

## **B.1 - Criteria Pollutant Modeling**



# City of Fresno General Plan

## Criteria Pollutants: Summary

Year 2010

Prepared by FirstCarbon Solutions

### Data

#### City Information

Population	495,000	City	Planning Area Population	545,000
Employment	183,825	City	Planning Area Employment	209,261

#### County Information

Population	930,000
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	ROG	NOx	PM10	PM2.5	CO	SO2
<b>Emissions (tons/year)</b>						
Motor vehicles	721	5541	157	144	13091	0
Electricity	0	300	0	0	0	211
Natural gas	86	760	59	59	495	5
Stationary, area	554	507	238	na	203	89
Offroad	1743	3881	278	278	9943	7
<b>Total</b>	<b>3105</b>	<b>10989</b>	<b>732</b>	<b>482</b>	<b>23731</b>	<b>312</b>

#### Emissions (tons/day)

Motor vehicles	2.0	15.2	0.4	0.4	35.9	0.0
Electricity	0.0	0.8	0.0	0.0	0.0	0.6
Natural gas	0.2	2.1	0.2	0.2	1.4	0.0
Stationary, area	1.5	1.4	0.7	na	0.6	0.2
Offroad	4.8	10.6	0.8	0.8	27.2	0.02
<b>Total</b>	<b>8.5</b>	<b>30.1</b>	<b>2.0</b>	<b>1.3</b>	<b>65.0</b>	<b>0.9</b>

#### Sources:

- Population for the City: Fresno Council of Governments (Fresno COG), San Joaquin Valley Demographic Forecasts 2010 to 2050. Produced under contract by: The Planning Center|DC&E. March 2012.

-Employment: - U.S. Census Bureau. 2011 American Community Survey 1-Year Estimates

#### Website:

[http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_11\\_1YR\\_DP03&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_DP03&prodType=table); this number was backcast against the population growth rate of 2.239%

- Emissions: refer to subsequent spreadsheets

- Emissions for stationary, area: California Air Resources Board, CEIDARS 2.5, data is from the year 2010. Note that SO2 emissions for this category represent SOx emissions; SO2 emissions were not available.

[www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab\\_=&dis\\_=&co\\_=10&fname\\_=&city\\_=Fresno&fzip\\_=&fsic\\_=&facid\\_=&all\\_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=](http://www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab_=&dis_=&co_=10&fname_=&city_=Fresno&fzip_=&fsic_=&facid_=&all_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=)

## City of Fresno General Plan

### Criteria Pollutants: Energy

Year 2010

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Note: data entry values are in yellow

#### Electricity

Emission Factors (lbs/MWh)		(lbs/kWh)
NOx	0.2002	0.0002002
SO2	0.1409	0.0001409

	(kWh/year)	Emissions Per capita (kWh/person or employee/year)	Emissions (tons/year)	
			NOx	SO2
Residential	1,422,450,000	2,610	142.4	100.2
Non-Residential	1,570,085,283	7,503	157.2	110.6
			0	0.0
<b>Total</b>	<b>2,992,535,283</b>		<b>299.6</b>	<b>210.8</b>

#### Natural Gas

			Natural Gas Emission Factors					
			ROG	NOx	PM10	PM2.5	CO	SO2
lb/MMBTU	Residential		0.01078	0.09216	0.00745	0.00745	0.03922	0.00059
	Nonresidential		0.01078	0.09804	0.00745	0.00745	0.08235	0.00059
lb/therm	Residential		0.0011	0.0092	0.0007	0.0007	0.0039	0.0001
	Nonresidential		0.0011	0.0098	0.0007	0.0007	0.0082	0.0001
			Emissions (tons/year)					
			ROG	NOx	PM10	PM2.5	CO	SO2
			Per capita (therms/person or employee/year)					
			ROG	NOx	PM10	PM2.5	CO	SO2
Residential	75,210,000	138	41	347	28	28	147	2
Non Residential	84,332,183	403	45	413	31	31	347	2
<b>Total</b>	<b>159,542,183</b>		<b>86</b>	<b>760</b>	<b>59</b>	<b>59</b>	<b>495</b>	<b>5</b>

Sources:

Electricity and natural gas usage: requested information from PG&E, 2012.

Usage: per capita usage multiplied by the population (for residential) or employees (for commercial)

Emission factors for electricity NOx and SO2 electricity emission factors from Environmental Protection Agency, eGRID2012, state total annual total output emission rate for California (data is from year 2009).

Emission factors for natural gas: CalEEMod Appendix D, Table 8.2, August 2013. 1 therm = 0.1 MMBTU

**City of Fresno General Plan**

**Criteria Pollutants: Offroad**

**Year 2010**

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*Note: yellow shaded cells are data entry cells*

Fresno County Emissions (tons/day) (from Offroad 2007)	ROG		CO	NOx	SO2	PM
	Evaporative	Exhaust				
Agricultural Equipment	0.32	1.88	11.97	10.99	0.01	0.66
Airport Ground Support Equipment	0.00	0.01	0.20	0.07	0.00	0.00
Construction and Mining Equipment	0.03	0.86	4.64	6.01	0.01	0.37
Dredging	0.00	0.00	0.00	0.00	0.00	0.00
Entertainment Equipment	0.00	0.00	0.00	0.01	0.00	0.00
Industrial Equipment	0.02	0.09	2.74	0.60	0.00	0.02
Lawn and Garden Equipment	0.85	0.95	11.29	0.25	0.00	0.03
Light Commercial Equipment	0.16	0.33	7.61	0.65	0.00	0.07
Logging Equipment	0.00	0.05	0.29	0.12	0.00	0.01
Military Tactical Support Equip	0.00	0.00	0.02	0.04	0.00	0.00
Oil Drilling	0.00	0.00	0.00	0.00	0.00	0.00
Other Portable Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Pleasure Craft	0.55	1.17	7.20	0.38	0.00	0.17
Railyard Operations	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Equipment	0.38	1.10	3.88	0.05	0.01	0.02
Transport Refrigeration Units	0.00	0.21	1.34	0.81	0.00	0.06
<b>Total</b>	<b>2.32</b>	<b>6.65</b>	<b>51.18</b>	<b>19.98</b>	<b>0.04</b>	<b>1.43</b>

**Percent Fresno County/Fresno City Population 0.53**

City of Fresno Emissions (tons/day)	ROG Evaporative	ROG Exhaust	CO	NOx	SO2	PM
Agricultural Equipment	0.17	1.0	6.4	5.9	0.01	0.35
Airport Ground Support Equipment	0.00	0.0	0.1	0.0	0.00	0.00
Construction and Mining Equipment	0.02	0.5	2.5	3.2	0.00	0.20
Dredging	0.00	0.0	0.0	0.0	0.00	0.00
Entertainment Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Industrial Equipment	0.01	0.0	1.5	0.3	0.00	0.01
Lawn and Garden Equipment	0.45	0.5	6.0	0.1	0.00	0.02
Light Commercial Equipment	0.09	0.2	4.0	0.3	0.00	0.04
Logging Equipment	0.00	0.0	0.2	0.1	0.00	0.00
Military Tactical Support Equip	0.00	0.0	0.0	0.0	0.00	0.00
Oil Drilling	0.00	0.0	0.0	0.0	0.00	0.00
Other Portable Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Pleasure Craft	0.29	0.6	3.8	0.2	0.00	0.09
Railyard Operations	0.00	0.0	0.0	0.0	0.00	0.00
Recreational Equipment	0.20	0.6	2.1	0.0	0.01	0.01
Transport Refrigeration Units	0.00	0.1	0.7	0.4	0.00	0.03
<b>Total</b>	<b>1.24</b>	<b>3.5</b>	<b>27.2</b>	<b>10.6</b>	<b>0.02</b>	<b>0.76</b>

**Sources:**

- County of Fresno emissions from OFFROAD2007, annual, all days, all equipment, for the year assessed
- City of Fresno emissions based on the percent of the City's population compared with the County's population.

Note: PM refers to total particulate matter.

**City of Fresno General Plan  
Vehicle Miles Traveled Estimates  
Year 2010**

Prepared by FirstCarbon Solutions

*Vehicle Miles Traveled*

Vehicle miles traveled / day **9,162,734** Source: Fehr and Peers. 2013  
 Vehicle miles traveled / year **3,344,397,910** Source: VMT per day \* 365 days/year  
 Annual VMT Growth Rate **2.48%**

Speed bins	AM peak	PM peak	Off peak	Total	Speed
0 - 5 MPH	0	638	0	<b>638</b>	5
5 - 10 MPH	530	620	0	<b>1,150</b>	5
10 - 15 MPH	103,322	133,374	283,652	<b>520,348</b>	10
15 - 20 MPH	3,491	5,166	5,457	<b>14,114</b>	15
20 - 25 MPH	15,277	25,536	43,535	<b>84,349</b>	20
25 - 30 MPH	62,398	82,625	179,532	<b>324,556</b>	25
30 - 35 MPH	69,155	109,440	136,708	<b>315,303</b>	30
35 - 40 MPH	407,371	527,830	1,063,600	<b>1,998,801</b>	35
40 - 45 MPH	182,177	222,301	488,347	<b>892,825</b>	40
45 - 50 MPH	154,975	204,211	601,450	<b>960,636</b>	45
50 - 55 MPH	83,818	118,402	285,006	<b>487,226</b>	50
55 - 60 MPH	372,022	442,335	1,046,233	<b>1,860,591</b>	55
60 - 65 MPH	356,646	443,044	902,392	<b>1,702,082</b>	60
65 - 70 MPH	20	26	71	<b>117</b>	65
70 - 75 MPH	0	0	0	<b>0</b>	70
>75 MPH	0	0	0	<b>0</b>	75
<b>Total</b>	<b>1,811,202</b>	<b>2,315,549</b>	<b>5,035,983</b>	<b>9,162,734</b>	

Source:  
 Fehr and Peers. 2013. 2010 VMT was found by using 2011 Existing Daily VMT provided by Fehr and Peers and back cast those numbers by the annual VMT growth rate).

Annual VMT Growth Rate: Was found by interpolating between 2011 and 2056 VMT:  $(((2056 \text{ VMT} - 2011 \text{ VMT}) / (2011 \text{ VMT})) / 45 \text{ years} = .0248)$ .

2011 Existing Daily VMT By Speed Bin: Origin-Destination Method  
 Origin-Destination Method

Speed bins	AM peak	PM peak	Off peak	Total
0 - 5 MPH	0	654	0	654
5 - 10 MPH	543	636	0	1,179
10 - 15 MPH	105,950	136,766	290,867	533,583
15 - 20 MPH	3,580	5,297	5,596	14,473
20 - 25 MPH	15,666	26,186	44,642	86,494
25 - 30 MPH	63,985	84,727	184,099	332,811
30 - 35 MPH	70,914	112,224	140,185	323,323
35 - 40 MPH	417,733	541,256	1,090,653	2,049,642
40 - 45 MPH	186,811	227,955	500,768	915,534
45 - 50 MPH	158,917	209,405	616,748	985,070
50 - 55 MPH	85,950	121,414	292,255	499,619
55 - 60 MPH	381,485	453,586	1,072,845	1,907,916
60 - 65 MPH	365,717	454,313	925,345	1,745,375
65 - 70 MPH	20	27	73	120
70 - 75 MPH	0	0	0	0
>75 MPH	0	0	0	0
<b>Total</b>	<b>1,857,271</b>	<b>2,374,446</b>	<b>5,164,076</b>	<b>9,395,793</b>

*VMT/day per speed bin*

Speed (mph)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
VMT/day	1788	520348	14114	84349	324556	315303	1998801	892825	960636	487226	1860591	1702082	117	0	0

*Vehicle Class using EMFAC2011 VMT percentages*

	GAS	DSL
LDA	43.53%	0.10%
LDT1	6.25%	0.01%
LDT2	16.43%	0.01%
LHD1	2.91%	1.81%
LHD2	0.28%	0.48%
MCY	0.67%	0.00%
MDV	18.58%	0.01%
MH	0.16%	0.04%
OBUS	0.11%	0.11%
SBUS	0.02%	0.06%
T6	0.22%	1.31%
T7	0.04%	6.68%
UBUS	0.06%	0.14%

	% Includes
GAS Heavy duty	0.6% MH, OBUS, SBUS, T6, T7, UBUS
Light trucks	44.5% MDV, LDT1, LDT2, LHD1, LHD2
Passenger	44.2% LDA, MCY
DSL Heavy duty	8.3% MH, OBUS, SBUS, T6, T7, UBUS
Light trucks	2.3% MDV, LDT1, LDT2, LHD1, LHD2
Passenger	0.1% LDA, MCY
Total	100.0%



EMFAC2011 Emission Rates

Region Type: County

Region: Fresno

Calendar Year: 2010

Season: Annual

Vehicle Classification: EMFAC2007 Categories

EMFAC2011: EMFAC Emission Rates Database. (Enter: region - County: Fresno, year - 2010, season - annual average, vehicle category - EMFAC2007, model year - aggregated, speed - all speeds, fuel - all) Website: <http://www.arb.ca.gov/emfac/>

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	EMFAC2007 Categories											Percent of Total VMT
						ROG_RUN	TOG_RUN	CO_RUNE	NOX_RUN	CO2_RUN	CO2_RUN	PM10_RU	PM2_5_RUNE				
Fresno	2010	LDA	GAS	5	693	0.473719	0.647616	6.013806	0.405805	1118.514	1112.611	0.021139	0.019266	0.003%			
Fresno	2010	LDA	DSL	5	2	0.315158	0.358786	1.985075	1.528535	403.7055	399.4013	0.23886	0.219751	0.000%			
Fresno	2010	LDA	GAS	10	1884	0.316679	0.429584	5.006039	0.349903	835.4951	831.0829	0.013659	0.012432	0.008%			
Fresno	2010	LDA	DSL	10	4	0.278361	0.316896	1.641576	1.386954	388.7439	384.8583	0.210985	0.194106	0.000%			
Fresno	2010	LDA	GAS	15	1788	0.22321	0.300022	4.30175	0.31162	645.4031	641.9937	0.009301	0.008453	0.008%			
Fresno	2010	LDA	DSL	15	4	0.220827	0.251397	1.161926	1.174959	366.2465	362.9904	0.16739	0.153999	0.000%			
Fresno	2010	LDA	GAS	20	464306	0.163687	0.218159	3.690806	0.284757	511.1007	508.403	0.006669	0.006053	2.031%			
Fresno	2010	LDA	DSL	20	1075	0.179136	0.203935	0.860898	1.031712	351.0896	348.2577	0.135793	0.12493	0.005%			
Fresno	2010	LDA	GAS	25	56285	0.127022	0.168005	3.29416	0.264283	424.0742	421.8358	0.005032	0.004562	0.246%			
Fresno	2010	LDA	DSL	25	130	0.148592	0.169162	0.667506	0.937272	341.2432	338.6868	0.112638	0.103627	0.001%			
Fresno	2010	LDA	GAS	30	172555	0.103291	0.135727	2.984569	0.249506	364.9975	363.0709	0.003994	0.003616	0.755%			
Fresno	2010	LDA	DSL	30	399	0.126034	0.143481	0.541432	0.881434	335.4805	333.0853	0.095533	0.087891	0.002%			
Fresno	2010	LDA	GAS	35	672123	0.088076	0.115096	2.749604	0.239272	326.3132	324.5907	0.003333	0.003014	2.940%			
Fresno	2010	LDA	DSL	35	1556	0.109314	0.124447	0.459272	0.857956	333.1208	330.7916	0.082851	0.076223	0.007%			
Fresno	2010	LDA	GAS	40	1261393	0.07875	0.102362	2.563874	0.233866	302.0902	300.4958	0.002923	0.00264	5.518%			
Fresno	2010	LDA	DSL	40	2920	0.09696	0.110382	0.407299	0.864757	333.8938	331.543	0.073475	0.067597	0.013%			
Fresno	2010	LDA	GAS	45	1084869	0.07377	0.0955	2.436194	0.231406	290.7675	289.2328	0.002693	0.002431	4.746%			
Fresno	2010	LDA	DSL	45	2511	0.087959	0.100136	0.377573	0.920213	337.8877	335.4252	0.066639	0.061307	0.011%			
Fresno	2010	LDA	GAS	50	1492167	0.07248	0.0935	2.360946	0.232542	290.464	288.9308	0.002608	0.002352	6.527%			
Fresno	2010	LDA	DSL	50	3454	0.081625	0.092925	0.365865	0.974143	345.5654	342.888	0.061818	0.056873	0.015%			
Fresno	2010	LDA	GAS	55	1064211	0.074719	0.096089	2.344398	0.237338	301.1561	299.5666	0.002654	0.002391	4.655%			
Fresno	2010	LDA	DSL	55	2464	0.077506	0.088235	0.370617	1.089412	357.8557	354.8345	0.058669	0.053976	0.011%			
Fresno	2010	LDA	GAS	60	1286323	0.080702	0.103536	2.393994	0.245793	323.8133	322.1042	0.00284	0.002556	5.627%			
Fresno	2010	LDA	DSL	60	2978	0.075336	0.085765	0.392574	1.261741	376.3426	372.804	0.056986	0.052427	0.013%			
Fresno	2010	LDA	GAS	65	1270026	0.091466	0.117158	2.546217	0.258242	361.8198	359.9101	0.003195	0.002874	5.556%			
Fresno	2010	LDA	DSL	65	2940	0.075008	0.085392	0.434961	1.513477	403.6083	399.3068	0.056681	0.052146	0.013%			
Fresno	2010	LDA	GAS	70	1123104	0.099084	0.126865	2.670764	0.266125	387.8204	385.7734	0.003453	0.003106	4.913%			
Fresno	2010	LDA	DSL	70	2600	0.076579	0.08718	0.504265	1.880701	443.8351	438.408	0.057782	0.05316	0.011%			
Fresno	2010	LDT1	GAS	5	100	1.132501	1.433878	14.99644	1.034119	1283.311	1276.592	0.041061	0.037206	0.000%			
Fresno	2010	LDT1	DSL	5	0	0.438342	0.499024	2.576501	1.724466	396.8267	393.6736	0.371727	0.341989	0.000%			
Fresno	2010	LDT1	GAS	10	271	0.769761	0.970579	12.07732	0.868702	957.843	952.8216	0.027208	0.024624	0.001%			
Fresno	2010	LDT1	DSL	10	0	0.387244	0.440851	2.129046	1.563581	388.0641	385.2177	0.328418	0.302144	0.000%			
Fresno	2010	LDT1	GAS	15	257	0.551191	0.690994	10.10202	0.759172	739.6339	735.7542	0.018948	0.017129	0.001%			
Fresno	2010	LDT1	DSL	15	0	0.30729	0.349829	1.504465	1.322828	374.888	372.5028	0.260634	0.239784	0.000%			
Fresno	2010	LDT1	GAS	20	66689	0.410276	0.512109	8.523036	0.686058	586.3047	583.234	0.013852	0.012507	0.292%			
Fresno	2010	LDT1	DSL	20	65	0.249305	0.283818	1.112731	1.160302	366.0111	363.9366	0.211462	0.194545	0.000%			
Fresno	2010	LDT1	GAS	25	8084	0.321756	0.399696	7.491839	0.632137	486.4452	483.8973	0.010618	0.009577	0.035%			
Fresno	2010	LDT1	DSL	25	8	0.20679	0.235417	0.86128	1.053278	360.2443	358.3716	0.175399	0.161367	0.000%			
Fresno	2010	LDT1	GAS	30	24784	0.263696	0.326235	6.723855	0.595245	418.682	416.489	0.008529	0.007684	1.08%			
Fresno	2010	LDT1	DSL	30	24	0.175366	0.199643	0.697541	0.990106	356.8692	355.1146	0.148736	0.136837	0.000%			
Fresno	2010	LDT1	GAS	35	96538	0.225989	0.27857	6.16914	0.571556	374.2772	372.3165	0.007174	0.006456	0.422%			
Fresno	2010	LDT1	DSL	35	95	0.152049	0.173098	0.591002	0.963678	355.4872	353.781	0.128944	0.118929	0.000%			
Fresno	2010	LDT1	GAS	40	181176	0.2027	0.248909	5.768551	0.561544	346.5539	344.739	0.006317	0.005678	0.793%			
Fresno	2010	LDT1	DSL	40	178	0.134791	0.15345	0.523768	0.971624	355.94	354.2179	0.114287	0.105144	0.001%			
Fresno	2010	LDT1	GAS	45	155822	0.189969	0.232538	5.52474	0.560244	333.5584	331.8114	0.005823	0.005228	0.682%			
Fresno	2010	LDT1	DSL	45	153	0.12218	0.139093	0.485491	1.014163	358.2791	356.4752	0.103565	0.09528	0.001%			
Fresno	2010	LDT1	GAS	50	214323	0.186374	0.227413	5.429547	0.56955	333.2055	331.4604	0.00562	0.005039	0.938%			
Fresno	2010	LDT1	DSL	50	210	0.113249	0.128927	0.470663	1.096346	362.7757	360.8144	0.095957	0.088281	0.001%			
Fresno	2010	LDT1	GAS	55	152854	0.191521	0.232935	5.500717	0.590131	345.4664	343.657	0.00568	0.005087	0.669%			
Fresno	2010	LDT1	DSL	55	150	0.107357	0.122219	0.477257	1.227619	369.9739	367.7606	0.090913	0.08364	0.001%			
Fresno	2010	LDT1	GAS	60	184757	0.205885	0.249678	5.76508	0.622966	371.4858	369.5403	0.006016	0.005381	0.808%			
Fresno	2010	LDT1	DSL	60	181	0.104106	0.118518	0.506249	1.423896	380.8011	378.2089	0.088088	0.081041	0.001%			
Fresno	2010	LDT1	GAS	65	182416	0.231884	0.280458	6.31876	0.670102	415.0622	412.8884	0.006682	0.005969	0.798%			
Fresno	2010	LDT1	DSL	65	179	0.103303	0.117604	0.561849	1.170725	396.7698	393.6186	0.087306	0.080321	0.001%			
Fresno	2010	LDT1	GAS	70	161313	0.250282	0.30238	6.736026	0.700109	444.8773	442.5473	0.00717	0.006401	0.706%			
Fresno	2010	LDT1	DSL	70	158	0.104947	0.119475	0.652523	2.129362	420.3295	416.3538	0.088542	0.081459	0.001%			
Fresno	2010	LDT2	GAS	5	262	0.625814	0.847316	8.195464	0.840548	1532.895	1523.219	0.021911	0.019229	0.001%			
Fresno	2010	LDT2	DSL	5	0	0.378609	0.431021	2.199627	1.78331	393.5546	388.3213	0.305262	0.280841	0.000%			
Fresno	2010	LDT2	GAS	10	711	0.419818	0.564656	6.84675	0.71057	1144.663	1137.432	0.014262	0.012953	0.003%			
Fresno	2010	LDT2	DSL	10	0	0.334455	0.380754	1.818073	1.617082	383.7657	379.0414	0.269684	0.248109	0.000%			
Fresno	2010	LDT2	GAS	15	675	0.296638	0.395639	5.893058	0.621836	884.0941	878.5073	0.009776	0.008867	0.003%			
Fresno	2010	LDT2	DSL	15	0	0.265379	0.302117	1.285418	1.368315	369.0464	365.0875	0.21401	0.196889	0.000%			
Fresno	2010	LDT2	GAS	20	175232	0.217725	0.288384	5.066147	0.559712	700.4028	695.9809	0.00705	0.006386	0.767%			
Fresno	2010	LDT2	DSL	20	67	0.215296	0.245101	0.951268	1.20036	359.1298	355.6866	0.17363	0.159739	0.000%			
Fresno	2010	LDT2	GAS	25	21242	0.169027	0.222387	4.520616	0.512587	581.1299	577.4609	0.005344	0.004835	0.093%			
Fresno	2010	LDT2	DSL	25	8	0.178582	0.203304	0.736721	1.089745	352.6877	349.5794	0.144019	0.132498	0.000%			
Fresno	2010	LDT2	GAS	30	65123	0.137368	0.179711	4.092945	0.478578	500.1753	497.0174	0.004257	0.003846	0.285%			
Fresno	2010	LDT2	DSL	30	25	0.151452	0.172418	0.596961	1.02444	348.9173	346.0051	0.122131	0.112361	0.000%			
Fresno	2010	LDT2	GAS	35	253663	0.116954	0.152273	3.766244	0.454958	447.1494	444.326	0.00356	0.003213	1.110%			
Fresno	2010	LDT2	DSL	35	98	0.131328	0.149508	0.505978	0.997102	347.3734	344.5415	0.105888	0.097417	0.000%			
Fresno	2010	LDT2	GAS	40	476057	0.10429	0.135153	3.506925	0.442049	413.9853	411.3718	0.003125	0.002817	2.082%			
Fresno	2010	LDT2	DSL	40	183	0.116439	0.132558	0.448517	1.005285	347.8792	345.021	0.093862	0.086353	0.001%			
Fresno	2010	LDT2	GAS	45													



Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUN (gms/mile)	TOG_RUN (gms/mile)	CO_RUNE (gms/mile)	NOX_RUN (gms/mile)	CO2_RUN (gms/mile)	CO2_RUN (gms/mile)	PM10_RU (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2010	LDT2	DSL	55	155	0.092834	0.105685	0.408502	1.269691	363.5566	359.8832	0.074725	0.068747	0.001%
Fresno	2010	LDT2	GAS	60	485466	0.104955	0.134403	3.226357	0.468381	443.7603	440.9588	0.003014	0.002706	2.124%
Fresno	2010	LDT2	DSL	60	187	0.090082	0.102552	0.433116	1.47243	375.652	371.3496	0.07244	0.066645	0.001%
Fresno	2010	LDT2	GAS	65	479315	0.118267	0.151199	3.403768	0.497881	495.8329	492.7026	0.003376	0.003028	2.097%
Fresno	2010	LDT2	DSL	65	185	0.089471	0.101857	0.48042	1.768687	393.491	388.261	0.07185	0.066102	0.001%
Fresno	2010	LDT2	GAS	70	423866	0.127738	0.163233	3.552543	0.516944	531.4582	528.1029	0.00364	0.003264	1.854%
Fresno	2010	LDT2	DSL	70	163	0.091021	0.103621	0.557629	2.201057	419.8101	413.2115	0.072947	0.067111	0.001%
Fresno	2010	LHD1	GAS	5	18900	1.119728	1.263346	13.6886	0.600971	2513.497	2513.497	0.014039	0.012886	0.083%
Fresno	2010	LHD1	DSL	5	7256	0.552168	0.628607	3.41806	7.945278	526.8559	526.8559	0.131846	0.121298	0.032%
Fresno	2010	LHD1	GAS	10	49284	0.902304	1.017217	11.08009	0.615281	2036.128	2036.128	0.011305	0.010377	0.216%
Fresno	2010	LHD1	DSL	10	24129	0.487896	0.555438	8.222183	7.202077	526.8559	526.8559	0.116499	0.010719	0.106%
Fresno	2010	LHD1	GAS	15	112226	0.604898	0.68185	7.592763	0.644295	1392.43	1392.43	0.007563	0.006942	0.491%
Fresno	2010	LHD1	DSL	15	52256	0.387263	0.440873	1.990748	6.088929	526.8559	526.8559	0.09247	0.085072	0.229%
Fresno	2010	LHD1	GAS	20	129676	0.42025	0.474505	5.476568	0.677707	1006.069	1006.069	0.005274	0.004841	0.567%
Fresno	2010	LHD1	DSL	20	57290	0.314223	0.357722	1.46963	5.32527	526.8559	526.8559	0.07503	0.069027	0.251%
Fresno	2010	LHD1	GAS	25	99891	0.302385	0.342938	4.163959	0.716141	768.0121	768.0121	0.003833	0.003519	0.437%
Fresno	2010	LHD1	DSL	25	61315	0.26063	0.29671	1.135429	4.84246	526.8559	526.8559	0.062233	0.057254	0.268%
Fresno	2010	LHD1	GAS	30	88336	0.229343	0.25983	3.357139	0.74613	619.4336	619.4336	0.002905	0.002666	0.386%
Fresno	2010	LHD1	DSL	30	51758	0.220987	0.251579	0.918063	4.543455	526.8559	526.8559	0.052767	0.048546	0.226%
Fresno	2010	LHD1	GAS	35	33008	0.1783	0.203428	2.844356	0.791531	527.8465	527.8465	0.002294	0.002106	0.144%
Fresno	2010	LHD1	DSL	35	27315	0.191541	0.218057	0.776864	4.438616	526.8559	526.8559	0.045736	0.042077	0.119%
Fresno	2010	LHD1	GAS	40	9743	0.142593	0.166274	2.549789	0.841004	475.2332	475.2332	0.001888	0.001733	0.043%
Fresno	2010	LHD1	DSL	40	14995	0.169712	0.193206	0.687984	4.488619	526.8558	526.8558	0.040524	0.037282	0.066%
Fresno	2010	LHD1	GAS	45	11995	0.123574	0.143688	2.434486	0.800013	452.0558	452.0558	0.001621	0.001488	0.052%
Fresno	2010	LHD1	DSL	45	16184	0.153715	0.174995	0.637635	4.681519	526.8559	526.8559	0.036704	0.033768	0.071%
Fresno	2010	LHD1	GAS	50	88567	0.114086	0.130291	2.472159	0.865886	454.3217	454.3217	0.00145	0.001131	0.387%
Fresno	2010	LHD1	DSL	50	62493	0.142324	0.162026	0.61848	5.059813	526.8559	526.8559	0.003984	0.003265	0.273%
Fresno	2010	LHD1	GAS	55	24360	0.102022	0.118976	2.588025	0.937637	482.4155	482.4155	0.001352	0.001241	0.107%
Fresno	2010	LHD1	DSL	55	37634	0.134707	0.153355	0.627828	5.697898	526.8559	526.8559	0.032165	0.029592	0.165%
Fresno	2010	LHD2	GAS	5	1847	1.250143	1.402799	18.51986	0.601436	2513.497	2513.497	0.016448	0.01456	0.008%
Fresno	2010	LHD2	DSL	5	1945	0.538806	0.613394	3.316497	7.814862	527.2187	527.2187	0.129228	0.11889	0.009%
Fresno	2010	LHD2	GAS	10	4817	1.006476	1.128566	14.95135	0.615761	2036.128	2036.128	0.013246	0.011725	0.021%
Fresno	2010	LHD2	DSL	10	6469	0.476089	0.541996	2.738325	7.08386	527.2186	527.2186	0.114186	0.10501	0.028%
Fresno	2010	LHD2	GAS	15	10969	0.673621	0.75532	10.24834	0.644792	1392.43	1392.43	0.008861	0.007844	0.048%
Fresno	2010	LHD2	DSL	15	14011	0.377891	0.430203	1.931596	5.988984	527.2186	527.2186	0.090634	0.083383	0.061%
Fresno	2010	LHD2	GAS	20	12675	0.469182	0.526852	7.403805	0.677596	1006.069	1006.069	0.006179	0.00547	0.055%
Fresno	2010	LHD2	DSL	20	15360	0.306619	0.349065	1.425962	5.237859	527.2186	527.2186	0.07354	0.067657	0.067%
Fresno	2010	LHD2	GAS	25	9764	0.340323	0.38358	5.670006	0.716704	768.0121	768.0121	0.004491	0.003976	0.043%
Fresno	2010	LHD2	DSL	25	16439	0.254323	0.28953	1.101691	4.762974	527.2186	527.2186	0.060997	0.056118	0.072%
Fresno	2010	LHD2	GAS	30	8634	0.257948	0.290459	4.56418	0.746719	619.4336	619.4336	0.003403	0.003012	0.038%
Fresno	2010	LHD2	DSL	30	13877	0.215639	0.24549	0.890784	4.468878	527.2187	527.2187	0.051719	0.047582	0.061%
Fresno	2010	LHD2	GAS	35	3226	0.203126	0.23006	3.914444	0.792165	527.8465	527.8465	0.002688	0.002379	0.014%
Fresno	2010	LHD2	DSL	35	7323	0.186906	0.21278	0.753781	4.365759	527.2186	527.2186	0.044828	0.041242	0.032%
Fresno	2010	LHD2	GAS	40	952	0.164911	0.19041	3.565722	0.841677	475.2331	475.2331	0.002213	0.001959	0.004%
Fresno	2010	LHD2	DSL	40	4020	0.165605	0.18853	0.667542	4.414942	527.2187	527.2187	0.039719	0.036542	0.018%
Fresno	2010	LHD2	GAS	45	1172	0.141366	0.162946	3.364621	0.8607	452.0558	452.0558	0.001899	0.001681	0.005%
Fresno	2010	LHD2	DSL	45	4339	0.149995	0.17076	0.618688	4.604675	527.2187	527.2187	0.035975	0.033097	0.019%
Fresno	2010	LHD2	GAS	50	8657	0.127904	0.145165	3.36128	0.866553	454.3218	454.3218	0.001698	0.001503	0.038%
Fresno	2010	LHD2	DSL	50	16755	0.138879	0.158105	0.600103	4.97676	527.2186	527.2186	0.033309	0.030644	0.073%
Fresno	2010	LHD2	GAS	55	2381	0.11803	0.136287	3.620512	0.938387	482.4155	482.4155	0.001584	0.001402	0.010%
Fresno	2010	LHD2	DSL	55	10090	0.131447	0.149644	0.609172	5.60437	527.2186	527.2186	0.031527	0.029004	0.044%
Fresno	2010	MCY	GAS	5	11	5.263854	5.712044	36.81104	1.129801	240.289	240.289	0.002723	0.002134	0.000%
Fresno	2010	MCY	GAS	10	29	4.566911	4.955851	32.86126	1.121677	220.4904	220.4904	0.002401	0.00188	0.000%
Fresno	2010	MCY	GAS	15	27	3.633634	3.942838	27.85817	1.133846	188.6723	188.6723	0.001931	0.001511	0.000%
Fresno	2010	MCY	GAS	20	7097	3.060907	3.319227	24.82211	1.166894	164.9112	164.9112	0.001627	0.001272	0.031%
Fresno	2010	MCY	GAS	25	860	2.684545	2.910724	23.17442	1.194965	147.2241	147.2241	0.001435	0.001122	0.004%
Fresno	2010	MCY	GAS	30	2638	2.466921	2.67436	22.6587	1.22769	134.2695	134.2695	0.001325	0.001035	0.012%
Fresno	2010	MCY	GAS	35	10274	2.372595	2.571838	23.21786	1.262942	125.1564	125.1564	0.001281	0.001001	0.045%
Fresno	2010	MCY	GAS	40	19281	2.398824	2.599877	25.06835	1.306405	119.3292	119.3292	0.001297	0.001013	0.084%
Fresno	2010	MCY	GAS	45	16583	2.533457	2.745555	28.37718	1.349635	116.5065	116.5065	0.001374	0.001073	0.073%
Fresno	2010	MCY	GAS	50	22809	2.804623	3.039267	33.86364	1.397014	116.6596	116.6596	0.001524	0.00119	0.100%
Fresno	2010	MCY	GAS	55	16267	3.255004	3.527297	42.66525	1.448951	120.0332	120.0332	0.00177	0.001382	0.071%
Fresno	2010	MCY	GAS	60	19662	3.95891	4.289933	56.68928	1.505917	127.2131	127.2131	0.002152	0.001679	0.086%
Fresno	2010	MCY	GAS	65	19413	5.038854	5.460437	79.46613	1.565646	139.2657	139.2657	0.002738	0.002137	0.085%
Fresno	2010	MCY	GAS	70	17167	6.717132	7.279423	117.4443	1.630763	157.991	157.991	0.003647	0.002847	0.075%
Fresno	2010	MDV	GAS	5	296	0.642465	0.924443	8.303255	1.015716	1926.063	1919.588	0.018679	0.017136	0.001%
Fresno	2010	MDV	DSL	5	0	0.187108	0.21301	1.214961	0.887598	452.6251	448.2801	0.156747	0.144207	0.000%
Fresno	2010	MDV	GAS	10	804	0.426771	0.609586	7.004279	0.854856	1438.318	1433.48	0.012099	0.01109	0.004%
Fresno	2010	MDV	DSL	10	1	0.16508	0.187933	1.008852	0.809562	422.1461	418.2237	0.138344	0.127276	0.000%
Fresno	2010	MDV	GAS	15	763	0.298403	0.422291	6.072969	0.744834	1110.926	1107.187	0.008255	0.007561	0.003%
Fresno	2010	MDV	DSL	15	1	0.130766	0.148868	0.720464	0.692183	376.3157	373.0287	0.10964	0.100868	0.000%
Fresno	2010	MDV	GAS	20	198189	0.215173	0.30332	5.242805	0.667343	880.0553	877.0964	0.005928	0.005425	0.867%
Fresno	2010	MDV	DSL	20	152	0.10601	0.120686	0.538825	0.612322	345.4391	342.5803	0.088902	0.08179	0.001%
Fresno	2010	MDV	GAS	25	24025	0.165369	0.231485	4.696372	0.608696	730.1915	727.7363	0.004477	0.004094	0.105%
Fresno	2010	MDV	DSL	25	18									

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUN (gms/mile)	TOG_RUN (gms/mile)	CO_RUNE (gms/mile)	NOX_RUN (gms/mile)	CO2_RUN (gms/mile)	CO2_RUN (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2010	MDV	GAS	50	636932	0.089666	0.123034	3.32791	0.514233	500.1459	498.4643	0.002304	0.002099	2.786%
Fresno	2010	MDV	DSL	50	488	0.049097	0.055893	0.234683	0.575306	334.1854	331.4827	0.040956	0.03768	0.002%
Fresno	2010	MDV	GAS	55	454258	0.091526	0.125289	3.273209	0.526864	518.5542	516.8107	0.002337	0.002128	1.987%
Fresno	2010	MDV	DSL	55	348	0.047021	0.05353	0.236502	0.637796	359.2226	356.1727	0.039116	0.035987	0.002%
Fresno	2010	MDV	GAS	60	549067	0.097858	0.133784	3.29931	0.550423	557.582	555.7074	0.00249	0.002266	2.402%
Fresno	2010	MDV	DSL	60	421	0.046261	0.052665	0.248679	0.731145	396.883	393.3109	0.038335	0.035269	0.002%
Fresno	2010	MDV	GAS	65	542110	0.109959	0.150185	3.449953	0.586494	623.0131	620.9184	0.002789	0.002537	2.371%
Fresno	2010	MDV	DSL	65	415	0.046856	0.053342	0.273125	0.867109	452.427	448.0847	0.038618	0.035529	0.002%
Fresno	2010	MDV	GAS	70	479397	0.118637	0.162044	3.582735	0.609929	667.7772	665.5319	0.003008	0.002736	2.097%
Fresno	2010	MDV	DSL	70	367	0.049018	0.055804	0.313699	1.064652	534.3749	528.8963	0.040093	0.036886	0.002%
Fresno	2010	MH	GAS	5	307	2.949594	3.338667	65.82074	1.376379	2513.497	2513.497	0.030638	0.026809	0.001%
Fresno	2010	MH	DSL	5	67	1.901179	2.164366	2.744605	2.157166	2376.968	2376.968	0.076269	0.695767	0.000%
Fresno	2010	MH	GAS	10	1543	2.377957	2.689007	53.31679	1.412517	2036.128	2036.128	0.024672	0.021589	0.007%
Fresno	2010	MH	DSL	10	334	1.451301	1.652209	2.327127	1.799075	2158.294	2158.294	0.633612	0.582923	0.001%
Fresno	2010	MH	GAS	15	1949	1.589054	1.794653	36.4459	1.471076	1392.43	1392.43	0.016505	0.014442	0.009%
Fresno	2010	MH	DSL	15	451	0.762592	0.86816	1.649441	12.66363	1772.14	1772.14	0.433957	0.399241	0.002%
Fresno	2010	MH	GAS	20	2021	1.106966	1.251766	26.34747	1.540277	1006.069	1006.069	0.01151	0.010071	0.009%
Fresno	2010	MH	DSL	20	479	0.355281	0.404464	1.18145	9.824493	1454.246	1454.246	0.295182	0.271568	0.002%
Fresno	2010	MH	GAS	25	2252	0.804585	0.909782	20.12336	1.608152	768.0122	768.0122	0.008366	0.00732	0.010%
Fresno	2010	MH	DSL	25	499	0.254258	0.289456	0.969675	9.064951	1304.378	1304.378	0.239469	0.220311	0.002%
Fresno	2010	MH	GAS	30	2547	0.610504	0.689745	16.21265	1.683413	619.4336	619.4336	0.006339	0.005547	0.011%
Fresno	2010	MH	DSL	30	599	0.208877	0.237792	0.83348	8.644159	1224.352	1224.352	0.208593	0.191905	0.003%
Fresno	2010	MH	GAS	35	3165	0.482031	0.545509	13.83442	1.758306	527.8466	527.8466	0.005006	0.004381	0.014%
Fresno	2010	MH	DSL	35	707	0.173161	0.197132	0.721233	8.320145	1157.94	1157.94	0.188211	0.173154	0.003%
Fresno	2010	MH	GAS	40	3940	0.396206	0.449888	12.48758	1.833245	475.2332	475.2332	0.004121	0.003606	0.017%
Fresno	2010	MH	DSL	40	877	0.147111	0.167476	0.632935	8.089561	1105.143	1105.143	0.178322	0.164056	0.004%
Fresno	2010	MH	GAS	45	3593	0.340606	0.385273	11.85505	1.895005	452.0559	452.0559	0.002867	0.003095	0.016%
Fresno	2010	MH	DSL	45	718	0.130726	0.148823	0.568585	7.937673	1065.96	1065.96	0.178927	0.164613	0.003%
Fresno	2010	MH	GAS	50	3497	0.304482	0.345951	11.92599	1.987504	454.3218	454.3218	0.003163	0.002768	0.015%
Fresno	2010	MH	DSL	50	804	0.124008	0.141175	0.528183	7.897996	1040.392	1040.392	0.190026	0.174824	0.004%
Fresno	2010	MH	GAS	55	4573	0.280527	0.323846	12.70202	2.072001	482.4155	482.4155	0.00295	0.002581	0.020%
Fresno	2010	MH	DSL	55	1178	0.126956	0.144531	0.51173	7.952515	1028.437	1028.437	0.211618	0.194689	0.005%
Fresno	2010	MH	GAS	60	5278	0.268924	0.314705	14.23283	2.136231	541.2092	541.2092	0.002867	0.002581	0.023%
Fresno	2010	MH	DSL	60	1416	0.139569	0.158891	0.519225	8.089416	1030.098	1030.098	0.243704	0.224208	0.006%
Fresno	2010	MH	GAS	65	825	0.273433	0.316851	16.80001	2.17341	641.4979	641.4979	0.002904	0.002541	0.004%
Fresno	2010	MH	DSL	65	223	0.161849	0.184254	0.550668	8.294609	1045.372	1045.372	0.262824	0.263381	0.001%
Fresno	2010	OBUS	GAS	5	211	1.869584	2.176377	25.82501	1.645658	2513.497	2513.497	0.008655	0.007888	0.001%
Fresno	2010	OBUS	DSL	5	143	7.119099	8.104552	10.18423	33.62749	3052.646	3052.646	1.807118	1.662549	0.001%
Fresno	2010	OBUS	GAS	10	1062	1.507141	1.751703	20.91309	1.688657	2036.129	2036.129	0.00697	0.00635	0.005%
Fresno	2010	OBUS	DSL	10	660	4.152014	4.726752	7.140153	23.0103	2459.322	2459.322	1.263264	1.162203	0.003%
Fresno	2010	OBUS	GAS	15	1342	1.013503	1.174963	14.33739	1.760348	1392.43	1392.43	0.004663	0.004249	0.006%
Fresno	2010	OBUS	DSL	15	869	2.163774	2.463293	5.044173	16.17782	2001.778	2001.778	0.862523	0.793521	0.004%
Fresno	2010	OBUS	GAS	20	1392	0.705566	0.819598	10.36151	1.843222	1006.069	1006.069	0.003251	0.002963	0.006%
Fresno	2010	OBUS	DSL	20	1157	0.936872	1.066557	3.847899	13.07014	1695.254	1695.254	0.569785	0.524203	0.005%
Fresno	2010	OBUS	GAS	25	1551	0.513149	0.595993	7.913537	1.924709	768.0123	768.0123	0.002363	0.002154	0.007%
Fresno	2010	OBUS	DSL	25	1201	0.765988	0.872019	3.279866	12.3216	1580.117	1580.117	0.484046	0.445322	0.005%
Fresno	2010	OBUS	GAS	30	1754	0.388559	0.450807	6.372238	2.013757	619.4336	619.4336	0.001791	0.001632	0.008%
Fresno	2010	OBUS	DSL	30	1673	0.644586	0.733812	2.939425	12.12568	1537.773	1537.773	0.422241	0.388462	0.007%
Fresno	2010	OBUS	GAS	35	2179	0.3058	0.355799	5.426915	2.102646	527.8466	527.8466	0.001414	0.001289	0.010%
Fresno	2010	OBUS	DSL	35	2467	0.548879	0.624857	2.67186	12.14565	1519.451	1519.451	0.380588	0.350141	0.011%
Fresno	2010	OBUS	GAS	40	2713	0.250289	0.292885	4.885712	2.191758	475.2333	475.2333	0.001164	0.001061	0.012%
Fresno	2010	OBUS	DSL	40	2636	0.455942	0.519055	2.240561	11.46306	1410.01	1410.01	0.357156	0.328583	0.012%
Fresno	2010	OBUS	GAS	45	2474	0.216349	0.251498	4.650894	2.266582	452.0559	452.0559	0.000999	0.000911	0.011%
Fresno	2010	OBUS	DSL	45	2945	0.421451	0.479789	2.138087	11.85456	1434.262	1434.262	0.359987	0.331188	0.013%
Fresno	2010	OBUS	GAS	50	2408	0.191241	0.224166	4.657175	2.37389	454.3218	454.3218	0.000894	0.000814	0.011%
Fresno	2010	OBUS	DSL	50	3146	0.403427	0.459271	1.956748	11.68815	1390.378	1390.378	0.382954	0.352318	0.014%
Fresno	2010	OBUS	GAS	55	3149	0.173559	0.209109	4.939507	2.473261	482.4155	482.4155	0.000833	0.000759	0.014%
Fresno	2010	OBUS	DSL	55	4126	0.416414	0.474056	1.8471	11.532	1350.209	1350.209	0.426975	0.392817	0.018%
Fresno	2010	OBUS	GAS	60	3634	0.165493	0.203865	5.546108	2.55094	541.2092	541.2092	0.00081	0.000738	0.016%
Fresno	2010	OBUS	DSL	60	2801	0.41531	0.472799	1.542664	10.16756	1175.028	1175.028	0.471458	0.433741	0.012%
Fresno	2010	OBUS	GAS	65	568	0.171334	0.207267	6.598753	2.599766	641.498	641.498	0.00082	0.000748	0.002%
Fresno	2010	OBUS	DSL	65	727	0.547712	0.623528	1.965608	11.89305	1355.226	1355.226	0.582307	0.535722	0.003%
Fresno	2010	SBUS	GAS	5	52	14.22309	15.32779	215.1643	2.774119	2513.497	2513.497	0.077647	0.064354	0.000%
Fresno	2010	SBUS	DSL	5	140	6.124599	6.97239	7.194972	31.58025	2638.698	2638.698	1.985671	1.826818	0.001%
Fresno	2010	SBUS	GAS	10	182	11.43754	12.32357	173.8789	2.830782	2036.128	2036.128	0.062528	0.051823	0.001%
Fresno	2010	SBUS	DSL	10	490	3.790703	4.315426	5.620014	21.97648	2179.77	2179.77	1.406593	1.294065	0.002%
Fresno	2010	SBUS	GAS	15	363	7.651493	8.244232	118.9091	2.970731	1392.43	1392.43	0.04183	0.034669	0.002%
Fresno	2010	SBUS	DSL	15	979	2.080442	2.368425	4.339335	15.50096	1789.78	1789.78	0.962744	0.885725	0.004%
Fresno	2010	SBUS	GAS	20	493	5.334808	5.747967	85.89319	3.109103	1006.068	1006.068	0.029169	0.024175	0.002%
Fresno	2010	SBUS	DSL	20	1329	0.851198	0.969024	3.264842	11.89138	1411.959	1411.959	0.621884	0.572133	0.006%
Fresno	2010	SBUS	GAS	25	779	3.878677	4.179199	65.59636	3.251671	768.0121	768.0121	0.021202	0.017573	0.003%
Fresno	2010	SBUS	DSL	25	2098	0.706817	0.804657	2.770772	11.35059	1317.389	1317.389	0.529347	0.486997	0.009%
Fresno	2010	SBUS	GAS	30	934	2.93942	3.167261	52.92608	3.394206	619.4336	619.4336	0.016064	0.013314	0.004%
Fresno	2010	SBUS	DSL	30	2518	0.588101	0.669508	2.343178	10.101574	1236.569	1236.569	0.455382	0.418952	0.011%
Fresno	2010	SBUS	GAS	35	959	2.324651	2.505293	45.20621	3.550775	527.				

