0%	0%	0%	0%	0%	8%	8%	8%	8%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	8%	8%	8%	8%	8%	0%	0%	0%	0%	0%	0%	0%
Junction to EVIS	Excavation & Shoring	23.8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	11%	11%	11%	11%	11%	11%	11%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Junction to EVIS	Framework & Casting	14.3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	11%	11%	11%	11%	11%	11%	11%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Junction to EVIS	Equipment Installation	9.5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	11%	11%	11%	11%	11%	11%	11%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Junction to EVIS	Restoration	11.4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	11%	11%	11%	11%	11%	11%	11%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Connecting Sewers	Excavation & Shoring	25.4	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Connecting Sewers	Bedding	9.5	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Connecting Sewers	Pipe Laying	12.7	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Connecting Sewers	Restoration	19.0	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Microtunneling	Excavation & Shoring	106.9	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	7%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	0%	
Microtunneling	Pipe Installation	58.3	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	7%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	0%	
Microtunneling	Restoration	58.3	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	7%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	0%	

Data based on Project Description Table 2-3