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUN (gms/mile)	TOG_RUN (gms/mile)	CO_RUNE (gms/mile)	NOX_RUN (gms/mile)	CO2_RUN (gms/mile)	CO2_RUN (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2010	SBUS	DSL	55	624	0.379507	0.43204	1.202357	10.33063	1038.71	1038.71	0.364151	0.335019	0.003%
Fresno	2010	SBUS	GAS	60	129	1.33873	1.443843	46.80278	4.336967	541.2091	541.2091	0.007265	0.006022	0.001%
Fresno	2010	SBUS	DSL	60	347	0.414786	0.472202	1.173623	10.53143	1040.386	1040.386	0.401623	0.369493	0.002%
Fresno	2010	T6	GAS	5	427	4.886914	5.431472	72.33104	2.311706	2513.497	2513.497	0.029133	0.025279	0.002%
Fresno	2010	T6	DSL	5	2401	4.991503	5.682447	6.629171	26.86086	2610.342	2610.342	1.395743	1.284083	0.011%
Fresno	2010	T6	GAS	10	2146	3.938927	4.373519	58.5946	2.372206	2036.128	2036.128	0.023461	0.020356	0.009%
Fresno	2010	T6	DSL	10	11950	2.979432	3.391856	4.836761	18.7068	2156.347	2156.347	0.976438	0.898323	0.052%
Fresno	2010	T6	GAS	15	2711	2.637487	2.924598	40.03148	2.472126	1392.43	1392.43	0.015695	0.013618	0.012%
Fresno	2010	T6	DSL	15	16128	1.5546	1.769794	3.451914	13.14548	1770.547	1770.547	0.656131	0.603641	0.071%
Fresno	2010	T6	GAS	20	2812	1.837457	2.039901	28.93853	2.588477	1006.068	1006.068	0.010944	0.009496	0.012%
Fresno	2010	T6	DSL	20	17104	0.628745	0.715778	2.36456	9.921869	1396.786	1396.786	0.411976	0.379018	0.075%
Fresno	2010	T6	GAS	25	3134	1.335822	1.482893	22.10035	2.702786	768.0121	768.0121	0.007955	0.006903	0.014%
Fresno	2010	T6	DSL	25	17813	0.513237	0.584282	2.015239	9.396474	1303.232	1303.232	0.34674	0.319001	0.078%
Fresno	2010	T6	GAS	30	3543	1.0126	1.123275	17.81123	2.828319	619.4337	619.4337	0.006027	0.00523	0.015%
Fresno	2010	T6	DSL	30	21419	0.418796	0.476767	1.717693	8.965749	1223.281	1223.281	0.073777	0.073587	0.094%
Fresno	2010	T6	GAS	35	4403	0.798902	0.887638	15.20095	2.953488	527.8466	527.8466	0.00476	0.00413	0.019%
Fresno	2010	T6	DSL	35	25256	0.34542	0.393234	1.471921	8.629694	1156.931	1156.931	0.263886	0.242775	0.110%
Fresno	2010	T6	GAS	40	5482	0.656127	0.731473	13.72216	3.078888	475.2332	475.2332	0.003919	0.0034	0.024%
Fresno	2010	T6	DSL	40	31351	0.293109	0.333683	1.277924	8.388308	1104.182	1104.182	0.246267	0.226565	0.137%
Fresno	2010	T6	GAS	45	4999	0.564706	0.627112	13.02432	3.183541	452.0558	452.0558	0.003363	0.002918	0.022%
Fresno	2010	T6	DSL	45	25673	0.261865	0.298113	1.135701	8.241593	1065.036	1065.036	0.24452	0.224958	0.112%
Fresno	2010	T6	GAS	50	4865	0.503212	0.561472	13.11296	3.335821	454.3218	454.3218	0.003008	0.00261	0.021%
Fresno	2010	T6	DSL	50	28732	0.251686	0.286525	1.045253	8.189547	1039.491	1039.491	0.258645	0.237954	0.126%
Fresno	2010	T6	GAS	55	6363	0.462749	0.524744	13.97076	3.476178	482.4155	482.4155	0.002805	0.002484	0.028%
Fresno	2010	T6	DSL	55	42104	0.262572	0.298918	1.006579	8.232171	1027.548	1027.548	0.288643	0.265552	0.184%
Fresno	2010	T6	GAS	60	7343	0.44416	0.510431	15.65118	3.584885	541.2093	541.2093	0.002726	0.002365	0.032%
Fresno	2010	T6	DSL	60	50595	0.294524	0.335293	1.01968	8.369465	1029.206	1029.206	0.334513	0.307752	0.221%
Fresno	2010	T6	GAS	65	1147	0.453541	0.515933	18.45706	3.651432	641.4979	641.4979	0.002762	0.002396	0.005%
Fresno	2010	T6	DSL	65	7962	0.347542	0.39565	1.084555	8.601429	1044.466	1044.466	0.396255	0.364555	0.035%
Fresno	2010	T7	GAS	5	30	10.10109	11.18483	213.8881	5.341404	2513.497	2513.497	0.012688	0.010423	0.000%
Fresno	2010	T7	DSL	5	5509	8.671375	9.8717	14.73977	39.69063	4023.995	4023.995	1.613592	1.484505	0.024%
Fresno	2010	T7	GAS	10	149	8.139534	8.994206	172.6754	5.443564	2036.128	2036.128	0.010218	0.008394	0.001%
Fresno	2010	T7	DSL	10	21043	5.112951	5.820706	10.30398	28.20319	3324.135	3324.135	1.163183	1.071028	0.092%
Fresno	2010	T7	GAS	15	163	5.438447	6.018095	118.1861	5.703023	1392.43	1392.43	0.006836	0.005615	0.001%
Fresno	2010	T7	DSL	15	25736	2.62686	2.99048	6.999065	20.19142	2729.403	2729.403	0.816468	0.75115	0.113%
Fresno	2010	T7	GAS	20	278	3.795965	4.200693	85.58074	6.010552	1006.069	1006.069	0.004767	0.003916	0.001%
Fresno	2010	T7	DSL	20	63851	1.049299	1.194547	4.505185	15.20597	2152.426	2152.426	0.544112	0.500583	0.279%
Fresno	2010	T7	GAS	25	363	2.755666	3.051671	65.24409	6.25278	768.0121	768.0121	0.003465	0.002846	0.002%
Fresno	2010	T7	DSL	25	58129	0.88807	1.011	3.964165	14.19851	2009.009	2009.009	0.474968	0.436971	0.254%
Fresno	2010	T7	GAS	30	662	2.089525	2.311487	52.61572	6.506866	619.4336	619.4336	0.002625	0.002156	0.003%
Fresno	2010	T7	DSL	30	98137	0.733771	0.835342	3.457725	13.33725	1885.759	1885.759	0.422913	0.38908	0.429%
Fresno	2010	T7	GAS	35	1178	1.649041	1.825511	44.85696	6.761536	527.8465	527.8465	0.002073	0.001703	0.005%
Fresno	2010	T7	DSL	35	176552	0.611535	0.696186	3.047774	12.64679	1783.476	1783.476	0.392208	0.360832	0.772%
Fresno	2010	T7	GAS	40	1026	1.356378	1.502895	40.36036	7.035071	475.2332	475.2332	0.001707	0.001402	0.004%
Fresno	2010	T7	DSL	40	166614	0.521362	0.593531	2.73431	12.12712	1702.162	1702.162	0.382854	0.352225	0.729%
Fresno	2010	T7	GAS	45	1086	1.163981	1.291228	38.4999	7.349101	452.0559	452.0559	0.001465	0.001203	0.005%
Fresno	2010	T7	DSL	45	23270	0.463252	0.527377	2.517335	11.77824	1641.815	1641.815	0.394849	0.363261	1.020%
Fresno	2010	T7	GAS	50	1136	1.038757	1.154695	38.63434	7.611029	454.3217	454.3217	0.00131	0.001076	0.005%
Fresno	2010	T7	DSL	50	242595	0.437206	0.497725	2.396849	11.60016	1602.436	1602.436	0.428196	0.39394	1.061%
Fresno	2010	T7	GAS	55	1668	0.968466	1.075906	40.99081	7.832789	482.4156	482.4156	0.001222	0.001003	0.007%
Fresno	2010	T7	DSL	55	295829	0.443222	0.504575	2.372851	11.59286	1584.025	1584.025	0.482892	0.444261	1.294%
Fresno	2010	T7	GAS	60	412	0.937286	1.046957	46.05582	8.148454	541.2092	541.2092	0.001187	0.000975	0.002%
Fresno	2010	T7	DSL	60	90120	0.481302	0.547925	2.445342	11.75636	1586.582	1586.582	0.558939	0.514224	0.394%
Fresno	2010	T7	GAS	65	221	0.952648	1.060445	54.55183	8.44676	641.4979	641.4979	0.001203	0.000988	0.001%
Fresno	2010	T7	DSL	65	49361	0.551444	0.627777	2.61432	12.09064	1610.106	1610.106	0.656336	0.603829	0.216%
Fresno	2010	UBUS	GAS	5	127	3.949649	4.31115	41.84211	2.72709	2513.497	2513.497	0.00661	0.005768	0.001%
Fresno	2010	UBUS	DSL	5	314	1.707368	1.943725	10.86901	29.60937	2569.782	2569.782	0.79796	0.734123	0.001%
Fresno	2010	UBUS	GAS	10	457	3.180581	3.471692	33.89537	2.796209	2036.128	2036.128	0.005323	0.004645	0.002%
Fresno	2010	UBUS	DSL	10	1126	1.447848	1.648278	8.558417	25.73471	2569.782	2569.782	0.67667	0.622536	0.005%
Fresno	2010	UBUS	GAS	15	914	2.127748	2.322495	23.17973	2.934449	1392.43	1392.43	0.003561	0.003107	0.004%
Fresno	2010	UBUS	DSL	15	2253	1.068844	1.216808	5.550651	20.183	2569.782	2569.782	0.499538	0.459575	0.010%
Fresno	2010	UBUS	GAS	20	1206	1.483737	1.61954	16.74799	3.072689	1006.069	1006.069	0.002483	0.002167	0.005%
Fresno	2010	UBUS	DSL	20	2973	0.817159	0.930281	3.82254	16.64052	2569.781	2569.781	0.381909	0.351357	0.013%
Fresno	2010	UBUS	GAS	25	1816	1.078492	1.177204	12.78507	3.210928	768.0121	768.0121	0.001805	0.001575	0.008%
Fresno	2010	UBUS	DSL	25	4478	0.646992	0.736557	2.795233	14.42324	2569.782	2569.782	0.30238	0.278189	0.020%
Fresno	2010	UBUS	GAS	30	2273	0.817147	0.891939	10.31169	3.439168	619.4337	619.4337	0.001368	0.001193	0.010%
Fresno	2010	UBUS	DSL	30	5604	0.530507	0.603947	2.170408	13.14236	2569.782	2569.782	0.247939	0.228104	0.025%
Fresno	2010	UBUS	GAS	35	2228	0.645367	0.704436	8.787046	3.487408	527.8465	527.8465	0.00108	0.000942	0.010%
Fresno	2010	UBUS	DSL	35	5492	0.450489	0.512852	1.789463	12.58922	2569.782	2569.782	0.210542	0.193698	0.024%
Fresno	2010	UBUS	GAS	40	1606	0.531296	0.579924	7.911193	3.625648	475.2331	475.2331	0.000889	0.000776	0.007%
Fresno	2010	UBUS	DSL	40	3959	0.396166	0.451009	1.566612	12.67765	2569.782	2569.782	0.185153	0.170341	0.017%
Fresno	2010	UBUS	GAS	45	700	0.455921	0.49765	7.52536	3.763886	452.0558	452.0558	0.000763	0.000666	0.003%
Fresno	2010	UBUS	DSL	45	1726	0.360803	0.410751	1.456324	13.42127	2569.782	2569.782	0.168626	0.155136	0.008%
Fresno	2010	UBUS	GAS	50	356	0.407817	0.445144	7.563081	3.902126	454.3218	454.3218	0.000683	0.000596	0.002%
Fresno	2010	UBUS	DSL	50	877	0.340302	0.387411	1.437514	14.93699					

**City of Fresno General Plan  
Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

**Year 2010**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.474	0.317	0.223	0.164	0.127	0.103	0.088	0.079	0.074	0.072	0.075	0.081	0.091	0.099	0.000
LDT1		1.133	0.770	0.551	0.410	0.322	0.264	0.226	0.203	0.190	0.186	0.192	0.206	0.232	0.250	0.000
LDT2		0.626	0.420	0.297	0.218	0.169	0.137	0.117	0.104	0.097	0.095	0.098	0.105	0.118	0.128	0.000
LHD1		1.120	0.902	0.605	0.420	0.302	0.229	0.178	0.143	0.124	0.114	0.102	0.000	0.000	0.000	0.000
LHD2		1.250	1.006	0.674	0.469	0.340	0.258	0.203	0.165	0.141	0.128	0.118	0.000	0.000	0.000	0.000
MCY		5.264	4.567	3.634	3.061	2.685	2.467	2.373	2.399	2.533	2.805	3.255	3.959	5.039	6.717	0.000
MDV		0.642	0.427	0.298	0.215	0.165	0.133	0.112	0.099	0.092	0.090	0.092	0.098	0.110	0.119	0.000
MH		2.950	2.378	1.589	1.107	0.805	0.611	0.482	0.396	0.341	0.304	0.281	0.269	0.273	0.000	0.000
OBUS		1.870	1.507	1.014	0.706	0.513	0.389	0.306	0.250	0.216	0.191	0.174	0.165	0.171	0.000	0.000
SBUS		14.223	11.438	7.651	5.335	3.879	2.939	2.325	1.916	1.645	1.469	1.380	1.339	0.000	0.000	0.000
T6		4.887	3.939	2.637	1.837	1.336	1.013	0.799	0.656	0.565	0.503	0.463	0.444	0.454	0.000	0.000
T7		10.101	8.140	5.438	3.796	2.756	2.090	1.649	1.356	1.164	1.039	0.968	0.937	0.953	0.000	0.000
UBUS		3.950	3.181	2.128	1.484	1.078	0.817	0.645	0.531	0.456	0.408	0.380	0.370	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.315	0.278	0.221	0.179	0.149	0.126	0.109	0.097	0.088	0.082	0.078	0.075	0.075	0.077	0.000
LDT1		0.438	0.387	0.307	0.249	0.207	0.175	0.152	0.135	0.122	0.113	0.107	0.104	0.103	0.105	0.000
LDT2		0.379	0.334	0.265	0.215	0.179	0.151	0.131	0.116	0.106	0.098	0.093	0.090	0.089	0.091	0.000
LHD1		0.552	0.488	0.387	0.314	0.261	0.221	0.192	0.170	0.154	0.142	0.135	0.000	0.000	0.000	0.000
LHD2		0.539	0.476	0.378	0.307	0.254	0.216	0.187	0.166	0.150	0.139	0.131	0.000	0.000	0.000	0.000
MCY		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MDV		0.187	0.165	0.131	0.106	0.088	0.075	0.065	0.058	0.053	0.049	0.047	0.046	0.047	0.049	0.000
MH		1.901	1.451	0.763	0.355	0.254	0.209	0.173	0.147	0.131	0.124	0.127	0.140	0.162	0.000	0.000
OBUS		7.119	4.152	2.164	0.937	0.766	0.645	0.549	0.456	0.421	0.403	0.416	0.415	0.548	0.000	0.000
SBUS		6.125	3.791	2.080	0.851	0.707	0.588	0.495	0.428	0.386	0.370	0.380	0.415	0.000	0.000	0.000
T6		4.992	2.979	1.555	0.629	0.513	0.419	0.345	0.293	0.262	0.252	0.263	0.295	0.348	0.000	0.000
T7		8.671	5.113	2.627	1.049	0.888	0.734	0.612	0.521	0.463	0.437	0.443	0.481	0.551	0.000	0.000
UBUS		1.707	1.448	1.069	0.817	0.647	0.531	0.450	0.396	0.361	0.340	0.332	0.336	0.000	0.000	0.000

**City of Fresno General Plan  
Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

Year 2010

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.1	28.8	0.6	2.4	7.2	5.7	30.8	12.3	12.4	6.2	24.3	24.0	0.0	0.0	0.0	<b>154.7</b>
LDT1		0.1	10.1	0.2	0.9	2.6	2.1	11.3	4.5	4.6	2.3	8.9	8.8	0.0	0.0	0.0	<b>56.4</b>
LDT2		0.1	14.4	0.3	1.2	3.6	2.9	15.4	6.1	6.2	3.1	12.0	11.8	0.0	0.0	0.0	<b>77.0</b>
LHD1		0.0	5.5	0.1	0.4	1.1	0.8	4.2	1.5	1.4	0.7	2.2	0.0	0.0	0.0	0.0	<b>17.9</b>
LHD2		0.0	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>2.0</b>
MCY		0.0	6.3	0.1	0.7	2.3	2.1	12.7	5.7	6.5	3.7	16.2	18.0	0.0	0.0	0.0	<b>74.3</b>
MDV		0.1	16.6	0.3	1.4	4.0	3.1	16.8	6.6	6.6	3.3	12.7	12.4	0.0	0.0	0.0	<b>83.8</b>
MH		0.0	0.8	0.0	0.1	0.2	0.1	0.6	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.9</b>
OBUS		0.0	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.2</b>
SBUS		0.0	0.5	0.0	0.0	0.1	0.1	0.4	0.2	0.1	0.1	0.2	0.2	0.0	0.0	0.0	<b>2.0</b>
T6		0.0	1.8	0.0	0.1	0.4	0.3	1.4	0.5	0.5	0.2	0.7	0.7	0.0	0.0	0.0	<b>6.6</b>
T7		0.0	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.2	0.0	0.0	0.0	<b>2.3</b>
UBUS		0.0	0.4	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	<b>1.4</b>
<b>Total</b>		<b>0.4</b>	<b>86.7</b>	<b>1.7</b>	<b>7.3</b>	<b>22.0</b>	<b>17.5</b>	<b>95.1</b>	<b>38.2</b>	<b>39.0</b>	<b>19.7</b>	<b>78.5</b>	<b>76.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>482.7</b>

<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.4</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.0	1.8	0.0	0.2	0.6	0.5	2.8	1.1	1.1	0.5	1.8	0.0	0.0	0.0	0.0	<b>10.5</b>
LHD2		0.0	0.5	0.0	0.1	0.2	0.1	0.7	0.3	0.3	0.1	0.5	0.0	0.0	0.0	0.0	<b>2.7</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
OBUS		0.0	0.9	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.7</b>
SBUS		0.0	0.5	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0	<b>1.4</b>
T6		0.0	8.1	0.1	0.3	0.9	0.7	3.6	1.4	1.3	0.6	2.6	2.6	0.0	0.0	0.0	<b>22.3</b>
T7		0.4	71.3	1.0	2.4	7.7	6.2	32.8	12.5	11.9	5.7	22.1	22.0	0.0	0.0	0.0	<b>196.0</b>
UBUS		0.0	0.4	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.3</b>
<b>Total</b>		<b>0.5</b>	<b>83.8</b>	<b>1.2</b>	<b>3.0</b>	<b>9.7</b>	<b>7.8</b>	<b>41.3</b>	<b>15.8</b>	<b>15.1</b>	<b>7.2</b>	<b>27.9</b>	<b>25.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>238.8</b>

**Total Emissions (tons/year)**

**721.5**

**Total Emissions (tons/day)**

**2.0**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**NOx**

Year 2010

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.406	0.350	0.312	0.285	0.264	0.250	0.239	0.234	0.231	0.233	0.237	0.246	0.258	0.266	0.000
	LDT1	1.034	0.869	0.759	0.686	0.632	0.595	0.572	0.562	0.560	0.570	0.590	0.623	0.670	0.700	0.000
	LDT2	0.841	0.711	0.622	0.560	0.513	0.479	0.455	0.442	0.436	0.438	0.449	0.468	0.498	0.517	0.000
	LHD1	0.601	0.615	0.644	0.677	0.716	0.746	0.792	0.841	0.860	0.866	0.938	0.000	0.000	0.000	0.000
	LHD2	0.601	0.616	0.645	0.678	0.717	0.747	0.792	0.842	0.861	0.867	0.938	0.000	0.000	0.000	0.000
	MCY	1.130	1.122	1.134	1.167	1.195	1.228	1.263	1.306	1.350	1.397	1.449	1.506	1.566	1.631	0.000
	MDV	1.016	0.855	0.745	0.667	0.609	0.566	0.537	0.520	0.512	0.514	0.527	0.550	0.586	0.610	0.000
	MH	1.376	1.413	1.471	1.540	1.608	1.683	1.758	1.833	1.895	1.988	2.072	2.136	2.173	0.000	0.000
	OBUS	1.646	1.689	1.760	1.843	1.925	2.014	2.103	2.192	2.267	2.374	2.473	2.551	2.600	0.000	0.000
	SBUS	2.774	2.831	2.971	3.109	3.252	3.394	3.551	3.703	3.850	3.969	4.218	4.337	0.000	0.000	0.000
	T6	2.312	2.372	2.472	2.588	2.703	2.828	2.953	3.079	3.184	3.336	3.476	3.585	3.651	0.000	0.000
	T7	5.341	5.444	5.703	6.011	6.253	6.507	6.762	7.035	7.349	7.611	7.833	8.148	8.447	0.000	0.000
	UBUS	2.727	2.796	2.934	3.073	3.211	3.349	3.487	3.626	3.764	3.902	4.040	4.179	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	1.529	1.387	1.175	1.032	0.937	0.881	0.858	0.865	0.902	0.974	1.089	1.262	1.513	1.881	0.000
	LDT1	1.724	1.564	1.323	1.160	1.053	0.990	0.964	0.972	1.014	1.096	1.228	1.424	1.711	2.129	0.000
	LDT2	1.783	1.617	1.368	1.200	1.090	1.024	0.997	1.005	1.049	1.134	1.270	1.472	1.769	2.201	0.000
	LHD1	7.945	7.202	6.089	5.325	4.842	4.543	4.439	4.489	4.682	5.060	5.698	0.000	0.000	0.000	0.000
	LHD2	7.815	7.084	5.989	5.238	4.763	4.469	4.366	4.415	4.605	4.977	5.604	0.000	0.000	0.000	0.000
	MCY	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	MDV	0.888	0.810	0.692	0.612	0.559	0.527	0.514	0.517	0.536	0.575	0.638	0.731	0.867	1.065	0.000
	MH	21.572	17.991	12.664	9.824	9.065	8.644	8.320	8.090	7.938	7.898	7.953	8.089	8.295	0.000	0.000
	OBUS	33.627	23.010	16.178	13.070	12.322	12.126	12.146	11.463	11.855	11.688	11.532	10.168	11.893	0.000	0.000
	SBUS	31.580	21.976	15.501	11.891	11.351	10.916	10.587	10.364	10.247	10.236	10.331	10.531	0.000	0.000	0.000
	T6	26.861	18.707	13.145	9.922	9.396	8.966	8.630	8.388	8.242	8.190	8.232	8.369	8.601	0.000	0.000
	T7	39.691	28.203	20.191	15.206	14.199	13.337	12.647	12.127	11.778	11.600	11.593	11.756	12.091	0.000	0.000
	UBUS	29.609	25.735	20.183	16.641	14.423	13.142	12.589	12.678	13.421	14.937	17.476	21.495	0.000	0.000	0.000

**City of Fresno General Plan  
Motor Vehicle Emissions**

**NOx**

Year 2010

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.1	31.8	0.8	4.2	15.0	13.8	83.6	36.5	38.9	19.8	77.2	73.1	0.0	0.0	0.0	<b>394.7</b>
LDT1		0.0	11.3	0.3	1.5	5.2	4.7	28.7	12.6	13.5	7.0	27.6	26.6	0.0	0.0	0.0	<b>138.9</b>
LDT2		0.1	24.4	0.6	3.1	11.0	10.0	60.0	26.0	27.6	14.1	55.1	52.6	0.0	0.0	0.0	<b>284.5</b>
LHD1		0.0	3.7	0.1	0.7	2.7	2.8	18.5	8.8	9.7	4.9	20.4	0.0	0.0	0.0	0.0	<b>72.3</b>
LHD2		0.0	0.4	0.0	0.1	0.3	0.3	1.8	0.9	0.9	0.5	2.0	0.0	0.0	0.0	0.0	<b>7.1</b>
MCY		0.0	1.6	0.0	0.3	1.0	1.0	6.7	3.1	3.5	1.8	7.2	6.8	0.0	0.0	0.0	<b>33.1</b>
MDV		0.1	33.2	0.8	4.2	14.7	13.3	80.0	34.6	36.7	18.7	73.1	69.9	0.0	0.0	0.0	<b>379.5</b>
MH		0.0	0.5	0.0	0.1	0.3	0.3	2.2	1.0	1.1	0.6	2.4	2.3	0.0	0.0	0.0	<b>10.8</b>
OBUS		0.0	0.4	0.0	0.1	0.3	0.3	1.8	0.8	0.9	0.5	2.0	1.9	0.0	0.0	0.0	<b>8.9</b>
SBUS		0.0	0.1	0.0	0.0	0.1	0.1	0.7	0.3	0.3	0.2	0.7	0.7	0.0	0.0	0.0	<b>3.2</b>
T6		0.0	1.1	0.0	0.2	0.8	0.8	5.1	2.4	2.7	1.4	5.6	5.3	0.0	0.0	0.0	<b>25.3</b>
T7		0.0	0.4	0.0	0.1	0.3	0.3	2.0	0.9	1.0	0.5	2.1	2.0	0.0	0.0	0.0	<b>9.8</b>
UBUS		0.0	0.3	0.0	0.1	0.2	0.2	1.6	0.7	0.8	0.4	1.7	1.6	0.0	0.0	0.0	<b>7.7</b>
<b>Total</b>		<b>0.4</b>	<b>109.2</b>	<b>2.6</b>	<b>14.5</b>	<b>51.9</b>	<b>47.8</b>	<b>292.7</b>	<b>128.7</b>	<b>137.7</b>	<b>70.4</b>	<b>277.1</b>	<b>242.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1,375.9</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.3	0.0	0.0	0.1	0.1	0.7	0.3	0.4	0.2	0.8	0.9	0.0	0.0	0.0	<b>3.8</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.3</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.3</b>
LHD1		0.1	27.2	0.6	3.3	11.4	10.4	64.3	29.0	32.6	17.9	76.8	0.0	0.0	0.0	0.0	<b>273.5</b>
LHD2		0.0	7.2	0.2	0.9	3.0	2.7	17.0	7.7	8.6	4.7	20.3	0.0	0.0	0.0	0.0	<b>72.1</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.3</b>
MH		0.0	1.4	0.0	0.1	0.4	0.4	2.4	1.1	1.1	0.6	2.2	2.0	0.0	0.0	0.0	<b>11.7</b>
OBUS		0.0	5.2	0.1	0.5	1.7	1.6	10.5	4.4	4.9	2.5	9.3	7.5	0.0	0.0	0.0	<b>48.1</b>
SBUS		0.0	2.8	0.1	0.2	0.9	0.9	5.2	2.3	2.4	1.2	4.8	4.4	0.0	0.0	0.0	<b>25.3</b>
T6		0.3	51.0	1.0	4.4	16.0	14.8	90.4	39.3	41.5	20.9	80.3	74.7	0.0	0.0	0.0	<b>434.5</b>
T7		1.9	393.5	7.6	34.4	123.6	112.8	677.8	290.3	303.4	151.6	578.4	536.6	0.0	0.0	0.0	<b>3,211.9</b>
UBUS		0.0	7.4	0.2	0.8	2.6	2.3	14.0	6.3	7.2	4.0	18.1	20.3	0.0	0.0	0.0	<b>83.3</b>
<b>Total</b>		<b>2.4</b>	<b>496.0</b>	<b>9.7</b>	<b>44.6</b>	<b>159.8</b>	<b>146.0</b>	<b>882.5</b>	<b>380.7</b>	<b>402.2</b>	<b>203.6</b>	<b>791.0</b>	<b>646.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4,165.2</b>

**Total Emissions (tons/year)**

**5,541.1**

**Total Emissions (tons/day)**

**15.2**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

Year 2010

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0211	0.0137	0.0093	0.0067	0.0050	0.0040	0.0033	0.0029	0.0027	0.0026	0.0027	0.0028	0.0032	0.0035	0.0000
	LDT1	0.0411	0.0272	0.0189	0.0139	0.0106	0.0085	0.0072	0.0063	0.0058	0.0056	0.0057	0.0060	0.0067	0.0072	0.0000
	LDT2	0.0219	0.0143	0.0098	0.0070	0.0053	0.0043	0.0036	0.0031	0.0029	0.0028	0.0028	0.0030	0.0034	0.0036	0.0000
	LHD1	0.0140	0.0113	0.0076	0.0053	0.0038	0.0029	0.0023	0.0019	0.0016	0.0014	0.0014	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0164	0.0132	0.0089	0.0062	0.0045	0.0034	0.0027	0.0022	0.0019	0.0017	0.0016	0.0000	0.0000	0.0000	0.0000
	MCY	0.0027	0.0024	0.0019	0.0016	0.0014	0.0013	0.0013	0.0013	0.0014	0.0015	0.0018	0.0022	0.0027	0.0036	0.0000
	MDV	0.0187	0.0121	0.0083	0.0059	0.0045	0.0036	0.0030	0.0026	0.0024	0.0023	0.0023	0.0025	0.0028	0.0030	0.0000
	MH	0.0306	0.0247	0.0165	0.0115	0.0084	0.0063	0.0050	0.0041	0.0035	0.0032	0.0029	0.0029	0.0029	0.0000	0.0000
	OBUS	0.0087	0.0070	0.0047	0.0033	0.0024	0.0018	0.0014	0.0012	0.0010	0.0009	0.0008	0.0008	0.0008	0.0000	0.0000
	SBUS	0.0776	0.0625	0.0418	0.0292	0.0212	0.0161	0.0127	0.0104	0.0090	0.0080	0.0075	0.0073	0.0000	0.0000	0.0000
	T6	0.0291	0.0235	0.0157	0.0109	0.0080	0.0060	0.0048	0.0039	0.0034	0.0030	0.0028	0.0027	0.0028	0.0000	0.0000
	T7	0.0127	0.0102	0.0068	0.0048	0.0035	0.0026	0.0021	0.0017	0.0015	0.0013	0.0012	0.0012	0.0012	0.0000	0.0000
	UBUS	0.0066	0.0053	0.0036	0.0025	0.0018	0.0014	0.0011	0.0009	0.0008	0.0007	0.0006	0.0006	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.2389	0.2110	0.1674	0.1358	0.1126	0.0955	0.0829	0.0735	0.0666	0.0618	0.0587	0.0570	0.0567	0.0578	0.0000
	LDT1	0.3717	0.3284	0.2606	0.2115	0.1754	0.1487	0.1289	0.1143	0.1036	0.0960	0.0909	0.0881	0.0873	0.0885	0.0000
	LDT2	0.3053	0.2697	0.2140	0.1736	0.1440	0.1221	0.1059	0.0939	0.0851	0.0788	0.0747	0.0724	0.0718	0.0729	0.0000
	LHD1	0.1318	0.1165	0.0925	0.0750	0.0622	0.0528	0.0457	0.0405	0.0367	0.0340	0.0322	0.0000	0.0000	0.0000	0.0000
	LHD2	0.1292	0.1142	0.0906	0.0735	0.0610	0.0517	0.0448	0.0397	0.0360	0.0333	0.0315	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.1567	0.1383	0.1096	0.0889	0.0738	0.0626	0.0544	0.0483	0.0440	0.0410	0.0391	0.0383	0.0386	0.0401	0.0000
	MH	0.7563	0.6336	0.4340	0.2952	0.2395	0.2086	0.1882	0.1783	0.1789	0.1900	0.2116	0.2437	0.2863	0.0000	0.0000
	OBUS	1.8071	1.2633	0.8625	0.5698	0.4840	0.4222	0.3806	0.3572	0.3600	0.3830	0.4270	0.4715	0.5823	0.0000	0.0000
	SBUS	1.9857	1.4066	0.9627	0.6219	0.5293	0.4554	0.4000	0.3632	0.3449	0.3453	0.3642	0.4016	0.0000	0.0000	0.0000
	T6	1.3957	0.9764	0.6561	0.4120	0.3467	0.2974	0.2639	0.2463	0.2445	0.2586	0.2886	0.3345	0.3963	0.0000	0.0000
	T7	1.6136	1.1632	0.8165	0.5441	0.4750	0.4229	0.3922	0.3829	0.3948	0.4282	0.4829	0.5589	0.6563	0.0000	0.0000
	UBUS	0.7980	0.6767	0.4995	0.3819	0.3024	0.2479	0.2105	0.1852	0.1686	0.1590	0.1554	0.1571	0.0000	0.0000	0.0000



**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

Year 2010

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.007	1.2	0.0	0.1	0.3	0.2	1.2	0.5	0.5	0.2	0.9	0.8	0.0	0.0	0.0	<b>5.9</b>
LDT1		0.002	0.4	0.0	0.0	0.1	0.1	0.4	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.8</b>
LDT2		0.003	0.5	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.4</b>
LHD1		0.000	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
LHD2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.002	0.5	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.2</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T6		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T7		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
UBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Total</b>		<b>0.014</b>	<b>2.7</b>	<b>0.0</b>	<b>0.2</b>	<b>0.6</b>	<b>0.5</b>	<b>2.5</b>	<b>1.0</b>	<b>1.0</b>	<b>0.5</b>	<b>1.9</b>	<b>1.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>12.6</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
LDT1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.002	0.4	0.0	0.0	0.1	0.1	0.7	0.3	0.3	0.1	0.4	0.0	0.0	0.0	0.0	<b>2.5</b>
LHD2		0.000	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.7</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.3</b>
OBUS		0.001	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.8</b>
SBUS		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0	<b>1.0</b>
T6		0.013	2.7	0.0	0.2	0.6	0.5	2.8	1.2	1.2	0.7	2.8	3.0	0.0	0.0	0.0	<b>15.6</b>
T7		0.077	16.2	0.3	1.2	4.1	3.6	21.0	9.2	10.2	5.6	24.1	25.5	0.0	0.0	0.0	<b>121.1</b>
UBUS		0.001	0.2	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	<b>1.1</b>
<b>Total</b>		<b>0.1</b>	<b>20.2</b>	<b>0.4</b>	<b>1.5</b>	<b>5.1</b>	<b>4.4</b>	<b>25.5</b>	<b>11.0</b>	<b>12.1</b>	<b>6.6</b>	<b>28.2</b>	<b>29.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>144.5</b>

**Total Emissions (tons/year)**

**157.1**

**Total Emissions (tons/day)**

**0.4**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM2.5**

Year 2010

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0193	0.0124	0.0085	0.0061	0.0046	0.0036	0.0030	0.0026	0.0024	0.0024	0.0024	0.0026	0.0029	0.0031	0.0000
	LDT1	0.0372	0.0246	0.0171	0.0125	0.0096	0.0077	0.0065	0.0057	0.0052	0.0050	0.0051	0.0054	0.0060	0.0064	0.0000
	LDT2	0.0199	0.0130	0.0089	0.0064	0.0048	0.0038	0.0032	0.0028	0.0026	0.0025	0.0025	0.0027	0.0030	0.0033	0.0000
	LHD1	0.0129	0.0104	0.0069	0.0048	0.0035	0.0027	0.0021	0.0017	0.0015	0.0013	0.0012	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0146	0.0117	0.0078	0.0055	0.0040	0.0030	0.0024	0.0020	0.0017	0.0015	0.0014	0.0000	0.0000	0.0000	0.0000
	MCY	0.0021	0.0019	0.0015	0.0013	0.0011	0.0010	0.0010	0.0010	0.0011	0.0012	0.0014	0.0017	0.0021	0.0028	0.0000
	MDV	0.0171	0.0111	0.0076	0.0054	0.0041	0.0032	0.0027	0.0024	0.0022	0.0021	0.0021	0.0023	0.0025	0.0027	0.0000
	MH	0.0268	0.0216	0.0144	0.0101	0.0073	0.0055	0.0044	0.0036	0.0031	0.0028	0.0026	0.0025	0.0025	0.0000	0.0000
	OBUS	0.0079	0.0064	0.0042	0.0030	0.0022	0.0016	0.0013	0.0011	0.0009	0.0008	0.0008	0.0007	0.0007	0.0000	0.0000
	SBUS	0.0644	0.0518	0.0347	0.0242	0.0176	0.0133	0.0105	0.0087	0.0074	0.0066	0.0062	0.0060	0.0000	0.0000	0.0000
	T6	0.0253	0.0204	0.0136	0.0095	0.0069	0.0052	0.0041	0.0034	0.0029	0.0026	0.0024	0.0024	0.0024	0.0000	0.0000
	T7	0.0104	0.0084	0.0056	0.0039	0.0028	0.0022	0.0017	0.0014	0.0012	0.0011	0.0010	0.0010	0.0010	0.0000	0.0000
	UBUS	0.0058	0.0046	0.0031	0.0022	0.0016	0.0012	0.0009	0.0008	0.0007	0.0006	0.0006	0.0005	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.2198	0.1941	0.1540	0.1249	0.1036	0.0879	0.0762	0.0676	0.0613	0.0569	0.0540	0.0524	0.0521	0.0532	0.0000
	LDT1	0.3420	0.3021	0.2398	0.1945	0.1614	0.1368	0.1186	0.1051	0.0953	0.0883	0.0836	0.0810	0.0803	0.0815	0.0000
	LDT2	0.2808	0.2481	0.1969	0.1597	0.1325	0.1124	0.0974	0.0864	0.0783	0.0725	0.0687	0.0666	0.0661	0.0671	0.0000
	LHD1	0.1213	0.1072	0.0851	0.0690	0.0573	0.0485	0.0421	0.0373	0.0338	0.0313	0.0296	0.0000	0.0000	0.0000	0.0000
	LHD2	0.1189	0.1051	0.0834	0.0677	0.0561	0.0476	0.0412	0.0365	0.0331	0.0306	0.0290	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.1442	0.1273	0.1009	0.0818	0.0679	0.0576	0.0500	0.0444	0.0404	0.0377	0.0360	0.0353	0.0355	0.0369	0.0000
	MH	0.6958	0.5829	0.3992	0.2716	0.2203	0.1919	0.1732	0.1641	0.1646	0.1748	0.1947	0.2242	0.2634	0.0000	0.0000
	OBUS	1.6625	1.1622	0.7935	0.5242	0.4453	0.3885	0.3501	0.3286	0.3312	0.3523	0.3928	0.4337	0.5357	0.0000	0.0000
	SBUS	1.8268	1.2941	0.8857	0.5721	0.4870	0.4190	0.3680	0.3341	0.3173	0.3176	0.3350	0.3695	0.0000	0.0000	0.0000
	T6	1.2841	0.8983	0.6036	0.3790	0.3190	0.2736	0.2428	0.2266	0.2250	0.2380	0.2656	0.3078	0.3646	0.0000	0.0000
	T7	1.4845	1.0701	0.7512	0.5006	0.4370	0.3891	0.3608	0.3522	0.3633	0.3939	0.4443	0.5142	0.6038	0.0000	0.0000
	UBUS	0.7341	0.6225	0.4596	0.3514	0.2782	0.2281	0.1937	0.1703	0.1551	0.1463	0.1429	0.1446	0.0000	0.0000	0.0000



**City of Fresno General Plan  
Motor Vehicle Emissions  
Carbon Monoxide (CO)**

**Year 2010**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	6.0	5.0	4.3	3.7	3.3	3.0	2.7	2.6	2.4	2.4	2.3	2.4	2.5	2.7	0.0
	LDT1	15.0	12.1	10.1	8.5	7.5	6.7	6.2	5.8	5.5	5.4	5.5	5.8	6.3	6.7	0.0
	LDT2	8.2	6.8	5.9	5.1	4.5	4.1	3.8	3.5	3.3	3.2	3.2	3.2	3.4	3.6	0.0
	LHD1	13.7	11.1	7.6	5.5	4.2	3.4	2.8	2.5	2.4	2.5	2.6	0.0	0.0	0.0	0.0
	LHD2	18.5	15.0	10.2	7.4	5.7	4.6	3.9	3.6	3.4	3.4	3.6	0.0	0.0	0.0	0.0
	MCY	36.8	32.9	27.9	24.8	23.2	22.7	23.2	25.1	28.4	33.9	42.7	56.7	79.5	117.4	0.0
	MDV	8.3	7.0	6.1	5.2	4.7	4.3	3.9	3.7	3.5	3.3	3.3	3.3	3.4	3.6	0.0
	MH	65.8	53.3	36.4	26.3	20.1	16.2	13.8	12.5	11.9	11.9	12.7	14.2	16.8	0.0	0.0
	OBUS	25.8	20.9	14.3	10.4	7.9	6.4	5.4	4.9	4.7	4.7	4.9	5.5	6.6	0.0	0.0
	SBUS	215.2	173.9	118.9	85.9	65.6	52.9	45.2	40.8	38.8	38.9	41.8	46.8	0.0	0.0	0.0
	T6	72.3	58.6	40.0	28.9	22.1	17.8	15.2	13.7	13.0	13.1	14.0	15.7	18.5	0.0	0.0
	T7	213.9	172.7	118.2	85.6	65.2	52.6	44.9	40.4	38.5	38.6	41.0	46.1	54.6	0.0	0.0
	UBUS	41.8	33.9	23.2	16.7	12.8	10.3	8.8	7.9	7.5	7.6	8.0	9.0	0.0	0.0	0.0

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	2.0	1.6	1.2	0.9	0.7	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.0
	LDT1	2.6	2.1	1.5	1.1	0.9	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.0
	LDT2	2.2	1.8	1.3	1.0	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.0
	LHD1	3.4	2.8	2.0	1.5	1.1	0.9	0.8	0.7	0.6	0.6	0.6	0.0	0.0	0.0	0.0
	LHD2	3.3	2.7	1.9	1.4	1.1	0.9	0.8	0.7	0.6	0.6	0.6	0.0	0.0	0.0	0.0
	MCY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MDV	1.2	1.0	0.7	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.0
	MH	2.7	2.3	1.6	1.2	1.0	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.6	0.0	0.0
	OBUS	10.2	7.1	5.0	3.8	3.3	2.9	2.7	2.2	2.1	2.0	1.8	1.5	2.0	0.0	0.0
	SBUS	7.2	5.6	4.3	3.3	2.8	2.3	2.0	1.7	1.5	1.3	1.2	1.2	0.0	0.0	0.0
	T6	6.6	4.8	3.5	2.4	2.0	1.7	1.5	1.3	1.1	1.0	1.0	1.0	1.1	0.0	0.0
	T7	14.7	10.3	7.0	4.5	4.0	3.5	3.0	2.7	2.5	2.4	2.4	2.4	2.6	0.0	0.0
	UBUS	10.9	8.6	5.6	3.8	2.8	2.2	1.8	1.6	1.5	1.4	1.5	1.7	0.0	0.0	0.0

**City of Fresno General Plan  
Motor Vehicle Emissions  
Carbon Monoxide (CO)**

Year 2010

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		1.9	455.3	10.6	54.4	186.9	164.5	960.6	400.1	409.0	201.1	762.4	712.2	0.1	0.0	0.0	<b>4,319.0</b>
LDT1		0.7	157.8	3.6	18.0	61.0	53.2	309.6	129.3	133.2	66.4	256.9	246.3	0.0	0.0	0.0	<b>1,436.1</b>
LDT2		1.0	235.0	5.5	28.2	96.8	85.1	496.6	206.5	210.7	103.3	390.0	362.2	0.0	0.0	0.0	<b>2,221.0</b>
LHD1		0.3	67.4	1.3	5.4	15.8	12.4	66.5	26.6	27.4	14.1	56.3	0.0	0.0	0.0	0.0	<b>293.5</b>
LHD2		0.0	8.9	0.2	0.7	2.1	1.6	8.9	3.6	3.7	1.9	7.7	0.0	0.0	0.0	0.0	<b>39.4</b>
MCY		0.2	45.7	1.1	5.6	20.1	19.1	124.0	59.8	72.8	44.1	212.1	257.8	0.0	0.0	0.0	<b>862.3</b>
MDV		1.1	271.9	6.4	33.0	113.7	100.3	585.4	243.3	247.7	121.0	454.4	419.0	0.0	0.0	0.0	<b>2,597.2</b>
MH		0.1	17.3	0.3	1.4	4.1	3.2	17.2	6.9	7.1	3.6	14.7	15.1	0.0	0.0	0.0	<b>91.1</b>
OBUS		0.0	4.7	0.1	0.4	1.1	0.9	4.7	1.9	1.9	1.0	3.9	4.1	0.0	0.0	0.0	<b>24.5</b>
SBUS		0.0	8.3	0.2	0.7	2.0	1.5	8.3	3.3	3.4	1.7	7.2	7.3	0.0	0.0	0.0	<b>44.0</b>
T6		0.1	26.4	0.5	2.1	6.2	4.9	26.3	10.6	10.9	5.5	22.5	23.1	0.0	0.0	0.0	<b>139.3</b>
T7		0.1	13.2	0.2	1.1	3.1	2.4	13.2	5.3	5.4	2.8	11.2	11.5	0.0	0.0	0.0	<b>69.6</b>
UBUS		0.0	4.0	0.1	0.3	0.9	0.7	4.0	1.6	1.6	0.8	3.4	3.5	0.0	0.0	0.0	<b>20.9</b>
<b>Total</b>		<b>5.4</b>	<b>1,315.9</b>	<b>29.9</b>	<b>151.3</b>	<b>513.8</b>	<b>449.8</b>	<b>2,625.3</b>	<b>1,099.0</b>	<b>1,135.0</b>	<b>567.2</b>	<b>2,202.8</b>	<b>2,062.1</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>12,157.8</b>

  

<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.3	0.0	0.0	0.1	0.1	0.4	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.8</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LHD1		0.0	10.6	0.2	0.9	2.7	2.1	11.3	4.5	4.4	2.2	8.5	0.0	0.0	0.0	0.0	<b>47.4</b>
LHD2		0.0	2.8	0.1	0.2	0.7	0.5	2.9	1.2	1.2	0.6	2.2	0.0	0.0	0.0	0.0	<b>12.3</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
MH		0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.0</b>
OBUS		0.0	1.6	0.0	0.1	0.5	0.4	2.3	0.9	0.9	0.4	1.5	1.1	0.0	0.0	0.0	<b>9.7</b>
SBUS		0.0	0.7	0.0	0.1	0.2	0.2	1.0	0.4	0.3	0.2	0.6	0.5	0.0	0.0	0.0	<b>4.1</b>
T6		0.1	13.2	0.3	1.0	3.4	2.8	15.4	6.0	5.7	2.7	9.8	9.1	0.0	0.0	0.0	<b>69.5</b>
T7		0.7	143.8	2.6	10.2	34.5	29.2	163.4	65.5	64.8	31.3	118.4	111.6	0.0	0.0	0.0	<b>776.0</b>
UBUS		0.0	2.5	0.0	0.2	0.5	0.4	2.0	0.8	0.8	0.4	1.6	1.6	0.0	0.0	0.0	<b>10.7</b>
<b>Total</b>		<b>0.8</b>	<b>175.8</b>	<b>3.3</b>	<b>12.8</b>	<b>42.6</b>	<b>35.8</b>	<b>198.9</b>	<b>79.3</b>	<b>78.4</b>	<b>37.8</b>	<b>143.0</b>	<b>124.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>933.0</b>

**Total Emissions (tons/year)**

**13,090.8**

Tons/day

35.865

# City of Fresno General Plan

## Criteria Pollutants: Summary

Year 2020

Prepared by FirstCarbon Solutions

	Data					
<b>City Information</b>						
Population	649,200					
Employment	240,014					
<b>County Information</b>						
Population	1,082,000					
	<b>ROG</b>	<b>NOx</b>	<b>PM10</b>	<b>PM2.5</b>	<b>CO</b>	<b>SO2</b>
<b>Emissions (tons/year)</b>						
Motor vehicles	311	2407	46	42	5948	0
Electricity	0	350	0	0	0	246
Natural gas	100	887	69	69	574	5
Stationary, area	554	507	238	na	203	89
Offroad	1488	2268	182	182	10972	10
<b>Total</b>	<b>2453</b>	<b>6418</b>	<b>536</b>	<b>294</b>	<b>17697</b>	<b>350</b>
<b>Emissions (tons/day)</b>						
Motor vehicles	0.9	6.6	0.1	0.1	16.3	0.0
Electricity	0.0	1.0	0.0	0.0	0.0	0.7
Natural gas	0.3	2.4	0.2	0.2	1.6	0.0
Stationary, area	1.5	1.4	0.7	na	0.6	0.2
Offroad	4.1	6.2	0.5	0.5	30.1	0.03
<b>Total</b>	<b>6.7</b>	<b>17.6</b>	<b>1.5</b>	<b>0.8</b>	<b>48.5</b>	<b>1.0</b>

Sources:

- Population for the City: Fresno Council of Governments (Fresno COG), San Joaquin Valley Demographic Forecasts 2010 to 2050. Produced under contract by: The Planning Center|DC&E. March 2012.
  - Employment: Took the 2010 population and 2010 employment and cross multiplied with the 2020 population and the 2020 employment number (our X).
  - Emissions: refer to subsequent spreadsheets.
  - Emissions for stationary, area: California Air Resources Board, CEIDARS 2.5, data is from the year 2010. Note that SO2 emissions for this category represent SOx emissions; SO2 emissions were not available.
- [www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab\\_=&dis\\_=&co\\_=10&fname\\_=&city\\_=Fresno&fzip\\_=&fsic\\_=&facid\\_=&all\\_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=](http://www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab_=&dis_=&co_=10&fname_=&city_=Fresno&fzip_=&fsic_=&facid_=&all_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=)

## City of Fresno General Plan

### Criteria Pollutants: Energy

Year 2020

Prepared by FirstCarbon Solutions

Note: data entry values are in yellow

#### Electricity

Emission Factors (lbs/MWh)		(lbs/kWh)
NOx	0.2002	0.0002002
SO2	0.1409	0.0001409

	Usage (kWh/year)	Emissions Per capita (kWh/person or employee/year)	Emissions (tons/year)	
			NOx	SO2
Residential	1,694,412,000	2,610	169.6	119.4
Commercial	1,800,825,042	7,503	180.3	126.9
Industrial	not available			
<b>Total</b>	<b>3,495,237,042</b>		<b>349.9</b>	<b>246.2</b>

#### Natural Gas

		Natural Gas Emission Factors					
		ROG	NOx	PM10	PM2.5	CO	SO2
lb/MMBTU	Residential	0.01078	0.09216	0.00745	0.00745	0.03922	0.00059
	Nonresidential	0.01078	0.09804	0.00745	0.00745	0.08235	0.00059
lb/therm	Residential	0.0011	0.0092	0.0007	0.0007	0.0039	0.0001
	Nonresidential	0.0011	0.0098	0.0007	0.0007	0.0082	0.0001

  

	Usage (therms/year)	Per capita (therms/person or employee/year)	Emissions (tons/year)					
			ROG	NOx	PM10	PM2.5	CO	SO2
Residential	89,589,600	138	48	413	33	33	176	3
Commercial	96,725,642	403	52	474	36	36	398	3
Industrial	not available							
<b>Total</b>	<b>186,315,242</b>		<b>100</b>	<b>887</b>	<b>69</b>	<b>69</b>	<b>574</b>	<b>5</b>

Sources:

Per capita energy usage: See the spreadsheet calculations for 2010. Residential rates are based on population and commercial are based on employees.

Usage: per capita usage multiplied by the population (for residential) or employees (for commercial)

Emission factors for electricity NOx and SO2 electricity emission factors from Environmental Protection Agency, eGRID2012, state total annual total output emission rate for California (data is from year 2009).

Emission factors for natural gas: CalEEMod Appendix D, Table 8.2, August 2013. 1 therm = 0.1 MMBTU

**City of Fresno General Plan**

**Criteria Pollutants: Offroad**

**Year 2020**

Prepared by FirstCarbon Solutions

*Note: yellow shaded cells are data entry cells*

Fresno County Emissions (tons/day) (from Offroad 2007)	ROG		CO	NOx	SO2	PM
	Evaporative	Exhaust				
Agricultural Equipment	0.12	0.78	9.82	4.98	0.01	0.25
Airport Ground Support Equipment	0.00	0.01	0.23	0.04	0.00	0.00
Construction and Mining Equipment	0.01	0.52	4.43	3.04	0.01	0.16
Dredging	0.00	0.00	0.00	0.00	0.00	0.00
Entertainment Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Equipment	0.02	0.04	2.58	0.30	0.00	0.01
Lawn and Garden Equipment	0.53	0.95	12.06	0.25	0.00	0.03
Light Commercial Equipment	0.07	0.19	6.46	0.35	0.00	0.04
Logging Equipment	0.00	0.04	0.29	0.04	0.00	0.00
Military Tactical Support Equip	0.00	0.00	0.02	0.02	0.00	0.00
Oil Drilling	0.00	0.00	0.00	0.00	0.00	0.00
Other Portable Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Pleasure Craft	0.67	0.83	7.38	0.41	0.00	0.29
Railyard Operations	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Equipment	0.48	1.41	5.21	0.07	0.02	0.03
Transport Refrigeration Units	0.00	0.12	1.63	0.86	0.00	0.01
<b>Total</b>	<b>1.91</b>	<b>4.88</b>	<b>50.10</b>	<b>10.36</b>	<b>0.04</b>	<b>0.83</b>

**Percent Fresno County/Fresno City Population 0.60**

City of Fresno Emissions (tons/day)	ROG	ROG	CO	NOx	SO2	PM
Agricultural Equipment	0.07	0.5	5.9	3.0	0.01	0.15
Airport Ground Support Equipment	0.00	0.0	0.1	0.0	0.00	0.00
Construction and Mining Equipment	0.01	0.3	2.7	1.8	0.00	0.10
Dredging	0.00	0.0	0.0	0.0	0.00	0.00
Entertainment Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Industrial Equipment	0.01	0.0	1.5	0.2	0.00	0.01
Lawn and Garden Equipment	0.32	0.6	7.2	0.1	0.00	0.02
Light Commercial Equipment	0.04	0.1	3.9	0.2	0.00	0.03
Logging Equipment	0.00	0.0	0.2	0.0	0.00	0.00
Military Tactical Support Equip	0.00	0.0	0.0	0.0	0.00	0.00
Oil Drilling	0.00	0.0	0.0	0.0	0.00	0.00
Other Portable Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Pleasure Craft	0.40	0.5	4.4	0.2	0.00	0.17
Railyard Operations	0.00	0.0	0.0	0.0	0.00	0.00
Recreational Equipment	0.29	0.8	3.1	0.0	0.01	0.02
Transport Refrigeration Units	0.00	0.1	1.0	0.5	0.00	0.01
<b>Total</b>	<b>1.15</b>	<b>2.9</b>	<b>30.1</b>	<b>6.2</b>	<b>0.03</b>	<b>0.50</b>

**Sources:**

- County of Fresno emissions from OFFROAD2007, annual, all days, all equipment, for the year assessed
- City of Fresno emissions based on the percent of the City's population compared with the County's population.

Note: PM refers to total particulate matter.



**City of Fresno General Plan**  
**Vehicle Miles Traveled Estimates**  
**Year 2020**  
 Prepared by FirstCarbon Solutions

*Vehicle Miles Traveled*

Vehicle miles traveled / day **11,493,323** Source: Fehr and Peers. 2013  
 Vehicle miles traveled / year 4,195,062,895 Source: VMT per day \* 365 days/year  
 Annual Growth Rate in VMT: 2.54% Source: Fresno COG

Speed bins	AM peak	PM peak	Off peak	Total	Speed
0 - 5 MPH	0	800	0	800	5
5 - 10 MPH	665	778	0	1,443	5
10 - 15 MPH	129,603	167,298	355,800	652,701	10
15 - 20 MPH	4,379	6,480	6,845	17,704	15
20 - 25 MPH	19,163	32,031	54,608	105,802	20
25 - 30 MPH	78,269	103,641	225,197	407,107	25
30 - 35 MPH	86,745	137,277	171,480	395,502	30
35 - 40 MPH	510,988	662,086	1,334,132	2,507,207	35
40 - 45 MPH	228,515	278,844	612,561	1,119,920	40
45 - 50 MPH	194,394	256,153	754,432	1,204,979	45
50 - 55 MPH	105,138	148,518	357,499	611,155	50
55 - 60 MPH	466,648	554,845	1,312,348	2,333,841	55
60 - 65 MPH	447,361	555,735	1,131,920	2,135,016	60
65 - 70 MPH	25	33	89	147	65
70 - 75 MPH	0	0	0	0	70
>75 MPH	0	0	0	0	75
<b>Total</b>	<b>2,271,891</b>	<b>2,904,520</b>	<b>6,316,912</b>	<b>11,493,323</b>	

Source:  
 Fehr and Peers. 2013. 2020 VMT was found by multiplying the 2010 VMT numbers found previously with the annual growth rate multiplied by the 10 years of VMT growth between 2010 and 2020 and adding that to the 2010 VMT.  
 Annual VMT Growth Rate: Was found by interpolating between 2010 and 2056 VMT:  $(((2056 \text{ VMT} - 2010 \text{ VMT}) / 2010 \text{ VMT}) / 46 \text{ years} = .0254)$ .

2010 VMT found by backcasting the  
 2011 Existing Daily VMT By Speed Bin: Origin-Destination Method

Speed bins	AM peak	PM peak	Off peak	Total
0 - 5 MPH	0	638	0	638
5 - 10 MPH	530	620	0	1,150
10 - 15 MPH	103,322	133,374	283,652	520,348
15 - 20 MPH	3,491	5,166	5,457	14,114
20 - 25 MPH	15,277	25,536	43,535	84,348
25 - 30 MPH	62,398	82,625	179,532	324,555
30 - 35 MPH	69,155	109,440	136,708	315,303
35 - 40 MPH	407,371	527,830	1,063,600	1,998,801
40 - 45 MPH	182,177	222,301	488,347	892,825
45 - 50 MPH	154,975	204,211	601,450	960,636
50 - 55 MPH	83,818	118,402	285,006	487,226
55 - 60 MPH	372,022	442,335	1,046,233	1,860,590
60 - 65 MPH	356,646	443,044	902,392	1,702,082
65 - 70 MPH	20	26	71	117
70 - 75 MPH	0	0	0	0
>75 MPH	0	0	0	0
<b>Total</b>	<b>1,811,202</b>	<b>2,315,548</b>	<b>5,035,983</b>	<b>9,162,733</b>

*VMT/day per speed bin*

Speed (mph)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
VMT/day	2243	652701	17704	105802	407107	395502	2507207	1119920	1204979	611155	2333841	2135016	147	0	0

*Vehicle Class using EMFAC2011 VMT percentages*

	GAS	DSL		% Includes
LDA	43.63%	0.12%	GAS Heavy duty	0.7% MH, OBUS, SBUS, T6, T7, UBUS
LDT1	6.37%	0.01%	Light trucks	42.6% MDV, LDT1, LDT2, LHD1, LHD2
LDT2	16.31%	0.01%	Passenger	44.3% LDA, MCY
LHD1	2.66%	1.62%	DSL Heavy duty	10.2% MH, OBUS, SBUS, T6, T7, UBUS
LHD2	0.27%	0.44%	Light trucks	2.1% MDV, LDT1, LDT2, LHD1, LHD2
MCY	0.66%	0.00%	Passenger	0.1% LDA, MCY
MDV	16.99%	0.01%	Total	100.0%
MH	0.15%	0.03%		
OBUS	0.09%	0.12%		
SBUS	0.02%	0.05%		
T6	0.31%	1.66%		
T7	0.04%	8.23%		
UBUS	0.05%	0.13%		

**City of Fresno General Plan**  
**Vehicle Miles Traveled Estimates**  
**Year 2020**  
 Prepared by FirstCarbon Solutions

*VMT/day by Vehicle Class and speed*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		979	284768	7724	46161	177617	172554	1093872	488611	525722	266641	1018234	931488	64	0	0
LDT1		143	41599	1128	6743	25947	25207	159795	71377	76799	38952	148746	136074	9	0	0
LDT2		366	106452	2887	17256	66397	64504	408913	182654	196526	99676	380638	348211	24	0	0
LHD1		60	17388	472	2819	10845	10536	66793	29835	32101	16281	62174	56877	4	0	0
LHD2		6	1777	48	288	1109	1077	6828	3050	3281	1664	6356	5814	0	0	0
MCY		15	4329	117	702	2700	2623	16630	7428	7993	4054	15480	14161	1	0	0
MDV		381	110904	3008	17977	69174	67202	426013	190292	204744	103845	396555	362772	25	0	0
MH		3	1003	27	163	626	608	3853	1721	1852	939	3587	3281	0	0	0
OBUS		2	596	16	97	371	361	2288	1022	1100	558	2130	1948	0	0	0
SBUS		0	135	4	22	84	82	520	232	250	127	484	442	0	0	0
T6		7	2022	55	328	1261	1225	7768	3470	3733	1893	7231	6615	0	0	0
T7		1	286	8	46	178	173	1099	491	528	268	1023	935	0	0	0
UBUS		1	332	9	54	207	201	1275	569	613	311	1187	1086	0	0	0
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>			
LDA		3	789	21	128	492	478	3029	1353	1456	738	2820	2580	0	0	0
LDT1		0	55	1	9	34	33	212	95	102	52	197	180	0	0	0
LDT2		0	50	1	8	31	30	192	86	93	47	179	164	0	0	0
LHD1		36	10595	287	1717	6608	6420	40699	18179	19560	9921	37885	34657	2	0	0
LHD2		10	2842	77	461	1773	1722	10918	4877	5247	2661	10163	9297	1	0	0
MCY		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MDV		0	87	2	14	54	52	332	148	160	81	309	283	0	0	0
MH		1	214	6	35	134	130	822	367	395	200	766	700	0	0	0
OBUS		3	753	20	122	469	456	2891	1292	1390	705	2691	2462	0	0	0
SBUS		1	358	10	58	223	217	1375	614	661	335	1280	1171	0	0	0
T6		37	10851	294	1759	6768	6575	41683	18619	20033	10161	38801	35495	2	0	0
T7		185	53697	1456	8704	33492	32537	206264	92134	99132	50279	192002	175645	12	0	0
UBUS		3	818	22	133	510	496	3142	1404	1510	766	2925	2676	0	0	0

EMFAC2011 Emission Rates

Region Type: County

Region: Fresno

Calendar Year: 2020

Season: Annual

Vehicle Classification: EMFAC2007 Categories

EMFAC2011: EMFAC Emission Rates Database. (Enter: region - County: Fresno, year - 2035, season - annual average, vehicle category - EMFAC2007, model year - aggregated, speed - all speeds, fuel - all) Website: <http://www.arb.ca.gov/emfac/>

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNITOG	RUNICO_RUNE	NOX_RUNICO2_RUNE	CO2_RUNE	PM10_RUN	PM2_5_RUNE	Percent of Total VMT
						(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	
Fresno	2020	LDA	GAS	5	1098	0.094	0.161	1.582	0.137	1129.595	765.503	0.011
Fresno	2020	LDA	DSL	5	3	0.050	0.057	0.374	0.495	487.081	329.765	0.035
Fresno	2020	LDA	GAS	10	19368	0.060	0.102	1.398	0.120	834.780	565.727	0.007
Fresno	2020	LDA	DSL	10	54	0.044	0.050	0.320	0.460	443.707	301.292	0.031
Fresno	2020	LDA	GAS	15	9051	0.040	0.069	1.249	0.106	640.941	434.371	0.005
Fresno	2020	LDA	DSL	15	25	0.034	0.039	0.244	0.405	378.486	258.478	0.024
Fresno	2020	LDA	GAS	20	570962	0.029	0.049	1.137	0.094	513.964	348.309	0.003
Fresno	2020	LDA	DSL	20	1581	0.028	0.032	0.194	0.366	334.546	229.633	0.019
Fresno	2020	LDA	GAS	25	115652	0.022	0.037	1.050	0.086	428.385	290.303	0.002
Fresno	2020	LDA	DSL	25	320	0.023	0.026	0.160	0.340	306.000	210.895	0.016
Fresno	2020	LDA	GAS	30	266830	0.017	0.029	0.956	0.080	367.605	249.119	0.002
Fresno	2020	LDA	DSL	30	739	0.020	0.022	0.137	0.323	289.294	199.928	0.014
Fresno	2020	LDA	GAS	35	920286	0.014	0.024	0.880	0.075	328.240	222.443	0.002
Fresno	2020	LDA	DSL	35	2549	0.017	0.020	0.121	0.315	282.453	195.437	0.012
Fresno	2020	LDA	GAS	40	1530954	0.012	0.021	0.812	0.073	303.705	205.819	0.001
Fresno	2020	LDA	DSL	40	4240	0.016	0.018	0.110	0.315	284.694	196.909	0.011
Fresno	2020	LDA	GAS	45	1340676	0.011	0.019	0.756	0.071	292.239	198.049	0.001
Fresno	2020	LDA	DSL	45	3713	0.015	0.017	0.102	0.323	296.273	204.509	0.010
Fresno	2020	LDA	GAS	50	1834855	0.011	0.018	0.711	0.070	292.103	197.956	0.001
Fresno	2020	LDA	DSL	50	5081	0.015	0.017	0.097	0.339	318.531	219.120	0.010
Fresno	2020	LDA	GAS	55	1221758	0.011	0.019	0.672	0.071	302.896	205.270	0.001
Fresno	2020	LDA	DSL	55	3383	0.015	0.017	0.095	0.366	354.161	242.510	0.010
Fresno	2020	LDA	GAS	60	1512184	0.012	0.020	0.641	0.073	325.755	220.762	0.001
Fresno	2020	LDA	DSL	60	4188	0.016	0.018	0.096	0.405	407.755	277.692	0.011
Fresno	2020	LDA	GAS	65	1544869	0.014	0.023	0.619	0.076	363.732	246.499	0.002
Fresno	2020	LDA	DSL	65	4278	0.018	0.021	0.100	0.462	486.799	329.580	0.012
Fresno	2020	LDA	GAS	70	1451954	0.015	0.024	0.613	0.078	390.013	264.308	0.002
Fresno	2020	LDA	DSL	70	4021	0.022	0.025	0.108	0.543	603.418	406.135	0.014
Fresno	2020	LDT1	GAS	5	160	0.231	0.351	3.960	0.377	1304.797	925.652	0.019
Fresno	2020	LDT1	DSL	5	0	0.089	0.101	0.535	0.559	486.454	323.971	0.070
Fresno	2020	LDT1	GAS	10	2829	0.152	0.230	3.408	0.318	964.453	684.236	0.012
Fresno	2020	LDT1	DSL	10	4	0.078	0.089	0.454	0.520	444.130	296.952	0.061
Fresno	2020	LDT1	GAS	15	1322	0.105	0.158	2.980	0.275	740.614	525.449	0.008
Fresno	2020	LDT1	DSL	15	2	0.061	0.070	0.340	0.458	380.487	256.323	0.048
Fresno	2020	LDT1	GAS	20	83407	0.076	0.115	2.662	0.240	593.771	421.249	0.006
Fresno	2020	LDT1	DSL	20	111	0.050	0.056	0.267	0.414	337.611	228.951	0.039
Fresno	2020	LDT1	GAS	25	16895	0.059	0.088	2.422	0.216	494.765	350.988	0.004
Fresno	2020	LDT1	DSL	25	22	0.041	0.047	0.218	0.384	309.756	211.169	0.033
Fresno	2020	LDT1	GAS	30	38979	0.047	0.070	2.188	0.199	424.638	301.251	0.003
Fresno	2020	LDT1	DSL	30	52	0.035	0.040	0.185	0.365	293.454	200.762	0.028
Fresno	2020	LDT1	GAS	35	134437	0.039	0.058	2.005	0.188	379.177	269.001	0.003
Fresno	2020	LDT1	DSL	35	178	0.031	0.035	0.162	0.356	286.779	196.500	0.024
Fresno	2020	LDT1	GAS	40	223645	0.034	0.051	1.849	0.181	350.876	248.930	0.003
Fresno	2020	LDT1	DSL	40	296	0.028	0.032	0.146	0.356	288.966	197.897	0.022
Fresno	2020	LDT1	GAS	45	195849	0.031	0.046	1.729	0.178	337.631	239.533	0.002
Fresno	2020	LDT1	DSL	45	260	0.026	0.029	0.136	0.365	300.264	205.109	0.020
Fresno	2020	LDT1	GAS	50	268040	0.030	0.044	1.636	0.179	337.461	239.410	0.002
Fresno	2020	LDT1	DSL	50	355	0.025	0.028	0.130	0.383	321.983	218.975	0.019
Fresno	2020	LDT1	GAS	55	178477	0.030	0.045	1.566	0.185	349.925	248.252	0.002
Fresno	2020	LDT1	DSL	55	237	0.025	0.028	0.128	0.413	356.751	241.170	0.019
Fresno	2020	LDT1	GAS	60	220903	0.032	0.047	1.518	0.194	376.343	266.996	0.002
Fresno	2020	LDT1	DSL	60	293	0.026	0.029	0.130	0.458	409.048	274.556	0.019
Fresno	2020	LDT1	GAS	65	225678	0.035	0.052	1.500	0.210	420.222	298.126	0.003
Fresno	2020	LDT1	DSL	65	299	0.028	0.032	0.137	0.522	486.179	323.796	0.020
Fresno	2020	LDT1	GAS	70	212105	0.037	0.055	1.505	0.219	450.568	319.653	0.003
Fresno	2020	LDT1	DSL	70	281	0.032	0.036	0.151	0.613	599.976	396.443	0.022
Fresno	2020	LDT2	GAS	5	410	0.131	0.221	2.189	0.234	1536.029	1143.767	0.012
Fresno	2020	LDT2	DSL	5	0	0.060	0.069	0.427	0.598	483.636	352.950	0.041
Fresno	2020	LDT2	GAS	10	7240	0.084	0.141	1.931	0.202	1135.276	845.371	0.007
Fresno	2020	LDT2	DSL	10	3	0.053	0.060	0.365	0.555	441.459	322.998	0.036
Fresno	2020	LDT2	GAS	15	3384	0.057	0.095	1.722	0.177	871.738	649.139	0.005
Fresno	2020	LDT2	DSL	15	2	0.041	0.047	0.278	0.489	378.039	277.960	0.028
Fresno	2020	LDT2	GAS	20	213438	0.041	0.068	1.564	0.157	698.954	520.466	0.004
Fresno	2020	LDT2	DSL	20	100	0.033	0.038	0.221	0.441	335.312	247.618	0.023
Fresno	2020	LDT2	GAS	25	43233	0.031	0.051	1.441	0.142	582.476	433.722	0.003
Fresno	2020	LDT2	DSL	25	20	0.028	0.031	0.183	0.409	307.556	227.906	0.019
Fresno	2020	LDT2	GAS	30	99747	0.024	0.040	1.311	0.132	499.883	372.227	0.002
Fresno	2020	LDT2	DSL	30	47	0.024	0.027	0.157	0.389	291.311	216.370	0.016
Fresno	2020	LDT2	GAS	35	344023	0.020	0.033	1.207	0.124	446.361	332.374	0.002
Fresno	2020	LDT2	DSL	35	162	0.021	0.024	0.138	0.379	284.658	211.646	0.014
Fresno	2020	LDT2	GAS	40	572304	0.018	0.029	1.113	0.119	413.026	307.555	0.001
Fresno	2020	LDT2	DSL	40	269	0.019	0.022	0.126	0.379	286.838	213.193	0.013
Fresno	2020	LDT2	GAS	45	501174	0.016	0.026	1.037	0.117	397.434	295.945	0.001
Fresno	2020	LDT2	DSL	45	236	0.018	0.020	0.117	0.389	298.097	221.189	0.012
Fresno	2020	LDT2	GAS	50	685909	0.015	0.025	0.974	0.116	397.240	295.799	0.001
Fresno	2020	LDT2	DSL	50	323	0.018	0.020	0.111	0.409	319.740	236.559	0.012
Fresno	2020	LDT2	GAS	55	456720	0.016	0.026	0.921	0.118	411.914	306.726	0.001
Fresno	2020	LDT2	DSL	55	215	0.018	0.020	0.109	0.441	354.386	261.163	0.012

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNITOG_RUNICO_RUNE>NOX_RUNICO2_RUNE>CO2_RUNE>PM10_RUNPM2_5_RUNE>							Percent of Total VMT	
						(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)		(gms/mile)
Fresno	2020	LDT2	GAS	60	565287	0.017	0.027	0.878	0.122	443.008	329.880	0.001	0.001	1.999%
Fresno	2020	LDT2	DSL	60	266	0.019	0.022	0.110	0.490	406.500	298.172	0.012	0.011	0.001%
Fresno	2020	LDT2	GAS	65	577506	0.019	0.031	0.848	0.128	494.657	368.340	0.002	0.001	2.042%
Fresno	2020	LDT2	DSL	65	272	0.021	0.024	0.115	0.559	483.361	352.755	0.013	0.012	0.001%
Fresno	2020	LDT2	GAS	70	542772	0.020	0.033	0.840	0.132	530.386	394.944	0.002	0.002	1.919%
Fresno	2020	LDT2	DSL	70	255	0.025	0.029	0.124	0.659	596.760	433.285	0.015	0.014	0.001%
Fresno	2020	LHD1	GAS	5	21384	0.375	0.446	4.549	0.272	2513.497	2262.147	0.005	0.005	0.076%
Fresno	2020	LHD1	DSL	5	8074	0.375	0.426	2.919	4.000	521.440	469.296	0.084	0.078	0.029%
Fresno	2020	LHD1	GAS	10	55761	0.302	0.359	3.685	0.278	2036.128	1832.515	0.004	0.004	0.197%
Fresno	2020	LHD1	DSL	10	26849	0.331	0.377	2.410	3.626	521.440	469.296	0.075	0.069	0.095%
Fresno	2020	LHD1	GAS	15	126976	0.203	0.241	2.525	0.291	1392.430	1253.187	0.003	0.003	0.449%
Fresno	2020	LHD1	DSL	15	58148	0.263	0.299	1.700	3.065	521.440	469.296	0.059	0.054	0.206%
Fresno	2020	LHD1	GAS	20	146720	0.141	0.167	1.820	0.306	1006.069	905.462	0.002	0.002	0.519%
Fresno	2020	LHD1	DSL	20	63749	0.213	0.243	1.255	2.681	521.440	469.296	0.048	0.044	0.225%
Fresno	2020	LHD1	GAS	25	113020	0.101	0.121	1.381	0.324	768.012	691.211	0.001	0.001	0.400%
Fresno	2020	LHD1	DSL	25	68228	0.177	0.201	0.970	2.438	521.440	469.296	0.040	0.037	0.241%
Fresno	2020	LHD1	GAS	30	99946	0.077	0.092	1.114	0.337	619.434	557.490	0.001	0.001	0.353%
Fresno	2020	LHD1	DSL	30	57593	0.150	0.171	0.784	2.287	521.440	469.296	0.034	0.031	0.204%
Fresno	2020	LHD1	GAS	35	37346	0.060	0.072	0.941	0.358	527.846	475.062	0.001	0.001	0.132%
Fresno	2020	LHD1	DSL	35	30394	0.130	0.148	0.663	2.235	521.440	469.296	0.029	0.027	0.107%
Fresno	2020	LHD1	GAS	40	11024	0.047	0.058	0.839	0.380	475.233	427.710	0.001	0.001	0.039%
Fresno	2020	LHD1	DSL	40	16685	0.115	0.131	0.588	2.260	521.440	469.296	0.026	0.024	0.059%
Fresno	2020	LHD1	GAS	45	13571	0.041	0.051	0.804	0.389	452.056	406.850	0.001	0.001	0.048%
Fresno	2020	LHD1	DSL	45	18009	0.104	0.119	0.545	2.357	521.440	469.296	0.023	0.022	0.064%
Fresno	2020	LHD1	GAS	50	100208	0.038	0.046	0.820	0.392	454.322	408.890	0.001	0.001	0.354%
Fresno	2020	LHD1	DSL	50	69538	0.097	0.110	0.528	2.547	521.440	469.296	0.022	0.020	0.246%
Fresno	2020	LHD1	GAS	55	27562	0.034	0.042	0.852	0.424	482.415	434.174	0.001	0.000	0.097%
Fresno	2020	LHD1	DSL	55	41877	0.091	0.104	0.536	2.869	521.440	469.296	0.021	0.019	0.148%
Fresno	2020	LHD2	GAS	5	2186	0.176	0.229	2.419	0.209	2513.497	2262.148	0.004	0.004	0.008%
Fresno	2020	LHD2	DSL	5	2166	0.350	0.399	2.780	3.777	521.326	469.193	0.080	0.074	0.008%
Fresno	2020	LHD2	GAS	10	5700	0.142	0.185	1.959	0.214	2036.128	1832.515	0.003	0.003	0.020%
Fresno	2020	LHD2	DSL	10	7203	0.310	0.352	2.295	3.424	521.325	469.193	0.071	0.065	0.025%
Fresno	2020	LHD2	GAS	15	12980	0.095	0.124	1.342	0.224	1392.430	1253.187	0.002	0.002	0.046%
Fresno	2020	LHD2	DSL	15	15599	0.246	0.280	1.619	2.895	521.325	469.193	0.056	0.052	0.055%
Fresno	2020	LHD2	GAS	20	14998	0.066	0.086	0.968	0.236	1006.068	905.462	0.001	0.001	0.053%
Fresno	2020	LHD2	DSL	20	17102	0.199	0.227	1.195	2.532	521.326	469.193	0.046	0.042	0.060%
Fresno	2020	LHD2	GAS	25	11553	0.048	0.062	0.735	0.249	768.012	691.211	0.001	0.001	0.041%
Fresno	2020	LHD2	DSL	25	18303	0.165	0.188	0.923	2.302	521.325	469.193	0.038	0.035	0.065%
Fresno	2020	LHD2	GAS	30	10217	0.036	0.047	0.593	0.260	619.434	557.490	0.001	0.001	0.036%
Fresno	2020	LHD2	DSL	30	15450	0.140	0.160	0.747	2.160	521.325	469.193	0.032	0.029	0.055%
Fresno	2020	LHD2	GAS	35	3818	0.028	0.037	0.501	0.275	527.847	475.062	0.001	0.001	0.013%
Fresno	2020	LHD2	DSL	35	8154	0.122	0.138	0.632	2.110	521.325	469.193	0.028	0.026	0.029%
Fresno	2020	LHD2	GAS	40	1127	0.022	0.030	0.447	0.292	475.233	427.710	0.001	0.000	0.004%
Fresno	2020	LHD2	DSL	40	4476	0.108	0.123	0.559	2.134	521.326	469.193	0.025	0.023	0.016%
Fresno	2020	LHD2	GAS	45	1387	0.019	0.026	0.428	0.299	452.056	406.850	0.000	0.000	0.005%
Fresno	2020	LHD2	DSL	45	4831	0.098	0.111	0.519	2.226	521.326	469.193	0.022	0.021	0.017%
Fresno	2020	LHD2	GAS	50	10244	0.018	0.024	0.436	0.301	454.322	408.890	0.000	0.000	0.036%
Fresno	2020	LHD2	DSL	50	18655	0.090	0.103	0.503	2.406	521.326	469.193	0.021	0.019	0.066%
Fresno	2020	LHD2	GAS	55	2818	0.016	0.022	0.454	0.326	482.415	434.174	0.000	0.000	0.010%
Fresno	2020	LHD2	DSL	55	11234	0.085	0.097	0.511	2.709	521.326	469.193	0.020	0.018	0.040%
Fresno	2020	MCY	GAS	5	17	4.776	5.222	25.297	1.225	263.610	237.249	0.001	0.001	0.000%
Fresno	2020	MCY	GAS	10	294	4.145	4.531	23.259	1.206	239.987	215.988	0.001	0.000	0.001%
Fresno	2020	MCY	GAS	15	138	3.234	3.534	20.126	1.170	203.310	182.979	0.000	0.000	0.000%
Fresno	2020	MCY	GAS	20	8680	2.640	2.882	17.908	1.138	177.288	159.559	0.000	0.000	0.031%
Fresno	2020	MCY	GAS	25	1758	2.270	2.478	16.658	1.123	159.112	143.201	0.000	0.000	0.006%
Fresno	2020	MCY	GAS	30	4057	2.058	2.246	16.090	1.127	147.004	132.304	0.000	0.000	0.014%
Fresno	2020	MCY	GAS	35	13991	1.958	2.136	16.133	1.137	139.896	125.906	0.000	0.000	0.049%
Fresno	2020	MCY	GAS	40	23275	1.959	2.136	16.876	1.159	137.249	123.524	0.000	0.000	0.082%
Fresno	2020	MCY	GAS	45	20382	2.055	2.241	18.449	1.187	138.977	125.079	0.000	0.000	0.072%
Fresno	2020	MCY	GAS	50	27895	2.263	2.468	21.206	1.223	145.449	130.904	0.000	0.000	0.099%
Fresno	2020	MCY	GAS	55	18574	2.619	2.856	25.780	1.270	157.575	141.818	0.000	0.000	0.066%
Fresno	2020	MCY	GAS	60	22990	3.182	3.470	33.188	1.328	177.005	159.304	0.000	0.000	0.081%
Fresno	2020	MCY	GAS	65	23487	4.060	4.427	45.384	1.399	206.487	185.838	0.001	0.000	0.083%
Fresno	2020	MCY	GAS	70	22074	5.434	5.927	65.781	1.482	250.516	225.464	0.001	0.001	0.078%
Fresno	2020	MDV	GAS	5	427	0.277	0.430	3.830	0.458	1956.688	1525.973	0.013	0.012	0.002%
Fresno	2020	MDV	DSL	5	0	0.061	0.070	0.403	0.473	490.289	377.109	0.048	0.044	0.000%
Fresno	2020	MDV	GAS	10	7543	0.179	0.276	3.325	0.393	1446.236	1127.907	0.009	0.008	0.027%
Fresno	2020	MDV	DSL	10	6	0.054	0.061	0.345	0.441	446.290	343.749	0.042	0.039	0.000%
Fresno	2020	MDV	GAS	15	3525	0.122	0.187	2.933	0.344	1110.541	866.114	0.006	0.005	0.012%
Fresno	2020	MDV	DSL	15	3	0.042	0.048	0.262	0.391	380.129	293.587	0.033	0.030	0.000%
Fresno	2020	MDV	GAS	20	222363	0.088	0.134	2.641	0.303	890.394	694.407	0.004	0.004	0.786%
Fresno	2020	MDV	DSL	20	173	0.034	0.039	0.209	0.354	335.555	259.792	0.027	0.024	0.001%
Fresno	2020	MDV	GAS	25	45041	0.067	0.102	2.421	0.274	741.978	578.643	0.003	0.003	0.159%
Fresno	2020	MDV	DSL	25	35	0.028	0.032	0.173	0.329	306.599	237.837	0.022	0.020	0.000%
Fresno	2020	MDV	GAS	30	103918	0.053	0.080	2.199	0.255	636.786	496.616	0.002	0.002	0.367%
Fresno	2020	MDV	DSL	30	81	0.024	0.027	0.148	0.314	289.652	224.988	0.019	0.017	0.000%
Fresno	2020	MDV	GAS	35	358409	0.044	0.067	2.023	0.241	568.609	443.447	0.002	0.002	1.267%
Fresno	2020	MDV	DSL	35	280	0.021	0.024	0.130	0.306	282.712	219.727	0.017	0.015	0.001%
Fresno	2020	MDV	GAS	40	596236	0.039	0.058	1.869	0.232	526.155	410.343	0.002	0.002	2.108%
Fresno	2020	MDV	DSL	40	465	0.019	0.022	0.118	0.306	284.986	221.451	0.015	0.014	0.002%
Fresno	2020	MDV	GAS	45	522132	0.035	0.053	1.748	0.227	506.293	394.853	0.002	0.001	1.846%
Fresno	2020	MDV	DSL	45	407	0.018	0.021	0.110	0.312	296.731	230.356	0.014	0.013	0.001%
Fresno	2020	MDV	GAS	50	714592	0.034	0.052	1.654	0.227	506.042	394.656	0.002	0.001	2.526%
Fresno	2020	MDV	DSL	50	558	0.018	0.020	0.105	0.327					

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNI (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNE (gms/mile)	NOX_RUNI (gms/mile)	CO2_RUNE (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2020	MDV	GAS	55	475819	0.035	0.052	1.582	0.231	524.734	409.233	0.002	0.001	1.682%
Fresno	2020	MDV	DSL	55	371	0.018	0.020	0.103	0.351	355.453	274.878	0.013	0.012	0.001%
Fresno	2020	MDV	GAS	60	588926	0.037	0.056	1.533	0.240	564.346	440.127	0.002	0.002	2.082%
Fresno	2020	MDV	DSL	60	460	0.019	0.022	0.104	0.387	409.820	316.098	0.014	0.013	0.002%
Fresno	2020	MDV	GAS	65	601656	0.042	0.063	1.516	0.255	630.143	491.442	0.002	0.002	2.127%
Fresno	2020	MDV	DSL	65	469	0.021	0.024	0.108	0.438	490.003	376.892	0.015	0.014	0.002%
Fresno	2020	MDV	GAS	70	565469	0.045	0.068	1.524	0.265	675.655	526.934	0.002	0.002	1.999%
Fresno	2020	MDV	DSL	70	441	0.025	0.028	0.117	0.511	608.303	466.585	0.018	0.016	0.002%
Fresno	2020	MH	GAS	5	376	0.381	0.496	7.969	0.418	2513.497	2262.148	0.007	0.006	0.001%
Fresno	2020	MH	DSL	5	75	1.550	1.765	2.437	16.025	2390.067	2151.060	0.434	0.400	0.000%
Fresno	2020	MH	GAS	10	1890	0.307	0.399	6.452	0.429	2036.128	1832.515	0.005	0.005	0.007%
Fresno	2020	MH	DSL	10	371	1.173	1.335	2.005	13.487	2170.188	1953.169	0.365	0.336	0.001%
Fresno	2020	MH	GAS	15	2387	0.207	0.268	4.430	0.447	1392.430	1253.187	0.004	0.003	0.008%
Fresno	2020	MH	DSL	15	501	0.604	0.687	1.326	9.644	1781.907	1603.716	0.253	0.232	0.002%
Fresno	2020	MH	GAS	20	2476	0.144	0.187	3.202	0.468	1006.069	905.462	0.003	0.002	0.009%
Fresno	2020	MH	DSL	20	532	0.281	0.320	0.893	7.477	1462.260	1316.034	0.174	0.160	0.002%
Fresno	2020	MH	GAS	25	2759	0.105	0.136	2.446	0.489	768.012	691.211	0.002	0.002	0.010%
Fresno	2020	MH	DSL	25	554	0.206	0.235	0.737	6.780	1311.566	1180.410	0.143	0.131	0.002%
Fresno	2020	MH	GAS	30	3119	0.079	0.103	1.968	0.512	619.434	557.490	0.001	0.001	0.011%
Fresno	2020	MH	DSL	30	666	0.171	0.195	0.652	6.369	1231.099	1107.989	0.126	0.116	0.002%
Fresno	2020	MH	GAS	35	3877	0.062	0.081	1.675	0.534	527.847	475.062	0.001	0.001	0.014%
Fresno	2020	MH	DSL	35	785	0.143	0.163	0.583	6.042	1164.322	1047.889	0.116	0.106	0.003%
Fresno	2020	MH	GAS	40	4826	0.051	0.067	1.507	0.557	475.233	427.710	0.001	0.001	0.017%
Fresno	2020	MH	DSL	40	975	0.122	0.139	0.532	5.798	1111.233	1000.110	0.112	0.103	0.003%
Fresno	2020	MH	GAS	45	4401	0.044	0.057	1.436	0.576	452.056	406.850	0.001	0.001	0.016%
Fresno	2020	MH	DSL	45	798	0.108	0.123	0.499	5.626	1071.835	964.651	0.115	0.106	0.003%
Fresno	2020	MH	GAS	50	4283	0.039	0.051	1.434	0.604	454.322	408.890	0.001	0.001	0.015%
Fresno	2020	MH	DSL	50	893	0.101	0.115	0.483	5.549	1046.125	941.513	0.125	0.115	0.003%
Fresno	2020	MH	GAS	55	5602	0.035	0.048	1.519	0.629	482.416	434.174	0.001	0.001	0.020%
Fresno	2020	MH	DSL	55	1309	0.100	0.114	0.484	5.555	1034.105	930.695	0.141	0.130	0.005%
Fresno	2020	MH	GAS	60	6464	0.034	0.046	1.707	0.649	541.209	487.088	0.001	0.001	0.023%
Fresno	2020	MH	DSL	60	1573	0.107	0.121	0.503	5.635	1035.774	932.197	0.164	0.151	0.006%
Fresno	2020	MH	GAS	65	1010	0.035	0.047	2.037	0.661	641.498	577.348	0.001	0.001	0.004%
Fresno	2020	MH	DSL	65	248	0.120	0.137	0.539	5.781	1051.133	946.020	0.194	0.178	0.001%
Fresno	2020	OBUS	GAS	5	223	0.633	0.755	8.526	0.605	2513.497	2262.148	0.003	0.002	0.001%
Fresno	2020	OBUS	DSL	5	189	1.608	1.831	2.973	10.090	3023.779	2721.401	0.079	0.072	0.001%
Fresno	2020	OBUS	GAS	10	1122	0.510	0.607	6.903	0.621	2036.128	1832.515	0.002	0.002	0.004%
Fresno	2020	OBUS	DSL	10	874	0.899	1.023	1.776	7.291	2435.175	2191.657	0.066	0.061	0.003%
Fresno	2020	OBUS	GAS	15	1417	0.343	0.408	4.737	0.647	1392.430	1253.187	0.001	0.001	0.005%
Fresno	2020	OBUS	DSL	15	1150	0.450	0.512	1.026	5.323	1981.851	1783.666	0.055	0.051	0.004%
Fresno	2020	OBUS	GAS	20	1470	0.239	0.284	3.423	0.677	1006.069	905.462	0.001	0.001	0.005%
Fresno	2020	OBUS	DSL	20	1536	0.216	0.246	0.645	4.177	1680.002	1512.002	0.048	0.044	0.005%
Fresno	2020	OBUS	GAS	25	1638	0.174	0.207	2.615	0.707	768.012	691.211	0.001	0.001	0.006%
Fresno	2020	OBUS	DSL	25	1593	0.188	0.214	0.603	3.802	1565.883	1409.294	0.045	0.041	0.006%
Fresno	2020	OBUS	GAS	30	1852	0.132	0.156	2.105	0.740	619.434	557.490	0.001	0.001	0.007%
Fresno	2020	OBUS	DSL	30	2223	0.173	0.197	0.613	3.549	1524.477	1372.029	0.045	0.042	0.008%
Fresno	2020	OBUS	GAS	35	2302	0.104	0.123	1.792	0.773	527.847	475.062	0.000	0.000	0.008%
Fresno	2020	OBUS	DSL	35	3281	0.161	0.183	0.642	3.347	1506.803	1356.123	0.048	0.044	0.012%
Fresno	2020	OBUS	GAS	40	2865	0.085	0.102	1.612	0.805	475.233	427.710	0.000	0.000	0.010%
Fresno	2020	OBUS	DSL	40	3503	0.134	0.153	0.604	3.092	1398.002	1258.201	0.050	0.046	0.012%
Fresno	2020	OBUS	GAS	45	2613	0.073	0.087	1.536	0.833	452.056	406.850	0.000	0.000	0.009%
Fresno	2020	OBUS	DSL	45	3920	0.129	0.147	0.669	2.998	1422.507	1280.256	0.057	0.053	0.014%
Fresno	2020	OBUS	GAS	50	2543	0.065	0.078	1.535	0.872	454.322	408.890	0.000	0.000	0.009%
Fresno	2020	OBUS	DSL	50	4186	0.115	0.130	0.680	2.891	1378.940	1241.046	0.064	0.059	0.015%
Fresno	2020	OBUS	GAS	55	3326	0.059	0.072	1.626	0.909	482.416	434.174	0.000	0.000	0.012%
Fresno	2020	OBUS	DSL	55	5487	0.102	0.117	0.690	2.837	1338.974	1205.076	0.072	0.066	0.019%
Fresno	2020	OBUS	GAS	60	3838	0.056	0.071	1.827	0.937	541.209	487.088	0.000	0.000	0.014%
Fresno	2020	OBUS	DSL	60	3711	0.078	0.089	0.559	2.741	1163.509	1047.158	0.073	0.067	0.013%
Fresno	2020	OBUS	GAS	65	600	0.058	0.072	2.179	0.955	641.498	577.348	0.000	0.000	0.002%
Fresno	2020	OBUS	DSL	65	966	0.094	0.107	0.772	2.936	1343.842	1209.458	0.095	0.088	0.003%
Fresno	2020	SBUS	GAS	5	58	5.033	5.476	52.641	1.402	2513.497	2262.147	0.022	0.020	0.000%
Fresno	2020	SBUS	DSL	5	154	1.310	1.491	1.990	25.323	2632.233	2369.010	0.231	0.213	0.001%
Fresno	2020	SBUS	GAS	10	203	4.067	4.423	42.717	1.431	2036.128	1832.515	0.018	0.016	0.001%
Fresno	2020	SBUS	DSL	10	538	0.769	0.876	1.349	17.377	2174.430	1956.987	0.161	0.149	0.002%
Fresno	2020	SBUS	GAS	15	407	2.721	2.959	29.212	1.502	1392.430	1253.187	0.012	0.011	0.001%
Fresno	2020	SBUS	DSL	15	1077	0.393	0.448	0.880	12.021	1785.396	1606.856	0.108	0.100	0.004%
Fresno	2020	SBUS	GAS	20	552	1.898	2.064	21.110	1.572	1006.069	905.462	0.008	0.008	0.002%
Fresno	2020	SBUS	DSL	20	1462	0.162	0.185	0.548	9.026	1408.500	1267.650	0.068	0.062	0.005%
Fresno	2020	SBUS	GAS	25	872	1.379	1.499	16.111	1.644	768.012	691.211	0.006	0.006	0.003%
Fresno	2020	SBUS	DSL	25	2307	0.135	0.154	0.482	8.630	1314.162	1182.746	0.057	0.052	0.008%
Fresno	2020	SBUS	GAS	30	1046	1.044	1.135	12.990	1.716	619.434	557.490	0.005	0.004	0.004%
Fresno	2020	SBUS	DSL	30	2768	0.113	0.129	0.428	8.310	1233.539	1110.186	0.049	0.045	0.010%
Fresno	2020	SBUS	GAS	35	1073	0.822	0.894	11.051	1.795	527.847	475.062	0.004	0.003	0.004%
Fresno	2020	SBUS	DSL	35	2841	0.095	0.108	0.385	8.066	1166.633	1049.970	0.044	0.040	0.010%
Fresno	2020	SBUS	GAS	40	725	0.675	0.735	9.939	1.872	475.233	427.710	0.003	0.003	0.003%
Fresno	2020	SBUS	DSL	40	1918	0.081	0.092	0.354	7.899	1113.442	1002.098	0.041	0.038	0.007%
Fresno	2020	SBUS	GAS	45	348	0.579	0.630	9.449	1.946	452.056	406.850	0.003	0.002	0.001%
Fresno	2020	SBUS	DSL	45	920	0.072	0.082	0.334	7.808	1073.967	966.571	0.042	0.039	0.003%
Fresno	2020	SBUS	GAS	50	174	0.520	0.565	9.515	2.006	454.322	408.890	0.002	0.002	0.001%
Fresno	2020	SBUS	DSL	50	461	0.067	0.077	0.325	7.792	1048.208	943.387	0.045	0.042	0.002%
Fresno	2020	SBUS	GAS	55	259	0.476	0.518	10.008	2.130	482.415	434.174	0.002	0.002	0.001%
Fresno	2020	SBUS	DSL	55	686	0.067	0.076	0.328	7.854	1036.165	932.548	0.052	0.047	0.002%
Fresno	2020	SBUS	GAS	60	144	0.464	0.506	11.253	2.191	541.209	487.088	0.002	0.002	0.001%
Fresno	2020	SBUS	DSL	60	382	0.071	0.081	0.342	7.991	1037.837	934.054	0.061	0.056	

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNI (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNE (gms/mile)	NOX_RUNI (gms/mile)	CO2_RUNE (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2020 T6	GAS		5	758	0.553	0.654	7.169	0.405	2513.497	2262.148	0.003	0.003	0.003%
Fresno	2020 T6	DSL		5	3782	1.354	1.542	2.345	7.377	2577.874	2320.086	0.088	0.081	0.013%
Fresno	2020 T6	GAS		10	3809	0.445	0.526	5.805	0.416	2036.128	1832.515	0.003	0.002	0.013%
Fresno	2020 T6	DSL		10	18826	0.790	0.899	1.478	5.439	2129.525	1916.573	0.074	0.068	0.067%
Fresno	2020 T6	GAS		15	4812	0.300	0.354	3.983	0.433	1392.430	1253.187	0.002	0.002	0.017%
Fresno	2020 T6	DSL		15	25408	0.403	0.458	0.874	4.024	1748.525	1573.672	0.062	0.057	0.090%
Fresno	2020 T6	GAS		20	4991	0.209	0.247	2.878	0.453	1006.069	905.462	0.001	0.001	0.018%
Fresno	2020 T6	DSL		20	26946	0.172	0.196	0.486	3.039	1379.412	1241.471	0.052	0.048	0.095%
Fresno	2020 T6	GAS		25	5561	0.152	0.179	2.199	0.474	768.012	691.211	0.001	0.001	0.020%
Fresno	2020 T6	DSL		25	28064	0.150	0.170	0.454	2.760	1287.022	1158.320	0.048	0.044	0.099%
Fresno	2020 T6	GAS		30	6288	0.115	0.136	1.770	0.495	619.434	557.490	0.001	0.001	0.022%
Fresno	2020 T6	DSL		30	33744	0.130	0.148	0.430	2.523	1208.065	1087.259	0.047	0.043	0.119%
Fresno	2020 T6	GAS		35	7815	0.090	0.107	1.507	0.517	527.847	475.062	0.001	0.000	0.028%
Fresno	2020 T6	DSL		35	39789	0.113	0.128	0.414	2.329	1142.540	1028.286	0.047	0.044	0.141%
Fresno	2020 T6	GAS		40	9729	0.074	0.088	1.356	0.539	475.233	427.710	0.000	0.000	0.034%
Fresno	2020 T6	DSL		40	49392	0.098	0.112	0.407	2.177	1090.448	981.403	0.050	0.046	0.175%
Fresno	2020 T6	GAS		45	8872	0.064	0.076	1.291	0.558	452.056	406.850	0.000	0.000	0.031%
Fresno	2020 T6	DSL		45	40445	0.087	0.099	0.408	2.067	1051.788	946.610	0.054	0.050	0.143%
Fresno	2020 T6	GAS		50	8634	0.057	0.067	1.291	0.584	454.322	408.890	0.000	0.000	0.031%
Fresno	2020 T6	DSL		50	45265	0.078	0.089	0.418	2.000	1026.561	923.905	0.061	0.056	0.160%
Fresno	2020 T6	GAS		55	11293	0.052	0.063	1.368	0.609	482.416	434.174	0.000	0.000	0.040%
Fresno	2020 T6	DSL		55	66331	0.072	0.082	0.436	1.976	1014.767	913.290	0.069	0.064	0.235%
Fresno	2020 T6	GAS		60	13031	0.050	0.061	1.537	0.628	541.209	487.088	0.000	0.000	0.046%
Fresno	2020 T6	DSL		60	79708	0.069	0.079	0.463	1.994	1016.405	914.764	0.080	0.074	0.282%
Fresno	2020 T6	GAS		65	2036	0.051	0.062	1.832	0.640	641.498	577.348	0.000	0.000	0.007%
Fresno	2020 T6	DSL		65	12544	0.069	0.078	0.498	2.054	1031.475	928.327	0.092	0.085	0.044%
Fresno	2020 T7	GAS		5	45	3.376	4.096	125.625	3.585	2513.497	2262.147	0.002	0.002	0.000%
Fresno	2020 T7	DSL		5	8397	2.686	3.058	5.318	10.865	3977.808	3580.027	0.097	0.089	0.030%
Fresno	2020 T7	GAS		10	221	2.741	3.305	101.997	3.655	2036.128	1832.515	0.001	0.001	0.001%
Fresno	2020 T7	DSL		10	32076	1.564	1.780	3.329	8.059	3285.980	2957.382	0.084	0.078	0.113%
Fresno	2020 T7	GAS		15	241	1.829	2.214	69.829	3.829	1392.430	1253.187	0.001	0.001	0.001%
Fresno	2020 T7	DSL		15	39229	0.795	0.905	1.946	5.993	2698.075	2428.267	0.073	0.068	0.139%
Fresno	2020 T7	GAS		20	411	1.271	1.539	50.310	4.035	1006.069	905.462	0.001	0.001	0.001%
Fresno	2020 T7	DSL		20	97100	0.330	0.375	1.032	4.638	2129.583	1916.625	0.061	0.057	0.343%
Fresno	2020 T7	GAS		25	537	0.924	1.122	38.485	4.198	768.012	691.211	0.000	0.000	0.002%
Fresno	2020 T7	DSL		25	88605	0.297	0.338	1.002	4.093	1985.950	1787.355	0.060	0.055	0.313%
Fresno	2020 T7	GAS		30	980	0.703	0.850	31.074	4.369	619.434	557.490	0.000	0.000	0.003%
Fresno	2020 T7	DSL		30	149590	0.259	0.294	0.956	3.725	1864.114	1677.703	0.059	0.054	0.529%
Fresno	2020 T7	GAS		35	1743	0.555	0.673	26.510	4.541	527.847	475.062	0.000	0.000	0.006%
Fresno	2020 T7	DSL		35	269115	0.225	0.256	0.927	3.423	1763.006	1586.705	0.060	0.055	0.951%
Fresno	2020 T7	GAS		40	1520	0.456	0.554	23.856	4.724	475.233	427.710	0.000	0.000	0.005%
Fresno	2020 T7	DSL		40	253967	0.197	0.224	0.917	3.186	1682.624	1514.362	0.064	0.059	0.898%
Fresno	2020 T7	GAS		45	1608	0.389	0.474	22.636	4.934	452.056	406.850	0.000	0.000	0.006%
Fresno	2020 T7	DSL		45	355570	0.174	0.198	0.925	3.013	1622.970	1460.673	0.070	0.064	1.257%
Fresno	2020 T7	GAS		50	1682	0.346	0.424	22.756	5.110	454.322	408.890	0.000	0.000	0.006%
Fresno	2020 T7	DSL		50	369784	0.156	0.177	0.951	2.906	1584.043	1425.639	0.079	0.072	1.307%
Fresno	2020 T7	GAS		55	2470	0.324	0.397	24.233	5.260	482.416	434.174	0.000	0.000	0.009%
Fresno	2020 T7	DSL		55	450929	0.143	0.163	0.996	2.864	1565.844	1409.259	0.090	0.083	1.594%
Fresno	2020 T7	GAS		60	609	0.310	0.385	27.122	5.471	541.209	487.088	0.000	0.000	0.002%
Fresno	2020 T7	DSL		60	137369	0.136	0.154	1.059	2.887	1568.371	1411.534	0.103	0.095	0.486%
Fresno	2020 T7	GAS		65	327	0.316	0.389	32.082	5.670	641.498	577.348	0.000	0.000	0.001%
Fresno	2020 T7	DSL		65	75240	0.133	0.152	1.139	2.976	1591.625	1432.463	0.119	0.110	0.266%
Fresno	2020 UBUS	GAS		5	143	3.116	3.396	28.870	2.332	2513.497	2262.147	0.003	0.003	0.001%
Fresno	2020 UBUS	DSL		5	351	1.272	1.448	8.235	20.888	2440.865	2196.778	0.604	0.555	0.001%
Fresno	2020 UBUS	GAS		10	512	2.509	2.735	23.387	2.392	2036.128	1832.515	0.003	0.002	0.002%
Fresno	2020 UBUS	DSL		10	1261	1.079	1.228	6.485	18.155	2440.864	2196.778	0.512	0.471	0.004%
Fresno	2020 UBUS	GAS		15	1023	1.678	1.830	15.993	2.510	1392.430	1253.187	0.002	0.002	0.004%
Fresno	2020 UBUS	DSL		15	2522	0.796	0.907	4.206	14.238	2440.864	2196.778	0.378	0.348	0.009%
Fresno	2020 UBUS	GAS		20	1350	1.170	1.276	11.556	2.628	1006.069	905.462	0.001	0.001	0.005%
Fresno	2020 UBUS	DSL		20	3328	0.609	0.693	2.896	11.739	2440.865	2196.778	0.289	0.266	0.012%
Fresno	2020 UBUS	GAS		25	2033	0.851	0.927	8.821	2.746	768.012	691.211	0.001	0.001	0.007%
Fresno	2020 UBUS	DSL		25	5012	0.482	0.549	2.118	10.175	2440.865	2196.778	0.229	0.210	0.018%
Fresno	2020 UBUS	GAS		30	2545	0.645	0.703	7.115	2.864	619.434	557.490	0.001	0.001	0.009%
Fresno	2020 UBUS	DSL		30	6273	0.395	0.450	1.644	9.271	2440.864	2196.778	0.188	0.173	0.022%
Fresno	2020 UBUS	GAS		35	2494	0.509	0.555	6.063	2.983	527.847	475.062	0.001	0.000	0.009%
Fresno	2020 UBUS	DSL		35	6148	0.336	0.382	1.356	8.881	2440.864	2196.778	0.159	0.147	0.022%
Fresno	2020 UBUS	GAS		40	1798	0.419	0.457	5.459	3.101	475.233	427.710	0.000	0.000	0.006%
Fresno	2020 UBUS	DSL		40	4432	0.295	0.336	1.187	8.944	2440.865	2196.778	0.140	0.129	0.016%
Fresno	2020 UBUS	GAS		45	784	0.360	0.392	5.192	3.219	452.056	406.850	0.000	0.000	0.003%
Fresno	2020 UBUS	DSL		45	1932	0.269	0.306	1.103	9.468	2440.864	2196.778	0.128	0.117	0.007%
Fresno	2020 UBUS	GAS		50	398	0.322	0.351	5.218	3.337	454.322	408.890	0.000	0.000	0.001%
Fresno	2020 UBUS	DSL		50	982	0.254	0.289	1.089	10.537	2440.865	2196.778	0.120	0.111	0.003%
Fresno	2020 UBUS	GAS		55	494	0.300	0.327	5.541	3.456	482.416	434.174	0.000	0.000	0.002%
Fresno	2020 UBUS	DSL		55	1217	0.248	0.282	1.142	12.329	2440.864	2196.778	0.118	0.108	0.004%
Fresno	2020 UBUS	GAS		60	808	0.292	0.318	6.216	3.574	541.209	487.088	0.000	0.000	0.003%
Fresno	2020 UBUS	DSL		60	1992	0.251	0.285	1.271	15.164	2440.864	2196.778	0.119	0.109	0.007%

**City of Fresno General Plan  
Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

**Year 2020**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.094	0.060	0.040	0.029	0.022	0.017	0.014	0.012	0.011	0.011	0.011	0.012	0.014	0.015	0.000
LDT1		0.231	0.152	0.105	0.076	0.059	0.047	0.039	0.034	0.031	0.030	0.030	0.032	0.035	0.037	0.000
LDT2		0.131	0.084	0.057	0.041	0.031	0.024	0.020	0.018	0.016	0.015	0.016	0.017	0.019	0.020	0.000
LHD1		0.375	0.302	0.203	0.141	0.101	0.077	0.060	0.047	0.041	0.038	0.034	0.000	0.000	0.000	0.000
LHD2		0.176	0.142	0.095	0.066	0.048	0.036	0.028	0.022	0.019	0.018	0.016	0.000	0.000	0.000	0.000
MCY		4.776	4.145	3.234	2.640	2.270	2.058	1.958	1.959	2.055	2.263	2.619	3.182	4.060	5.434	0.000
MDV		0.277	0.179	0.122	0.088	0.067	0.053	0.044	0.039	0.035	0.034	0.035	0.037	0.042	0.045	0.000
MH		0.381	0.307	0.207	0.144	0.105	0.079	0.062	0.051	0.044	0.039	0.035	0.034	0.035	0.000	0.000
OBUS		0.633	0.510	0.343	0.239	0.174	0.132	0.104	0.085	0.073	0.065	0.059	0.056	0.058	0.000	0.000
SBUS		5.033	4.067	2.721	1.898	1.379	1.044	0.822	0.675	0.579	0.520	0.476	0.464	0.000	0.000	0.000
T6		0.553	0.445	0.300	0.209	0.152	0.115	0.090	0.074	0.064	0.057	0.052	0.050	0.051	0.000	0.000
T7		3.376	2.741	1.829	1.271	0.924	0.703	0.555	0.456	0.389	0.346	0.324	0.310	0.316	0.000	0.000
UBUS		3.116	2.509	1.678	1.170	0.851	0.645	0.509	0.419	0.360	0.322	0.300	0.292	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.050	0.044	0.034	0.028	0.023	0.020	0.017	0.016	0.015	0.015	0.015	0.016	0.018	0.022	0.000
LDT1		0.089	0.078	0.061	0.050	0.041	0.035	0.031	0.028	0.026	0.025	0.025	0.026	0.028	0.032	0.000
LDT2		0.060	0.053	0.041	0.033	0.028	0.024	0.021	0.019	0.018	0.018	0.018	0.019	0.021	0.025	0.000
LHD1		0.375	0.331	0.263	0.213	0.177	0.150	0.130	0.115	0.104	0.097	0.091	0.000	0.000	0.000	0.000
LHD2		0.350	0.310	0.246	0.199	0.165	0.140	0.122	0.108	0.098	0.090	0.085	0.000	0.000	0.000	0.000
MCY		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MDV		0.061	0.054	0.042	0.034	0.028	0.024	0.021	0.019	0.018	0.018	0.018	0.019	0.021	0.025	0.000
MH		1.550	1.173	0.604	0.281	0.206	0.171	0.143	0.122	0.108	0.101	0.100	0.107	0.120	0.000	0.000
OBUS		1.608	0.899	0.450	0.216	0.188	0.173	0.161	0.134	0.129	0.115	0.102	0.078	0.094	0.000	0.000
SBUS		1.310	0.769	0.393	0.162	0.135	0.113	0.095	0.081	0.072	0.067	0.067	0.071	0.000	0.000	0.000
T6		1.354	0.790	0.403	0.172	0.150	0.130	0.113	0.098	0.087	0.078	0.072	0.069	0.069	0.000	0.000
T7		2.686	1.564	0.795	0.330	0.297	0.259	0.225	0.197	0.174	0.156	0.143	0.136	0.133	0.000	0.000
UBUS		1.272	1.079	0.796	0.609	0.482	0.395	0.336	0.295	0.269	0.254	0.248	0.251	0.000	0.000	0.000

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Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

**Year 2020**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	6.9	0.1	0.5	1.6	1.2	6.2	2.4	2.4	1.2	4.6	4.5	0.0	0.0	0.0	<b>31.6</b>
LDT1		0.0	2.5	0.0	0.2	0.6	0.5	2.5	1.0	1.0	0.5	1.8	1.7	0.0	0.0	0.0	<b>12.3</b>
LDT2		0.0	3.6	0.1	0.3	0.8	0.6	3.3	1.3	1.3	0.6	2.4	2.3	0.0	0.0	0.0	<b>16.6</b>
LHD1		0.0	2.1	0.0	0.2	0.4	0.3	1.6	0.6	0.5	0.2	0.8	0.0	0.0	0.0	0.0	<b>6.9</b>
LHD2		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
MCY		0.0	7.2	0.2	0.7	2.5	2.2	13.1	5.8	6.6	3.7	16.3	18.1	0.0	0.0	0.0	<b>76.3</b>
MDV		0.0	8.0	0.1	0.6	1.9	1.4	7.6	2.9	2.9	1.4	5.5	5.4	0.0	0.0	0.0	<b>37.9</b>
MH		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.5</b>
OBUS		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.5</b>
SBUS		0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.8</b>
T6		0.0	0.4	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	<b>1.3</b>
T7		0.0	0.3	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.2</b>
UBUS		0.0	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.2</b>
<b>Total</b>		<b>0.2</b>	<b>31.8</b>	<b>0.6</b>	<b>2.7</b>	<b>8.1</b>	<b>6.5</b>	<b>35.5</b>	<b>14.5</b>	<b>15.1</b>	<b>7.8</b>	<b>32.1</b>	<b>32.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>187.5</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.0	1.4	0.0	0.1	0.5	0.4	2.1	0.8	0.8	0.4	1.4	0.0	0.0	0.0	0.0	<b>8.0</b>
LHD2		0.0	0.4	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>2.0</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
OBUS		0.0	0.3	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.9</b>
SBUS		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
T6		0.0	3.4	0.0	0.1	0.4	0.3	1.9	0.7	0.7	0.3	1.1	1.0	0.0	0.0	0.0	<b>10.1</b>
T7		0.2	33.7	0.5	1.2	4.0	3.4	18.6	7.3	6.9	3.1	11.0	9.6	0.0	0.0	0.0	<b>99.5</b>
UBUS		0.0	0.4	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.0</b>
<b>Total</b>		<b>0.2</b>	<b>39.8</b>	<b>0.6</b>	<b>1.5</b>	<b>5.2</b>	<b>4.3</b>	<b>23.9</b>	<b>9.4</b>	<b>8.9</b>	<b>4.1</b>	<b>14.4</b>	<b>11.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>123.2</b>
<b>Total Emissions (tons/year)</b>																	<b>310.7</b>
<b>Total Emissions (tons/day)</b>																	<b>0.9</b>



**City of Fresno General Plan  
Motor Vehicle Emissions**

**NOx**

Year 2020

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.137	0.120	0.106	0.094	0.086	0.080	0.075	0.073	0.071	0.070	0.071	0.073	0.076	0.078	0.000
	LDT1	0.377	0.318	0.275	0.240	0.216	0.199	0.188	0.181	0.178	0.179	0.185	0.194	0.210	0.219	0.000
	LDT2	0.234	0.202	0.177	0.157	0.142	0.132	0.124	0.119	0.117	0.116	0.118	0.122	0.128	0.132	0.000
	LHD1	0.272	0.278	0.291	0.306	0.324	0.337	0.358	0.380	0.389	0.392	0.424	0.000	0.000	0.000	0.000
	LHD2	0.209	0.214	0.224	0.236	0.249	0.260	0.275	0.292	0.299	0.301	0.326	0.000	0.000	0.000	0.000
	MCY	1.225	1.206	1.170	1.138	1.123	1.127	1.137	1.159	1.187	1.223	1.270	1.328	1.399	1.482	0.000
	MDV	0.458	0.393	0.344	0.303	0.274	0.255	0.241	0.232	0.227	0.227	0.231	0.240	0.255	0.265	0.000
	MH	0.418	0.429	0.447	0.468	0.489	0.512	0.534	0.557	0.576	0.604	0.629	0.649	0.661	0.000	0.000
	OBUS	0.605	0.621	0.647	0.677	0.707	0.740	0.773	0.805	0.833	0.872	0.909	0.937	0.955	0.000	0.000
	SBUS	1.402	1.431	1.502	1.572	1.644	1.716	1.795	1.872	1.946	2.006	2.130	2.191	0.000	0.000	0.000
	T6	0.405	0.416	0.433	0.453	0.474	0.495	0.517	0.539	0.558	0.584	0.609	0.628	0.640	0.000	0.000
	T7	3.585	3.655	3.829	4.035	4.198	4.369	4.541	4.724	4.934	5.110	5.260	5.471	5.670	0.000	0.000
	UBUS	2.332	2.392	2.510	2.628	2.746	2.864	2.983	3.101	3.219	3.337	3.456	3.574	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.495	0.460	0.405	0.366	0.340	0.323	0.315	0.315	0.323	0.339	0.366	0.405	0.462	0.543	0.000
	LDT1	0.559	0.520	0.458	0.414	0.384	0.365	0.356	0.356	0.365	0.383	0.413	0.458	0.522	0.613	0.000
	LDT2	0.598	0.555	0.489	0.441	0.409	0.389	0.379	0.379	0.389	0.409	0.441	0.490	0.559	0.659	0.000
	LHD1	4.000	3.626	3.065	2.681	2.438	2.287	2.235	2.260	2.357	2.547	2.869	0.000	0.000	0.000	0.000
	LHD2	3.777	3.424	2.895	2.532	2.302	2.160	2.110	2.134	2.226	2.406	2.709	0.000	0.000	0.000	0.000
	MCY	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	MDV	0.473	0.441	0.391	0.354	0.329	0.314	0.306	0.306	0.312	0.327	0.351	0.387	0.438	0.511	0.000
	MH	16.025	13.487	9.644	7.477	6.780	6.369	6.042	5.798	5.626	5.549	5.555	5.635	5.781	0.000	0.000
	OBUS	10.090	7.291	5.323	4.177	3.802	3.549	3.347	3.092	2.998	2.891	2.837	2.741	2.936	0.000	0.000
	SBUS	25.323	17.377	12.021	9.026	8.630	8.310	8.066	7.899	7.808	7.792	7.854	7.991	0.000	0.000	0.000
	T6	7.377	5.439	4.024	3.039	2.760	2.523	2.329	2.177	2.067	2.000	1.976	1.994	2.054	0.000	0.000
	T7	10.865	8.059	5.993	4.638	4.093	3.725	3.423	3.186	3.013	2.906	2.864	2.887	2.976	0.000	0.000
	UBUS	20.888	18.155	14.238	11.739	10.175	9.271	8.881	8.944	9.468	10.537	12.329	15.164	0.000	0.000	0.000

**City of Fresno General Plan  
Motor Vehicle Emissions  
NOx**

**Year 2020**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.1	13.7	0.3	1.7	6.1	5.5	33.1	14.2	14.9	7.5	29.0	27.2	0.0	0.0	0.0	<b>153.3</b>
LDT1		0.0	5.3	0.1	0.6	2.2	2.0	12.1	5.2	5.5	2.8	11.0	10.6	0.0	0.0	0.0	<b>57.6</b>
LDT2		0.0	8.6	0.2	1.1	3.8	3.4	20.4	8.8	9.2	4.6	18.0	17.0	0.0	0.0	0.0	<b>95.1</b>
LHD1		0.0	1.9	0.1	0.3	1.4	1.4	9.6	4.6	5.0	2.6	10.6	0.0	0.0	0.0	0.0	<b>37.5</b>
LHD2		0.0	0.2	0.0	0.0	0.1	0.1	0.8	0.4	0.4	0.2	0.8	0.0	0.0	0.0	0.0	<b>2.9</b>
MCY		0.0	2.1	0.1	0.3	1.2	1.2	7.6	3.5	3.8	2.0	7.9	7.6	0.0	0.0	0.0	<b>37.2</b>
MDV		0.1	17.5	0.4	2.2	7.6	6.9	41.1	17.7	18.7	9.5	36.8	35.0	0.0	0.0	0.0	<b>193.5</b>
MH		0.0	0.2	0.0	0.0	0.1	0.1	0.8	0.4	0.4	0.2	0.9	0.9	0.0	0.0	0.0	<b>4.1</b>
OBUS		0.0	0.1	0.0	0.0	0.1	0.1	0.7	0.3	0.4	0.2	0.8	0.7	0.0	0.0	0.0	<b>3.5</b>
SBUS		0.0	0.1	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>1.9</b>
T6		0.0	0.3	0.0	0.1	0.2	0.2	1.6	0.8	0.8	0.4	1.8	1.7	0.0	0.0	0.0	<b>8.0</b>
T7		0.0	0.4	0.0	0.1	0.3	0.3	2.0	0.9	1.0	0.5	2.2	2.1	0.0	0.0	0.0	<b>9.9</b>
UBUS		0.0	0.3	0.0	0.1	0.2	0.2	1.5	0.7	0.8	0.4	1.6	1.6	0.0	0.0	0.0	<b>7.5</b>
<b>Total</b>		<b>0.2</b>	<b>50.8</b>	<b>1.2</b>	<b>6.6</b>	<b>23.6</b>	<b>21.6</b>	<b>131.7</b>	<b>57.6</b>	<b>61.2</b>	<b>31.1</b>	<b>121.7</b>	<b>104.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>611.9</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.1	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.0</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
LHD1		0.1	15.4	0.4	1.8	6.5	5.9	36.5	16.5	18.5	10.1	43.6	0.0	0.0	0.0	0.0	<b>155.3</b>
LHD2		0.0	3.9	0.1	0.5	1.6	1.5	9.3	4.2	4.7	2.6	11.1	0.0	0.0	0.0	0.0	<b>39.4</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
MH		0.0	1.2	0.0	0.1	0.4	0.3	2.0	0.9	0.9	0.4	1.7	1.6	0.0	0.0	0.0	<b>9.5</b>
OBUS		0.0	2.2	0.0	0.2	0.7	0.6	3.9	1.6	1.7	0.8	3.1	2.7	0.0	0.0	0.0	<b>17.6</b>
SBUS		0.0	2.5	0.0	0.2	0.8	0.7	4.5	1.9	2.1	1.0	4.0	3.8	0.0	0.0	0.0	<b>21.6</b>
T6		0.1	23.7	0.5	2.1	7.5	6.7	39.0	16.3	16.6	8.2	30.8	28.4	0.0	0.0	0.0	<b>179.8</b>
T7		0.8	173.7	3.5	16.2	55.0	48.7	283.5	117.8	119.9	58.7	220.8	203.6	0.0	0.0	0.0	<b>1,302.3</b>
UBUS		0.0	6.0	0.1	0.6	2.1	1.8	11.2	5.0	5.7	3.2	14.5	16.3	0.0	0.0	0.0	<b>66.7</b>
<b>Total</b>		<b>1.0</b>	<b>228.8</b>	<b>4.7</b>	<b>21.8</b>	<b>74.7</b>	<b>66.3</b>	<b>390.2</b>	<b>164.4</b>	<b>170.4</b>	<b>85.2</b>	<b>330.1</b>	<b>256.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1,794.6</b>

**Total Emissions (tons/year)**

**2,406.6**

**Total Emissions (tons/day)**

**6.6**

**City of Fresno General Plan  
Motor Vehicle Emissions  
Carbon Monoxide (CO)**

**Year 2020**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	1.6	1.4	1.2	1.1	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.0
	LDT1	4.0	3.4	3.0	2.7	2.4	2.2	2.0	1.8	1.7	1.6	1.6	1.5	1.5	1.5	0.0
	LDT2	2.2	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.0
	LHD1	4.5	3.7	2.5	1.8	1.4	1.1	0.9	0.8	0.8	0.8	0.9	0.0	0.0	0.0	0.0
	LHD2	2.4	2.0	1.3	1.0	0.7	0.6	0.5	0.4	0.4	0.4	0.5	0.0	0.0	0.0	0.0
	MCY	25.3	23.3	20.1	17.9	16.7	16.1	16.1	16.9	18.4	21.2	25.8	33.2	45.4	65.8	0.0
	MDV	3.8	3.3	2.9	2.6	2.4	2.2	2.0	1.9	1.7	1.7	1.6	1.5	1.5	1.5	0.0
	MH	8.0	6.5	4.4	3.2	2.4	2.0	1.7	1.5	1.4	1.4	1.5	1.7	2.0	0.0	0.0
	OBUS	8.5	6.9	4.7	3.4	2.6	2.1	1.8	1.6	1.5	1.5	1.6	1.8	2.2	0.0	0.0
	SBUS	52.6	42.7	29.2	21.1	16.1	13.0	11.1	9.9	9.4	9.5	10.0	11.3	0.0	0.0	0.0
	T6	7.2	5.8	4.0	2.9	2.2	1.8	1.5	1.4	1.3	1.3	1.4	1.5	1.8	0.0	0.0
	T7	125.6	102.0	69.8	50.3	38.5	31.1	26.5	23.9	22.6	22.8	24.2	27.1	32.1	0.0	0.0
	UBUS	28.9	23.4	16.0	11.6	8.8	7.1	6.1	5.5	5.2	5.2	5.5	6.2	0.0	0.0	0.0

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	LDT1	0.5	0.5	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0
	LDT2	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	LHD1	2.9	2.4	1.7	1.3	1.0	0.8	0.7	0.6	0.5	0.5	0.5	0.0	0.0	0.0	0.0
	LHD2	2.8	2.3	1.6	1.2	0.9	0.7	0.6	0.6	0.5	0.5	0.5	0.0	0.0	0.0	0.0
	MCY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MDV	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	MH	2.4	2.0	1.3	0.9	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
	OBUS	3.0	1.8	1.0	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.8	0.0	0.0
	SBUS	2.0	1.3	0.9	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.0	0.0	0.0
	T6	2.3	1.5	0.9	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.0	0.0
	T7	5.3	3.3	1.9	1.0	1.0	1.0	0.9	0.9	0.9	1.0	1.0	1.1	1.1	0.0	0.0
	UBUS	8.2	6.5	4.2	2.9	2.1	1.6	1.4	1.2	1.1	1.1	1.1	1.3	0.0	0.0	0.0

**City of Fresno General Plan  
Motor Vehicle Emissions  
Carbon Monoxide (CO)**

**Year 2020**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.6	159.8	3.9	21.1	74.9	66.2	386.6	159.3	159.7	76.1	274.8	239.6	0.0	0.0	0.0	<b>1,622.5</b>
LDT1		0.2	56.9	1.4	7.2	25.2	22.1	128.6	53.0	53.3	25.6	93.5	83.0	0.0	0.0	0.0	<b>550.1</b>
LDT2		0.3	82.5	2.0	10.8	38.4	34.0	198.1	81.6	81.8	39.0	140.8	122.8	0.0	0.0	0.0	<b>832.2</b>
LHD1		0.1	25.7	0.5	2.1	6.0	4.7	25.2	10.1	10.4	5.4	21.3	0.0	0.0	0.0	0.0	<b>111.4</b>
LHD2		0.0	1.4	0.0	0.1	0.3	0.3	1.4	0.5	0.6	0.3	1.2	0.0	0.0	0.0	0.0	<b>6.1</b>
MCY		0.2	40.4	0.9	5.0	18.1	16.9	107.7	50.3	59.2	34.5	160.2	188.7	0.0	0.0	0.0	<b>682.3</b>
MDV		0.6	148.0	3.5	19.1	67.2	59.3	346.0	142.8	143.7	69.0	251.9	223.3	0.0	0.0	0.0	<b>1,474.5</b>
MH		0.0	2.6	0.0	0.2	0.6	0.5	2.6	1.0	1.1	0.5	2.2	2.2	0.0	0.0	0.0	<b>13.6</b>
OBUS		0.0	1.7	0.0	0.1	0.4	0.3	1.6	0.7	0.7	0.3	1.4	1.4	0.0	0.0	0.0	<b>8.7</b>
SBUS		0.0	2.3	0.0	0.2	0.5	0.4	2.3	0.9	0.9	0.5	1.9	2.0	0.0	0.0	0.0	<b>12.1</b>
T6		0.0	4.7	0.1	0.4	1.1	0.9	4.7	1.9	1.9	1.0	4.0	4.1	0.0	0.0	0.0	<b>24.7</b>
T7		0.0	11.7	0.2	0.9	2.8	2.2	11.7	4.7	4.8	2.4	9.9	10.2	0.0	0.0	0.0	<b>61.6</b>
UBUS		0.0	3.1	0.1	0.2	0.7	0.6	3.1	1.2	1.3	0.7	2.6	2.7	0.0	0.0	0.0	<b>16.4</b>
<b>Total</b>		<b>2.1</b>	<b>540.9</b>	<b>12.7</b>	<b>67.5</b>	<b>236.3</b>	<b>208.4</b>	<b>1,219.8</b>	<b>508.1</b>	<b>519.3</b>	<b>255.2</b>	<b>965.8</b>	<b>879.9</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>5,416.1</b>

  

<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.7</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.0	10.3	0.2	0.9	2.6	2.0	10.8	4.3	4.3	2.1	8.2	0.0	0.0	0.0	0.0	<b>45.6</b>
LHD2		0.0	2.6	0.1	0.2	0.7	0.5	2.8	1.1	1.1	0.5	2.1	0.0	0.0	0.0	0.0	<b>11.7</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
MH		0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.9</b>
OBUS		0.0	0.5	0.0	0.0	0.1	0.1	0.7	0.3	0.4	0.2	0.7	0.6	0.0	0.0	0.0	<b>3.7</b>
SBUS		0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0	<b>1.1</b>
T6		0.0	6.4	0.1	0.3	1.2	1.1	6.9	3.0	3.3	1.7	6.8	6.6	0.0	0.0	0.0	<b>37.6</b>
T7		0.4	71.8	1.1	3.6	13.5	12.5	76.8	33.9	36.8	19.2	76.8	74.7	0.0	0.0	0.0	<b>421.0</b>
UBUS		0.0	2.1	0.0	0.2	0.4	0.3	1.7	0.7	0.7	0.3	1.3	1.4	0.0	0.0	0.0	<b>9.2</b>
<b>Total</b>		<b>0.5</b>	<b>94.3</b>	<b>1.5</b>	<b>5.3</b>	<b>18.6</b>	<b>16.7</b>	<b>100.4</b>	<b>43.6</b>	<b>46.8</b>	<b>24.2</b>	<b>96.3</b>	<b>83.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>531.7</b>

**Total Emissions (tons/year)**  
**Tons/day**

**5,947.9**  
**16.3**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

Year 2020

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0113	0.0071	0.0048	0.0034	0.0025	0.0020	0.0016	0.0014	0.0013	0.0012	0.0013	0.0014	0.0015	0.0017	0.0000
	LDT1	0.0185	0.0120	0.0082	0.0059	0.0044	0.0035	0.0029	0.0025	0.0023	0.0022	0.0022	0.0024	0.0026	0.0028	0.0000
	LDT2	0.0118	0.0075	0.0050	0.0035	0.0026	0.0021	0.0017	0.0015	0.0014	0.0013	0.0013	0.0014	0.0016	0.0017	0.0000
	LHD1	0.0054	0.0043	0.0029	0.0020	0.0015	0.0011	0.0009	0.0007	0.0006	0.0006	0.0005	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0038	0.0031	0.0020	0.0014	0.0010	0.0008	0.0006	0.0005	0.0004	0.0004	0.0004	0.0000	0.0000	0.0000	0.0000
	MCY	0.0006	0.0005	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0005	0.0007	0.0000
	MDV	0.0134	0.0085	0.0057	0.0041	0.0030	0.0024	0.0020	0.0017	0.0016	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	MH	0.0067	0.0054	0.0036	0.0025	0.0018	0.0014	0.0011	0.0009	0.0008	0.0007	0.0006	0.0006	0.0006	0.0000	0.0000
	OBUS	0.0026	0.0021	0.0014	0.0010	0.0007	0.0005	0.0004	0.0004	0.0003	0.0003	0.0003	0.0002	0.0003	0.0000	0.0000
	SBUS	0.0225	0.0181	0.0121	0.0084	0.0061	0.0046	0.0037	0.0030	0.0026	0.0023	0.0022	0.0021	0.0000	0.0000	0.0000
	T6	0.0033	0.0026	0.0018	0.0012	0.0009	0.0007	0.0005	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0000	0.0000
	T7	0.0017	0.0013	0.0009	0.0006	0.0005	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000
	UBUS	0.0033	0.0026	0.0018	0.0012	0.0009	0.0007	0.0005	0.0004	0.0004	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0350	0.0306	0.0240	0.0193	0.0161	0.0137	0.0121	0.0110	0.0103	0.0101	0.0102	0.0108	0.0120	0.0142	0.0000
	LDT1	0.0698	0.0614	0.0484	0.0392	0.0325	0.0277	0.0242	0.0217	0.0200	0.0190	0.0186	0.0189	0.0200	0.0221	0.0000
	LDT2	0.0411	0.0360	0.0283	0.0228	0.0190	0.0162	0.0142	0.0129	0.0120	0.0116	0.0117	0.0122	0.0134	0.0155	0.0000
	LHD1	0.0844	0.0745	0.0592	0.0480	0.0398	0.0338	0.0293	0.0259	0.0235	0.0217	0.0206	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0801	0.0708	0.0562	0.0456	0.0378	0.0321	0.0278	0.0246	0.0223	0.0206	0.0195	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.0478	0.0419	0.0329	0.0266	0.0221	0.0189	0.0166	0.0150	0.0140	0.0135	0.0135	0.0140	0.0153	0.0176	0.0000
	MH	0.4343	0.3653	0.2527	0.1742	0.1426	0.1258	0.1155	0.1120	0.1150	0.1247	0.1410	0.1640	0.1936	0.0000	0.0000
	OBUS	0.0787	0.0658	0.0550	0.0481	0.0450	0.0453	0.0480	0.0497	0.0574	0.0642	0.0722	0.0730	0.0953	0.0000	0.0000
	SBUS	0.2312	0.1615	0.1082	0.0677	0.0569	0.0489	0.0438	0.0415	0.0420	0.0453	0.0515	0.0605	0.0000	0.0000	0.0000
	T6	0.0879	0.0737	0.0620	0.0516	0.0482	0.0468	0.0474	0.0499	0.0545	0.0610	0.0695	0.0800	0.0924	0.0000	0.0000
	T7	0.0969	0.0843	0.0734	0.0615	0.0597	0.0585	0.0599	0.0636	0.0699	0.0786	0.0897	0.1033	0.1194	0.0000	0.0000
	UBUS	0.6035	0.5118	0.3778	0.2889	0.2287	0.1875	0.1592	0.1400	0.1275	0.1203	0.1175	0.1189	0.0000	0.0000	0.0000

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

Year 2020

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.004	0.8	0.0	0.1	0.2	0.1	0.7	0.3	0.3	0.1	0.5	0.5	0.0	0.0	0.0	<b>3.6</b>
LDT1		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.9</b>
LDT2		0.002	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	<b>1.4</b>
LHD1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LHD2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.002	0.4	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	<b>1.7</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T6		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T7		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
UBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Total</b>		<b>0.009</b>	<b>1.8</b>	<b>0.0</b>	<b>0.1</b>	<b>0.4</b>	<b>0.3</b>	<b>1.5</b>	<b>0.6</b>	<b>0.6</b>	<b>0.3</b>	<b>1.1</b>	<b>1.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>7.8</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.001	0.3	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.8</b>
LHD2		0.000	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.5</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.3</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
T6		0.001	0.3	0.0	0.0	0.1	0.1	0.8	0.4	0.4	0.2	1.1	1.1	0.0	0.0	0.0	<b>4.7</b>
T7		0.007	1.8	0.0	0.2	0.8	0.8	5.0	2.4	2.8	1.6	6.9	7.3	0.0	0.0	0.0	<b>29.5</b>
UBUS		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.9</b>
<b>Total</b>		<b>0.0</b>	<b>2.8</b>	<b>0.1</b>	<b>0.3</b>	<b>1.1</b>	<b>1.1</b>	<b>6.7</b>	<b>3.1</b>	<b>3.6</b>	<b>2.0</b>	<b>8.7</b>	<b>8.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>38.2</b>

**Total Emissions (tons/year)**

**46.0**

**Total Emissions (tons/day)**

**0.1**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM2.5**

Year 2020

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0105	0.0066	0.0044	0.0031	0.0023	0.0018	0.0015	0.0013	0.0012	0.0012	0.0012	0.0013	0.0014	0.0015	0.0000
	LDT1	0.0172	0.0111	0.0076	0.0054	0.0041	0.0032	0.0027	0.0023	0.0021	0.0021	0.0021	0.0022	0.0024	0.0026	0.0000
	LDT2	0.0110	0.0069	0.0046	0.0033	0.0024	0.0019	0.0016	0.0014	0.0013	0.0012	0.0012	0.0013	0.0015	0.0016	0.0000
	LHD1	0.0050	0.0040	0.0027	0.0019	0.0014	0.0010	0.0008	0.0007	0.0006	0.0005	0.0005	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0035	0.0028	0.0019	0.0013	0.0010	0.0007	0.0006	0.0005	0.0004	0.0004	0.0003	0.0000	0.0000	0.0000	0.0000
	MCY	0.0005	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0004	0.0006	0.0000
	MDV	0.0124	0.0079	0.0053	0.0037	0.0028	0.0022	0.0018	0.0016	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	MH	0.0062	0.0050	0.0033	0.0023	0.0017	0.0013	0.0010	0.0008	0.0007	0.0006	0.0006	0.0006	0.0006	0.0000	0.0000
	OBUS	0.0024	0.0020	0.0013	0.0009	0.0007	0.0005	0.0004	0.0003	0.0003	0.0003	0.0002	0.0002	0.0002	0.0000	0.0000
	SBUS	0.0204	0.0164	0.0110	0.0077	0.0056	0.0042	0.0033	0.0027	0.0024	0.0021	0.0020	0.0019	0.0000	0.0000	0.0000
	T6	0.0030	0.0024	0.0016	0.0011	0.0008	0.0006	0.0005	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0000	0.0000
	T7	0.0015	0.0012	0.0008	0.0006	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0000	0.0000
	UBUS	0.0030	0.0024	0.0016	0.0011	0.0008	0.0006	0.0005	0.0004	0.0004	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0322	0.0282	0.0221	0.0178	0.0148	0.0126	0.0111	0.0101	0.0095	0.0093	0.0094	0.0099	0.0111	0.0130	0.0000
	LDT1	0.0642	0.0565	0.0446	0.0361	0.0299	0.0255	0.0223	0.0200	0.0184	0.0175	0.0171	0.0174	0.0184	0.0203	0.0000
	LDT2	0.0378	0.0331	0.0260	0.0210	0.0174	0.0149	0.0131	0.0118	0.0111	0.0107	0.0107	0.0112	0.0123	0.0142	0.0000
	LHD1	0.0776	0.0686	0.0544	0.0442	0.0366	0.0311	0.0269	0.0239	0.0216	0.0200	0.0189	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0737	0.0651	0.0517	0.0419	0.0348	0.0295	0.0256	0.0227	0.0205	0.0190	0.0180	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.0440	0.0386	0.0303	0.0245	0.0203	0.0174	0.0152	0.0138	0.0128	0.0124	0.0124	0.0129	0.0141	0.0162	0.0000
	MH	0.3996	0.3360	0.2325	0.1602	0.1312	0.1157	0.1063	0.1030	0.1058	0.1147	0.1298	0.1509	0.1781	0.0000	0.0000
	OBUS	0.0724	0.0605	0.0506	0.0442	0.0414	0.0416	0.0441	0.0457	0.0528	0.0591	0.0664	0.0672	0.0876	0.0000	0.0000
	SBUS	0.2127	0.1486	0.0995	0.0622	0.0523	0.0450	0.0403	0.0381	0.0386	0.0417	0.0474	0.0557	0.0000	0.0000	0.0000
	T6	0.0809	0.0678	0.0570	0.0475	0.0444	0.0431	0.0436	0.0459	0.0501	0.0561	0.0639	0.0736	0.0851	0.0000	0.0000
	T7	0.0892	0.0776	0.0675	0.0566	0.0549	0.0539	0.0551	0.0586	0.0643	0.0723	0.0825	0.0950	0.1098	0.0000	0.0000
	UBUS	0.5553	0.4709	0.3476	0.2658	0.2104	0.1725	0.1465	0.1288	0.1173	0.1107	0.1081	0.1094	0.0000	0.0000	0.0000

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM2.5**

Year 2020

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.004	0.8	0.0	0.1	0.2	0.1	0.7	0.3	0.3	0.1	0.5	0.5	0.0	0.0	0.0	<b>3.4</b>
LDT1		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.9</b>
LDT2		0.002	0.3	0.0	0.0	0.1	0.0	0.3	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0	<b>1.3</b>
LHD1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LHD2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.002	0.4	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	<b>1.6</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T6		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T7		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
UBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Total</b>		<b>0.009</b>	<b>1.6</b>	<b>0.0</b>	<b>0.1</b>	<b>0.4</b>	<b>0.3</b>	<b>1.4</b>	<b>0.6</b>	<b>0.5</b>	<b>0.3</b>	<b>1.0</b>	<b>1.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>7.3</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.001	0.3	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.7</b>
LHD2		0.000	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.4</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.3</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
T6		0.001	0.3	0.0	0.0	0.1	0.1	0.7	0.3	0.4	0.2	1.0	1.0	0.0	0.0	0.0	<b>4.3</b>
T7		0.007	1.7	0.0	0.2	0.7	0.7	4.6	2.2	2.6	1.5	6.4	6.7	0.0	0.0	0.0	<b>27.2</b>
UBUS		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.9</b>
<b>Total</b>		<b>0.010</b>	<b>2.6</b>	<b>0.1</b>	<b>0.3</b>	<b>1.0</b>	<b>1.0</b>	<b>6.2</b>	<b>2.9</b>	<b>3.3</b>	<b>1.9</b>	<b>8.0</b>	<b>8.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>35.1</b>

**Total Emissions (tons/year)**

**42.4**

**Total Emissions (tons/day)**

**0.1**



# City of Fresno General Plan

## Criteria Pollutants: Summary

Year 2035

Prepared by FirstCarbon Solutions

	Data
<b>City Information</b>	
Population	780,600
Employment	294,822

<b>County Information</b>	
Population	1,301,000

	ROG	NOx	PM10	PM2.5	CO	SO2
<b>Emissions (tons/year)</b>						
Motor vehicles	306	1719	54	49	5100	0
Electricity	0	425	0	0	0	299
Natural gas	117	1032	81	81	681	6
Stationary, area	554	507	238	na	203	89
Offroad	1488	2268	182	182	10972	10
<b>Total</b>	<b>2465</b>	<b>5952</b>	<b>555</b>	<b>312</b>	<b>16955</b>	<b>404</b>

<b>Emissions (tons/day)</b>						
Motor vehicles	0.8	4.7	0.1	0.1	14.0	0.0
Electricity	0.0	1.2	0.0	0.0	0.0	0.8
Natural gas	0.3	2.8	0.2	0.2	1.9	0.0
Stationary, area	1.5	1.4	0.7	na	0.6	0.2
Offroad	4.1	6.2	0.5	0.5	30.1	0.03
<b>Total</b>	<b>6.8</b>	<b>16.3</b>	<b>1.5</b>	<b>0.9</b>	<b>46.5</b>	<b>1.1</b>

Sources:

- Population for the City: Fresno Council of Governments (Fresno COG), San Joaquin Valley Demographic Forecasts 2010 to 2050. Produced under contract by: The Planning Center|DC&E. March 2012.
  - Employment: Took the 2010 population (545,000) and 2010 employment (183,825) and cross multiplied with the 2035 population (780,600) and the 2035 employment number (X).
  - Emissions: refer to subsequent spreadsheets.
  - Emissions for stationary, area: California Air Resources Board, CEIDARS 2.5, data is from the year 2010. Note that SO2 emissions for this category represent SOx emissions; SO2 emissions were not available.
- [www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab\\_=&dis\\_=&co\\_=10&fname\\_=&city\\_=Fresno&fzip\\_=&fsic\\_=&facid\\_=&all\\_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=](http://www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab_=&dis_=&co_=10&fname_=&city_=Fresno&fzip_=&fsic_=&facid_=&all_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=)

## City of Fresno General Plan

### Criteria Pollutants: Energy

Year 2035

Prepared by FirstCarbon Solutions

Note: data entry values are in yellow

#### Electricity

Emission Factors (lbs/MWh)		(lbs/kWh)
NOx	0.2002	0.0002002
SO2	0.1409	0.0001409

	Usage (kWh/year)	Emissions Per capita (kWh/person or employee/year)	Emissions (tons/year)	
			NOx	SO2
Residential	2,037,366,000	2,610	203.9	143.5
Commercial	2,212,049,466	7,503	221.4	155.8
Industrial	not available			
<b>Total</b>	<b>4,249,415,466</b>		<b>425.4</b>	<b>299.4</b>

#### Natural Gas

		Natural Gas Emission Factors					
		ROG	NOx	PM10	PM2.5	CO	SO2
lb/MMBTU	Residential	0.01078	0.09216	0.00745	0.00745	0.03922	0.00059
	Nonresidential	0.01078	0.09804	0.00745	0.00745	0.08235	0.00059
lb/therm	Residential	0.0011	0.0092	0.0007	0.0007	0.0039	0.0001
	Nonresidential	0.0011	0.0098	0.0007	0.0007	0.0082	0.0001

  

	Usage (therms/year)	Per capita (therms/person or employee/year)	Emissions (tons/year)					
			ROG	NOx	PM10	PM2.5	CO	SO2
Residential	97,575,000	125	53	450	36	36	191	3
Commercial	118,813,266	403	64	582	44	44	489	3
Industrial	not available							
<b>Total</b>	<b>216,388,266</b>		<b>117</b>	<b>1,032</b>	<b>81</b>	<b>81</b>	<b>681</b>	<b>6</b>

Sources:

Per capita energy usage: See the spreadsheet calculations for 2010. Residential rates are based on population and commercial are based on employees.

Usage: per capita usage multiplied by the population (for residential) or employees (for commercial)

Emission factors for electricity NOx and SO2 electricity emission factors from Environmental Protection Agency, eGRID2012, state total annual total output emission rate for California (data is from year 2009).

Emission factors for natural gas: CalEEMod Appendix D, Table 8.2, August 2013. 1 therm = 0.1 MMBTU

## City of Fresno General Plan

### Criteria Pollutants: Offroad

Year 2035

Prepared by FirstCarbon Solutions

Note: yellow shaded cells are data entry cells

Fresno County Emissions (tons/day) (from Offroad 2007)	ROG		CO	NOx	SO2	PM
	Evaporative	Exhaust				
Agricultural Equipment	0.12	0.78	9.82	4.98	0.01	0.25
Airport Ground Support Equipment	0.00	0.01	0.23	0.04	0.00	0.00
Construction and Mining Equipment	0.01	0.52	4.43	3.04	0.01	0.16
Dredging	0.00	0.00	0.00	0.00	0.00	0.00
Entertainment Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Equipment	0.02	0.04	2.58	0.30	0.00	0.01
Lawn and Garden Equipment	0.53	0.95	12.06	0.25	0.00	0.03
Light Commercial Equipment	0.07	0.19	6.46	0.35	0.00	0.04
Logging Equipment	0.00	0.04	0.29	0.04	0.00	0.00
Military Tactical Support Equip	0.00	0.00	0.02	0.02	0.00	0.00
Oil Drilling	0.00	0.00	0.00	0.00	0.00	0.00
Other Portable Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Pleasure Craft	0.67	0.83	7.38	0.41	0.00	0.29
Railyard Operations	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Equipment	0.48	1.41	5.21	0.07	0.02	0.03
Transport Refrigeration Units	0.00	0.12	1.63	0.86	0.00	0.01
<b>Total</b>	<b>1.91</b>	<b>4.88</b>	<b>50.10</b>	<b>10.36</b>	<b>0.04</b>	<b>0.83</b>

**Percent Fresno County/Fresno City Population 0.60**

City of Fresno Emissions (tons/day)	ROG	ROG	CO	NOx	SO2	PM
Agricultural Equipment	0.07	0.5	5.9	3.0	0.01	0.15
Airport Ground Support Equipment	0.00	0.0	0.1	0.0	0.00	0.00
Construction and Mining Equipment	0.01	0.3	2.7	1.8	0.00	0.10
Dredging	0.00	0.0	0.0	0.0	0.00	0.00
Entertainment Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Industrial Equipment	0.01	0.0	1.5	0.2	0.00	0.01
Lawn and Garden Equipment	0.32	0.6	7.2	0.1	0.00	0.02
Light Commercial Equipment	0.04	0.1	3.9	0.2	0.00	0.03
Logging Equipment	0.00	0.0	0.2	0.0	0.00	0.00
Military Tactical Support Equip	0.00	0.0	0.0	0.0	0.00	0.00
Oil Drilling	0.00	0.0	0.0	0.0	0.00	0.00
Other Portable Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Pleasure Craft	0.40	0.5	4.4	0.2	0.00	0.17
Railyard Operations	0.00	0.0	0.0	0.0	0.00	0.00
Recreational Equipment	0.29	0.8	3.1	0.0	0.01	0.02
Transport Refrigeration Units	0.00	0.1	1.0	0.5	0.00	0.01
<b>Total</b>	<b>1.15</b>	<b>2.9</b>	<b>30.1</b>	<b>6.2</b>	<b>0.03</b>	<b>0.50</b>

#### Sources:

- County of Fresno emissions from OFFROAD2007, annual, all days, all equipment, for the year assessed
- City of Fresno emissions based on the percent of the City's population compared with the County's population.

Note: PM refers to total particulate matter.

**City of Fresno General Plan**  
**Vehicle Miles Traveled Estimates**  
**Year 2035**  
 Prepared by FirstCarbon Solutions

*Vehicle Miles Traveled*

Vehicle miles traveled / day **14,989,208** Source: Fehr and Peers. 2013  
 Vehicle miles traveled / year 5,471,060,920 Source: VMT per day \* 365 days/year  
 Annual Growth Rate in VMT: 2.54% Source: Fresno COG

Speed bins	AM peak	PM peak	Off peak	Total	Speed
0 - 5 MPH	0	1,044	0	<b>1,044</b>	5
5 - 10 MPH	867	1,014	0	<b>1,881</b>	5
10 - 15 MPH	169,023	218,185	464,023	<b>851,231</b>	10
15 - 20 MPH	5,711	8,451	8,927	<b>23,089</b>	15
20 - 25 MPH	24,991	41,774	71,218	<b>137,984</b>	20
25 - 30 MPH	102,076	135,165	293,694	<b>530,936</b>	25
30 - 35 MPH	113,130	179,032	223,639	<b>515,800</b>	30
35 - 40 MPH	666,413	863,471	1,739,931	<b>3,269,815</b>	35
40 - 45 MPH	298,021	363,660	798,881	<b>1,460,562</b>	40
45 - 50 MPH	253,522	334,066	983,905	<b>1,571,493</b>	45
50 - 55 MPH	137,117	193,692	466,238	<b>797,047</b>	50
55 - 60 MPH	608,586	723,611	1,711,520	<b>3,043,717</b>	55
60 - 65 MPH	583,433	724,771	1,476,213	<b>2,784,416</b>	60
65 - 70 MPH	33	43	116	<b>191</b>	65
70 - 75 MPH	0	0	0	<b>0</b>	70
>75 MPH	0	0	0	<b>0</b>	75
<b>Total</b>	<b>2,962,924</b>	<b>3,787,978</b>	<b>8,238,306</b>	<b>14,989,208</b>	

Source:  
 Fehr and Peers. 2013. 2035 VMT was found by multiplying the 2010 VMT numbers found previously with the annual growth rate multiplied by the 25 years of VMT growth between 2010 and 2035 and adding that to the 2010 VMT.

Annual VMT Growth Rate: Was found by interpolating between 2010 and 2056 VMT:  $(((2056 \text{ VMT} - 2010 \text{ VMT}) / 2010 \text{ VMT}) / 46 \text{ years} = .0254)$ .

2010 VMT found by backcasting the 2011 Existing Daily VMT by Speed Bin: Origin-Destination Method

Speed bins	AM peak	PM peak	Off peak	Total
0 - 5 MPH	0	638	0	638
5 - 10 MPH	530	620	0	1,150
10 - 15 MPH	103,322	133,374	283,652	520,348
15 - 20 MPH	3,491	5,166	5,457	14,114
20 - 25 MPH	15,277	25,536	43,535	84,348
25 - 30 MPH	62,398	82,625	179,532	324,555
30 - 35 MPH	69,155	109,440	136,708	315,303
35 - 40 MPH	407,371	527,830	1,063,600	1,998,801
40 - 45 MPH	182,177	222,301	488,347	892,825
45 - 50 MPH	154,975	204,211	601,450	960,636
50 - 55 MPH	83,818	118,402	285,006	487,226
55 - 60 MPH	372,022	442,335	1,046,233	1,860,590
60 - 65 MPH	356,646	443,044	902,392	1,702,082
65 - 70 MPH	20	26	71	117
70 - 75 MPH	0	0	0	0
>75 MPH	0	0	0	0
	1,811,202	2,315,548	5,035,983	9,162,733

*VMT/day per speed bin*

Speed (mph)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
VMT/day	2925	851231	23089	137984	530936	515800	3269815	1460562	1571493	797047	3043717	2784416	191	0	0

*Vehicle Class using EMFAC2011 VMT percentages*

Vehicle Class	GAS	DSL	% Includes
LDA	43.91%	0.12%	GAS Heavy duty 0.6% MH, OBUS, SBUS, T6, T7, UBUS
LDT1	6.52%	0.01%	Light trucks 42.4% MDV, LDT1, LDT2, LHD1, LHD2
LDT2	16.24%	0.01%	Passenger 44.6% LDA, MCY
LHD1	2.67%	1.63%	DSL Heavy duty 10.2% MH, OBUS, SBUS, T6, T7, UBUS
LHD2	0.27%	0.43%	Light trucks 2.1% MDV, LDT1, LDT2, LHD1, LHD2
MCY	0.68%	0.00%	Passenger 0.1% LDA, MCY
MDV	16.67%	0.01%	Total 100.0%
MH	0.15%	0.03%	
OBUS	0.09%	0.11%	
SBUS	0.02%	0.04%	
T6	0.30%	1.69%	
T7	0.03%	8.18%	
UBUS	0.05%	0.13%	

*VMT/day by Vehicle Class and speed*

GAS	Speed	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
LDA		1284	373772	10138	60588	233131	226486	1435760	641326	690035	349980	1336482	1222624	84	0	0
LDT1		191	55478	1505	8993	34603	33617	213105	95190	102420	51946	198370	181470	12	0	0
LDT2		475	138240	3750	22409	86224	83766	531018	237195	255210	129440	494299	452189	31	0	0
LHD1		78	22763	617	3690	14198	13793	87439	39057	42024	21314	81393	74459	5	0	0
LHD2		8	2273	62	368	1418	1377	8732	3900	4197	2129	8128	7436	1	0	0
MCY		20	5820	158	943	3630	3526	22355	9985	10744	5449	20809	19036	1	0	0
MDV		488	141928	3850	23006	88524	86001	545186	243524	262020	132894	507488	464254	32	0	0
MH		4	1293	35	210	807	784	4968	2219	2387	1211	4624	4230	0	0	0
OBUS		3	782	21	127	488	474	3006	1343	1445	733	2798	2560	0	0	0
SBUS		1	177	5	29	110	107	679	303	326	166	632	578	0	0	0
T6		9	2531	69	410	1579	1534	9723	4343	4673	2370	9051	8280	1	0	0
T7		1	291	8	47	181	176	1117	499	537	272	1040	951	0	0	0
UBUS		1	434	12	70	271	263	1666	744	801	406	1551	1419	0	0	0

**City of Fresno General Plan**  
**Vehicle Miles Traveled Estimates**  
**Year 2035**  
Prepared by FirstCarbon Solutions

DSL	Speed	5	10	15	20	25	30	35	40	45	50	55	60			
LDA		3	997	27	162	622	604	3831	1711	1841	934	3566	3263	0	0	0
LDT1		0	74	2	12	46	45	283	126	136	69	263	241	0	0	0
LDT2		0	62	2	10	39	38	239	107	115	58	223	204	0	0	0
LHD1		48	13911	377	2255	8677	8429	53436	23869	25682	13026	49741	45504	3	0	0
LHD2		13	3667	99	594	2287	2222	14087	6292	6770	3434	13113	11996	1	0	0
MCY		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MDV		0	111	3	18	69	67	425	190	204	104	396	362	0	0	0
MH		1	280	8	45	174	169	1074	480	516	262	1000	915	0	0	0
OBUS		3	951	26	154	593	577	3655	1632	1756	891	3402	3112	0	0	0
SBUS		1	348	9	56	217	211	1337	597	642	326	1244	1138	0	0	0
T6		49	14362	390	2328	8958	8703	55170	24643	26515	13448	51355	46980	3	0	0
T7		239	69617	1888	11285	43422	42184	267417	119450	128522	65185	248926	227720	16	0	0
UBUS		4	1069	29	173	667	648	4107	1835	1974	1001	3823	3497	0	0	0

EMFAC2011 Emission Rates

Region Type: County

Region: Fresno

Calendar Year: 2035

Season: Annual

Vehicle Classification: EMFAC2007 Categories

EMFAC2011: EMFAC Emission Rates Database. (Enter: region - County: Fresno, year - 2035, season - annual average, vehicle category - EMFAC2007, model year - aggregated, speed - all speeds, fuel - all) Website: <http://www.arb.ca.gov/emfac/>

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	EMFAC2007 Categories										Percent of Total VMT
						ROG_RUNI	NOG_RUNI	CO_RUNE	NOX_RUNI	CO2_RUNE	CO2_RUNE	PM10_RUN	PM2_5_RUNE	PM10_RUN	PM2_5_RUNE	
Fresno	2035	LDA	GAS	5	690.61058	0.0661503	0.122367	1.1438369	0.105519	1132.07376	673.304157	0.013853	0.012854	0.002%		
Fresno	2035	LDA	DSL	5	1.8428816	0.0188755	0.021488	0.1206987	0.322311	503.980949	303.820128	0.011442	0.010527	0.000%		
Fresno	2035	LDA	GAS	10	35638.706	0.04124	0.07626	1.0279769	0.092659	834.330412	496.221479	0.008718	0.008089	0.094%		
Fresno	2035	LDA	DSL	10	95.10123	0.0160499	0.018272	0.1142073	0.306429	455.139526	274.429687	0.00973	0.008951	0.000%		
Fresno	2035	LDA	GAS	15	21241.017	0.0276946	0.051197	0.9523351	0.081238	646.517456	384.518119	0.005787	0.00537	0.056%		
Fresno	2035	LDA	DSL	15	56.681258	0.012068	0.013739	0.1031034	0.27962	381.698077	230.236122	0.007316	0.006731	0.000%		
Fresno	2035	LDA	GAS	20	808500.65	0.0192603	0.03561	0.8610518	0.07266	514.415615	305.950589	0.004053	0.003761	2.136%		
Fresno	2035	LDA	DSL	20	2157.469	0.0095589	0.010882	0.0938803	0.259701	332.219565	200.462311	0.005795	0.005332	0.006%		
Fresno	2035	LDA	GAS	25	197184.91	0.0143388	0.0265	0.7989048	0.066217	428.337956	254.755245	0.002995	0.002778	0.521%		
Fresno	2035	LDA	DSL	25	526.18429	0.0079752	0.009079	0.0860494	0.245193	300.076477	181.120132	0.004835	0.004448	0.001%		
Fresno	2035	LDA	GAS	30	537842.7	0.0111563	0.020616	0.7330898	0.061379	368.21896	218.999388	0.002334	0.002165	1.421%		
Fresno	2035	LDA	DSL	30	1435.2233	0.0070089	0.007979	0.0792994	0.235453	281.264321	169.799873	0.004249	0.003909	0.004%		
Fresno	2035	LDA	GAS	35	1366088.4	0.0091514	0.016912	0.6739171	0.057744	328.478921	195.363966	0.001919	0.00178	3.608%		
Fresno	2035	LDA	DSL	35	3645.382	0.0064893	0.007388	0.0734215	0.229856	273.561113	165.164459	0.003934	0.003619	0.010%		
Fresno	2035	LDA	GAS	40	1943582.5	0.0078894	0.014581	0.6181806	0.055334	303.471949	180.491197	0.001664	0.001544	5.134%		
Fresno	2035	LDA	DSL	40	5186.4142	0.0063315	0.007208	0.0682691	0.228203	276.084845	166.683111	0.003838	0.003531	0.014%		
Fresno	2035	LDA	GAS	45	1929011.9	0.0072287	0.013361	0.5747455	0.053673	292.328918	173.863779	0.001523	0.001413	5.095%		
Fresno	2035	LDA	DSL	45	5147.5324	0.0065121	0.007414	0.0637359	0.230226	289.122634	174.528631	0.003947	0.003631	0.014%		
Fresno	2035	LDA	GAS	50	2232462.6	0.0069809	0.012904	0.5354171	0.052973	292.125802	173.742948	0.00147	0.001364	5.897%		
Fresno	2035	LDA	DSL	50	5957.2848	0.0070634	0.008041	0.0597434	0.236193	314.18613	189.610649	0.004281	0.003938	0.016%		
Fresno	2035	LDA	GAS	55	1665080.1	0.0071129	0.01315	0.5004716	0.053167	303.02659	180.226197	0.001497	0.001389	4.398%		
Fresno	2035	LDA	DSL	55	4443.2357	0.0080823	0.009201	0.0562346	0.246416	354.307143	213.753563	0.004898	0.004506	0.012%		
Fresno	2035	LDA	GAS	60	1897400.1	0.0076308	0.01411	0.4677985	0.054217	325.917054	193.840412	0.001608	0.001492	5.012%		
Fresno	2035	LDA	DSL	60	5063.1773	0.0097593	0.01111	0.0531705	0.261473	414.65641	250.068876	0.005913	0.00544	0.013%		
Fresno	2035	LDA	GAS	65	2035032.5	0.0086351	0.01597	0.4386353	0.05628	363.783005	216.361367	0.001822	0.001691	5.375%		
Fresno	2035	LDA	DSL	65	5430.4465	0.0124383	0.01416	0.0505307	0.282274	503.663514	303.629111	0.007536	0.006933	0.014%		
Fresno	2035	LDA	GAS	70	1953744	0.0093869	0.017362	0.4261377	0.057624	390.123335	232.027326	0.001979	0.001836	5.161%		
Fresno	2035	LDA	DSL	70	5213.5296	0.0167349	0.019052	0.0483169	0.310021	634.981498	382.650018	0.010138	0.009327	0.014%		
Fresno	2035	LDT1	GAS	5	102.50505	0.0781814	0.141973	1.3479236	0.122225	1314.76791	800.56989	0.013784	0.012789	0.000%		
Fresno	2035	LDT1	DSL	5	0.1360064	0.021304	0.024253	0.1296125	0.371499	504.827175	301.829718	0.010898	0.010026	0.000%		
Fresno	2035	LDT1	GAS	10	5289.7355	0.0489995	0.088828	1.2087702	0.106962	969.207598	590.161462	0.008682	0.008055	0.014%		
Fresno	2035	LDT1	DSL	10	7.018562	0.0180882	0.020585	0.1241136	0.353791	455.724636	272.471938	0.00925	0.00851	0.000%		
Fresno	2035	LDT1	GAS	15	3152.7341	0.0330516	0.059827	1.1168612	0.093501	750.848605	457.196034	0.005769	0.005352	0.008%		
Fresno	2035	LDT1	DSL	15	4.1831318	0.0135595	0.015437	0.1143063	0.323706	381.890427	228.327407	0.006936	0.006381	0.000%		
Fresno	2035	LDT1	GAS	20	120003.09	0.0230579	0.041754	1.0085325	0.083475	597.522898	363.837256	0.004043	0.003751	0.317%		
Fresno	2035	LDT1	DSL	20	159.22329	0.0107269	0.012212	0.1050606	0.301221	332.147383	198.586677	0.005487	0.005048	0.000%		
Fresno	2035	LDT1	GAS	25	29267.508	0.0172317	0.031148	0.934299	0.075962	497.463371	302.908369	0.002989	0.002773	0.077%		
Fresno	2035	LDT1	DSL	25	38.832909	0.008525	0.010192	0.057053	0.284745	299.832425	179.265976	0.00458	0.004213	0.000%		
Fresno	2035	LDT1	GAS	30	79830.22	0.0134396	0.024282	0.8567186	0.070363	427.662588	260.40672	0.002331	0.002163	0.211%		
Fresno	2035	LDT1	DSL	30	105.92086	0.0078821	0.008973	0.0898981	0.273609	280.919663	167.958278	0.004032	0.003709	0.000%		
Fresno	2035	LDT1	GAS	35	202764.03	0.0110382	0.019944	0.7872989	0.066188	381.527502	232.315209	0.001917	0.001779	0.536%		
Fresno	2035	LDT1	DSL	35	269.03268	0.0073212	0.008335	0.0834959	0.267127	273.175322	163.328035	0.003745	0.003445	0.001%		
Fresno	2035	LDT1	GAS	40	288479.58	0.009518	0.017205	0.7223129	0.063456	352.529789	214.659347	0.001663	0.001543	0.762%		
Fresno	2035	LDT1	DSL	40	382.76239	0.0071738	0.008167	0.0777592	0.265083	275.712512	164.844988	0.00367	0.003376	0.01%		
Fresno	2035	LDT1	GAS	45	286316.87	0.0087141	0.015757	0.6716524	0.061606	339.573191	206.769651	0.001521	0.001412	0.756%		
Fresno	2035	LDT1	DSL	45	379.89286	0.0074158	0.008442	0.0726125	0.267152	288.820023	172.681802	0.003793	0.00349	0.001%		
Fresno	2035	LDT1	GAS	50	331357.07	0.0084009	0.015197	0.626015	0.060895	339.331167	206.622144	0.001468	0.001362	0.875%		
Fresno	2035	LDT1	DSL	50	439.65337	0.0080872	0.009207	0.0679898	0.273613	314.017531	187.74707	0.004137	0.003806	0.001%		
Fresno	2035	LDT1	GAS	55	247142.36	0.0085378	0.015454	0.5856615	0.061253	351.985417	214.327261	0.001494	0.001386	0.653%		
Fresno	2035	LDT1	DSL	55	327.91509	0.009304	0.010592	0.0638334	0.284763	354.353048	211.86316	0.004759	0.004379	0.001%		
Fresno	2035	LDT1	GAS	60	281624.87	0.0091271	0.016538	0.5481625	0.062653	378.579994	230.521082	0.001604	0.001488	0.744%		
Fresno	2035	LDT1	DSL	60	373.66739	0.0112923	0.012856	0.0600932	0.301159	415.025007	248.13815	0.005776	0.005314	0.001%		
Fresno	2035	LDT1	GAS	65	302053.17	0.0102875	0.018657	0.5149092	0.065297	422.572629	257.308816	0.001816	0.001685	0.798%		
Fresno	2035	LDT1	DSL	65	400.77219	0.0144586	0.01646	0.0567251	0.323678	504.508047	301.638916	0.007396	0.006804	0.001%		
Fresno	2035	LDT1	GAS	70	289987.78	0.0111589	0.020248	0.5007372	0.067016	453.157125	275.931745	0.001972	0.001829	0.766%		
Fresno	2035	LDT1	DSL	70	384.76351	0.0195301	0.022234	0.0536906	0.35342	636.52822	380.57209	0.00999	0.009191	0.001%		
Fresno	2035	LDT2	GAS	5	255.42307	0.0807862	0.148505	1.3373414	0.13084	1537.70722	1044.72707	0.013765	0.012772	0.001%		
Fresno	2035	LDT2	DSL	5	0.1150683	0.0237373	0.027023	0.1586632	0.407101	502.581245	342.876199	0.012342	0.011355	0.000%		
Fresno	2035	LDT2	GAS	10	13181.015	0.0504476	0.092662	1.2015065	0.114698	1133.51983	770.121871	0.008664	0.008039	0.005%		
Fresno	2035	LDT2	DSL	10	5.9380597	0.0202214	0.023021	0.1483564	0.386317	454.171785	309.953162	0.010521	0.009679	0.000%		
Fresno	2035	LDT2	GAS	15	7856.0134	0.0339175	0.062256	1.1120257	0.1004	878.167189	596.631776	0.005753	0.005338	0.021%		
Fresno	2035	LDT2	DSL	15	3.5391415	0.0152463	0.017357	0.131								

Region	CalYr	Veh	CI	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNI (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNE (gms/mile)	NOX_RUNI (gms/mile)	CO2_RUNE (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2035	LDT2	DSL	GAS	60	701755.58	0.0093539	0.017174	0.5462385	0.067149	442.764966	300.817625	0.001599	0.001483	1.854%
Fresno	2035	LDT2	DSL	DSL	60	316.14156	0.011956	0.013611	0.0662844	0.330524	414.046697	282.664287	0.006156	0.005664	0.001%
Fresno	2035	LDT2	GAS	GAS	65	752659.03	0.0105725	0.01942	0.5124349	0.069848	494.215085	335.773267	0.001811	0.001681	1.988%
Fresno	2035	LDT2	DSL	DSL	65	339.0736	0.015162	0.017261	0.0634572	0.358568	502.266607	342.662214	0.007792	0.007169	0.001%
Fresno	2035	LDT2	GAS	GAS	70	722594.3	0.0114854	0.021103	0.497949	0.071604	529.986613	360.07659	0.001967	0.001825	1.909%
Fresno	2035	LDT2	DSL	DSL	70	325.52944	0.0203114	0.023123	0.061339	0.396335	632.423233	431.181097	0.010422	0.009588	0.001%
Fresno	2035	LHD1	GAS	GAS	5	28730.834	0.0468288	0.078146	0.7368093	0.098011	2513.49712	2262.14741	0.001312	0.001217	0.076%
Fresno	2035	LHD1	DSL	DSL	5	10879.472	0.1901904	0.216519	2.3726665	1.447606	519.044	467.1396	0.052137	0.047966	0.029%
Fresno	2035	LHD1	GAS	GAS	10	74917.972	0.0377331	0.062942	0.5969772	0.100348	2036.12829	1832.51546	0.001056	0.00098	0.198%
Fresno	2035	LHD1	DSL	DSL	10	36179.207	0.1680524	0.191316	1.9590347	1.312197	519.043919	467.139527	0.046068	0.042383	0.096%
Fresno	2035	LHD1	GAS	GAS	15	170598.31	0.025285	0.042175	0.408915	0.105095	1392.42973	1253.18676	0.000707	0.000656	0.451%
Fresno	2035	LHD1	DSL	DSL	15	78353.787	0.1333898	0.151855	1.3818898	1.109385	519.04397	467.139573	0.036566	0.033641	0.207%
Fresno	2035	LHD1	GAS	GAS	20	197125.03	0.0175837	0.029353	0.2948783	0.110421	1006.06851	905.461657	0.000493	0.000457	0.521%
Fresno	2035	LHD1	DSL	DSL	20	85901.056	0.1082319	0.123215	1.2021524	0.970248	519.044027	467.139624	0.02967	0.027296	0.227%
Fresno	2035	LHD1	GAS	GAS	25	151847.06	0.012682	0.021216	0.2238341	0.116734	768.012023	691.21082	0.000358	0.000332	0.401%
Fresno	2035	LHD1	DSL	DSL	25	91937.051	0.0897722	0.1022	0.7881648	0.882282	519.044026	467.139624	0.024609	0.022641	0.243%
Fresno	2035	LHD1	GAS	GAS	30	134282.63	0.0096155	0.016078	0.1805654	0.121624	619.43358	557.490222	0.000271	0.000252	0.353%
Fresno	2035	LHD1	DSL	DSL	30	77606.52	0.0761173	0.086654	0.6372787	0.827804	519.043982	467.139584	0.020866	0.019197	0.205%
Fresno	2035	LHD1	GAS	GAS	35	50176.542	0.0075026	0.012588	0.1525298	0.128927	527.846459	475.061813	0.000214	0.000199	0.133%
Fresno	2035	LHD1	DSL	DSL	35	40955.973	0.065975	0.075108	0.539265	0.808703	519.043989	467.13959	0.018086	0.016639	0.108%
Fresno	2035	LHD1	GAS	GAS	40	14810.971	0.0060602	0.010275	0.1361152	0.136886	475.233144	427.70983	0.000176	0.000164	0.039%
Fresno	2035	LHD1	DSL	DSL	40	22483.492	0.0584561	0.066548	0.4775683	0.817813	519.044031	467.139628	0.016025	0.014743	0.059%
Fresno	2035	LHD1	GAS	GAS	45	18233.609	0.0052446	0.008888	0.1303835	0.140061	452.055829	406.850246	0.000151	0.00014	0.048%
Fresno	2035	LHD1	DSL	DSL	45	24267.079	0.0529462	0.060276	0.442618	0.852959	519.044071	467.139664	0.014514	0.013353	0.064%
Fresno	2035	LHD1	GAS	GAS	50	134634.42	0.0047971	0.008053	0.1328765	0.141188	454.321818	408.889636	0.000135	0.000126	0.356%
Fresno	2035	LHD1	DSL	DSL	50	93702.888	0.0490223	0.055809	0.4293219	0.921883	519.044016	467.139615	0.013438	0.012363	0.248%
Fresno	2035	LHD1	GAS	GAS	55	37030.824	0.0043361	0.007352	0.1381423	0.152612	482.415478	434.17393	0.000126	0.000117	0.098%
Fresno	2035	LHD1	DSL	DSL	55	56428.728	0.0463989	0.052822	0.4358102	1.03814	519.043992	467.139593	0.012719	0.011702	0.149%
Fresno	2035	LHD2	GAS	GAS	5	2869.2263	0.0352143	0.063946	0.5594356	0.076166	2513.49728	2262.14755	0.001034	0.000959	0.008%
Fresno	2035	LHD2	DSL	DSL	5	2868.0838	0.177619	0.202207	2.2585627	1.338565	519.107914	467.197122	0.049051	0.045127	0.008%
Fresno	2035	LHD2	GAS	GAS	10	7481.7397	0.0283664	0.051506	0.4532655	0.077982	2036.12823	1832.51541	0.000833	0.000773	0.020%
Fresno	2035	LHD2	DSL	DSL	10	9537.6864	0.1569443	0.178671	1.864823	1.213356	519.107918	467.197126	0.043341	0.039874	0.025%
Fresno	2035	LHD2	GAS	GAS	15	17036.93	0.0190077	0.034512	0.3104759	0.081671	1392.42956	1253.1866	0.000557	0.000517	0.045%
Fresno	2035	LHD2	DSL	DSL	15	20655.896	0.1245729	0.141818	1.3154333	1.02582	519.10791	467.197119	0.034402	0.03165	0.055%
Fresno	2035	LHD2	GAS	GAS	20	19686.039	0.0132258	0.024019	0.2238916	0.08581	1006.06851	905.461663	0.000388	0.00036	0.052%
Fresno	2035	LHD2	DSL	DSL	20	22645.534	0.1010778	0.11507	0.9710922	0.897164	519.107917	467.197126	0.027913	0.02568	0.060%
Fresno	2035	LHD2	GAS	GAS	25	15164.321	0.0095532	0.017359	0.16995	0.090715	768.01204	691.210836	0.000282	0.000262	0.040%
Fresno	2035	LHD2	DSL	DSL	25	24236.761	0.0838384	0.095444	0.7502612	0.815824	519.107974	467.197177	0.023153	0.0213	0.064%
Fresno	2035	LHD2	GAS	GAS	30	13410.236	0.0072407	0.013155	0.1370975	0.094516	619.433566	557.490209	0.000214	0.000198	0.035%
Fresno	2035	LHD2	DSL	DSL	30	20458.898	0.071086	0.080927	0.6066314	0.76545	519.107941	467.197147	0.019631	0.01806	0.054%
Fresno	2035	LHD2	GAS	GAS	35	5010.9181	0.005663	0.010298	0.115811	0.100191	527.84649	475.061841	0.000169	0.000157	0.013%
Fresno	2035	LHD2	DSL	DSL	35	10796.955	0.0616141	0.070144	0.5133312	0.747787	519.107889	467.1971	0.017015	0.015654	0.029%
Fresno	2035	LHD2	GAS	GAS	40	1479.1088	0.0046079	0.008402	0.1033479	0.106376	475.233142	427.709828	0.000139	0.000129	0.004%
Fresno	2035	LHD2	DSL	DSL	40	5927.1756	0.0545922	0.06215	0.4546015	0.756211	519.107876	467.197088	0.015076	0.01387	0.016%
Fresno	2035	LHD2	GAS	GAS	45	1820.913	0.003984	0.007262	0.098996	0.108844	452.055826	406.850243	0.000119	0.000111	0.005%
Fresno	2035	LHD2	DSL	DSL	45	6397.3717	0.0494465	0.056292	0.421332	0.78871	519.107898	467.197108	0.013655	0.012563	0.017%
Fresno	2035	LHD2	GAS	GAS	50	13445.368	0.0036222	0.006588	0.1008888	0.109719	454.321772	408.889595	0.000107	9.91E-05	0.036%
Fresno	2035	LHD2	DSL	DSL	50	24702.279	0.045782	0.05212	0.4086754	0.852442	519.107864	467.197078	0.012643	0.011632	0.065%
Fresno	2035	LHD2	GAS	GAS	55	3698.111	0.0032971	0.006012	0.104887	0.118597	482.415456	434.173911	9.95E-05	9.24E-05	0.010%
Fresno	2035	LHD2	DSL	DSL	55	14875.936	0.043332	0.049331	0.4148517	0.959942	519.107902	467.197112	0.011966	0.011009	0.039%
Fresno	2035	MCY	GAS	GAS	5	10.752747	4.7189475	5.165712	23.870843	1.236078	266.394097	239.754687	0.000467	0.000411	0.000%
Fresno	2035	MCY	GAS	GAS	10	554.89158	4.0924659	4.480206	22.084999	1.217711	242.30076	218.070684	0.000402	0.000353	0.001%
Fresno	2035	MCY	GAS	GAS	15	330.7208	3.1688185	3.467933	19.076397	1.162584	205.030744	184.52767	0.000309	0.000271	0.001%
Fresno	2035	MCY	GAS	GAS	20	12588.286	2.589213	2.830736	17.08271	1.135271	178.738769	160.864892	0.000251	0.000219	0.033%
Fresno	2035	MCY	GAS	GAS	25	3070.1522	2.2223167	2.429782	15.901695	1.116377	160.513437	144.462093	0.000214	0.000187	0.008%
Fresno	2035	MCY	GAS	GAS	30	8374.1638	2.0085029	2.195247	15.312538	1.14165	148.522673	133.670406	0.000192	0.000167	0.022%
Fresno	2035	MCY	GAS	GAS	35	21269.879	1.9075578	2.084042	15.2783	1.121996	141.675292	127.507762	0.000182	0.000158	0.056%
Fresno	2035	MCY	GAS	GAS	40	30261.417	1.9062373	2.081751	15.890486	1.142786	139.435532	125.491979	0.000181	0.000156	0.080%
Fresno	2035	MCY	GAS	GAS	45	30034.55	1.9966162	2.179985	17.238489	1.167142	141.742565	127.568309	0.000189	0.000163	0.079%
Fresno	2035	MCY	GAS	GAS	50	34759.25	2.1978531	2.399426	19.669568	1.20228	149.01587	134.114283	0.000207	0.000179	0.092%
Fresno	2035	MCY	GAS	GAS	55	25925.157	2.5415526	2.774636	23.714161	1.247993	162.250226	146.025203	0.00024	0.000207	0.068%
Fresno	2035	MCY	GAS	GAS	60	29542.357	3.0875112	3.370405	30.291061	1.306048	183.22816	164.905344	0.000291	0.000252	0.078%
Fresno	2035	MCY	GAS	GAS	65	31685.281	3.9413355	4.302831	41.189322	1.378654	214.9121	193.42089	0.000371	0.000321	0.084%
Fresno	2035	MCY	GAS	GAS	70	30419.625	5.2796836	5.764605	59.434256	1.464776	262.137322	235.92359	0.000499	0.000432	0.080%
Fresno	2035	MDV	GAS	GAS	5	262.23808	0.1100125	0.195436	1.7718606	0.179144	1969.99002	1370.33855	0.013475	0.012502	0.001%
Fresno	2035	MDV	DSL	DSL	5	0.204452	0.0191431	0.021793	0.1208349	0.327478	504.233051	348.357588	0.011581	0.010655	0.000%
Fresno	2035	MDV	GAS	GAS	10	13532.7	0.0690463	0.122328	1.5896758	0.156103	1452.2532	1010.20434	0.008486	0.007873	0.036%
Fresno	2035	MDV	DSL	DSL	10	10.550669	0.0162675	0.018519							

Region	CalYr	Veh	CI	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNITOG (gms/mile)	NOX_RUNITOG (gms/mile)	CO2_RUNITOG (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT		
Fresno	2035	MDV	GAS		55	632262.83	0.0120264	0.021305	0.7708121	0.089188	527.40799	366.870322	0.00146	0.001354	1.670%
Fresno	2035	MDV	DSL		55	492.93907	0.0082517	0.009394	0.0572962	0.250567	354.320834	244.868774	0.004991	0.004592	0.001%
Fresno	2035	MDV	GAS		60	720479.2	0.0128467	0.022792	0.7213014	0.091557	567.257667	394.590335	0.001567	0.001454	1.903%
Fresno	2035	MDV	DSL		60	561.71632	0.0099812	0.011363	0.0540983	0.265606	414.766203	286.595991	0.006037	0.005554	0.001%
Fresno	2035	MDV	GAS		65	772740.8	0.0144731	0.025705	0.6773478	0.095873	633.176731	440.444571	0.001775	0.001647	2.041%
Fresno	2035	MDV	DSL		65	602.4617	0.0127412	0.014505	0.0513011	0.286347	503.915118	348.138109	0.007705	0.007089	0.002%
Fresno	2035	MDV	GAS		70	741873.94	0.0156958	0.02789	0.6585872	0.098677	679.002269	472.320926	0.001927	0.001788	1.960%
Fresno	2035	MDV	DSL		70	578.39657	0.0171657	0.019542	0.0488944	0.313934	635.442336	438.935217	0.010381	0.00955	0.002%
Fresno	2035	MH	GAS		5	497.37529	0.0553148	0.09933	0.7610391	0.116409	2513.49733	2262.1476	0.001014	0.000941	0.001%
Fresno	2035	MH	DSL		5	100.05503	1.0506642	1.196111	1.8537301	10.40436	2409.45049	2168.50544	0.102742	0.094523	0.000%
Fresno	2035	MH	GAS		10	2500.3099	0.0445366	0.079952	0.6162304	0.119449	2036.12821	1832.51539	0.000817	0.000758	0.007%
Fresno	2035	MH	DSL		10	498.03629	0.7897955	0.89913	1.4655575	8.936126	2187.78829	1969.00946	0.089264	0.082123	0.001%
Fresno	2035	MH	GAS		15	3158.32	0.0299198	0.053672	0.4228694	0.124529	1392.42964	1253.18668	0.000546	0.000507	0.008%
Fresno	2035	MH	DSL		15	672.17609	0.4011829	0.456672	0.8767346	6.620523	1796.35774	1616.72197	0.066961	0.061604	0.002%
Fresno	2035	MH	GAS		20	3275.9536	0.0208567	0.037433	0.3055777	0.130392	1006.06861	905.461752	0.000381	0.000353	0.009%
Fresno	2035	MH	DSL		20	712.8672	0.1900703	0.216382	0.5379409	5.154415	1474.1187	1326.70683	0.05086	0.046792	0.002%
Fresno	2035	MH	GAS		25	3650.1697	0.0151682	0.027222	0.2333843	0.136157	768.012153	691.210938	0.000277	0.000257	0.010%
Fresno	2035	MH	DSL		25	742.42287	0.146569	0.166859	0.4562472	4.526696	1322.2031	1189.98279	0.044122	0.040592	0.002%
Fresno	2035	MH	GAS		30	4127.0368	0.0114739	0.020587	0.187889	0.142452	619.433653	557.490288	0.00021	0.000195	0.011%
Fresno	2035	MH	DSL		30	892.7034	0.1260962	0.143552	0.4275845	0.428248	1241.08342	1116.97508	0.041074	0.037788	0.002%
Fresno	2035	MH	GAS		35	5129.2808	0.0090439	0.01624	0.1599202	0.148736	527.846586	475.061927	0.000166	0.000154	0.014%
Fresno	2035	MH	DSL		35	1052.6149	0.1087305	0.123782	0.4078958	3.802662	1173.76427	1056.38785	0.040066	0.036861	0.003%
Fresno	2035	MH	GAS		40	6385.4256	0.0074294	0.013359	0.1438589	0.155038	475.233226	427.709904	0.000136	0.000127	0.017%
Fresno	2035	MH	DSL		40	1306.6575	0.0944721	0.10755	0.3971811	3.548249	1120.24542	1008.22088	0.041098	0.03781	0.003%
Fresno	2035	MH	GAS		45	5823.0717	0.0063952	0.011482	0.1370593	0.160335	452.05586	406.850274	0.000117	0.000109	0.015%
Fresno	2035	MH	DSL		45	1069.9793	0.0833209	0.094855	0.3954404	3.358787	1080.52712	972.474412	0.044171	0.040637	0.003%
Fresno	2035	MH	GAS		50	5667.0456	0.0056801	0.010217	0.1370394	0.16791	454.32184	408.889656	0.000105	9.72E-05	0.015%
Fresno	2035	MH	DSL		50	1197.4807	0.0752769	0.085698	0.4026736	3.248634	1054.60923	949.148305	0.049283	0.045341	0.003%
Fresno	2035	MH	GAS		55	7411.9792	0.0052533	0.009506	0.1451595	0.174931	482.415536	434.173982	9.76E-05	9.05E-05	0.020%
Fresno	2035	MH	DSL		55	1754.7995	0.0703401	0.080078	0.4188808	3.209985	1042.49168	938.242513	0.056436	0.051921	0.005%
Fresno	2035	MH	GAS		60	8553.0862	0.0050896	0.009255	0.1630902	0.18043	541.209217	487.088295	9.49E-05	8.8E-05	0.023%
Fresno	2035	MH	DSL		60	2108.6858	0.0685105	0.077995	0.444062	3.238258	1044.17453	939.757077	0.065629	0.060379	0.006%
Fresno	2035	MH	GAS		65	1336.5278	0.0052101	0.009435	0.1945296	0.183905	641.497946	577.348151	9.61E-05	8.92E-05	0.004%
Fresno	2035	MH	DSL		65	331.84716	0.0697882	0.079449	0.4782171	3.327952	1059.65797	953.692172	0.076862	0.070713	0.001%
Fresno	2035	OBUS	GAS		5	300.94714	0.080701	0.127238	1.1942561	0.133115	2513.49723	2262.14751	0.001	0.000927	0.001%
Fresno	2035	OBUS	DSL		5	245.79146	1.5861841	1.80575	2.9797481	4.623698	3000.84531	2700.76078	0.05483	0.050444	0.001%
Fresno	2035	OBUS	GAS		10	1512.8638	0.0649959	0.102413	0.967016	0.136592	2036.12852	1832.51567	0.000805	0.000747	0.004%
Fresno	2035	OBUS	DSL		10	1133.6207	0.8871084	1.009905	1.7708363	3.395818	2416.37885	2174.74096	0.049207	0.04527	0.003%
Fresno	2035	OBUS	GAS		15	1911.0064	0.0436741	0.068748	0.6635853	0.1424	1392.42968	1253.18671	0.000539	0.0005	0.005%
Fresno	2035	OBUS	DSL		15	1492.4488	0.4445821	0.506123	1.0103201	2.534191	1966.4595	1769.81355	0.044572	0.041006	0.004%
Fresno	2035	OBUS	GAS		20	1982.183	0.0304376	0.047949	0.149526	0.149105	1006.06863	905.461765	0.000376	0.000348	0.005%
Fresno	2035	OBUS	DSL		20	1992.1444	0.2134666	0.243015	0.6250055	2.04657	1667.58305	1500.82475	0.04257	0.039164	0.005%
Fresno	2035	OBUS	GAS		25	2208.6102	0.0221363	0.03487	0.3662369	0.155698	768.012086	691.210878	0.000273	0.000253	0.006%
Fresno	2035	OBUS	DSL		25	2066.889	0.1862273	0.212006	0.5889262	1.833109	1554.29946	1398.86952	0.0406	0.030253	0.005%
Fresno	2035	OBUS	GAS		30	2497.1484	0.0167474	0.02637	0.2948437	0.162896	619.4336	557.49024	0.000207	0.000192	0.007%
Fresno	2035	OBUS	DSL		30	2883.156	0.1715128	0.195254	0.6018785	1.709603	1513.47471	1362.12724	0.041611	0.038282	0.008%
Fresno	2035	OBUS	GAS		35	3103.5765	0.0131973	0.020803	0.2509538	0.170082	527.846634	475.061971	0.000163	0.000152	0.008%
Fresno	2035	OBUS	DSL		35	4256.6836	0.1596004	0.181693	0.6328688	1.620436	1496.24306	1346.61875	0.044706	0.041129	0.011%
Fresno	2035	OBUS	GAS		40	3863.633	0.0108323	0.017113	0.2257499	0.177288	475.233178	427.70986	0.000134	0.000125	0.010%
Fresno	2035	OBUS	DSL		40	4543.6948	0.1340432	0.152598	0.599408	1.454882	1388.01842	1249.21658	0.046787	0.043044	0.012%
Fresno	2035	OBUS	GAS		45	3523.3691	0.0093333	0.014707	0.2150795	0.183345	452.055855	406.850269	0.000115	0.000107	0.009%
Fresno	2035	OBUS	DSL		45	5084.9367	0.127837	0.145533	0.6642423	1.433593	1412.70212	1271.43191	0.054142	0.049811	0.013%
Fresno	2035	OBUS	GAS		50	3428.9625	0.0082795	0.013089	0.2150483	0.192007	454.321799	408.889619	0.000103	9.58E-05	0.009%
Fresno	2035	OBUS	DSL		50	5430.6309	0.1132843	0.128966	0.6775239	1.364009	1369.39275	1232.45348	0.060719	0.055861	0.014%
Fresno	2035	OBUS	GAS		55	4484.7705	0.0076242	0.012182	0.2277906	0.200036	482.415543	434.173989	9.62E-05	8.93E-05	0.012%
Fresno	2035	OBUS	DSL		55	7117.4272	0.1009804	0.114876	0.6898339	1.315754	1329.59333	1196.63399	0.068347	0.062879	0.019%
Fresno	2035	OBUS	GAS		60	5175.2205	0.0073623	0.011865	0.2559284	0.206324	541.209208	487.088287	9.35E-05	8.68E-05	0.014%
Fresno	2035	OBUS	DSL		60	4814.1661	0.0766515	0.087262	0.5707986	1.16079	1154.53492	1039.08143	0.069619	0.064049	0.013%
Fresno	2035	OBUS	GAS		65	808.69374	0.0075559	0.012092	0.3052643	0.210298	641.497894	577.348105	9.48E-05	8.79E-05	0.002%
Fresno	2035	OBUS	DSL		65	1253.2168	0.0906658	0.103216	0.7737067	1.349263	1334.34751	1200.91276	0.089797	0.082614	0.003%
Fresno	2035	SBUS	GAS		5	77.848973	0.2742692	0.341615	3.8280772	0.333728	2513.49698	2262.14728	0.001744	0.001618	0.000%
Fresno	2035	SBUS	DSL		5	153.26155	2.281405	2.597206	4.0455771	12.3463	2617.43399	2355.69059	0.064331	0.059184	0.000%
Fresno	2035	SBUS	GAS		10	272.85665	0.2214585	0.275662	3.1074489	0.340815	2036.12814	1832.51532	0.001404	0.001303	0.001%
Fresno	2035	SBUS	DSL		10	537.17386	1.3271759	1.510889	2.5203783	9.282154	2162.20503	1945.98453	0.059001	0.054281	0.001%
Fresno	2035	SBUS	GAS		15	545.71332	0.1481515	0.184413	2.1250646	0.357665	1392.42956	1253.1866	0.000939	0.000872	0.001%
Fresno	2035	SBUS	DSL		15	1074.3477	0.6744066	0.767761	1.4621548	6.983592	1775.35776	1597.82198	0.053848	0.04954	0.003%
Fresno	2035	SBUS	GAS		20	740.71711	0.1033393	0.128624	1.5357503	0.374355	1006.06849	905.461637	0.000655	0.000608	0.002%
Fresno	2035	SBUS	DSL		20	1458.2523	0.289941	0.330076	0.7928132	5.278572	1400.58068	1260.52261	0.04836	0.044491	0.004%
Fresno	2035	SBUS	GAS		25	1169.2717	0.0750802	0							



Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNI (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNE (gms/mile)	NOX_RUNI (gms/mile)	CO2_RUNE (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2035	T6	GAS	5	973.52695	0.0689906	0.114074	1.0368676	0.120933	2513.49722	2262.1475	0.00101	0.000938	0.003%
Fresno	2035	T6	DSL	5	5137.5027	1.1013952	1.253855	1.9529146	3.412478	2559.93331	2303.93998	0.041772	0.03843	0.014%
Fresno	2035	T6	GAS	10	4893.9285	0.0555566	0.091818	0.8395749	0.124092	2036.12822	1832.5154	0.000814	0.000755	0.013%
Fresno	2035	T6	DSL	10	25572.553	0.6407234	0.729415	1.2167127	2.564287	2114.70497	1903.23447	0.038279	0.035216	0.068%
Fresno	2035	T6	GAS	15	6181.8708	0.0373232	0.061637	0.5761328	0.129369	1392.42958	1253.18662	0.000544	0.000505	0.016%
Fresno	2035	T6	DSL	15	34514.07	0.3255844	0.370653	0.7059038	1.928473	1736.35609	1562.72048	0.034911	0.032118	0.091%
Fresno	2035	T6	GAS	20	6412.1182	0.0260159	0.042989	0.4163303	0.13546	1006.0686	905.461738	0.00038	0.000352	0.017%
Fresno	2035	T6	DSL	20	36603.426	0.1399714	0.159347	0.3827906	1.457575	1369.81224	1232.83102	0.031334	0.028827	0.097%
Fresno	2035	T6	GAS	25	7144.5819	0.0189203	0.031263	0.3179713	0.141449	768.012142	691.210927	0.000276	0.000256	0.019%
Fresno	2035	T6	DSL	25	38121.017	0.1222948	0.139223	0.3613306	1.307178	1278.06544	1150.2589	0.029906	0.027513	0.101%
Fresno	2035	T6	GAS	30	8077.9677	0.014313	0.023643	0.2559869	0.147988	619.433656	557.49029	0.000209	0.000194	0.021%
Fresno	2035	T6	DSL	30	45837.434	0.1066437	0.121406	0.3463083	1.179023	1199.65767	1079.69191	0.029695	0.027319	0.121%
Fresno	2035	T6	GAS	35	10039.688	0.0112817	0.018651	0.2178811	0.154517	527.846622	475.06196	0.000165	0.000153	0.027%
Fresno	2035	T6	DSL	35	54048.372	0.0930181	0.105894	0.3377237	1.073112	1134.58895	1021.13006	0.030702	0.028246	0.143%
Fresno	2035	T6	GAS	40	12498.377	0.0092646	0.015342	0.1599988	0.161063	475.233217	427.709895	0.000136	0.000126	0.033%
Fresno	2035	T6	DSL	40	67092.64	0.0814171	0.092688	0.3355767	0.989443	1082.85927	974.573342	0.032927	0.030293	0.177%
Fresno	2035	T6	GAS	45	11397.666	0.0079779	0.013186	0.1867346	0.166567	452.055868	406.850281	0.000117	0.000108	0.030%
Fresno	2035	T6	DSL	45	54939.975	0.0718437	0.081789	0.3398673	0.928018	1044.46863	940.021765	0.03637	0.03346	0.145%
Fresno	2035	T6	GAS	50	11092.272	0.0070824	0.011734	0.1867075	0.174436	454.321814	408.889633	0.000104	9.68E-05	0.029%
Fresno	2035	T6	DSL	50	61486.767	0.0642948	0.073195	0.3505956	0.888836	1019.41703	917.475324	0.04103	0.037748	0.162%
Fresno	2035	T6	GAS	55	14507.68	0.0065376	0.010919	0.1977706	0.18173	482.415542	434.173988	9.73E-05	9.03E-05	0.038%
Fresno	2035	T6	DSL	55	90103.285	0.0587715	0.066907	0.3677616	0.871896	1007.70447	906.93402	0.046909	0.043156	0.238%
Fresno	2035	T6	GAS	60	16741.2	0.0063253	0.010633	0.2222001	0.187443	541.20927	487.088343	9.45E-05	8.77E-05	0.044%
Fresno	2035	T6	DSL	60	108274.2	0.0552737	0.062925	0.3913652	0.8772	1009.33095	908.397853	0.054005	0.049684	0.286%
Fresno	2035	T6	GAS	65	2616.0245	0.0064814	0.010838	0.2650342	0.191053	641.497958	577.348162	9.58E-05	8.89E-05	0.007%
Fresno	2035	T6	DSL	65	17039.28	0.0538015	0.061249	0.4214065	0.904747	1024.29647	921.866823	0.062318	0.057333	0.045%
Fresno	2035	T7	GAS	5	47.101317	2.5476473	3.222386	123.91413	3.559864	2513.49743	2262.14768	0.000946	0.000878	0.000%
Fresno	2035	T7	DSL	5	11173.315	2.4953132	2.840724	4.9860909	6.539606	3956.48963	3560.84066	0.075198	0.069182	0.030%
Fresno	2035	T7	GAS	10	230.20846	2.0717203	2.599449	100.61334	3.62884	2036.12818	1832.51536	0.000762	0.000707	0.001%
Fresno	2035	T7	DSL	10	42682.58	1.4516168	1.652555	3.1064068	4.914833	3268.36963	2941.53267	0.068927	0.063412	0.113%
Fresno	2035	T7	GAS	15	251.04595	1.3811242	1.741608	68.880559	3.802273	1392.42954	1253.18658	0.00051	0.000473	0.001%
Fresno	2035	T7	DSL	15	52201.144	0.7376411	0.839748	1.8022111	3.69664	2683.61478	2415.2533	0.062875	0.057845	0.138%
Fresno	2035	T7	GAS	20	429.03323	0.9595161	1.210978	49.625326	4.006074	1006.06856	905.461705	0.000356	0.00033	0.001%
Fresno	2035	T7	DSL	20	128970.49	0.3103818	0.353346	0.9563304	2.702748	2117.09827	1905.38845	0.054875	0.050485	0.341%
Fresno	2035	T7	GAS	25	559.91571	0.6976479	0.882258	37.961887	4.168442	768.012159	691.210943	0.000258	0.00024	0.001%
Fresno	2035	T7	DSL	25	117904.47	0.2770755	0.315429	0.9224851	2.505512	1975.3064	1777.77576	0.053873	0.049564	0.311%
Fresno	2035	T7	GAS	30	1022.5113	0.5311367	0.668991	30.651513	4.338359	619.433557	557.490202	0.000196	0.000182	0.003%
Fresno	2035	T7	DSL	30	199055.58	0.2416181	0.275064	0.8841482	2.259662	1854.12375	1668.71137	0.053497	0.049127	0.526%
Fresno	2035	T7	GAS	35	1818.6731	0.4189901	0.529092	26.149988	4.508745	527.846584	475.061926	0.000155	0.000143	0.005%
Fresno	2035	T7	DSL	35	358105.96	0.2107489	0.239922	0.8622455	2.056474	1753.55717	1578.20145	0.055313	0.050888	0.946%
Fresno	2035	T7	GAS	40	1585.3806	0.3437894	0.435473	23.532082	4.690899	475.233216	427.709894	0.000127	0.000118	0.004%
Fresno	2035	T7	DSL	40	337948	0.1844679	0.210003	0.8567768	1.895949	1673.60667	1506.246	0.059324	0.054578	0.893%
Fresno	2035	T7	GAS	45	1677.502	0.2929053	0.372855	22.327019	4.898946	452.055835	406.850251	0.000109	0.000101	0.004%
Fresno	2035	T7	DSL	45	473149.1	0.1627751	0.185307	0.8677424	1.778087	1614.27224	1452.84502	0.065527	0.060285	1.250%
Fresno	2035	T7	GAS	50	1755.142	0.2603694	0.333832	22.446469	5.073738	454.321872	408.889685	9.77E-05	9.07E-05	0.005%
Fresno	2035	T7	DSL	50	492063.44	0.1456706	0.165835	0.895142	1.702888	1575.55389	1417.9985	0.073925	0.068011	1.300%
Fresno	2035	T7	GAS	55	2576.419	0.2441222	0.312116	23.903883	5.223222	482.415493	434.173944	9.11E-05	8.45E-05	0.007%
Fresno	2035	T7	DSL	55	600041.24	0.1331542	0.151586	0.9389758	1.670351	1557.45162	1401.70645	0.084515	0.077754	1.585%
Fresno	2035	T7	GAS	60	635.8646	0.2323187	0.303095	26.752832	5.432343	541.209196	487.088277	8.86E-05	8.22E-05	0.002%
Fresno	2035	T7	DSL	60	182793.53	0.1252261	0.14256	0.9992437	1.680477	1559.96541	1403.96887	0.0973	0.089516	0.483%
Fresno	2035	T7	GAS	65	340.81023	0.2375011	0.306124	31.645132	5.629918	641.49795	577.348155	8.97E-05	8.32E-05	0.001%
Fresno	2035	T7	DSL	65	100119.68	0.1218862	0.138758	1.0759458	1.733266	1583.09529	1424.78576	0.112278	0.103296	0.264%
Fresno	2035	UBUS	GAS	5	191.16786	1.5441433	1.71055	1.079579	1.731738	2513.49709	2262.14738	0.001864	0.001729	0.001%
Fresno	2035	UBUS	DSL	5	471.24682	0.7751275	0.882431	5.7401873	11.71731	2299.61401	2069.65261	0.390966	0.359688	0.001%
Fresno	2035	UBUS	GAS	10	686.15946	1.2434709	1.377475	15.453184	1.77563	2036.12824	1832.51542	0.001501	0.001392	0.002%
Fresno	2035	UBUS	DSL	10	1691.4479	0.657308	0.748301	4.5199088	10.184	2299.61406	2069.65266	0.331539	0.305016	0.004%
Fresno	2035	UBUS	GAS	15	1372.319	0.8318581	0.921504	10.567837	1.863414	1392.42956	1253.18661	0.001004	0.000932	0.004%
Fresno	2035	UBUS	DSL	15	3382.8957	0.4852444	0.552418	2.9314344	7.987019	2299.61398	2069.65258	0.244752	0.225172	0.009%
Fresno	2035	UBUS	GAS	20	1810.9826	0.5800775	0.64259	7.6355517	1.951197	1006.06858	905.46172	0.0007	0.00065	0.005%
Fresno	2035	UBUS	DSL	20	4464.2431	0.3709816	0.422338	2.0187768	6.585153	2299.6139	2069.65251	0.187119	0.172149	0.012%
Fresno	2035	UBUS	GAS	25	2727.4697	0.4216442	0.467083	5.8288229	2.038981	768.012079	691.210871	0.000509	0.000472	0.007%
Fresno	2035	UBUS	DSL	25	6723.4701	0.2937276	0.334389	1.4762305	5.707709	2299.61415	2069.65273	0.148153	0.136301	0.018%
Fresno	2035	UBUS	GAS	30	3413.629	0.3194695	0.353898	4.7011878	2.126765	619.433576	557.490218	0.000386	0.000358	0.009%
Fresno	2035	UBUS	DSL	30	8414.9173	0.2408448	0.274186	1.1462454	5.200827	2299.61403	2069.65263	0.121479	0.111761	0.022%
Fresno	2035	UBUS	GAS	35	3345.3412	0.2523108	0.279501	4.0060879	2.214549	527.846502	475.061851	0.000305	0.000283	0.009%
Fresno	2035	UBUS	DSL	35	8246.5816	0.2045173	0.232829	0.9450588	4.981931	2299.61388	2069.65249	0.103156	0.094904	0.022%
Fresno	2035	UBUS	GAS	40	2411.6856	0.2077139	0.230099	3.6067795	2.302333	475.233167	427.70985	0.000251	0.000233	0.006%
Fresno	2035	UBUS	DSL	40	5945.0327	0.1798553	0.204753	0.827366	1.6016928	2299.614	2069.6526	0.090717	0.08346	0.016%
Fresno	2035	UBUS	GAS	45	1051.3267	0.1782455	0.197454	3.4308752	2.390117	452.055845	406.85026	0.000215	0.0002	0.003%
Fresno	2035	UBUS	DSL	45	2591.6195	0.1638011	0.186477	0.7691201	5.311199	2299.61409	2069.65268	0.082619	0.07601	0.007%

**City of Fresno General Plan  
Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

**Year 2035**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.066	0.041	0.028	0.019	0.014	0.011	0.009	0.008	0.007	0.007	0.007	0.008	0.009	0.009	0.000
LDT1		0.078	0.049	0.033	0.023	0.017	0.013	0.011	0.010	0.009	0.008	0.009	0.009	0.010	0.011	0.000
LDT2		0.081	0.050	0.034	0.024	0.018	0.014	0.011	0.010	0.009	0.009	0.009	0.009	0.011	0.011	0.000
LHD1		0.047	0.038	0.025	0.018	0.013	0.010	0.008	0.006	0.005	0.005	0.004	0.000	0.000	0.000	0.000
LHD2		0.035	0.028	0.019	0.013	0.010	0.007	0.006	0.005	0.004	0.004	0.003	0.000	0.000	0.000	0.000
MCY		4.719	4.092	3.169	2.589	2.222	2.009	1.908	1.906	1.997	2.198	2.542	3.088	3.941	5.280	0.000
MDV		0.110	0.069	0.047	0.032	0.024	0.019	0.016	0.013	0.012	0.012	0.012	0.013	0.014	0.016	0.000
MH		0.055	0.045	0.030	0.021	0.015	0.011	0.009	0.007	0.006	0.006	0.005	0.005	0.005	0.000	0.000
OBUS		0.081	0.065	0.044	0.030	0.022	0.017	0.013	0.011	0.009	0.008	0.008	0.007	0.008	0.000	0.000
SBUS		0.274	0.221	0.148	0.103	0.075	0.057	0.045	0.037	0.032	0.028	0.026	0.025	0.000	0.000	0.000
T6		0.069	0.056	0.037	0.026	0.019	0.014	0.011	0.009	0.008	0.007	0.007	0.006	0.006	0.000	0.000
T7		2.548	2.072	1.381	0.960	0.698	0.531	0.419	0.344	0.293	0.260	0.244	0.232	0.238	0.000	0.000
UBUS		1.544	1.243	0.832	0.580	0.422	0.319	0.252	0.208	0.178	0.159	0.149	0.144	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.019	0.016	0.012	0.010	0.008	0.007	0.006	0.006	0.007	0.007	0.008	0.010	0.012	0.017	0.000
LDT1		0.021	0.018	0.014	0.011	0.009	0.008	0.007	0.007	0.007	0.008	0.009	0.011	0.014	0.020	0.000
LDT2		0.024	0.020	0.015	0.012	0.010	0.009	0.008	0.008	0.008	0.009	0.010	0.012	0.015	0.020	0.000
LHD1		0.190	0.168	0.133	0.108	0.090	0.076	0.066	0.058	0.053	0.049	0.046	0.000	0.000	0.000	0.000
LHD2		0.178	0.157	0.125	0.101	0.084	0.071	0.062	0.055	0.049	0.046	0.043	0.000	0.000	0.000	0.000
MCY		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MDV		0.019	0.016	0.012	0.010	0.008	0.007	0.007	0.006	0.007	0.007	0.008	0.010	0.013	0.017	0.000
MH		1.051	0.790	0.401	0.190	0.147	0.126	0.109	0.094	0.083	0.075	0.070	0.069	0.070	0.000	0.000
OBUS		1.586	0.887	0.445	0.213	0.186	0.172	0.160	0.134	0.128	0.113	0.101	0.077	0.091	0.000	0.000
SBUS		2.281	1.327	0.674	0.290	0.253	0.221	0.193	0.169	0.149	0.133	0.122	0.114	0.000	0.000	0.000
T6		1.101	0.641	0.326	0.140	0.122	0.107	0.093	0.081	0.072	0.064	0.059	0.055	0.054	0.000	0.000
T7		2.495	1.452	0.738	0.310	0.277	0.242	0.211	0.184	0.163	0.146	0.133	0.125	0.122	0.000	0.000
UBUS		0.775	0.657	0.485	0.371	0.294	0.241	0.205	0.180	0.164	0.154	0.151	0.153	0.000	0.000	0.000

**City of Fresno General Plan  
Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

**Year 2035**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	6.2	0.1	0.5	1.3	1.0	5.3	2.0	2.0	1.0	3.8	3.7	0.0	0.0	0.0	<b>27.0</b>
LDT1		0.0	1.1	0.0	0.1	0.2	0.2	0.9	0.4	0.4	0.2	0.7	0.7	0.0	0.0	0.0	<b>4.8</b>
LDT2		0.0	2.8	0.1	0.2	0.6	0.5	2.4	0.9	0.9	0.4	1.7	1.7	0.0	0.0	0.0	<b>12.3</b>
LHD1		0.0	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	<b>1.1</b>
LHD2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
MCY		0.0	9.6	0.2	1.0	3.2	2.8	17.1	7.6	8.6	4.8	21.2	23.6	0.0	0.0	0.0	<b>99.9</b>
MDV		0.0	3.9	0.1	0.3	0.9	0.7	3.4	1.3	1.3	0.6	2.5	2.4	0.0	0.0	0.0	<b>17.3</b>
MH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
OBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
SBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
T6		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
T7		0.0	0.2	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.9</b>
UBUS		0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.8</b>
<b>Total</b>		<b>0.1</b>	<b>24.5</b>	<b>0.5</b>	<b>2.1</b>	<b>6.5</b>	<b>5.3</b>	<b>29.9</b>	<b>12.5</b>	<b>13.4</b>	<b>7.2</b>	<b>30.3</b>	<b>32.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>164.6</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.0	0.9	0.0	0.1	0.3	0.3	1.4	0.6	0.5	0.3	0.9	0.0	0.0	0.0	0.0	<b>5.3</b>
LHD2		0.0	0.2	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	<b>1.3</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
OBUS		0.0	0.3	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.1</b>
SBUS		0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.5</b>
T6		0.0	3.7	0.1	0.1	0.4	0.4	2.1	0.8	0.8	0.3	1.2	1.0	0.0	0.0	0.0	<b>10.9</b>
T7		0.2	40.6	0.6	1.4	4.8	4.1	22.6	8.8	8.4	3.8	13.3	11.4	0.0	0.0	0.0	<b>120.1</b>
UBUS		0.0	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	<b>1.6</b>
<b>Total</b>		<b>0.3</b>	<b>46.3</b>	<b>0.6</b>	<b>1.7</b>	<b>5.8</b>	<b>4.9</b>	<b>27.2</b>	<b>10.6</b>	<b>10.1</b>	<b>4.6</b>	<b>16.1</b>	<b>12.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>141.3</b>
<b>Total Emissions (tons/year)</b>		<b>306.0</b>															
<b>Total Emissions (tons/day)</b>		<b>0.8</b>															

**City of Fresno General Plan  
Motor Vehicle Emissions**

**NOx**

Year 2035

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.106	0.093	0.081	0.073	0.066	0.061	0.058	0.055	0.054	0.053	0.053	0.054	0.056	0.058	0.000
	LDT1	0.122	0.107	0.094	0.083	0.076	0.070	0.066	0.063	0.062	0.061	0.061	0.063	0.065	0.067	0.000
	LDT2	0.131	0.115	0.100	0.090	0.082	0.076	0.071	0.068	0.066	0.065	0.066	0.067	0.070	0.072	0.000
	LHD1	0.098	0.100	0.105	0.110	0.117	0.122	0.129	0.137	0.140	0.141	0.153	0.000	0.000	0.000	0.000
	LHD2	0.076	0.078	0.082	0.086	0.091	0.095	0.100	0.106	0.109	0.110	0.119	0.000	0.000	0.000	0.000
	MCY	1.236	1.218	1.163	1.135	1.116	1.114	1.122	1.143	1.167	1.202	1.248	1.306	1.379	1.465	0.000
	MDV	0.179	0.156	0.136	0.121	0.110	0.102	0.096	0.092	0.089	0.088	0.089	0.092	0.096	0.099	0.000
	MH	0.116	0.119	0.125	0.130	0.136	0.142	0.149	0.155	0.160	0.168	0.175	0.180	0.184	0.000	0.000
	OBUS	0.133	0.137	0.142	0.149	0.156	0.163	0.170	0.177	0.183	0.192	0.200	0.206	0.210	0.000	0.000
	SBUS	0.334	0.341	0.358	0.374	0.391	0.409	0.427	0.445	0.463	0.478	0.505	0.520	0.000	0.000	0.000
	T6	0.121	0.124	0.129	0.135	0.141	0.148	0.155	0.161	0.167	0.174	0.182	0.187	0.191	0.000	0.000
	T7	3.560	3.629	3.802	4.006	4.168	4.338	4.509	4.691	4.899	5.074	5.223	5.432	5.630	0.000	0.000
	UBUS	1.732	1.776	1.863	1.951	2.039	2.127	2.215	2.302	2.390	2.478	2.566	2.653	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.322	0.306	0.280	0.260	0.245	0.235	0.230	0.228	0.230	0.236	0.246	0.261	0.282	0.310	0.000
	LDT1	0.371	0.354	0.324	0.301	0.285	0.274	0.267	0.265	0.267	0.274	0.285	0.301	0.324	0.353	0.000
	LDT2	0.407	0.386	0.351	0.326	0.307	0.295	0.288	0.286	0.289	0.297	0.310	0.331	0.359	0.396	0.000
	LHD1	1.448	1.312	1.109	0.970	0.882	0.828	0.809	0.818	0.853	0.922	1.038	0.000	0.000	0.000	0.000
	LHD2	1.339	1.213	1.026	0.897	0.816	0.765	0.748	0.756	0.789	0.852	0.960	0.000	0.000	0.000	0.000
	MCY	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	MDV	0.327	0.312	0.284	0.264	0.250	0.240	0.234	0.232	0.234	0.240	0.251	0.266	0.286	0.314	0.000
	MH	10.404	8.936	6.621	5.154	4.527	4.128	3.803	3.548	3.359	3.249	3.210	3.238	3.328	0.000	0.000
	OBUS	4.624	3.396	2.534	2.047	1.833	1.710	1.620	1.455	1.434	1.364	1.316	1.161	1.349	0.000	0.000
	SBUS	12.346	9.282	6.984	5.279	4.732	4.267	3.882	3.578	3.355	3.213	3.151	3.170	0.000	0.000	0.000
	T6	3.412	2.564	1.928	1.458	1.307	1.179	1.073	0.989	0.928	0.889	0.872	0.877	0.905	0.000	0.000
	T7	6.540	4.915	3.697	2.703	2.506	2.260	2.056	1.896	1.778	1.703	1.670	1.680	1.733	0.000	0.000
	UBUS	11.717	10.184	7.987	6.585	5.708	5.201	4.982	5.017	5.311	5.911	6.916	8.506	0.000	0.000	0.000

**City of Fresno General Plan  
Motor Vehicle Emissions  
NOx**

**Year 2035**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.1	13.9	0.3	1.8	6.2	5.6	33.3	14.2	14.9	7.4	28.5	26.6	0.0	0.0	0.0	<b>152.8</b>
LDT1		0.0	2.4	0.1	0.3	1.1	0.9	5.7	2.4	2.5	1.3	4.9	4.6	0.0	0.0	0.0	<b>26.1</b>
LDT2		0.0	6.4	0.2	0.8	2.8	2.5	15.2	6.5	6.8	3.4	13.0	12.2	0.0	0.0	0.0	<b>69.8</b>
LHD1		0.0	0.9	0.0	0.2	0.7	0.7	4.5	2.1	2.4	1.2	5.0	0.0	0.0	0.0	0.0	<b>17.7</b>
LHD2		0.0	0.1	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.4	0.0	0.0	0.0	0.0	<b>1.4</b>
MCY		0.0	2.8	0.1	0.4	1.6	1.6	10.1	4.6	5.0	2.6	10.4	10.0	0.0	0.0	0.0	<b>49.3</b>
MDV		0.0	8.9	0.2	1.1	3.9	3.5	21.0	9.0	9.4	4.7	18.2	17.1	0.0	0.0	0.0	<b>97.0</b>
MH		0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.1	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.5</b>
OBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	<b>1.0</b>
SBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.6</b>
T6		0.0	0.1	0.0	0.0	0.1	0.1	0.6	0.3	0.3	0.2	0.7	0.6	0.0	0.0	0.0	<b>3.0</b>
T7		0.0	0.4	0.0	0.1	0.3	0.3	2.0	0.9	1.1	0.6	2.2	2.1	0.0	0.0	0.0	<b>9.9</b>
UBUS		0.0	0.3	0.0	0.1	0.2	0.2	1.5	0.7	0.8	0.4	1.6	1.5	0.0	0.0	0.0	<b>7.3</b>
<b>Total</b>		<b>0.1</b>	<b>36.4</b>	<b>0.9</b>	<b>4.8</b>	<b>17.0</b>	<b>15.6</b>	<b>94.8</b>	<b>41.2</b>	<b>43.6</b>	<b>22.1</b>	<b>85.5</b>	<b>75.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>437.3</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.1	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.4	0.3	0.0	0.0	0.0	<b>1.7</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LHD1		0.0	7.3	0.2	0.9	3.1	2.8	17.4	7.8	8.8	4.8	20.7	0.0	0.0	0.0	0.0	<b>73.8</b>
LHD2		0.0	1.8	0.0	0.2	0.7	0.7	4.2	1.9	2.1	1.2	5.1	0.0	0.0	0.0	0.0	<b>18.0</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
MH		0.0	1.0	0.0	0.1	0.3	0.3	1.6	0.7	0.7	0.3	1.3	1.2	0.0	0.0	0.0	<b>7.6</b>
OBUS		0.0	1.3	0.0	0.1	0.4	0.4	2.4	1.0	1.0	0.5	1.8	1.5	0.0	0.0	0.0	<b>10.4</b>
SBUS		0.0	1.3	0.0	0.1	0.4	0.4	2.1	0.9	0.9	0.4	1.6	1.4	0.0	0.0	0.0	<b>9.5</b>
T6		0.1	14.8	0.3	1.4	4.7	4.1	23.8	9.8	9.9	4.8	18.0	16.5	0.0	0.0	0.0	<b>108.1</b>
T7		0.6	137.4	2.8	12.2	43.7	38.3	220.8	90.9	91.8	44.6	166.9	153.6	0.0	0.0	0.0	<b>1,003.6</b>
UBUS		0.0	4.4	0.1	0.5	1.5	1.4	8.2	3.7	4.2	2.4	10.6	11.9	0.0	0.0	0.0	<b>48.9</b>
<b>Total</b>		<b>0.8</b>	<b>169.4</b>	<b>3.5</b>	<b>15.5</b>	<b>55.0</b>	<b>48.3</b>	<b>280.9</b>	<b>116.9</b>	<b>119.6</b>	<b>59.1</b>	<b>226.4</b>	<b>186.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1,282.0</b>

**Total Emissions (tons/year)**

**1,719.4**

**Total Emissions (tons/day)**

**4.7**

**City of Fresno General Plan  
Motor Vehicle Emissions  
Carbon Monoxide (CO)**

**Year 2035**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	1.1	1.0	1.0	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.0
	LDT1	1.3	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.0
	LDT2	1.3	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.0
	LHD1	0.7	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
	LHD2	0.6	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
	MCY	23.9	22.1	19.1	17.1	15.9	15.3	15.3	15.9	17.2	19.7	23.7	30.3	41.2	59.4	0.0
	MDV	1.8	1.6	1.5	1.3	1.2	1.1	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.0
	MH	0.8	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.0
	OBUS	1.2	1.0	0.7	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0
	SBUS	3.8	3.1	2.1	1.5	1.2	0.9	0.8	0.7	0.7	0.7	0.7	0.8	0.0	0.0	0.0
	T6	1.0	0.8	0.6	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0
	T7	123.9	100.6	68.9	49.6	38.0	30.7	26.1	23.5	22.3	22.4	23.9	26.8	31.6	0.0	0.0
	UBUS	19.1	15.5	10.6	7.6	5.8	4.7	4.0	3.6	3.4	3.4	3.7	4.1	0.0	0.0	0.0

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
	LDT1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	LDT2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	LHD1	2.4	2.0	1.4	1.0	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.0
	LHD2	2.3	1.9	1.3	1.0	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.0
	MCY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MDV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
	MH	1.9	1.5	0.9	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.0	0.0
	OBUS	3.0	1.8	1.0	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.8	0.0	0.0
	SBUS	4.0	2.5	1.5	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.0	0.0	0.0
	T6	2.0	1.2	0.7	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.0	0.0
	T7	5.0	3.1	1.8	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.1	0.0	0.0
	UBUS	5.7	4.5	2.9	2.0	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.9	0.0	0.0	0.0

**City of Fresno General Plan**  
**Motor Vehicle Emissions**  
**Carbon Monoxide (CO)**  
**Year 2035**  
Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.6	154.3	3.9	20.9	74.8	66.7	388.5	159.2	159.2	75.2	268.6	229.6	0.0	0.0	0.0	<b>1,601.5</b>
LDT1		0.1	26.9	0.7	3.6	13.0	11.6	67.4	27.6	27.6	13.1	46.6	39.9	0.0	0.0	0.0	<b>278.1</b>
LDT2		0.3	66.7	1.7	9.0	32.3	28.8	167.6	68.7	68.7	32.5	115.9	99.2	0.0	0.0	0.0	<b>691.3</b>
LHD1		0.0	5.5	0.1	0.4	1.3	1.0	5.4	2.1	2.2	1.1	4.5	0.0	0.0	0.0	0.0	<b>23.6</b>
LHD2		0.0	0.4	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.8</b>
MCY		0.2	51.6	1.2	6.5	23.2	21.7	137.1	63.7	74.4	43.0	198.1	231.5	0.0	0.0	0.0	<b>852.2</b>
MDV		0.3	90.6	2.3	12.3	43.7	38.9	226.9	93.0	93.0	44.0	157.1	134.4	0.0	0.0	0.0	<b>936.5</b>
MH		0.0	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.7</b>
OBUS		0.0	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.6</b>
SBUS		0.0	0.2	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0	<b>1.2</b>
T6		0.0	0.9	0.0	0.1	0.2	0.2	0.9	0.3	0.4	0.2	0.7	0.7	0.0	0.0	0.0	<b>4.5</b>
T7		0.0	11.7	0.2	0.9	2.8	2.2	11.7	4.7	4.8	2.5	10.0	10.2	0.0	0.0	0.0	<b>61.8</b>
UBUS		0.0	2.7	0.0	0.2	0.6	0.5	2.7	1.1	1.1	0.6	2.3	2.3	0.0	0.0	0.0	<b>14.1</b>
<b>Total</b>		<b>1.6</b>	<b>412.1</b>	<b>10.1</b>	<b>54.1</b>	<b>192.1</b>	<b>171.7</b>	<b>1,009.3</b>	<b>420.9</b>	<b>431.9</b>	<b>212.4</b>	<b>804.9</b>	<b>748.7</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>4,469.8</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.5</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.0	10.9	0.2	0.9	2.7	2.2	11.6	4.6	4.6	2.2	8.7	0.0	0.0	0.0	0.0	<b>48.7</b>
LHD2		0.0	2.7	0.1	0.2	0.7	0.5	2.9	1.1	1.1	0.6	2.2	0.0	0.0	0.0	0.0	<b>12.2</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
MH		0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0	<b>0.9</b>
OBUS		0.0	0.7	0.0	0.0	0.1	0.1	0.9	0.4	0.5	0.2	0.9	0.7	0.0	0.0	0.0	<b>4.7</b>
SBUS		0.0	0.4	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.1</b>
T6		0.0	7.0	0.1	0.4	1.3	1.2	7.5	3.3	3.6	1.9	7.6	7.4	0.0	0.0	0.0	<b>41.3</b>
T7		0.5	86.8	1.4	4.3	16.1	15.0	92.6	41.1	44.8	23.4	93.8	91.4	0.0	0.0	0.0	<b>511.1</b>
UBUS		0.0	1.9	0.0	0.1	0.4	0.3	1.6	0.6	0.6	0.3	1.2	1.2	0.0	0.0	0.0	<b>8.4</b>
<b>Total</b>		<b>0.6</b>	<b>110.7</b>	<b>1.8</b>	<b>6.1</b>	<b>21.5</b>	<b>19.4</b>	<b>117.7</b>	<b>51.4</b>	<b>55.5</b>	<b>28.8</b>	<b>115.1</b>	<b>101.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>630.0</b>

**Total Emissions (tons/year)** **5,099.9**  
**Tons/day** **14.0**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

Year 2035

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0139	0.0087	0.0058	0.0041	0.0030	0.0023	0.0019	0.0017	0.0015	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	LDT1	0.0138	0.0087	0.0058	0.0040	0.0030	0.0023	0.0019	0.0017	0.0015	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	LDT2	0.0138	0.0087	0.0058	0.0040	0.0030	0.0023	0.0019	0.0017	0.0015	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	LHD1	0.0013	0.0011	0.0007	0.0005	0.0004	0.0003	0.0002	0.0002	0.0002	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0010	0.0008	0.0006	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	MCY	0.0005	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0004	0.0005	0.0000
	MDV	0.0135	0.0085	0.0056	0.0040	0.0029	0.0023	0.0019	0.0016	0.0015	0.0014	0.0015	0.0016	0.0018	0.0019	0.0000
	MH	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	OBUS	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	SBUS	0.0017	0.0014	0.0009	0.0007	0.0005	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000
	T6	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	T7	0.0009	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	UBUS	0.0019	0.0015	0.0010	0.0007	0.0005	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0114	0.0097	0.0073	0.0058	0.0048	0.0042	0.0039	0.0038	0.0039	0.0043	0.0049	0.0059	0.0075	0.0101	0.0000
	LDT1	0.0109	0.0092	0.0069	0.0055	0.0046	0.0040	0.0037	0.0037	0.0038	0.0041	0.0048	0.0058	0.0074	0.0100	0.0000
	LDT2	0.0123	0.0105	0.0079	0.0063	0.0053	0.0046	0.0042	0.0041	0.0042	0.0045	0.0051	0.0062	0.0078	0.0104	0.0000
	LHD1	0.0521	0.0461	0.0366	0.0297	0.0246	0.0209	0.0181	0.0160	0.0145	0.0134	0.0127	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0491	0.0433	0.0344	0.0279	0.0232	0.0196	0.0170	0.0151	0.0137	0.0126	0.0120	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.0116	0.0098	0.0074	0.0059	0.0049	0.0043	0.0040	0.0039	0.0040	0.0044	0.0050	0.0060	0.0077	0.0104	0.0000
	MH	0.1027	0.0893	0.0670	0.0509	0.0441	0.0411	0.0401	0.0411	0.0442	0.0493	0.0564	0.0656	0.0769	0.0000	0.0000
	OBUS	0.0548	0.0492	0.0446	0.0426	0.0406	0.0416	0.0447	0.0468	0.0541	0.0607	0.0683	0.0696	0.0898	0.0000	0.0000
	SBUS	0.0643	0.0590	0.0538	0.0484	0.0462	0.0458	0.0474	0.0508	0.0562	0.0634	0.0724	0.0834	0.0000	0.0000	0.0000
	T6	0.0418	0.0383	0.0349	0.0313	0.0299	0.0297	0.0307	0.0329	0.0364	0.0410	0.0469	0.0540	0.0623	0.0000	0.0000
	T7	0.0752	0.0689	0.0629	0.0549	0.0539	0.0535	0.0553	0.0593	0.0655	0.0739	0.0845	0.0973	0.1123	0.0000	0.0000
	UBUS	0.3910	0.3315	0.2448	0.1871	0.1482	0.1215	0.1032	0.0907	0.0826	0.0779	0.0761	0.0770	0.0000	0.0000	0.0000



**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

Year 2035

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.007	1.3	0.0	0.1	0.3	0.2	1.1	0.4	0.4	0.2	0.8	0.8	0.0	0.0	0.0	<b>5.7</b>
LDT1		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.8</b>
LDT2		0.003	0.5	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.1</b>
LHD1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.003	0.5	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.1</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T6		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T7		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
UBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Total</b>		<b>0.014</b>	<b>2.5</b>	<b>0.0</b>	<b>0.2</b>	<b>0.5</b>	<b>0.4</b>	<b>2.1</b>	<b>0.8</b>	<b>0.8</b>	<b>0.4</b>	<b>1.5</b>	<b>1.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>10.8</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.001	0.3	0.0	0.0	0.1	0.1	0.4	0.2	0.1	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.5</b>
LHD2		0.000	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.4</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.4</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
T6		0.001	0.2	0.0	0.0	0.1	0.1	0.7	0.3	0.4	0.2	1.0	1.0	0.0	0.0	0.0	<b>4.1</b>
T7		0.007	1.9	0.0	0.2	0.9	0.9	5.9	2.8	3.4	1.9	8.4	8.9	0.0	0.0	0.0	<b>35.5</b>
UBUS		0.001	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.8</b>
<b>Total</b>		<b>0.0</b>	<b>2.7</b>	<b>0.1</b>	<b>0.3</b>	<b>1.2</b>	<b>1.1</b>	<b>7.4</b>	<b>3.5</b>	<b>4.1</b>	<b>2.3</b>	<b>10.0</b>	<b>10.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>42.9</b>

**Total Emissions (tons/year)**

**53.7**

**Total Emissions (tons/day)**

**0.1**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM2.5**

Year 2035

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0129	0.0081	0.0054	0.0038	0.0028	0.0022	0.0018	0.0015	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	LDT1	0.0128	0.0081	0.0054	0.0038	0.0028	0.0022	0.0018	0.0015	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	LDT2	0.0128	0.0080	0.0053	0.0037	0.0028	0.0022	0.0018	0.0015	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	LHD1	0.0012	0.0010	0.0007	0.0005	0.0003	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	MCY	0.0004	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0004	0.0000
	MDV	0.0125	0.0079	0.0052	0.0037	0.0027	0.0021	0.0017	0.0015	0.0014	0.0013	0.0014	0.0015	0.0016	0.0018	0.0000
	MH	0.0009	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	OBUS	0.0009	0.0007	0.0005	0.0003	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	SBUS	0.0016	0.0013	0.0009	0.0006	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000
	T6	0.0009	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	T7	0.0009	0.0007	0.0005	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	UBUS	0.0017	0.0014	0.0009	0.0006	0.0005	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0105	0.0090	0.0067	0.0053	0.0044	0.0039	0.0036	0.0035	0.0036	0.0039	0.0045	0.0054	0.0069	0.0093	0.0000
	LDT1	0.0100	0.0085	0.0064	0.0050	0.0042	0.0037	0.0034	0.0034	0.0035	0.0038	0.0044	0.0053	0.0068	0.0092	0.0000
	LDT2	0.0114	0.0097	0.0073	0.0058	0.0048	0.0042	0.0039	0.0038	0.0039	0.0042	0.0047	0.0057	0.0072	0.0096	0.0000
	LHD1	0.0480	0.0424	0.0336	0.0273	0.0226	0.0192	0.0166	0.0147	0.0134	0.0124	0.0117	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0451	0.0399	0.0316	0.0257	0.0213	0.0181	0.0157	0.0139	0.0126	0.0116	0.0110	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.0107	0.0091	0.0068	0.0054	0.0045	0.0040	0.0037	0.0036	0.0037	0.0040	0.0046	0.0056	0.0071	0.0096	0.0000
	MH	0.0945	0.0821	0.0616	0.0468	0.0406	0.0378	0.0369	0.0378	0.0406	0.0453	0.0519	0.0604	0.0707	0.0000	0.0000
	OBUS	0.0504	0.0453	0.0410	0.0392	0.0374	0.0383	0.0411	0.0430	0.0498	0.0559	0.0629	0.0640	0.0826	0.0000	0.0000
	SBUS	0.0592	0.0543	0.0495	0.0445	0.0425	0.0422	0.0436	0.0468	0.0517	0.0583	0.0666	0.0767	0.0000	0.0000	0.0000
	T6	0.0384	0.0352	0.0321	0.0288	0.0275	0.0273	0.0282	0.0303	0.0335	0.0377	0.0432	0.0497	0.0573	0.0000	0.0000
	T7	0.0692	0.0634	0.0578	0.0505	0.0496	0.0492	0.0509	0.0546	0.0603	0.0680	0.0778	0.0895	0.1033	0.0000	0.0000
	UBUS	0.3597	0.3050	0.2252	0.1721	0.1363	0.1118	0.0949	0.0835	0.0760	0.0717	0.0700	0.0708	0.0000	0.0000	0.0000

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM2.5**

Year 2035

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.007	1.2	0.0	0.1	0.3	0.2	1.0	0.4	0.4	0.2	0.7	0.7	0.0	0.0	0.0	<b>5.3</b>
LDT1		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.8</b>
LDT2		0.002	0.4	0.0	0.0	0.1	0.1	0.4	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.9</b>
LHD1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.002	0.4	0.0	0.0	0.1	0.1	0.4	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T6		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T7		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
UBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Total</b>		<b>0.013</b>	<b>2.3</b>	<b>0.0</b>	<b>0.2</b>	<b>0.5</b>	<b>0.4</b>	<b>1.9</b>	<b>0.8</b>	<b>0.7</b>	<b>0.4</b>	<b>1.4</b>	<b>1.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>10.0</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.001	0.2	0.0	0.0	0.1	0.1	0.4	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	<b>1.3</b>
LHD2		0.000	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.3</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.3</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
T6		0.001	0.2	0.0	0.0	0.1	0.1	0.6	0.3	0.4	0.2	0.9	0.9	0.0	0.0	0.0	<b>3.7</b>
T7		0.007	1.8	0.0	0.2	0.9	0.8	5.5	2.6	3.1	1.8	7.8	8.2	0.0	0.0	0.0	<b>32.7</b>
UBUS		0.001	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.7</b>
<b>Total</b>		<b>0.009</b>	<b>2.4</b>	<b>0.1</b>	<b>0.3</b>	<b>1.1</b>	<b>1.1</b>	<b>6.8</b>	<b>3.2</b>	<b>3.8</b>	<b>2.1</b>	<b>9.2</b>	<b>9.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>39.4</b>

**Total Emissions (tons/year)**

**49.4**

**Total Emissions (tons/day)**

**0.1**

# City of Fresno General Plan

## Criteria Pollutants: Summary

Year 2050

Prepared by FirstCarbon Solutions

### Data

#### City Information

Population	912,600
Employment	362,145

#### County Information

Population	1,521,000
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	ROG	NOx	PM10	PM2.5	CO	SO2
<b>Emissions (tons/year)</b>						
Motor vehicles	377	2120	66	61	6289	0
Electricity	0	510	0	0	0	359
Natural gas	147	1296	101	101	848	8
Stationary, area	554	507	238	na	203	89
Offroad	1488	2268	182	182	10972	10
<b>Total</b>	<b>2566</b>	<b>6701</b>	<b>588</b>	<b>345</b>	<b>18312</b>	<b>466</b>

#### Emissions (tons/day)

Motor vehicles	1.0	5.8	0.2	0.2	17.2	0.0
Electricity	0.0	1.4	0.0	0.0	0.0	1.0
Natural gas	0.4	3.5	0.3	0.3	2.3	0.0
Stationary, area	1.5	1.4	0.7	na	0.6	0.2
Offroad	4.1	6.2	0.5	0.5	30.1	0.03
<b>Total</b>	<b>7.0</b>	<b>18.4</b>	<b>1.6</b>	<b>0.9</b>	<b>50.2</b>	<b>1.3</b>

#### Sources:

- Population for the City: Fresno Council of Governments (Fresno COG), San Joaquin Valley Demographic Forecasts 2010 to 2050. Produced under contract by: The Planning Center|DC&E. March 2012.
  - Employment: Took the 2010 population (545,000) and 2010 employment (183,825) and cross multiplied with the 2050 population (912,600) and the 2050 employment number (X).
  - Emissions: refer to subsequent spreadsheets.
  - Emissions for stationary, area: California Air Resources Board, CEIDARS 2.5, data is from the year 2010. Note that SO2 emissions for this category represent SOx emissions; SO2 emissions were not available.
- [www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab\\_=&dis\\_=&co\\_=10&name\\_=&city\\_=Fresno&fzip\\_=&fsic\\_=&facid\\_=&all\\_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=](http://www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab_=&dis_=&co_=10&name_=&city_=Fresno&fzip_=&fsic_=&facid_=&all_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=)

**City of Fresno General Plan**

**Criteria Pollutants: Energy**

**Year 2050**

Prepared by FirstCarbon Solutions

Note: data entry values are in yellow

**Electricity**

Emission Factors (lbs/MWh)		(lbs/kWh)
NOx	0.2002	0.0002002
SO2	0.1409	0.0001409

	Usage (kWh/year)	Emissions Per capita (kWh/person or employee/year)	Emissions (tons/year)	
			NOx	SO2
Residential	2,381,886,000	2,610	238.4	167.8
Commercial	2,717,173,935	7,503	272.0	191.4
Industrial	not available			
<b>Total</b>	<b>5,099,059,935</b>		<b>510.4</b>	<b>359.2</b>

**Natural Gas**

		Natural Gas Emission Factors					
		ROG	NOx	PM10	PM2.5	CO	SO2
lb/MMBTU	Residential	0.01078	0.09216	0.00745	0.00745	0.03922	0.00059
	Nonresidential	0.01078	0.09804	0.00745	0.00745	0.08235	0.00059
lb/therm	Residential	0.0011	0.0092	0.0007	0.0007	0.0039	0.0001
	Nonresidential	0.0011	0.0098	0.0007	0.0007	0.0082	0.0001

  

	Usage (therms/year)	Per capita (therms/person or employee/year)	Emissions (tons/year)					
			ROG	NOx	PM10	PM2.5	CO	SO2
Residential	125,938,800	138	68	580	47	47	247	4
Commercial	145,944,435	403	79	715	54	54	601	4
Industrial	not available							
<b>Total</b>	<b>271,883,235</b>		<b>147</b>	<b>1,296</b>	<b>101</b>	<b>101</b>	<b>848</b>	<b>8</b>

Sources:

Per capita energy usage: See the spreadsheet calculations for 2010. Residential rates are based on population and commercial are based on employees.

Usage: per capita usage multiplied by the population (for residential) or employees (for commercial)

Emission factors for electricity NOx and SO2 electricity emission factors from Environmental Protection Agency, eGRID2012, state total annual total output emission rate for California (data is from year 2009).

Emission factors for natural gas: CalEEMod Appendix D, Table 8.2, August 2013. 1 therm = 0.1 MMBTU

**City of Fresno General Plan**

**Criteria Pollutants: Offroad**

**Year 2050**

Prepared by FirstCarbon Solutions

*Note: yellow shaded cells are data entry cells*

Fresno County Emissions (tons/day) (from Offroad 2007)	ROG		CO	NOx	SO2	PM
	Evaporative	Exhaust				
Agricultural Equipment	0.12	0.78	9.82	4.98	0.01	0.25
Airport Ground Support Equipment	0.00	0.01	0.23	0.04	0.00	0.00
Construction and Mining Equipment	0.01	0.52	4.43	3.04	0.01	0.16
Dredging	0.00	0.00	0.00	0.00	0.00	0.00
Entertainment Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Equipment	0.02	0.04	2.58	0.30	0.00	0.01
Lawn and Garden Equipment	0.53	0.95	12.06	0.25	0.00	0.03
Light Commercial Equipment	0.07	0.19	6.46	0.35	0.00	0.04
Logging Equipment	0.00	0.04	0.29	0.04	0.00	0.00
Military Tactical Support Equip	0.00	0.00	0.02	0.02	0.00	0.00
Oil Drilling	0.00	0.00	0.00	0.00	0.00	0.00
Other Portable Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Pleasure Craft	0.67	0.83	7.38	0.41	0.00	0.29
Railyard Operations	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Equipment	0.48	1.41	5.21	0.07	0.02	0.03
Transport Refrigeration Units	0.00	0.12	1.63	0.86	0.00	0.01
<b>Total</b>	<b>1.91</b>	<b>4.88</b>	<b>50.10</b>	<b>10.36</b>	<b>0.04</b>	<b>0.83</b>

**Percent Fresno County/Fresno City Population 0.60**

City of Fresno Emissions (tons/day)	ROG Evaporative	ROG Exhaust	CO	NOx	SO2	PM
Agricultural Equipment	0.07	0.5	5.9	3.0	0.01	0.15
Airport Ground Support Equipment	0.00	0.0	0.1	0.0	0.00	0.00
Construction and Mining Equipment	0.01	0.3	2.7	1.8	0.00	0.10
Dredging	0.00	0.0	0.0	0.0	0.00	0.00
Entertainment Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Industrial Equipment	0.01	0.0	1.5	0.2	0.00	0.01
Lawn and Garden Equipment	0.32	0.6	7.2	0.1	0.00	0.02
Light Commercial Equipment	0.04	0.1	3.9	0.2	0.00	0.03
Logging Equipment	0.00	0.0	0.2	0.0	0.00	0.00
Military Tactical Support Equip	0.00	0.0	0.0	0.0	0.00	0.00
Oil Drilling	0.00	0.0	0.0	0.0	0.00	0.00
Other Portable Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Pleasure Craft	0.40	0.5	4.4	0.2	0.00	0.17
Railyard Operations	0.00	0.0	0.0	0.0	0.00	0.00
Recreational Equipment	0.29	0.8	3.1	0.0	0.01	0.02
Transport Refrigeration Units	0.00	0.1	1.0	0.5	0.00	0.01
<b>Total</b>	<b>1.15</b>	<b>2.9</b>	<b>30.1</b>	<b>6.2</b>	<b>0.03</b>	<b>0.50</b>

**Sources:**

- County of Fresno emissions from OFFROAD2007, annual, all days, all equipment, for year 2035
- City of Fresno emissions based on the percent of the City's population compared with the County's population.

Note: PM refers to total particulate matter.

**City of Fresno General Plan**  
**Vehicle Miles Traveled Estimates**  
**Year 2050**  
 Prepared by FirstCarbon Solutions

*Vehicle Miles Traveled*

Vehicle miles traveled / day **18,485,093** Source: Fehr and Peers. 2013  
 Vehicle miles traveled / year 6,747,058,945 Source: VMT per day \* 365 days/year  
 Annual Growth Rate in VMT: 2.54% Source: Fresno COG

Speed bins	AM peak	PM peak	Off peak	Total	Speed
0 - 5 MPH	0	1,287	0	<b>1,287</b>	5
5 - 10 MPH	1,069	1,251	0	<b>2,320</b>	5
10 - 15 MPH	208,444	269,072	572,246	<b>1,049,761</b>	10
15 - 20 MPH	7,043	10,422	11,009	<b>28,474</b>	15
20 - 25 MPH	30,820	51,517	87,828	<b>170,165</b>	20
25 - 30 MPH	125,883	166,689	362,192	<b>654,764</b>	25
30 - 35 MPH	139,515	220,787	275,798	<b>636,099</b>	30
35 - 40 MPH	821,839	1,064,855	2,145,729	<b>4,032,424</b>	35
40 - 45 MPH	367,528	448,475	985,202	<b>1,801,204</b>	40
45 - 50 MPH	312,650	411,980	1,213,378	<b>1,938,008</b>	45
50 - 55 MPH	169,096	238,867	574,977	<b>982,940</b>	50
55 - 60 MPH	750,525	892,376	2,110,693	<b>3,753,594</b>	55
60 - 65 MPH	719,505	893,806	1,820,505	<b>3,433,817</b>	60
65 - 70 MPH	40	52	143	<b>236</b>	65
70 - 75 MPH	0	0	0	<b>0</b>	70
>75 MPH	0	0	0	<b>0</b>	75
<b>Total</b>	<b>3,653,958</b>	<b>4,671,436</b>	<b>10,159,699</b>	<b>18,485,093</b>	

Source: Fehr and Peers. 2013. 2050 VMT was found by multiplying the 2010 VMT numbers found previously with the annual growth rate multiplied by the 40 years of VMT growth between 2010 and 2050 and adding that to the 2010 VMT.

Annual VMT Growth Rate: Was found by interpolating between 2010 and 2056 VMT:  $(((2056 \text{ VMT} - 2010 \text{ VMT}) / 2010 \text{ VMT}) / 46 \text{ years} = .0254)$ .

Note: 2035 emission factors were used, as that is the last year available through EMFAC2011.

2010 VMT found by backcasting the 2011 Existing Daily VMT By Speed Bin: Origin-Destination Method

Speed bins	AM peak	PM peak	Off peak	Total
0 - 5 MPH	0	638	0	638
5 - 10 MPH	530	620	0	1,150
10 - 15 MPH	103,322	133,374	283,652	520,348
15 - 20 MPH	3,491	5,166	5,457	14,114
20 - 25 MPH	15,277	25,536	43,535	84,348
25 - 30 MPH	62,398	82,625	179,532	324,555
30 - 35 MPH	69,155	109,440	136,708	315,303
35 - 40 MPH	407,371	527,830	1,063,600	1,998,801
40 - 45 MPH	182,177	222,301	488,347	892,825
45 - 50 MPH	154,975	204,211	601,450	960,636
50 - 55 MPH	83,818	118,402	285,006	487,226
55 - 60 MPH	372,022	442,335	1,046,233	1,860,590
60 - 65 MPH	356,646	443,044	902,392	1,702,082
65 - 70 MPH	20	26	71	117
70 - 75 MPH	0	0	0	0
>75 MPH	0	0	0	0
<b>Total</b>	<b>1,811,202</b>	<b>2,315,548</b>	<b>5,035,983</b>	<b>9,162,733</b>

*VMT/day per speed bin*

Speed (mph)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
VMT/day	3607	1049761	28474	170165	654764	636099	4032424	1801204	1938008	982940	3753594	3433817	236	0	0

*Vehicle Class using EMFAC2011 VMT percentages*

	GAS	DSL	% Includes
LDA	43.91%	0.12%	GAS Heavy duty 0.6% MH, OBUS, SBUS, T6, T7, UBUS
LDT1	6.52%	0.01%	Light trucks 42.4% MDV, LDT1, LDT2, LHD1, LHD2
LDT2	16.24%	0.01%	Passenger 44.6% LDA, MCY
LHD1	2.67%	1.63%	DSL Heavy duty 10.2% MH, OBUS, SBUS, T6, T7, UBUS
LHD2	0.27%	0.43%	Light trucks 2.1% MDV, LDT1, LDT2, LHD1, LHD2
MCY	0.68%	0.00%	Passenger 0.1% LDA, MCY
MDV	16.67%	0.01%	Total 100.0%
MH	0.15%	0.03%	
OBUS	0.09%	0.11%	
SBUS	0.02%	0.04%	
T6	0.30%	1.69%	
T7	0.03%	8.18%	
UBUS	0.05%	0.13%	

**City of Fresno General Plan**  
**Vehicle Miles Traveled Estimates**  
**Year 2050**  
 Prepared by FirstCarbon Solutions

*VMT/day by Vehicle Class and speed*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		1584	460945	12503	74719	287504	279308	1770618	790900	850970	431604	1648185	1507772	104	0	0
LDT1		235	68417	1856	11090	42673	41457	262807	117391	126307	64062	244635	223794	15	0	0
LDT2		586	170481	4624	27635	106334	103302	654865	292515	314732	159629	609583	557651	38	0	0
LHD1		96	28072	761	4550	17509	17010	107832	48167	51825	26285	100376	91825	6	0	0
LHD2		10	2803	76	454	1749	1699	10769	4810	5176	2625	10024	9170	1	0	0
MCY		25	7177	195	1163	4476	4349	27568	12314	13250	6720	25662	23476	2	0	0
MDV		601	175030	4748	28372	109171	106059	672338	300320	323130	163888	625847	572530	39	0	0
MH		5	1595	43	259	995	966	6126	2736	2944	1493	5703	5217	0	0	0
OBUS		3	965	26	156	602	585	3707	1656	1781	904	3450	3156	0	0	0
SBUS		1	218	6	35	136	132	837	374	402	204	779	713	0	0	0
T6		11	3122	85	506	1947	1892	11991	5356	5763	2923	11162	10211	1	0	0
T7		1	359	10	58	224	217	1377	615	662	336	1282	1173	0	0	0
UBUS		2	535	15	87	334	324	2055	918	987	501	1913	1750	0	0	0
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>			
LDA		4	1230	33	199	767	745	4725	2111	2271	1152	4398	4023	0	0	0
LDT1		0	91	2	15	57	55	349	156	168	85	325	297	0	0	0
LDT2		0	77	2	12	48	47	295	132	142	72	275	251	0	0	0
LHD1		59	17156	465	2781	10700	10395	65899	29436	31671	16063	61342	56116	4	0	0
LHD2		16	4523	123	733	2821	2740	17373	7760	8349	4235	16171	14794	1	0	0
MCY		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MDV		0	136	4	22	85	83	524	234	252	128	488	446	0	0	0
MH		1	345	9	56	215	209	1325	592	637	323	1233	1128	0	0	0
OBUS		4	1173	32	190	732	711	4507	2013	2166	1099	4195	3838	0	0	0
SBUS		1	429	12	70	268	260	1649	736	792	402	1535	1404	0	0	0
T6		61	17712	480	2871	11048	10733	68037	30391	32699	16585	63333	57937	4	0	0
T7		295	85853	2329	13917	53549	52022	329786	147309	158497	80388	306983	280830	19	0	0
UBUS		5	1319	36	214	822	799	5065	2262	2434	1235	4715	4313	0	0	0



EMFAC2011 Emission Rates

Region Type: County

Region: Fresno

Calendar Year: 2035

Season: Annual

Vehicle Classification: EMFAC2007 Categories

EMFAC2011: EMFAC Emission Rates Database. (Enter: region - County: Fresno, year - 2035, season - annual average, vehicle category - EMFAC2007, model year - aggregated, speed - all speeds, fuel - all) Website: <http://www.arb.ca.gov/emfac/>

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	EMFAC2007 Categories										Percent of Total VMT
						ROG_RUNITOG	NOX_RUNI	CO2_RUNE	PM10_RUN	PM2_5_RUNE	CO	HC	CH4	N2O	SO2	
Fresno	2035	LDA	GAS	5	690.61058	0.0661503	0.122367	1.1438369	0.105519	1132.07376	673.304157	0.013853	0.012854	0.002%		
Fresno	2035	LDA	DSL	5	1.8428816	0.0188755	0.021488	0.1206987	0.322311	503.980949	303.820128	0.011442	0.010527	0.000%		
Fresno	2035	LDA	GAS	10	35638.706	0.04124	0.07626	1.0279769	0.092659	834.330412	496.221479	0.008718	0.008089	0.094%		
Fresno	2035	LDA	DSL	10	95.10123	0.0160499	0.018272	0.1142073	0.306429	455.139526	274.429687	0.00973	0.008951	0.000%		
Fresno	2035	LDA	GAS	15	21241.017	0.0276946	0.051197	0.9523351	0.081238	646.517456	384.518119	0.005787	0.00537	0.056%		
Fresno	2035	LDA	DSL	15	56.681258	0.012068	0.013739	0.1031034	0.27962	381.698077	230.236122	0.007316	0.006731	0.000%		
Fresno	2035	LDA	GAS	20	808500.65	0.0192603	0.03561	0.8610518	0.07266	514.415615	305.950589	0.004053	0.003761	2.136%		
Fresno	2035	LDA	DSL	20	2157.469	0.0095589	0.010882	0.0938803	0.259701	332.219565	200.462311	0.005795	0.005332	0.006%		
Fresno	2035	LDA	GAS	25	197184.91	0.0143388	0.0265	0.7989048	0.066217	428.337956	254.755245	0.002995	0.002778	0.521%		
Fresno	2035	LDA	DSL	25	526.18429	0.0079752	0.009079	0.0860494	0.245193	300.076477	181.120132	0.004835	0.004448	0.001%		
Fresno	2035	LDA	GAS	30	537842.7	0.0111563	0.020616	0.7330898	0.061379	368.21896	218.999388	0.002334	0.002165	1.421%		
Fresno	2035	LDA	DSL	30	1435.2233	0.0070089	0.007979	0.0792994	0.235453	281.264321	169.799873	0.004249	0.003909	0.004%		
Fresno	2035	LDA	GAS	35	1366088.4	0.0091514	0.016912	0.6739171	0.057744	328.478921	195.363966	0.001919	0.00178	3.608%		
Fresno	2035	LDA	DSL	35	3645.382	0.0064893	0.007388	0.0734215	0.229856	273.561113	165.164459	0.003934	0.003619	0.010%		
Fresno	2035	LDA	GAS	40	1943582.5	0.0078894	0.014581	0.6181806	0.055334	303.471949	180.491197	0.001664	0.001544	5.134%		
Fresno	2035	LDA	DSL	40	5186.4142	0.0063315	0.007208	0.0682691	0.228203	276.084845	166.683111	0.003838	0.003531	0.014%		
Fresno	2035	LDA	GAS	45	1929011.9	0.0072287	0.013361	0.5747455	0.053673	292.328918	173.863779	0.001523	0.001413	5.095%		
Fresno	2035	LDA	DSL	45	5147.5324	0.0065121	0.007414	0.0637359	0.230226	289.122634	174.528631	0.003947	0.003631	0.014%		
Fresno	2035	LDA	GAS	50	2232462.6	0.0069809	0.012904	0.5354171	0.052973	292.125802	173.742948	0.00147	0.001364	5.897%		
Fresno	2035	LDA	DSL	50	5957.2848	0.0070634	0.008041	0.0597434	0.236193	314.18613	189.610649	0.004281	0.003938	0.016%		
Fresno	2035	LDA	GAS	55	1665080.1	0.0071129	0.01315	0.5004716	0.053167	303.02659	180.226197	0.001497	0.001389	4.398%		
Fresno	2035	LDA	DSL	55	4443.2357	0.0080823	0.009201	0.0562346	0.246416	354.307143	213.753563	0.004898	0.004506	0.012%		
Fresno	2035	LDA	GAS	60	1897400.1	0.0076308	0.01411	0.4677985	0.054217	325.917054	193.840412	0.001608	0.001492	5.012%		
Fresno	2035	LDA	DSL	60	5063.1773	0.0097593	0.01111	0.0531705	0.261473	414.65641	250.068876	0.005913	0.00544	0.013%		
Fresno	2035	LDA	GAS	65	2035032.5	0.0086351	0.01597	0.4386353	0.05628	363.783005	216.361367	0.001822	0.001691	5.375%		
Fresno	2035	LDA	DSL	65	5430.4465	0.0124383	0.01416	0.0505307	0.282274	503.663514	303.629111	0.007536	0.006933	0.014%		
Fresno	2035	LDA	GAS	70	1953744	0.0093869	0.017362	0.4261377	0.057624	390.123335	232.027326	0.001979	0.001836	5.161%		
Fresno	2035	LDA	DSL	70	5213.5296	0.0167349	0.019052	0.0483169	0.310021	634.981498	382.650018	0.010138	0.009327	0.014%		
Fresno	2035	LDT1	GAS	5	102.50505	0.0781814	0.141973	1.3479236	0.122225	1314.76791	800.56989	0.013784	0.012789	0.000%		
Fresno	2035	LDT1	DSL	5	0.1360064	0.021304	0.024253	0.1296125	0.371499	504.827175	301.829718	0.010898	0.010026	0.000%		
Fresno	2035	LDT1	GAS	10	5289.7355	0.0489995	0.088828	1.2087702	0.106962	969.207598	590.161462	0.008682	0.008055	0.014%		
Fresno	2035	LDT1	DSL	10	7.018562	0.0180882	0.020585	0.1241136	0.353791	455.724636	272.471938	0.00925	0.00851	0.000%		
Fresno	2035	LDT1	GAS	15	3152.7341	0.0330516	0.059827	1.1168612	0.093501	750.848605	457.196034	0.005769	0.005352	0.008%		
Fresno	2035	LDT1	DSL	15	4.1831318	0.0135595	0.015437	0.1143063	0.323706	381.890427	228.327407	0.006936	0.006381	0.000%		
Fresno	2035	LDT1	GAS	20	120003.09	0.0230579	0.041754	1.0085325	0.083475	597.522898	363.837256	0.004043	0.003751	0.317%		
Fresno	2035	LDT1	DSL	20	159.22329	0.0107269	0.012212	0.1050606	0.301221	332.147383	198.586677	0.005487	0.005048	0.000%		
Fresno	2035	LDT1	GAS	25	29267.508	0.0172317	0.031148	0.934299	0.075962	497.463371	302.908369	0.002989	0.002773	0.077%		
Fresno	2035	LDT1	DSL	25	38.832909	0.008525	0.010192	0.057053	0.284745	299.832425	179.265976	0.00458	0.004123	0.000%		
Fresno	2035	LDT1	GAS	30	79830.22	0.0134396	0.024282	0.8567186	0.070363	427.662588	260.40672	0.002331	0.002163	0.211%		
Fresno	2035	LDT1	DSL	30	105.92086	0.0078821	0.008973	0.0898981	0.273609	280.919663	167.958278	0.004032	0.003709	0.000%		
Fresno	2035	LDT1	GAS	35	202764.03	0.0110382	0.019944	0.7872989	0.066188	381.527502	232.315209	0.001917	0.001779	0.536%		
Fresno	2035	LDT1	DSL	35	269.03268	0.0073212	0.008335	0.0834959	0.267127	273.175322	163.328035	0.003745	0.003445	0.001%		
Fresno	2035	LDT1	GAS	40	288479.58	0.009518	0.017205	0.7223129	0.063456	352.529789	214.659347	0.001663	0.001543	0.762%		
Fresno	2035	LDT1	DSL	40	382.76239	0.0071738	0.008167	0.0777592	0.265083	275.712512	164.844988	0.00367	0.003376	0.01%		
Fresno	2035	LDT1	GAS	45	286316.87	0.0087141	0.015757	0.6716524	0.061606	339.573191	206.769651	0.001521	0.001412	0.756%		
Fresno	2035	LDT1	DSL	45	379.89286	0.0074158	0.008442	0.0726125	0.267152	288.820023	172.681802	0.003793	0.00349	0.001%		
Fresno	2035	LDT1	GAS	50	331357.07	0.0084009	0.015197	0.626015	0.060895	339.331167	206.622144	0.001468	0.001362	0.875%		
Fresno	2035	LDT1	DSL	50	439.65337	0.0080872	0.009207	0.0679898	0.273613	314.017531	187.74707	0.004137	0.003806	0.001%		
Fresno	2035	LDT1	GAS	55	247142.36	0.0085378	0.015454	0.5856615	0.061253	351.985417	214.327261	0.001494	0.001386	0.653%		
Fresno	2035	LDT1	DSL	55	327.91509	0.009304	0.010592	0.0638334	0.284763	354.353048	211.86316	0.004759	0.004379	0.001%		
Fresno	2035	LDT1	GAS	60	281624.87	0.0091271	0.016538	0.5481625	0.062653	378.579994	230.521082	0.001604	0.001488	0.744%		
Fresno	2035	LDT1	DSL	60	373.66739	0.0112923	0.012856	0.0600932	0.301159	415.025007	248.13815	0.005776	0.005314	0.001%		
Fresno	2035	LDT1	GAS	65	302053.17	0.0102875	0.018657	0.5149092	0.065297	422.572629	257.308816	0.001816	0.001685	0.798%		
Fresno	2035	LDT1	DSL	65	400.77219	0.0144586	0.01646	0.0567251	0.323678	504.508047	301.638916	0.007396	0.006804	0.001%		
Fresno	2035	LDT1	GAS	70	289987.78	0.0111589	0.020248	0.5007372	0.067016	453.157125	275.931745	0.001972	0.001829	0.766%		
Fresno	2035	LDT1	DSL	70	384.76351	0.0195301	0.022234	0.0536906	0.35342	636.52822	380.57209	0.00999	0.009191	0.001%		
Fresno	2035	LDT2	GAS	5	255.42307	0.0807862	0.148505	1.3373414	0.13084	1537.70722	1044.72707	0.013765	0.012772	0.001%		
Fresno	2035	LDT2	DSL	5	0.1150683	0.0237373	0.027023	0.1586632	0.407101	502.581245	342.876199	0.012342	0.011355	0.000%		
Fresno	2035	LDT2	GAS	10	13181.015	0.0504476	0.092662	1.2015065	0.114698	1133.51983	770.121871	0.008664	0.008039	0.000%		
Fresno	2035	LDT2	DSL	10	5.9380597	0.0202214	0.023021	0.1483564	0.386317	454.171785	309.953162	0.010521	0.009679	0.000%		
Fresno	2035	LDT2	GAS	15	7856.0134	0.0339175	0.062256	1.1120257	0.1004	878.167189	596.631776	0.005753	0.005338	0.021%		
Fresno	2035	LDT2	DSL	15	3.5391415	0.0152463	0.017357	0.1315346								

Region	CalYr	Veh	CI	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNITOG (gms/mile)	NOX_RUNICO2 (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT			
Fresno	2035	LDT2	DSL	GAS	60	701755.58	0.0093539	0.017174	0.5462385	0.067149	442.764966	300.817625	0.001599	0.001483	1.854%
Fresno	2035	LDT2	DSL	DSL	60	316.14156	0.011956	0.013611	0.0662844	0.330524	414.046697	282.664287	0.006156	0.005664	0.001%
Fresno	2035	LDT2	GAS	GAS	65	752659.03	0.0105725	0.01942	0.5124349	0.069848	494.215085	335.773267	0.001811	0.001681	1.988%
Fresno	2035	LDT2	DSL	DSL	65	339.0736	0.015162	0.017261	0.0634572	0.358568	502.266607	342.662214	0.007792	0.007169	0.001%
Fresno	2035	LDT2	GAS	GAS	70	722594.3	0.0114854	0.021103	0.497949	0.071604	529.986613	360.07659	0.001967	0.001825	1.909%
Fresno	2035	LDT2	DSL	DSL	70	325.52944	0.0203114	0.023123	0.061339	0.396335	632.423233	431.181097	0.010422	0.009588	0.001%
Fresno	2035	LHD1	GAS	GAS	5	28730.834	0.0468288	0.078146	0.7368093	0.098011	2513.49712	2262.14741	0.001312	0.001217	0.076%
Fresno	2035	LHD1	DSL	DSL	5	10879.472	0.1901904	0.216519	2.3726665	1.447606	519.044	467.1396	0.052137	0.047966	0.029%
Fresno	2035	LHD1	GAS	GAS	10	74917.972	0.0377331	0.062942	0.5969772	0.100348	2036.12829	1832.51546	0.001056	0.00098	0.198%
Fresno	2035	LHD1	DSL	DSL	10	36179.207	0.1680524	0.191316	1.9590347	1.312197	519.043919	467.139527	0.046068	0.042383	0.096%
Fresno	2035	LHD1	GAS	GAS	15	170598.31	0.025285	0.042175	0.408915	0.105095	1392.42973	1253.18676	0.000707	0.000656	0.451%
Fresno	2035	LHD1	DSL	DSL	15	78353.787	0.1333898	0.151855	1.3818898	1.109385	519.04397	467.139573	0.036566	0.033641	0.207%
Fresno	2035	LHD1	GAS	GAS	20	197125.03	0.0175837	0.029353	0.2948783	0.110421	1006.06851	905.461657	0.000493	0.000457	0.521%
Fresno	2035	LHD1	DSL	DSL	20	85901.056	0.1082319	0.123215	1.2021524	0.970248	519.044027	467.139624	0.02967	0.027296	0.227%
Fresno	2035	LHD1	GAS	GAS	25	151847.06	0.012682	0.021216	0.2238341	0.116734	768.012023	691.21082	0.000358	0.000332	0.401%
Fresno	2035	LHD1	DSL	DSL	25	91937.051	0.0897722	0.1022	0.7881648	0.882282	519.044026	467.139624	0.024609	0.022641	0.243%
Fresno	2035	LHD1	GAS	GAS	30	134282.63	0.0096155	0.016078	0.1805665	0.121624	619.43358	557.490222	0.000271	0.000252	0.353%
Fresno	2035	LHD1	DSL	DSL	30	77606.52	0.0761173	0.086654	0.6372787	0.827804	519.043982	467.139584	0.020866	0.019197	0.205%
Fresno	2035	LHD1	GAS	GAS	35	50176.542	0.0075026	0.012588	0.1525298	0.128927	527.846459	475.061813	0.000214	0.000199	0.133%
Fresno	2035	LHD1	DSL	DSL	35	40955.973	0.065975	0.075108	0.539265	0.808703	519.043989	467.13959	0.018086	0.016639	0.108%
Fresno	2035	LHD1	GAS	GAS	40	14810.971	0.0060602	0.010275	0.1361152	0.136886	475.233144	427.70983	0.000176	0.000164	0.039%
Fresno	2035	LHD1	DSL	DSL	40	22483.492	0.0584561	0.066548	0.4775683	0.817813	519.044031	467.139628	0.016025	0.014743	0.059%
Fresno	2035	LHD1	GAS	GAS	45	18233.609	0.0052446	0.008888	0.1303835	0.140061	452.055829	406.850246	0.000151	0.00014	0.048%
Fresno	2035	LHD1	DSL	DSL	45	24267.079	0.0529462	0.060276	0.442618	0.852959	519.044071	467.139664	0.014514	0.013353	0.064%
Fresno	2035	LHD1	GAS	GAS	50	134634.42	0.0047971	0.008053	0.1328765	0.141188	454.321818	408.889636	0.000135	0.000126	0.356%
Fresno	2035	LHD1	DSL	DSL	50	93702.888	0.0490223	0.055809	0.4293219	0.921883	519.044016	467.139615	0.013438	0.012363	0.248%
Fresno	2035	LHD1	GAS	GAS	55	37030.824	0.0043361	0.007352	0.1381423	0.152612	482.415478	434.17393	0.000126	0.000117	0.098%
Fresno	2035	LHD1	DSL	DSL	55	56428.728	0.0463989	0.052822	0.4358102	1.03814	519.043992	467.139593	0.012719	0.011702	0.149%
Fresno	2035	LHD2	GAS	GAS	5	2869.2263	0.0352143	0.063946	0.5594356	0.076166	2513.49728	2262.14755	0.001034	0.000959	0.008%
Fresno	2035	LHD2	DSL	DSL	5	2868.0838	0.177619	0.202207	2.2585627	1.338565	519.107914	467.197122	0.049051	0.045127	0.008%
Fresno	2035	LHD2	GAS	GAS	10	7481.7397	0.0283664	0.051506	0.4532655	0.077982	2036.12823	1832.51541	0.000833	0.000773	0.020%
Fresno	2035	LHD2	DSL	DSL	10	9537.6864	0.1569443	0.178671	1.864823	1.213356	519.107918	467.197126	0.043341	0.039874	0.025%
Fresno	2035	LHD2	GAS	GAS	15	17036.93	0.0190077	0.034512	0.3104759	0.081671	1392.42956	1253.1866	0.000557	0.000517	0.045%
Fresno	2035	LHD2	DSL	DSL	15	20655.896	0.1245729	0.141818	1.3154333	1.02582	519.10791	467.197119	0.034402	0.03165	0.055%
Fresno	2035	LHD2	GAS	GAS	20	19686.039	0.0132258	0.024019	0.2238916	0.08581	1006.06851	905.461663	0.000388	0.00036	0.052%
Fresno	2035	LHD2	DSL	DSL	20	22645.534	0.1010778	0.11507	0.9710922	0.897164	519.107917	467.197126	0.027913	0.02568	0.060%
Fresno	2035	LHD2	GAS	GAS	25	15164.321	0.0095532	0.017359	0.16995	0.090715	768.01204	691.210836	0.000282	0.000262	0.040%
Fresno	2035	LHD2	DSL	DSL	25	24236.761	0.0838384	0.095444	0.7502612	0.815824	519.107974	467.197177	0.023153	0.0213	0.064%
Fresno	2035	LHD2	GAS	GAS	30	13410.236	0.0072407	0.013155	0.1370975	0.094516	619.433566	557.490209	0.000214	0.000198	0.035%
Fresno	2035	LHD2	DSL	DSL	30	20458.898	0.071086	0.080927	0.6066314	0.76545	519.107941	467.197147	0.019631	0.01806	0.054%
Fresno	2035	LHD2	GAS	GAS	35	5010.9181	0.005663	0.010298	0.115811	0.100191	527.84649	475.061841	0.000169	0.000157	0.013%
Fresno	2035	LHD2	DSL	DSL	35	10796.955	0.0616141	0.070144	0.5133312	0.747787	519.107889	467.1971	0.017015	0.015654	0.029%
Fresno	2035	LHD2	GAS	GAS	40	1479.1088	0.0046079	0.008402	0.1033479	0.106376	475.233142	427.709828	0.000139	0.000129	0.004%
Fresno	2035	LHD2	DSL	DSL	40	5927.1756	0.0545922	0.06215	0.4546015	0.756211	519.107876	467.197088	0.015076	0.01387	0.016%
Fresno	2035	LHD2	GAS	GAS	45	1820.913	0.003984	0.007262	0.098996	0.108844	452.055826	406.850243	0.000119	0.000111	0.005%
Fresno	2035	LHD2	DSL	DSL	45	6397.3717	0.0494465	0.056292	0.421332	0.78871	519.107898	467.197108	0.013655	0.012563	0.017%
Fresno	2035	LHD2	GAS	GAS	50	13445.368	0.0036222	0.006588	0.1008888	0.109719	454.321772	408.889595	0.000107	9.91E-05	0.036%
Fresno	2035	LHD2	DSL	DSL	50	24702.279	0.045782	0.05212	0.4086754	0.852442	519.107864	467.197078	0.012643	0.011632	0.065%
Fresno	2035	LHD2	GAS	GAS	55	3698.111	0.0032971	0.006012	0.104887	0.118597	482.415456	434.173911	9.95E-05	9.24E-05	0.010%
Fresno	2035	LHD2	DSL	DSL	55	14875.936	0.043332	0.049331	0.4148517	0.959942	519.107902	467.197112	0.011966	0.011009	0.039%
Fresno	2035	MCY	GAS	GAS	5	10.752747	4.7189475	5.165712	23.870843	1.236078	266.394097	239.754687	0.000467	0.000411	0.000%
Fresno	2035	MCY	GAS	GAS	10	554.89158	4.0924659	4.480206	22.084999	1.217711	242.30076	218.070684	0.000402	0.000353	0.001%
Fresno	2035	MCY	GAS	GAS	15	330.7208	3.1688185	3.467933	19.076397	1.162584	205.030744	184.52767	0.000309	0.000271	0.001%
Fresno	2035	MCY	GAS	GAS	20	12588.286	2.589213	2.830736	17.08271	1.135271	178.738769	160.864892	0.000251	0.000219	0.033%
Fresno	2035	MCY	GAS	GAS	25	3070.1522	2.2223167	2.429782	15.901695	1.116377	160.513437	144.462093	0.000214	0.000187	0.008%
Fresno	2035	MCY	GAS	GAS	30	8374.1638	2.0085029	2.195247	15.312538	1.14165	148.522673	133.670406	0.000192	0.000167	0.022%
Fresno	2035	MCY	GAS	GAS	35	21269.879	1.9075578	2.084042	15.2783	1.121996	141.675292	127.507762	0.000182	0.000158	0.056%
Fresno	2035	MCY	GAS	GAS	40	30261.417	1.9062373	2.081751	15.890486	1.142786	139.435532	125.491979	0.000181	0.000156	0.080%
Fresno	2035	MCY	GAS	GAS	45	30034.55	1.9966162	2.179985	17.238489	1.167142	141.742565	127.568309	0.000189	0.000163	0.079%
Fresno	2035	MCY	GAS	GAS	50	34759.25	2.1978531	2.399426	19.669568	1.20228	149.01587	134.114283	0.000207	0.000179	0.092%
Fresno	2035	MCY	GAS	GAS	55	25925.157	2.5415526	2.774636	23.714161	1.247993	162.250226	146.025203	0.00024	0.000207	0.068%
Fresno	2035	MCY	GAS	GAS	60	29542.357	3.0875112	3.370405	30.291061	1.306048	183.22816	164.905344	0.000291	0.000252	0.078%
Fresno	2035	MCY	GAS	GAS	65	31685.281	3.9413355	4.302831	41.189322	1.378654	214.9121	193.42089	0.000371	0.000321	0.084%
Fresno	2035	MCY	GAS	GAS	70	30419.625	5.2796836	5.764605	59.434256	1.464776	262.137322	235.92359	0.000499	0.000432	0.080%
Fresno	2035	MDV	GAS	GAS	5	262.23808	0.1100125	0.195436	1.7718606	0.179144	1969.99002	1370.33855	0.013475	0.012502	0.001%
Fresno	2035	MDV	DSL	DSL	5	0.204452	0.0191431	0.021793	0.1208349	0.327478	504.233051	348.357588	0.011581	0.010655	0.000%
Fresno	2035	MDV	GAS	GAS	10	13532.7	0.0690463	0.122328	1.5896758	0.156103	1452.2532	1010.20434	0.008486	0.007873	0.036%
Fresno	2035	MDV	DSL	DSL	10	10.550669	0.0162675	0.018519	0.1147625	0.311503	455.313852	314.58			

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	Percent of Total VMT									
						ROG_RUNITOG	RUNICOG	RUNE	NOX_RUNI	CO2_RUNE	CO2_RUNE	PM10_RUN	PM2_5_RUNE		
Fresno	2035	MDV	GAS	55	632262.83	0.0120264	0.021305	0.7708121	0.089188	527.40799	366.870322	0.00146	0.001354	1.670%	
Fresno	2035	MDV	DSL	55	492.93907	0.0082517	0.009394	0.0572962	0.250567	354.320834	244.868774	0.004991	0.004592	0.001%	
Fresno	2035	MDV	GAS	60	720479.2	0.0128467	0.022792	0.7213014	0.091557	567.257667	394.590335	0.001567	0.001454	1.903%	
Fresno	2035	MDV	DSL	60	561.71632	0.0099812	0.011363	0.0540983	0.265606	414.766203	286.595991	0.006037	0.005554	0.001%	
Fresno	2035	MDV	GAS	65	772740.8	0.0144731	0.025705	0.6773478	0.095873	633.176731	440.444571	0.001775	0.001647	2.041%	
Fresno	2035	MDV	DSL	65	602.4617	0.0127412	0.014505	0.0513011	0.286347	503.915118	348.138109	0.007705	0.007089	0.002%	
Fresno	2035	MDV	GAS	70	741873.94	0.0156958	0.02789	0.6585872	0.098677	679.002269	472.320926	0.001927	0.001788	1.960%	
Fresno	2035	MDV	DSL	70	578.39657	0.0171657	0.019542	0.0488944	0.313934	635.442336	438.935217	0.010381	0.00955	0.002%	
Fresno	2035	MH	GAS	5	497.37529	0.0553148	0.09933	0.7610391	0.116409	2513.49733	2262.1476	0.001014	0.000941	0.001%	
Fresno	2035	MH	DSL	5	100.05503	1.0506642	1.196111	1.8537301	10.40436	2409.45049	2168.50544	0.102742	0.094523	0.000%	
Fresno	2035	MH	GAS	10	2500.3099	0.0445366	0.079952	0.6162304	0.119449	2036.12821	1832.51539	0.000817	0.000758	0.007%	
Fresno	2035	MH	DSL	10	498.03629	0.7897955	0.89913	1.4655575	8.936126	2187.78829	1969.00946	0.089264	0.082123	0.001%	
Fresno	2035	MH	GAS	15	3158.32	0.0299198	0.053672	0.4228694	0.124529	1392.42964	1253.18668	0.000546	0.000507	0.008%	
Fresno	2035	MH	DSL	15	672.17609	0.4011829	0.456672	0.8767346	6.620523	1796.35774	1616.72197	0.066961	0.061604	0.002%	
Fresno	2035	MH	GAS	20	3275.9536	0.0208567	0.037433	0.3055777	0.130392	1006.06861	905.461752	0.000381	0.000353	0.009%	
Fresno	2035	MH	DSL	20	712.8672	0.1900703	0.216382	0.5379409	5.154415	1474.1187	1326.70683	0.05086	0.046792	0.002%	
Fresno	2035	MH	GAS	25	3650.1697	0.0151682	0.027222	0.2333843	0.136157	768.012153	691.210938	0.000277	0.000257	0.010%	
Fresno	2035	MH	DSL	25	742.42287	0.146569	0.166859	0.4562472	4.526696	1322.2031	1189.98279	0.044122	0.040592	0.002%	
Fresno	2035	MH	GAS	30	4127.0368	0.0114739	0.020587	0.187889	0.142452	619.433653	557.490288	0.00021	0.000195	0.011%	
Fresno	2035	MH	DSL	30	892.7034	0.1260962	0.143552	0.4275845	4.128248	1241.08342	1116.97508	0.041074	0.037788	0.002%	
Fresno	2035	MH	GAS	35	5129.2808	0.0090439	0.01624	0.1599202	0.148736	527.846586	475.061927	0.000166	0.000154	0.014%	
Fresno	2035	MH	DSL	35	1052.6149	0.1087305	0.123782	0.4078958	3.802662	1173.76427	1056.38785	0.040066	0.036861	0.003%	
Fresno	2035	MH	GAS	40	6385.4256	0.0074294	0.013359	0.1438589	0.155038	475.233226	427.709904	0.000136	0.000127	0.017%	
Fresno	2035	MH	DSL	40	1306.6575	0.0944721	0.10755	0.3971811	3.548249	1120.24542	1008.22088	0.041098	0.03781	0.003%	
Fresno	2035	MH	GAS	45	5823.0717	0.0063952	0.011482	0.1370593	0.160335	452.05586	406.850274	0.000117	0.000109	0.015%	
Fresno	2035	MH	DSL	45	1069.9793	0.0833209	0.094855	0.3954404	3.358787	1080.52712	972.474412	0.044171	0.040637	0.003%	
Fresno	2035	MH	GAS	50	5667.0456	0.0056801	0.010217	0.1370394	0.16791	454.32184	408.889656	0.000105	9.72E-05	0.015%	
Fresno	2035	MH	DSL	50	1197.4807	0.0752769	0.085698	0.4026736	3.248634	1054.60923	949.148305	0.049283	0.045341	0.003%	
Fresno	2035	MH	GAS	55	7411.9792	0.0052533	0.009506	0.1451595	0.174931	482.415536	434.173982	9.76E-05	9.05E-05	0.020%	
Fresno	2035	MH	DSL	55	1754.7995	0.0703401	0.080078	0.4188808	3.209985	1042.49168	938.242513	0.056436	0.051921	0.005%	
Fresno	2035	MH	GAS	60	8553.0862	0.0050896	0.009255	0.1630902	0.18043	541.209217	487.088295	9.49E-05	8.8E-05	0.023%	
Fresno	2035	MH	DSL	60	2108.6858	0.0685105	0.077995	0.444062	3.238258	1044.17453	939.757077	0.065629	0.060379	0.006%	
Fresno	2035	MH	GAS	65	1336.5278	0.0052101	0.009435	0.1945296	0.183905	641.497946	577.348151	9.61E-05	8.92E-05	0.004%	
Fresno	2035	MH	DSL	65	331.84716	0.0697882	0.079449	0.4782171	3.327952	1059.65797	953.692172	0.076862	0.070713	0.001%	
Fresno	2035	OBUS	GAS	5	300.94714	0.080701	0.127238	1.1942561	0.133115	2513.49723	2262.14751	0.001	0.000927	0.001%	
Fresno	2035	OBUS	DSL	5	245.79146	1.5861841	1.80575	2.9797481	4.623698	3000.84531	2700.76078	0.05483	0.050444	0.001%	
Fresno	2035	OBUS	GAS	10	1512.8638	0.0649959	0.102413	0.967016	0.136592	2036.12852	1832.51567	0.000805	0.000747	0.004%	
Fresno	2035	OBUS	DSL	10	1133.6207	0.8871084	1.009905	1.7708363	3.395818	2416.37885	2174.74096	0.049207	0.04527	0.003%	
Fresno	2035	OBUS	GAS	15	1911.0064	0.0436741	0.068748	0.6635853	0.1424	1392.42968	1253.18671	0.000539	0.0005	0.005%	
Fresno	2035	OBUS	DSL	15	1492.4488	0.4445821	0.506123	1.0103201	2.534191	1966.4595	1769.81355	0.044572	0.041006	0.004%	
Fresno	2035	OBUS	GAS	20	1982.183	0.0304376	0.047949	0.479526	0.149105	1006.06863	905.461765	0.000376	0.000348	0.005%	
Fresno	2035	OBUS	DSL	20	1992.1444	0.2134666	0.243015	0.6250055	2.04657	1667.58305	1500.82475	0.04257	0.039164	0.005%	
Fresno	2035	OBUS	GAS	25	2208.6102	0.0221363	0.03487	0.3662369	0.155698	768.012086	691.210878	0.000273	0.000253	0.006%	
Fresno	2035	OBUS	DSL	25	2066.889	0.1862273	0.212006	0.5889262	1.833109	1554.29946	1398.86952	0.0406	0.030253	0.005%	
Fresno	2035	OBUS	GAS	30	2497.1484	0.0167474	0.02637	0.2948437	0.162896	619.4336	557.49024	0.000207	0.000192	0.007%	
Fresno	2035	OBUS	DSL	30	2883.156	0.1715128	0.195254	0.6018785	1.709603	1513.47471	1362.12724	0.041611	0.038282	0.008%	
Fresno	2035	OBUS	GAS	35	3103.5765	0.0131973	0.020803	0.2509538	0.170082	527.846634	475.061971	0.000163	0.000152	0.008%	
Fresno	2035	OBUS	DSL	35	4256.6836	0.1596004	0.181693	0.6328688	1.620436	1496.24306	1346.61875	0.044706	0.041129	0.011%	
Fresno	2035	OBUS	GAS	40	3863.633	0.0108323	0.017113	0.2257499	0.177288	475.233178	427.70986	0.000134	0.000125	0.010%	
Fresno	2035	OBUS	DSL	40	4543.6948	0.1340432	0.152598	0.599408	1.454882	1388.01842	1249.21658	0.046787	0.043044	0.012%	
Fresno	2035	OBUS	GAS	45	3523.3691	0.0093333	0.014707	0.2150795	0.183345	452.055855	406.850269	0.000115	0.000107	0.009%	
Fresno	2035	OBUS	DSL	45	5084.9367	0.127837	0.145533	0.6642423	1.433593	1412.70212	1271.43191	0.054142	0.049811	0.013%	
Fresno	2035	OBUS	GAS	50	3428.9625	0.0082795	0.013089	0.2150483	0.192007	454.321799	408.889619	0.000103	9.58E-05	0.009%	
Fresno	2035	OBUS	DSL	50	5430.6309	0.1132843	0.128966	0.6775239	1.364009	1369.39275	1232.45348	0.060719	0.055861	0.014%	
Fresno	2035	OBUS	GAS	55	4484.7705	0.0076242	0.012182	0.2277906	0.200036	482.415543	434.173989	9.62E-05	8.93E-05	0.012%	
Fresno	2035	OBUS	DSL	55	7117.4272	0.1009804	0.114876	0.6898339	1.315754	1329.59333	1196.63399	0.068347	0.062879	0.019%	
Fresno	2035	OBUS	GAS	60	5175.2205	0.0073623	0.011865	0.2559284	0.206324	541.209208	487.088287	9.35E-05	8.68E-05	0.014%	
Fresno	2035	OBUS	DSL	60	4814.1661	0.0766515	0.087262	0.5707986	1.16079	1154.53492	1039.08143	0.069619	0.064049	0.013%	
Fresno	2035	OBUS	GAS	65	808.69374	0.0075559	0.012092	0.3052643	0.210298	641.497894	577.348105	9.48E-05	8.79E-05	0.002%	
Fresno	2035	OBUS	DSL	65	1253.2168	0.0906658	0.103216	0.7737067	1.349263	1334.34751	1200.91276	0.089797	0.082614	0.003%	
Fresno	2035	SBUS	GAS	5	77.848973	0.2742692	0.341615	3.8280772	0.333728	2513.49698	2262.14728	0.001744	0.001618	0.000%	
Fresno	2035	SBUS	DSL	5	153.26155	2.281405	2.597206	4.0455771	12.3463	2617.43399	2355.69059	0.064331	0.059184	0.000%	
Fresno	2035	SBUS	GAS	10	272.85665	0.2214585	0.275662	3.1074489	0.340815	2036.12814	1832.51532	0.001404	0.001303	0.001%	
Fresno	2035	SBUS	DSL	10	537.17386	1.3271759	1.510889	2.5203783	9.282154	2162.20503	1945.98453	0.059001	0.054281	0.001%	
Fresno	2035	SBUS	GAS	15	545.71332	0.1481515	0.184413	2.1250646	0.357665	1392.42956	1253.1866	0.000939	0.000872	0.001%	
Fresno	2035	SBUS	DSL	15	1074.3477	0.6744066	0.767761	1.4621548	6.983592	1775.35776	1597.82198	0.053848	0.04954	0.003%	
Fresno	2035	SBUS	GAS	20	740.71711	0.1033393	0.128624	1.5357503	0.374355	1006.06849	905.461637	0.000655	0.000608	0.002%	
Fresno	2035	SBUS	DSL	20	1458.2523	0.289941	0.330076	0.7928132	5.278572	1400.58068	1260.52261	0.04836	0.044491	0.004%	
Fresno	2035	SBUS	GAS	25	1169.2717	0.0750802	0.093461	1.1719453	0.391468	768.012094	691.210884	0.000476	0.000442	0.003%	
Fresno	2035	SBUS	DSL	25	2301.9493	0.2533325	0.2884	0.7484043	4.73246	1306.77308	1176.09577	0.046163	0.0424		

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNITOG (gms/mile)	NOX_RUNI (gms/mile)	CO2_RUNE (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT		
Fresno	2035 T6	GAS		5	973.52695	0.0689906	0.114074	1.0368676	0.120933	2513.49722	2262.1475	0.00101	0.000938	0.003%
Fresno	2035 T6	DSL		5	5137.5027	1.1013952	1.253855	1.9529146	3.412478	2559.93331	2303.93998	0.041772	0.03843	0.014%
Fresno	2035 T6	GAS		10	4893.9285	0.0555566	0.091818	0.8395749	0.124092	2036.12822	1832.5154	0.000814	0.000755	0.013%
Fresno	2035 T6	DSL		10	25572.553	0.6407234	0.729415	1.2167127	2.564287	2114.70497	1903.23447	0.038279	0.035216	0.068%
Fresno	2035 T6	GAS		15	6181.8708	0.0373232	0.061637	0.5761328	0.129369	1392.42958	1253.18662	0.000544	0.000505	0.016%
Fresno	2035 T6	DSL		15	34514.07	0.3255844	0.370653	0.7059038	1.928473	1736.35609	1562.72048	0.034911	0.032118	0.091%
Fresno	2035 T6	GAS		20	6412.1182	0.0260159	0.042989	0.4163303	0.13546	1006.0686	905.461738	0.00038	0.000352	0.017%
Fresno	2035 T6	DSL		20	36603.426	0.1399714	0.159347	0.3827906	1.457575	1369.81224	1232.83102	0.031334	0.028827	0.097%
Fresno	2035 T6	GAS		25	7144.5819	0.0189203	0.031263	0.3179713	0.141449	768.012142	691.210927	0.000276	0.000256	0.019%
Fresno	2035 T6	DSL		25	38121.017	0.1222948	0.139223	0.3613306	1.307178	1278.06544	1150.2589	0.029906	0.027513	0.101%
Fresno	2035 T6	GAS		30	8077.9677	0.014313	0.023643	0.2559869	0.147988	619.433656	557.49029	0.000209	0.000194	0.021%
Fresno	2035 T6	DSL		30	45837.434	0.1066437	0.121406	0.3463083	1.179023	1199.65767	1079.69191	0.029695	0.027319	0.121%
Fresno	2035 T6	GAS		35	10039.688	0.0112817	0.018651	0.2178811	0.154517	527.846622	475.06196	0.000165	0.000153	0.027%
Fresno	2035 T6	DSL		35	54048.372	0.0930181	0.105894	0.3377237	1.073112	1134.58895	1021.13006	0.030702	0.028246	0.143%
Fresno	2035 T6	GAS		40	12498.377	0.0092646	0.015342	0.1959988	0.161063	475.233217	427.709895	0.000136	0.000126	0.033%
Fresno	2035 T6	DSL		40	67092.64	0.0814171	0.092688	0.3355767	0.989443	1082.85927	974.573342	0.032927	0.030293	0.177%
Fresno	2035 T6	GAS		45	11397.666	0.0642948	0.013186	0.1867346	0.166567	452.055868	406.850281	0.000117	0.000108	0.030%
Fresno	2035 T6	DSL		45	54939.975	0.0718437	0.081789	0.3398673	0.928018	1044.46863	940.021765	0.03637	0.03346	0.145%
Fresno	2035 T6	GAS		50	11092.272	0.0070824	0.011734	0.1867075	0.174436	454.321814	408.889633	0.000104	9.68E-05	0.029%
Fresno	2035 T6	DSL		50	61486.767	0.0642948	0.073195	0.3505956	0.888836	1019.41703	917.475324	0.04103	0.037748	0.162%
Fresno	2035 T6	GAS		55	14507.68	0.0065376	0.010919	0.1977706	0.18173	482.415542	434.173988	9.73E-05	9.03E-05	0.038%
Fresno	2035 T6	DSL		55	90103.285	0.0587715	0.066907	0.3677616	0.871896	1007.70447	906.93402	0.046909	0.043156	0.238%
Fresno	2035 T6	GAS		60	16741.2	0.0063253	0.010633	0.2222001	0.187443	541.20927	487.088343	9.45E-05	8.77E-05	0.044%
Fresno	2035 T6	DSL		60	108274.2	0.0552737	0.062925	0.3913652	0.8772	1009.33095	908.397853	0.054005	0.049684	0.286%
Fresno	2035 T6	GAS		65	2616.0245	0.0064814	0.010838	0.2650342	0.191053	641.497958	577.348162	9.58E-05	8.89E-05	0.007%
Fresno	2035 T6	DSL		65	17039.28	0.0538015	0.061249	0.4214065	0.904747	1024.29647	921.866823	0.062318	0.057333	0.045%
Fresno	2035 T7	GAS		5	47.101317	2.5476473	3.222386	123.91413	3.559864	2513.49743	2262.14768	0.000946	0.000878	0.000%
Fresno	2035 T7	DSL		5	11173.315	2.4953132	2.840724	4.9860909	6.539606	3956.48963	3560.84066	0.075198	0.069182	0.030%
Fresno	2035 T7	GAS		10	230.20846	2.0717203	2.599449	100.61334	3.62884	2036.12818	1832.51536	0.000762	0.000707	0.001%
Fresno	2035 T7	DSL		10	42682.58	1.4516168	1.652555	3.1064068	4.914833	3268.36963	2941.53267	0.068927	0.063412	0.113%
Fresno	2035 T7	GAS		15	251.04595	1.3811242	1.741608	68.880559	3.802273	1392.42954	1253.18658	0.00051	0.000473	0.001%
Fresno	2035 T7	DSL		15	52201.144	0.7376411	0.839748	1.8022111	3.69664	2683.61478	2415.2533	0.062875	0.057845	0.138%
Fresno	2035 T7	GAS		20	429.03323	0.9595161	1.210978	49.625326	4.006074	1006.06856	905.461705	0.000356	0.00033	0.001%
Fresno	2035 T7	DSL		20	128970.49	0.3103818	0.353346	0.9563304	2.702748	2117.09827	1905.38845	0.054875	0.050485	0.341%
Fresno	2035 T7	GAS		25	559.91571	0.6976479	0.882258	37.961887	4.168442	768.012159	691.210943	0.000258	0.00024	0.001%
Fresno	2035 T7	DSL		25	117904.47	0.2770755	0.315429	0.9224851	2.505512	1975.3064	1777.77576	0.053873	0.049564	0.311%
Fresno	2035 T7	GAS		30	1022.5113	0.5311367	0.668991	30.651513	4.338359	619.433557	557.490202	0.000196	0.000182	0.003%
Fresno	2035 T7	DSL		30	199055.58	0.2416181	0.275064	0.8841482	2.259662	1854.12375	1668.71137	0.053497	0.049127	0.526%
Fresno	2035 T7	GAS		35	1818.6731	0.4189901	0.529092	26.149988	4.508745	527.846584	475.061926	0.000155	0.000143	0.005%
Fresno	2035 T7	DSL		35	358105.96	0.2107489	0.239922	0.8622455	2.056474	1753.55717	1578.20145	0.055313	0.050888	0.946%
Fresno	2035 T7	GAS		40	1585.3806	0.3437894	0.435473	23.532082	4.690899	475.233216	427.709894	0.000127	0.000118	0.004%
Fresno	2035 T7	DSL		40	337948	0.1844679	0.210003	0.8567768	1.895949	1673.60667	1506.246	0.059324	0.054578	0.893%
Fresno	2035 T7	GAS		45	1677.502	0.2929053	0.372855	22.327019	4.898946	452.055835	406.850251	0.000109	0.000101	0.004%
Fresno	2035 T7	DSL		45	473149.1	0.1627751	0.185307	0.8677424	1.778087	1614.27224	1452.84502	0.065527	0.060285	1.250%
Fresno	2035 T7	GAS		50	1755.142	0.2603694	0.333832	22.446469	5.073738	454.321872	408.889685	9.77E-05	9.07E-05	0.005%
Fresno	2035 T7	DSL		50	492063.44	0.1456706	0.165835	0.895142	1.702888	1575.55389	1417.9985	0.073925	0.068011	1.300%
Fresno	2035 T7	GAS		55	2576.419	0.2441222	0.312116	23.903883	5.223222	482.415493	434.173944	9.11E-05	8.45E-05	0.007%
Fresno	2035 T7	DSL		55	600041.24	0.1331542	0.151586	0.9389758	1.670351	1557.45162	1401.70645	0.084515	0.077754	1.585%
Fresno	2035 T7	GAS		60	635.8646	0.2323187	0.303095	26.752832	5.432343	541.209196	487.088277	8.86E-05	8.22E-05	0.002%
Fresno	2035 T7	DSL		60	182793.53	0.1252261	0.14256	0.9992437	1.680477	1559.96541	1403.96887	0.0973	0.089516	0.483%
Fresno	2035 T7	GAS		65	340.81023	0.2375011	0.306124	31.645132	5.629918	641.49795	577.348155	8.97E-05	8.32E-05	0.001%
Fresno	2035 T7	DSL		65	100119.68	0.1218862	0.138758	1.0759458	1.733266	1583.09529	1424.78576	0.112278	0.103296	0.264%
Fresno	2035 UBUS	GAS		5	191.16786	1.5441433	1.71055	1.079579	1.731738	2513.49709	2262.14738	0.001864	0.001729	0.001%
Fresno	2035 UBUS	DSL		5	471.24682	0.7751275	0.882431	5.7401873	11.71731	2299.61401	2069.65261	0.390966	0.359688	0.001%
Fresno	2035 UBUS	GAS		10	686.15946	1.2434709	1.377475	15.453184	1.77563	2036.12824	1832.51542	0.001501	0.001392	0.002%
Fresno	2035 UBUS	DSL		10	1691.4479	0.657308	0.748301	4.5199088	10.184	2299.61406	2069.65266	0.331539	0.305016	0.004%
Fresno	2035 UBUS	GAS		15	1372.319	0.8318581	0.921504	10.567837	1.863414	1392.42956	1253.18661	0.001004	0.000932	0.004%
Fresno	2035 UBUS	DSL		15	3382.8957	0.4852444	0.552418	2.9314344	7.987019	2299.61398	2069.65258	0.244752	0.225172	0.009%
Fresno	2035 UBUS	GAS		20	1810.9826	0.5800775	0.64259	7.6355517	1.951197	1006.06858	905.46172	0.0007	0.00065	0.005%
Fresno	2035 UBUS	DSL		20	4464.2431	0.3709816	0.422338	2.0187768	6.585153	2299.6139	2069.65251	0.187119	0.172149	0.012%
Fresno	2035 UBUS	GAS		25	2727.4697	0.4216442	0.467083	5.8288229	2.038981	768.012079	691.210871	0.000509	0.000472	0.007%
Fresno	2035 UBUS	DSL		25	6723.4701	0.2937276	0.334389	1.4762305	5.707709	2299.61415	2069.65273	0.148153	0.136301	0.018%
Fresno	2035 UBUS	GAS		30	3413.629	0.3194695	0.353898	4.7011878	2.126765	619.433576	557.490218	0.000386	0.000358	0.009%
Fresno	2035 UBUS	DSL		30	8414.9173	0.2408448	0.274186	1.1462454	5.200827	2299.61403	2069.65263	0.121479	0.111761	0.022%
Fresno	2035 UBUS	GAS		35	3345.3412	0.2523108	0.279501	4.0060879	2.214549	527.846502	475.061851	0.000305	0.000283	0.009%
Fresno	2035 UBUS	DSL		35	8246.5816	0.2045173	0.232829	0.9450588	4.981931	2299.61388	2069.65249	0.103156	0.094904	0.022%
Fresno	2035 UBUS	GAS		40	2411.6856	0.2077139	0.230099	3.6067795	2.302333	475.233167	427.70985	0.000251	0.000233	0.006%
Fresno	2035 UBUS	DSL		40	5945.0327	0.1798553	0.204753	0.827366	1.6016928	2299.614	2069.6526	0.090717	0.08346	0.016%
Fresno	2035 UBUS	GAS		45	1051.3267	0.1782455	0.197454	3.4308752	2.390117	452.055845	406.85026	0.000215	0.0002	0.003%
Fresno	2035 UBUS	DSL		45	2591.6195	0.1638011	0.186477	0.7691201	5.311199	2299.61409	2069.65268	0.082619	0.07601	0.007%
Fresno	2035 UBUS	GAS		50	534.15117									

**City of Fresno General Plan  
Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

**Year 2050**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.066	0.041	0.028	0.019	0.014	0.011	0.009	0.008	0.007	0.007	0.007	0.008	0.009	0.009	0.000
LDT1		0.078	0.049	0.033	0.023	0.017	0.013	0.011	0.010	0.009	0.008	0.009	0.009	0.010	0.011	0.000
LDT2		0.081	0.050	0.034	0.024	0.018	0.014	0.011	0.010	0.009	0.009	0.009	0.009	0.011	0.011	0.000
LHD1		0.047	0.038	0.025	0.018	0.013	0.010	0.008	0.006	0.005	0.005	0.004	0.000	0.000	0.000	0.000
LHD2		0.035	0.028	0.019	0.013	0.010	0.007	0.006	0.005	0.004	0.004	0.003	0.000	0.000	0.000	0.000
MCY		4.719	4.092	3.169	2.589	2.222	2.009	1.908	1.906	1.997	2.198	2.542	3.088	3.941	5.280	0.000
MDV		0.110	0.069	0.047	0.032	0.024	0.019	0.016	0.013	0.012	0.012	0.012	0.013	0.014	0.016	0.000
MH		0.055	0.045	0.030	0.021	0.015	0.011	0.009	0.007	0.006	0.006	0.005	0.005	0.005	0.000	0.000
OBUS		0.081	0.065	0.044	0.030	0.022	0.017	0.013	0.011	0.009	0.008	0.008	0.007	0.008	0.000	0.000
SBUS		0.274	0.221	0.148	0.103	0.075	0.057	0.045	0.037	0.032	0.028	0.026	0.025	0.000	0.000	0.000
T6		0.069	0.056	0.037	0.026	0.019	0.014	0.011	0.009	0.008	0.007	0.007	0.006	0.006	0.000	0.000
T7		2.548	2.072	1.381	0.960	0.698	0.531	0.419	0.344	0.293	0.260	0.244	0.232	0.238	0.000	0.000
UBUS		1.544	1.243	0.832	0.580	0.422	0.319	0.252	0.208	0.178	0.159	0.149	0.144	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.019	0.016	0.012	0.010	0.008	0.007	0.006	0.006	0.007	0.007	0.008	0.010	0.012	0.017	0.000
LDT1		0.021	0.018	0.014	0.011	0.009	0.008	0.007	0.007	0.007	0.008	0.009	0.011	0.014	0.020	0.000
LDT2		0.024	0.020	0.015	0.012	0.010	0.009	0.008	0.008	0.008	0.009	0.010	0.012	0.015	0.020	0.000
LHD1		0.190	0.168	0.133	0.108	0.090	0.076	0.066	0.058	0.053	0.049	0.046	0.000	0.000	0.000	0.000
LHD2		0.178	0.157	0.125	0.101	0.084	0.071	0.062	0.055	0.049	0.046	0.043	0.000	0.000	0.000	0.000
MCY		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MDV		0.019	0.016	0.012	0.010	0.008	0.007	0.007	0.006	0.007	0.007	0.008	0.010	0.013	0.017	0.000
MH		1.051	0.790	0.401	0.190	0.147	0.126	0.109	0.094	0.083	0.075	0.070	0.069	0.070	0.000	0.000
OBUS		1.586	0.887	0.445	0.213	0.186	0.172	0.160	0.134	0.128	0.113	0.101	0.077	0.091	0.000	0.000
SBUS		2.281	1.327	0.674	0.290	0.253	0.221	0.193	0.169	0.149	0.133	0.122	0.114	0.000	0.000	0.000
T6		1.101	0.641	0.326	0.140	0.122	0.107	0.093	0.081	0.072	0.064	0.059	0.055	0.054	0.000	0.000
T7		2.495	1.452	0.738	0.310	0.277	0.242	0.211	0.184	0.163	0.146	0.133	0.125	0.122	0.000	0.000
UBUS		0.775	0.657	0.485	0.371	0.294	0.241	0.205	0.180	0.164	0.154	0.151	0.153	0.000	0.000	0.000

**City of Fresno General Plan  
Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

**Year 2050**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	7.6	0.1	0.6	1.7	1.3	6.5	2.5	2.5	1.2	4.7	4.6	0.0	0.0	0.0	<b>33.3</b>
LDT1		0.0	1.3	0.0	0.1	0.3	0.2	1.2	0.4	0.4	0.2	0.8	0.8	0.0	0.0	0.0	<b>5.9</b>
LDT2		0.0	3.5	0.1	0.3	0.8	0.6	3.0	1.1	1.1	0.5	2.1	2.1	0.0	0.0	0.0	<b>15.1</b>
LHD1		0.0	0.4	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	<b>1.4</b>
LHD2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
MCY		0.0	11.8	0.2	1.2	4.0	3.5	21.1	9.4	10.6	5.9	26.2	29.1	0.0	0.0	0.0	<b>123.2</b>
MDV		0.0	4.9	0.1	0.4	1.1	0.8	4.2	1.6	1.6	0.8	3.0	3.0	0.0	0.0	0.0	<b>21.4</b>
MH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
OBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
SBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
T6		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
T7		0.0	0.3	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.1</b>
UBUS		0.0	0.3	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.0</b>
<b>Total</b>		<b>0.1</b>	<b>30.2</b>	<b>0.6</b>	<b>2.6</b>	<b>8.0</b>	<b>6.5</b>	<b>36.8</b>	<b>15.5</b>	<b>16.6</b>	<b>8.8</b>	<b>37.4</b>	<b>39.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>203.0</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.0	1.2	0.0	0.1	0.4	0.3	1.7	0.7	0.7	0.3	1.1	0.0	0.0	0.0	0.0	<b>6.6</b>
LHD2		0.0	0.3	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.6</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
OBUS		0.0	0.4	0.0	0.0	0.1	0.0	0.3	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	<b>1.4</b>
SBUS		0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.7</b>
T6		0.0	4.6	0.1	0.2	0.5	0.5	2.5	1.0	0.9	0.4	1.5	1.3	0.0	0.0	0.0	<b>13.5</b>
T7		0.3	50.0	0.7	1.7	6.0	5.0	27.9	10.9	10.4	4.7	16.4	14.1	0.0	0.0	0.0	<b>148.2</b>
UBUS		0.0	0.3	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.9</b>
<b>Total</b>		<b>0.3</b>	<b>57.2</b>	<b>0.8</b>	<b>2.1</b>	<b>7.2</b>	<b>6.1</b>	<b>33.5</b>	<b>13.1</b>	<b>12.5</b>	<b>5.7</b>	<b>19.9</b>	<b>15.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>174.3</b>

**Total Emissions (tons/year) 377.3**  
**Total Emissions (tons/day) 1.0**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**NOx**

Year 2050

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.106	0.093	0.081	0.073	0.066	0.061	0.058	0.055	0.054	0.053	0.053	0.054	0.056	0.058	0.000
	LDT1	0.122	0.107	0.094	0.083	0.076	0.070	0.066	0.063	0.062	0.061	0.061	0.063	0.065	0.067	0.000
	LDT2	0.131	0.115	0.100	0.090	0.082	0.076	0.071	0.068	0.066	0.065	0.066	0.067	0.070	0.072	0.000
	LHD1	0.098	0.100	0.105	0.110	0.117	0.122	0.129	0.137	0.140	0.141	0.153	0.000	0.000	0.000	0.000
	LHD2	0.076	0.078	0.082	0.086	0.091	0.095	0.100	0.106	0.109	0.110	0.119	0.000	0.000	0.000	0.000
	MCY	1.236	1.218	1.163	1.135	1.116	1.114	1.122	1.143	1.167	1.202	1.248	1.306	1.379	1.465	0.000
	MDV	0.179	0.156	0.136	0.121	0.110	0.102	0.096	0.092	0.089	0.088	0.089	0.092	0.096	0.099	0.000
	MH	0.116	0.119	0.125	0.130	0.136	0.142	0.149	0.155	0.160	0.168	0.175	0.180	0.184	0.000	0.000
	OBUS	0.133	0.137	0.142	0.149	0.156	0.163	0.170	0.177	0.183	0.192	0.200	0.206	0.210	0.000	0.000
	SBUS	0.334	0.341	0.358	0.374	0.391	0.409	0.427	0.445	0.463	0.478	0.505	0.520	0.000	0.000	0.000
	T6	0.121	0.124	0.129	0.135	0.141	0.148	0.155	0.161	0.167	0.174	0.182	0.187	0.191	0.000	0.000
	T7	3.560	3.629	3.802	4.006	4.168	4.338	4.509	4.691	4.899	5.074	5.223	5.432	5.630	0.000	0.000
	UBUS	1.732	1.776	1.863	1.951	2.039	2.127	2.215	2.302	2.390	2.478	2.566	2.653	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.322	0.306	0.280	0.260	0.245	0.235	0.230	0.228	0.230	0.236	0.246	0.261	0.282	0.310	0.000
	LDT1	0.371	0.354	0.324	0.301	0.285	0.274	0.267	0.265	0.267	0.274	0.285	0.301	0.324	0.353	0.000
	LDT2	0.407	0.386	0.351	0.326	0.307	0.295	0.288	0.286	0.289	0.297	0.310	0.331	0.359	0.396	0.000
	LHD1	1.448	1.312	1.109	0.970	0.882	0.828	0.809	0.818	0.853	0.922	1.038	0.000	0.000	0.000	0.000
	LHD2	1.339	1.213	1.026	0.897	0.816	0.765	0.748	0.756	0.789	0.852	0.960	0.000	0.000	0.000	0.000
	MCY	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	MDV	0.327	0.312	0.284	0.264	0.250	0.240	0.234	0.232	0.234	0.240	0.251	0.266	0.286	0.314	0.000
	MH	10.404	8.936	6.621	5.154	4.527	4.128	3.803	3.548	3.359	3.249	3.210	3.238	3.328	0.000	0.000
	OBUS	4.624	3.396	2.534	2.047	1.833	1.710	1.620	1.455	1.434	1.364	1.316	1.161	1.349	0.000	0.000
	SBUS	12.346	9.282	6.984	5.279	4.732	4.267	3.882	3.578	3.355	3.213	3.151	3.170	0.000	0.000	0.000
	T6	3.412	2.564	1.928	1.458	1.307	1.179	1.073	0.989	0.928	0.889	0.872	0.877	0.905	0.000	0.000
	T7	6.540	4.915	3.697	2.703	2.506	2.260	2.056	1.896	1.778	1.703	1.670	1.680	1.733	0.000	0.000
	UBUS	11.717	10.184	7.987	6.585	5.708	5.201	4.982	5.017	5.311	5.911	6.916	8.506	0.000	0.000	0.000

**City of Fresno General Plan  
Motor Vehicle Emissions  
NOx**

**Year 2050**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.1	17.1	0.4	2.2	7.6	6.9	41.1	17.6	18.3	9.2	35.2	32.8	0.0	0.0	0.0	<b>188.5</b>
LDT1		0.0	2.9	0.1	0.4	1.3	1.2	7.0	3.0	3.1	1.6	6.0	5.6	0.0	0.0	0.0	<b>32.2</b>
LDT2		0.0	7.9	0.2	1.0	3.5	3.1	18.7	8.0	8.4	4.2	16.1	15.0	0.0	0.0	0.0	<b>86.1</b>
LHD1		0.0	1.1	0.0	0.2	0.8	0.8	5.6	2.6	2.9	1.5	6.2	0.0	0.0	0.0	0.0	<b>21.8</b>
LHD2		0.0	0.1	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.5	0.0	0.0	0.0	0.0	<b>1.7</b>
MCY		0.0	3.5	0.1	0.5	2.0	1.9	12.4	5.7	6.2	3.2	12.9	12.3	0.0	0.0	0.0	<b>60.8</b>
MDV		0.0	11.0	0.3	1.4	4.8	4.3	25.9	11.1	11.6	5.8	22.4	21.0	0.0	0.0	0.0	<b>119.6</b>
MH		0.0	0.1	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>1.8</b>
OBUS		0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.3</b>
SBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	<b>0.7</b>
T6		0.0	0.2	0.0	0.0	0.1	0.1	0.7	0.3	0.4	0.2	0.8	0.8	0.0	0.0	0.0	<b>3.7</b>
T7		0.0	0.5	0.0	0.1	0.4	0.4	2.5	1.2	1.3	0.7	2.7	2.6	0.0	0.0	0.0	<b>12.3</b>
UBUS		0.0	0.4	0.0	0.1	0.3	0.3	1.8	0.8	0.9	0.5	2.0	1.9	0.0	0.0	0.0	<b>9.0</b>
<b>Total</b>		<b>0.2</b>	<b>44.9</b>	<b>1.1</b>	<b>5.9</b>	<b>21.0</b>	<b>19.3</b>	<b>116.9</b>	<b>50.9</b>	<b>53.8</b>	<b>27.2</b>	<b>105.5</b>	<b>92.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>539.3</b>

<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.2	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.1</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
LHD1		0.0	9.0	0.2	1.1	3.8	3.5	21.4	9.7	10.8	5.9	25.6	0.0	0.0	0.0	0.0	<b>91.0</b>
LHD2		0.0	2.2	0.1	0.3	0.9	0.8	5.2	2.4	2.6	1.4	6.2	0.0	0.0	0.0	0.0	<b>22.2</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
MH		0.0	1.2	0.0	0.1	0.4	0.3	2.0	0.8	0.9	0.4	1.6	1.5	0.0	0.0	0.0	<b>9.3</b>
OBUS		0.0	1.6	0.0	0.2	0.5	0.5	2.9	1.2	1.2	0.6	2.2	1.8	0.0	0.0	0.0	<b>12.8</b>
SBUS		0.0	1.6	0.0	0.1	0.5	0.4	2.6	1.1	1.1	0.5	1.9	1.8	0.0	0.0	0.0	<b>11.7</b>
T6		0.1	18.2	0.4	1.7	5.8	5.1	29.3	12.1	12.2	5.9	22.2	20.4	0.0	0.0	0.0	<b>133.3</b>
T7		0.8	169.4	3.5	15.1	53.9	47.2	272.3	112.1	113.2	55.0	205.9	189.5	0.0	0.0	0.0	<b>1,237.7</b>
UBUS		0.0	5.4	0.1	0.6	1.9	1.7	10.1	4.6	5.2	2.9	13.1	14.7	0.0	0.0	0.0	<b>60.3</b>
<b>Total</b>		<b>0.9</b>	<b>208.9</b>	<b>4.3</b>	<b>19.1</b>	<b>67.8</b>	<b>59.6</b>	<b>346.4</b>	<b>144.1</b>	<b>147.5</b>	<b>72.9</b>	<b>279.2</b>	<b>230.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1,581.1</b>

**Total Emissions (tons/year)**

**2,120.4**

**Total Emissions (tons/day)**

**5.8**



**City of Fresno General Plan  
Motor Vehicle Emissions  
Carbon Monoxide (CO)**

**Year 2050**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	1.1	1.0	1.0	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.0
	LDT1	1.3	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.0
	LDT2	1.3	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.0
	LHD1	0.7	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
	LHD2	0.6	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
	MCY	23.9	22.1	19.1	17.1	15.9	15.3	15.3	15.9	17.2	19.7	23.7	30.3	41.2	59.4	0.0
	MDV	1.8	1.6	1.5	1.3	1.2	1.1	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.0
	MH	0.8	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.0
	OBUS	1.2	1.0	0.7	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0
	SBUS	3.8	3.1	2.1	1.5	1.2	0.9	0.8	0.7	0.7	0.7	0.7	0.8	0.0	0.0	0.0
	T6	1.0	0.8	0.6	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0
	T7	123.9	100.6	68.9	49.6	38.0	30.7	26.1	23.5	22.3	22.4	23.9	26.8	31.6	0.0	0.0
	UBUS	19.1	15.5	10.6	7.6	5.8	4.7	4.0	3.6	3.4	3.4	3.7	4.1	0.0	0.0	0.0

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
	LDT1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	LDT2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	LHD1	2.4	2.0	1.4	1.0	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.0
	LHD2	2.3	1.9	1.3	1.0	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.0
	MCY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MDV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
	MH	1.9	1.5	0.9	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.0	0.0
	OBUS	3.0	1.8	1.0	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.8	0.0	0.0
	SBUS	4.0	2.5	1.5	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.0	0.0	0.0
	T6	2.0	1.2	0.7	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.0	0.0
	T7	5.0	3.1	1.8	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.1	0.0	0.0
	UBUS	5.7	4.5	2.9	2.0	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.9	0.0	0.0	0.0

**City of Fresno General Plan**  
**Motor Vehicle Emissions**  
**Carbon Monoxide (CO)**  
**Year 2050**  
Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.7	190.2	4.8	25.8	92.2	82.2	479.1	196.3	196.4	92.8	331.2	283.2	0.0	0.0	0.0	<b>1,975.0</b>
LDT1		0.1	33.2	0.8	4.5	16.0	14.3	83.1	34.0	34.1	16.1	57.5	49.3	0.0	0.0	0.0	<b>343.0</b>
LDT2		0.3	82.2	2.1	11.2	39.8	35.5	206.7	84.7	84.7	40.0	143.0	122.3	0.0	0.0	0.0	<b>852.6</b>
LHD1		0.0	6.7	0.1	0.5	1.6	1.2	6.6	2.6	2.7	1.4	5.6	0.0	0.0	0.0	0.0	<b>29.1</b>
LHD2		0.0	0.5	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.4	0.0	0.0	0.0	0.0	<b>2.2</b>
MCY		0.2	63.6	1.5	8.0	28.6	26.7	169.1	78.6	91.7	53.1	244.3	285.5	0.0	0.0	0.0	<b>1,051.0</b>
MDV		0.4	111.7	2.8	15.1	53.9	48.0	279.8	114.7	114.7	54.2	193.7	165.8	0.0	0.0	0.0	<b>1,154.9</b>
MH		0.0	0.4	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.1</b>
OBUS		0.0	0.4	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.0</b>
SBUS		0.0	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	<b>1.4</b>
T6		0.0	1.1	0.0	0.1	0.2	0.2	1.0	0.4	0.4	0.2	0.9	0.9	0.0	0.0	0.0	<b>5.5</b>
T7		0.1	14.5	0.3	1.2	3.4	2.7	14.5	5.8	5.9	3.0	12.3	12.6	0.0	0.0	0.0	<b>76.2</b>
UBUS		0.0	3.3	0.1	0.3	0.8	0.6	3.3	1.3	1.4	0.7	2.8	2.9	0.0	0.0	0.0	<b>17.4</b>
<b>Total</b>		<b>1.9</b>	<b>508.2</b>	<b>12.5</b>	<b>66.7</b>	<b>236.9</b>	<b>211.7</b>	<b>1,244.7</b>	<b>519.1</b>	<b>532.7</b>	<b>261.9</b>	<b>992.6</b>	<b>923.4</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>5,512.3</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.6</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.1	13.5	0.3	1.1	3.4	2.7	14.3	5.6	5.6	2.8	10.7	0.0	0.0	0.0	0.0	<b>60.0</b>
LHD2		0.0	3.4	0.1	0.3	0.8	0.7	3.6	1.4	1.4	0.7	2.7	0.0	0.0	0.0	0.0	<b>15.1</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
MH		0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	<b>1.2</b>
OBUS		0.0	0.8	0.0	0.0	0.2	0.2	1.1	0.5	0.6	0.3	1.2	0.9	0.0	0.0	0.0	<b>5.8</b>
SBUS		0.0	0.4	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.5	0.5	0.0	0.0	0.0	<b>2.6</b>
T6		0.0	8.7	0.1	0.4	1.6	1.5	9.2	4.1	4.5	2.3	9.4	9.1	0.0	0.0	0.0	<b>50.9</b>
T7		0.6	107.1	1.7	5.3	19.8	18.5	114.2	50.7	55.2	28.9	115.7	112.7	0.0	0.0	0.0	<b>630.4</b>
UBUS		0.0	2.4	0.0	0.2	0.5	0.4	1.9	0.8	0.8	0.4	1.5	1.5	0.0	0.0	0.0	<b>10.3</b>
<b>Total</b>		<b>0.7</b>	<b>136.5</b>	<b>2.2</b>	<b>7.5</b>	<b>26.5</b>	<b>24.0</b>	<b>145.2</b>	<b>63.4</b>	<b>68.5</b>	<b>35.6</b>	<b>142.0</b>	<b>125.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>777.0</b>

**Total Emissions (tons/year)** **6,289.3**  
**Tons/day** **17.2**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

Year 2050

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0139	0.0087	0.0058	0.0041	0.0030	0.0023	0.0019	0.0017	0.0015	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	LDT1	0.0138	0.0087	0.0058	0.0040	0.0030	0.0023	0.0019	0.0017	0.0015	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	LDT2	0.0138	0.0087	0.0058	0.0040	0.0030	0.0023	0.0019	0.0017	0.0015	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	LHD1	0.0013	0.0011	0.0007	0.0005	0.0004	0.0003	0.0002	0.0002	0.0002	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0010	0.0008	0.0006	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	MCY	0.0005	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0004	0.0005	0.0000
	MDV	0.0135	0.0085	0.0056	0.0040	0.0029	0.0023	0.0019	0.0016	0.0015	0.0014	0.0015	0.0016	0.0018	0.0019	0.0000
	MH	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	OBUS	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	SBUS	0.0017	0.0014	0.0009	0.0007	0.0005	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000
	T6	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	T7	0.0009	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	UBUS	0.0019	0.0015	0.0010	0.0007	0.0005	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0114	0.0097	0.0073	0.0058	0.0048	0.0042	0.0039	0.0038	0.0039	0.0043	0.0049	0.0059	0.0075	0.0101	0.0000
	LDT1	0.0109	0.0092	0.0069	0.0055	0.0046	0.0040	0.0037	0.0037	0.0038	0.0041	0.0048	0.0058	0.0074	0.0100	0.0000
	LDT2	0.0123	0.0105	0.0079	0.0063	0.0053	0.0046	0.0042	0.0041	0.0042	0.0045	0.0051	0.0062	0.0078	0.0104	0.0000
	LHD1	0.0521	0.0461	0.0366	0.0297	0.0246	0.0209	0.0181	0.0160	0.0145	0.0134	0.0127	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0491	0.0433	0.0344	0.0279	0.0232	0.0196	0.0170	0.0151	0.0137	0.0126	0.0120	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.0116	0.0098	0.0074	0.0059	0.0049	0.0043	0.0040	0.0039	0.0040	0.0044	0.0050	0.0060	0.0077	0.0104	0.0000
	MH	0.1027	0.0893	0.0670	0.0509	0.0441	0.0411	0.0401	0.0411	0.0442	0.0493	0.0564	0.0656	0.0769	0.0000	0.0000
	OBUS	0.0548	0.0492	0.0446	0.0426	0.0406	0.0416	0.0447	0.0468	0.0541	0.0607	0.0683	0.0696	0.0898	0.0000	0.0000
	SBUS	0.0643	0.0590	0.0538	0.0484	0.0462	0.0458	0.0474	0.0508	0.0562	0.0634	0.0724	0.0834	0.0000	0.0000	0.0000
	T6	0.0418	0.0383	0.0349	0.0313	0.0299	0.0297	0.0307	0.0329	0.0364	0.0410	0.0469	0.0540	0.0623	0.0000	0.0000
	T7	0.0752	0.0689	0.0629	0.0549	0.0539	0.0535	0.0553	0.0593	0.0655	0.0739	0.0845	0.0973	0.1123	0.0000	0.0000
	UBUS	0.3910	0.3315	0.2448	0.1871	0.1482	0.1215	0.1032	0.0907	0.0826	0.0779	0.0761	0.0770	0.0000	0.0000	0.0000

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

**Year 2050**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.009	1.6	0.0	0.1	0.3	0.3	1.4	0.5	0.5	0.3	1.0	1.0	0.0	0.0	0.0	<b>7.0</b>
LDT1		0.001	0.2	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.0</b>
LDT2		0.003	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.6</b>
LHD1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.003	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.6</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T6		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T7		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
UBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Total</b>		<b>0.017</b>	<b>3.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.7</b>	<b>0.5</b>	<b>2.6</b>	<b>1.0</b>	<b>1.0</b>	<b>0.5</b>	<b>1.9</b>	<b>1.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>13.3</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.001	0.3	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.8</b>
LHD2		0.000	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.4</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.5</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
T6		0.001	0.3	0.0	0.0	0.1	0.1	0.8	0.4	0.5	0.3	1.2	1.3	0.0	0.0	0.0	<b>5.0</b>
T7		0.009	2.4	0.1	0.3	1.2	1.1	7.3	3.5	4.2	2.4	10.4	11.0	0.0	0.0	0.0	<b>43.8</b>
UBUS		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.0</b>
<b>Total</b>		<b>0.0</b>	<b>3.3</b>	<b>0.1</b>	<b>0.4</b>	<b>1.5</b>	<b>1.4</b>	<b>9.1</b>	<b>4.3</b>	<b>5.0</b>	<b>2.9</b>	<b>12.3</b>	<b>12.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>52.9</b>

**Total Emissions (tons/year)**

**66.2**

**Total Emissions (tons/day)**

**0.2**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM2.5**

Year 2050

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0129	0.0081	0.0054	0.0038	0.0028	0.0022	0.0018	0.0015	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	LDT1	0.0128	0.0081	0.0054	0.0038	0.0028	0.0022	0.0018	0.0015	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	LDT2	0.0128	0.0080	0.0053	0.0037	0.0028	0.0022	0.0018	0.0015	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	LHD1	0.0012	0.0010	0.0007	0.0005	0.0003	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	MCY	0.0004	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0004	0.0000
	MDV	0.0125	0.0079	0.0052	0.0037	0.0027	0.0021	0.0017	0.0015	0.0014	0.0013	0.0014	0.0015	0.0016	0.0018	0.0000
	MH	0.0009	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	OBUS	0.0009	0.0007	0.0005	0.0003	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	SBUS	0.0016	0.0013	0.0009	0.0006	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000
	T6	0.0009	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	T7	0.0009	0.0007	0.0005	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	UBUS	0.0017	0.0014	0.0009	0.0006	0.0005	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0105	0.0090	0.0067	0.0053	0.0044	0.0039	0.0036	0.0035	0.0036	0.0039	0.0045	0.0054	0.0069	0.0093	0.0000
	LDT1	0.0100	0.0085	0.0064	0.0050	0.0042	0.0037	0.0034	0.0034	0.0035	0.0038	0.0044	0.0053	0.0068	0.0092	0.0000
	LDT2	0.0114	0.0097	0.0073	0.0058	0.0048	0.0042	0.0039	0.0038	0.0039	0.0042	0.0047	0.0057	0.0072	0.0096	0.0000
	LHD1	0.0480	0.0424	0.0336	0.0273	0.0226	0.0192	0.0166	0.0147	0.0134	0.0124	0.0117	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0451	0.0399	0.0316	0.0257	0.0213	0.0181	0.0157	0.0139	0.0126	0.0116	0.0110	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.0107	0.0091	0.0068	0.0054	0.0045	0.0040	0.0037	0.0036	0.0037	0.0040	0.0046	0.0056	0.0071	0.0096	0.0000
	MH	0.0945	0.0821	0.0616	0.0468	0.0406	0.0378	0.0369	0.0378	0.0406	0.0453	0.0519	0.0604	0.0707	0.0000	0.0000
	OBUS	0.0504	0.0453	0.0410	0.0392	0.0374	0.0383	0.0411	0.0430	0.0498	0.0559	0.0629	0.0640	0.0826	0.0000	0.0000
	SBUS	0.0592	0.0543	0.0495	0.0445	0.0425	0.0422	0.0436	0.0468	0.0517	0.0583	0.0666	0.0767	0.0000	0.0000	0.0000
	T6	0.0384	0.0352	0.0321	0.0288	0.0275	0.0273	0.0282	0.0303	0.0335	0.0377	0.0432	0.0497	0.0573	0.0000	0.0000
	T7	0.0692	0.0634	0.0578	0.0505	0.0496	0.0492	0.0509	0.0546	0.0603	0.0680	0.0778	0.0895	0.1033	0.0000	0.0000
	UBUS	0.3597	0.3050	0.2252	0.1721	0.1363	0.1118	0.0949	0.0835	0.0760	0.0717	0.0700	0.0708	0.0000	0.0000	0.0000

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM2.5**

**Year 2050**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.008	1.5	0.0	0.1	0.3	0.2	1.3	0.5	0.5	0.2	0.9	0.9	0.0	0.0	0.0	<b>6.5</b>
LDT1		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.0</b>
LDT2		0.003	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.4</b>
LHD1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.003	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.4</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T6		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T7		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
UBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Total</b>		<b>0.015</b>	<b>2.8</b>	<b>0.1</b>	<b>0.2</b>	<b>0.6</b>	<b>0.5</b>	<b>2.4</b>	<b>0.9</b>	<b>0.9</b>	<b>0.4</b>	<b>1.7</b>	<b>1.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>12.3</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.001	0.3	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.7</b>
LHD2		0.000	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.4</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.4</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
T6		0.001	0.3	0.0	0.0	0.1	0.1	0.8	0.4	0.4	0.3	1.1	1.2	0.0	0.0	0.0	<b>4.6</b>
T7		0.008	2.2	0.1	0.3	1.1	1.0	6.7	3.2	3.8	2.2	9.6	10.1	0.0	0.0	0.0	<b>40.3</b>
UBUS		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.9</b>
<b>Total</b>		<b>0.011</b>	<b>3.0</b>	<b>0.1</b>	<b>0.4</b>	<b>1.4</b>	<b>1.3</b>	<b>8.4</b>	<b>4.0</b>	<b>4.6</b>	<b>2.6</b>	<b>11.4</b>	<b>11.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>48.6</b>
<b>Total Emissions (tons/year)</b>				<b>61.0</b>													
<b>Total Emissions (tons/day)</b>				<b>0.2</b>													

# City of Fresno General Plan

## Criteria Pollutants: Summary

Year 2056

Prepared by FirstCarbon Solutions

	Data
<b>City Information</b>	
Population	970,000
Employment	393,200

<b>County Information</b>	
Population	1,616,667

	ROG	NOx	PM10	PM2.5	CO	SO2
<b>Emissions (tons/year)</b>						
Motor vehicles	406	2281	71	66	6765	0
Electricity	0	549	0	0	0	386
Natural gas	158	1394	109	109	915	9
Stationary, area	554	507	238	na	203	89
Offroad	1488	2268	182	182	10972	10
<b>Total</b>	<b>2606</b>	<b>6998</b>	<b>600</b>	<b>357</b>	<b>18855</b>	<b>493</b>

<b>Emissions (tons/day)</b>						
Motor vehicles	1.1	6.2	0.2	0.2	18.5	0.0
Electricity	0.0	1.5	0.0	0.0	0.0	1.1
Natural gas	0.4	3.8	0.3	0.3	2.5	0.0
Stationary, area	1.5	1.4	0.7	na	0.6	0.2
Offroad	4.1	6.2	0.5	0.5	30.1	0.03
<b>Total</b>	<b>7.1</b>	<b>19.2</b>	<b>1.6</b>	<b>1.0</b>	<b>51.7</b>	<b>1.4</b>

Sources:

- Population for the City: Fresno Council of Governments (Fresno COG), San Joaquin Valley Demographic Forecasts 2010 to 2050. Produced under contract by: The Planning Center|DC&E. March 2012.
  - Employment: Took the 2010 population (545,000) and 2010 employment (183,825) and cross multiplied with the 2056 population and the 2056 employment number (X).
  - Emissions: refer to subsequent spreadsheets.
  - Emissions for stationary, area: California Air Resources Board, CEIDARS 2.5, data is from the year 2010. Note that SO2 emissions for this category represent SOx emissions; SO2 emissions were not available.
- [www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab\\_=&dis\\_=&co\\_=10&name\\_=&city\\_=Fresno&fzip\\_=&fsic\\_=&facid\\_=&all\\_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=](http://www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=y&grp=1&sort=FacilityNameA&dbyr=2010&ab_=&dis_=&co_=10&name_=&city_=Fresno&fzip_=&fsic_=&facid_=&all_fac=C&displayit=Pollutant&CERR=&showpol=&showpol2=)

## City of Fresno General Plan

### Criteria Pollutants: Energy

Year 2056

Prepared by FirstCarbon Solutions

Note: data entry values are in yellow

#### Electricity

Emission Factors (lbs/MWh)		(lbs/kWh)
NOx	0.2002	0.0002002
SO2	0.1409	0.0001409

	Usage (kWh/year)	Emissions Per capita (kWh/person or employee/year)	Emissions (tons/year)	
			NOx	SO2
Residential	2,531,700,000	2,610	253.4	178.4
Commercial	2,950,179,600	7,503	295.3	207.8
Industrial	not available			
<b>Total</b>	<b>5,481,879,600</b>		<b>548.7</b>	<b>386.2</b>

#### Natural Gas

		Natural Gas Emission Factors					
		ROG	NOx	PM10	PM2.5	CO	SO2
lb/MMBTU	Residential	0.01078	0.09216	0.00745	0.00745	0.03922	0.00059
	Nonresidential	0.01078	0.09804	0.00745	0.00745	0.08235	0.00059
lb/therm	Residential	0.0011	0.0092	0.0007	0.0007	0.0039	0.0001
	Nonresidential	0.0011	0.0098	0.0007	0.0007	0.0082	0.0001

  

	Usage (therms/year)	Per capita (therms/person or employee/year)	Emissions (tons/year)					
			ROG	NOx	PM10	PM2.5	CO	SO2
Residential	133,860,000	138	72	617	50	50	262	4
Commercial	158,459,600	403	85	777	59	59	652	5
Industrial	not available							
<b>Total</b>	<b>292,319,600</b>		<b>158</b>	<b>1,394</b>	<b>109</b>	<b>109</b>	<b>915</b>	<b>9</b>

Sources:

Per capita energy usage: See the spreadsheet calculations for 2010. Residential rates are based on population and commercial are based on employees.

Usage: per capita usage multiplied by the population (for residential) or employees (for commercial)

Emission factors for electricity NOx and SO2 electricity emission factors from Environmental Protection Agency, eGRID2012, state total annual total output emission rate for California (data is from year 2009).

Emission factors for natural gas: CalEEMod Appendix D, Table 8.2, August 2013. 1 therm = 0.1 MMBTU



**City of Fresno General Plan**

**Criteria Pollutants: Offroad**

**Year 2056**

Prepared by FirstCarbon Solutions

*Note: yellow shaded cells are data entry cells*

Fresno County Emissions (tons/day) (from Offroad 2007)	ROG		CO	NOx	SO2	PM
	Evaporative	Exhaust				
Agricultural Equipment	0.12	0.78	9.82	4.98	0.01	0.25
Airport Ground Support Equipment	0.00	0.01	0.23	0.04	0.00	0.00
Construction and Mining Equipment	0.01	0.52	4.43	3.04	0.01	0.16
Dredging	0.00	0.00	0.00	0.00	0.00	0.00
Entertainment Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Equipment	0.02	0.04	2.58	0.30	0.00	0.01
Lawn and Garden Equipment	0.53	0.95	12.06	0.25	0.00	0.03
Light Commercial Equipment	0.07	0.19	6.46	0.35	0.00	0.04
Logging Equipment	0.00	0.04	0.29	0.04	0.00	0.00
Military Tactical Support Equip	0.00	0.00	0.02	0.02	0.00	0.00
Oil Drilling	0.00	0.00	0.00	0.00	0.00	0.00
Other Portable Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Pleasure Craft	0.67	0.83	7.38	0.41	0.00	0.29
Railyard Operations	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Equipment	0.48	1.41	5.21	0.07	0.02	0.03
Transport Refrigeration Units	0.00	0.12	1.63	0.86	0.00	0.01
<b>Total</b>	<b>1.91</b>	<b>4.88</b>	<b>50.10</b>	<b>10.36</b>	<b>0.04</b>	<b>0.83</b>

**Percent Fresno County/Fresno City Population 0.60**

City of Fresno Emissions (tons/day)	ROG Evaporative	ROG Exhaust	CO	NOx	SO2	PM
Agricultural Equipment	0.07	0.5	5.9	3.0	0.01	0.15
Airport Ground Support Equipment	0.00	0.0	0.1	0.0	0.00	0.00
Construction and Mining Equipment	0.01	0.3	2.7	1.8	0.00	0.10
Dredging	0.00	0.0	0.0	0.0	0.00	0.00
Entertainment Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Industrial Equipment	0.01	0.0	1.5	0.2	0.00	0.01
Lawn and Garden Equipment	0.32	0.6	7.2	0.1	0.00	0.02
Light Commercial Equipment	0.04	0.1	3.9	0.2	0.00	0.03
Logging Equipment	0.00	0.0	0.2	0.0	0.00	0.00
Military Tactical Support Equip	0.00	0.0	0.0	0.0	0.00	0.00
Oil Drilling	0.00	0.0	0.0	0.0	0.00	0.00
Other Portable Equipment	0.00	0.0	0.0	0.0	0.00	0.00
Pleasure Craft	0.40	0.5	4.4	0.2	0.00	0.17
Railyard Operations	0.00	0.0	0.0	0.0	0.00	0.00
Recreational Equipment	0.29	0.8	3.1	0.0	0.01	0.02
Transport Refrigeration Units	0.00	0.1	1.0	0.5	0.00	0.01
<b>Total</b>	<b>1.15</b>	<b>2.9</b>	<b>30.1</b>	<b>6.2</b>	<b>0.03</b>	<b>0.50</b>

**Sources:**

- County of Fresno emissions from OFFROAD2007, annual, all days, all equipment, for year 2035
- City of Fresno emissions based on the percent of the City's population compared with the County's population.

Note: PM refers to total particulate matter.

**City of Fresno General Plan**  
**Vehicle Miles Traveled Estimates**  
**Year 2056**  
 Prepared by FirstCarbon Solutions

*Vehicle Miles Traveled*

Vehicle miles traveled / day **19,883,447** Source: Fehr and Peers. 2013  
 Vehicle miles traveled / year 7,257,458,155 Source: VMT per day \* 365 days/year  
 Annual Growth Rate in VMT: 2.54% Source: Fresno COG

Speed bins	AM peak	PM peak	Off peak	Total	Speed
0 - 5 MPH	0	1,384	0	<b>1,384</b>	5
5 - 10 MPH	1,150	1,345	0	<b>2,496</b>	5
10 - 15 MPH	224,212	289,426	615,535	<b>1,129,173</b>	10
15 - 20 MPH	7,576	11,210	11,842	<b>30,628</b>	15
20 - 25 MPH	33,152	55,414	94,472	<b>183,038</b>	20
25 - 30 MPH	135,406	179,299	389,591	<b>704,296</b>	25
30 - 35 MPH	150,069	237,489	296,661	<b>684,218</b>	30
35 - 40 MPH	884,009	1,145,409	2,308,049	<b>4,337,467</b>	35
40 - 45 MPH	395,330	482,401	1,059,730	<b>1,937,461</b>	40
45 - 50 MPH	336,301	443,145	1,305,167	<b>2,084,613</b>	45
50 - 55 MPH	181,888	256,936	618,473	<b>1,057,297</b>	50
55 - 60 MPH	807,301	959,882	2,270,362	<b>4,037,545</b>	55
60 - 65 MPH	773,934	961,421	1,958,222	<b>3,693,577</b>	60
65 - 70 MPH	43	56	154	<b>254</b>	65
70 - 75 MPH	0	0	0	<b>0</b>	70
>75 MPH	0	0	0	<b>0</b>	75
<b>Total</b>	<b>3,930,371</b>	<b>5,024,819</b>	<b>10,928,257</b>	<b>19,883,447</b>	

Source:  
 Fehr and Peers. 2013. 2056 VMT was found by multiplying the 2010 VMT numbers found previously with the annual growth rate multiplied by the 46 years of VMT growth between 2010 and 2056 and adding that to the 2010 VMT.

Annual VMT Growth Rate: Was found by interpolating between 2011 and 2056 VMT:  $(((2056 \text{ VMT} - 2010 \text{ VMT}) / 2010 \text{ VMT}) / 45 \text{ years} = .0254)$ .

Note: EMFAC2011 for year 2035 was used.

2010 VMT found by backcasting the 2011 Existing Daily VMT By Speed Bin: Origin-Destination Method

Speed bins	AM peak	PM peak	Off peak	Total
0 - 5 MPH	0	638	0	638
5 - 10 MPH	530	620	0	1,150
10 - 15 MPH	103,322	133,374	283,652	520,348
15 - 20 MPH	3,491	5,166	5,457	14,114
20 - 25 MPH	15,277	25,536	43,535	84,348
25 - 30 MPH	62,398	82,625	179,532	324,555
30 - 35 MPH	69,155	109,440	136,708	315,303
35 - 40 MPH	407,371	527,830	1,063,600	1,998,801
40 - 45 MPH	182,177	222,301	488,347	892,825
45 - 50 MPH	154,975	204,211	601,450	960,636
50 - 55 MPH	83,818	118,402	285,006	487,226
55 - 60 MPH	372,022	442,335	1,046,233	1,860,590
60 - 65 MPH	356,646	443,044	902,392	1,702,082
65 - 70 MPH	20	26	71	117
70 - 75 MPH	0	0	0	0
>75 MPH	0	0	0	0
<b>Total</b>	<b>1,811,202</b>	<b>2,315,548</b>	<b>5,035,983</b>	<b>9,162,733</b>

*VMT/day per speed bin*

Speed (mph)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
VMT/day	3880	1129173	30628	183038	704296	684218	4337467	1937461	2084613	1057297	4037545	3693577	254	0	0

*Vehicle Class using EMFAC2011 VMT percentages*

	GAS	DSL	% Includes
LDA	43.91%	0.12%	GAS Heavy duty 0.6% MH, OBUS, SBUS, T6, T7, UBUS
LDT1	6.52%	0.01%	Light trucks 42.4% MDV, LDT1, LDT2, LHD1, LHD2
LDT2	16.24%	0.01%	Passenger 44.6% LDA, MCY
LHD1	2.67%	1.63%	DSL Heavy duty 10.2% MH, OBUS, SBUS, T6, T7, UBUS
LHD2	0.27%	0.43%	Light trucks 2.1% MDV, LDT1, LDT2, LHD1, LHD2
MCY	0.68%	0.00%	Passenger 0.1% LDA, MCY
MDV	16.67%	0.01%	Total 100.0%
MH	0.15%	0.03%	
OBUS	0.09%	0.11%	
SBUS	0.02%	0.04%	
T6	0.30%	1.69%	
T7	0.03%	8.18%	
UBUS	0.05%	0.13%	

**City of Fresno General Plan**  
**Vehicle Miles Traveled Estimates**  
**Year 2056**  
Prepared by FirstCarbon Solutions

VMT/day by Vehicle Class and speed

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		1704	495815	13449	80371	309253	300437	1904561	850730	915344	464254	1772866	1621832	111	0	0
LDT1		253	73592	1996	11929	45901	44593	282688	126271	135861	68908	263141	240723	17	0	0
LDT2		630	183378	4974	29725	114377	111117	704404	314643	338541	171705	655697	599836	41	0	0
LHD1		104	30196	819	4895	18834	18297	115990	51810	55745	28274	107969	98771	7	0	0
LHD2		10	3016	82	489	1881	1827	11583	5174	5567	2824	10782	9864	1	0	0
MCY		27	7720	209	1251	4815	4678	29654	13246	14252	7228	27603	25252	2	0	0
MDV		647	188270	5107	30518	117429	114082	723198	323038	347574	176286	673191	615841	42	0	0
MH		6	1715	47	278	1070	1039	6590	2943	3167	1606	6134	5611	0	0	0
OBUS		4	1038	28	168	647	629	3987	1781	1916	972	3711	3395	0	0	0
SBUS		1	234	6	38	146	142	901	402	433	220	838	767	0	0	0
T6		12	3358	91	544	2094	2035	12898	5761	6199	3144	12006	10983	1	0	0
T7		1	386	10	63	241	234	1481	662	712	361	1379	1261	0	0	0
UBUS		2	575	16	93	359	349	2210	987	1062	539	2057	1882	0	0	0
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>			
LDA		5	1323	36	214	825	802	5082	2270	2443	1239	4731	4328	0	0	0
LDT1		0	98	3	16	61	59	375	168	180	91	349	319	0	0	0
LDT2		0	83	2	13	52	50	317	142	153	77	295	270	0	0	0
LHD1		63	18453	501	2991	11510	11182	70884	31663	34067	17279	65983	60362	4	0	0
LHD2		17	4865	132	789	3034	2948	18687	8347	8981	4555	17395	15913	1	0	0
MCY		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MDV		1	147	4	24	92	89	564	252	271	137	525	480	0	0	0
MH		1	371	10	60	231	225	1425	637	685	347	1327	1214	0	0	0
OBUS		4	1262	34	205	787	765	4848	2166	2330	1182	4513	4128	0	0	0
SBUS		2	462	13	75	288	280	1773	792	852	432	1651	1510	0	0	0
T6		65	19052	517	3088	11883	11545	73184	32690	35173	17839	68124	62320	4	0	0
T7		317	92348	2505	14970	57600	55958	354734	158453	170487	86470	330205	302074	21	0	0
UBUS		5	1418	38	230	885	859	5448	2434	2618	1328	5071	4639	0	0	0

EMFAC2011 Emission Rates

Region Type: County

Region: Fresno

Calendar Year: 2035

Season: Annual

Vehicle Classification: EMFAC2007 Categories

EMFAC2011: EMFAC Emission Rates Database. (Enter: region - County: Fresno, year - 2035, season - annual average, vehicle category - EMFAC2007, model year - aggregated, speed - all speeds, fuel - all) Website: <http://www.arb.ca.gov/emfac/>

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	EMFAC2007 Categories										Percent of Total VMT
						ROG_RUNI	TOG_RUNI	CO_RUNE	NOX_RUNI	CO2_RUNE	CO2_RUNE	PM10_RUN	PM2_5_RUNE	PM2_5_RUNE	PM2_5_RUNE	
Fresno	2035	LDA	GAS	5	690.61058	0.0661503	0.122367	1.1438369	0.105519	1132.07376	673.304157	0.013853	0.012854	0.002%		
Fresno	2035	LDA	DSL	5	1.8428816	0.0188755	0.021488	0.1206987	0.322311	503.980949	303.820128	0.011442	0.010527	0.000%		
Fresno	2035	LDA	GAS	10	35638.706	0.04124	0.07626	1.0279769	0.092659	834.330412	496.221479	0.008718	0.008089	0.094%		
Fresno	2035	LDA	DSL	10	95.10123	0.0160499	0.018272	0.1142073	0.306429	455.139526	274.429687	0.00973	0.008951	0.000%		
Fresno	2035	LDA	GAS	15	21241.017	0.0276946	0.051197	0.9523351	0.081238	646.517456	384.518119	0.005787	0.00537	0.056%		
Fresno	2035	LDA	DSL	15	56.681258	0.012068	0.013739	0.1031034	0.27962	381.698077	230.236122	0.007316	0.006731	0.000%		
Fresno	2035	LDA	GAS	20	808500.65	0.0192603	0.03561	0.8610518	0.07266	514.415615	305.950589	0.004053	0.003761	2.136%		
Fresno	2035	LDA	DSL	20	2157.469	0.0095589	0.010882	0.0938803	0.259701	332.219565	200.462311	0.005795	0.005332	0.006%		
Fresno	2035	LDA	GAS	25	197184.91	0.0143388	0.0265	0.7989048	0.066217	428.337956	254.755245	0.002995	0.002778	0.521%		
Fresno	2035	LDA	DSL	25	526.18429	0.0079752	0.009079	0.0860494	0.245193	300.076477	181.120132	0.004835	0.004448	0.001%		
Fresno	2035	LDA	GAS	30	537842.7	0.0111563	0.020616	0.7330898	0.061379	368.21896	218.999388	0.002334	0.002165	1.421%		
Fresno	2035	LDA	DSL	30	1435.2233	0.0070089	0.007979	0.0792994	0.235453	281.264321	169.799873	0.004249	0.003909	0.004%		
Fresno	2035	LDA	GAS	35	1366088.4	0.0091514	0.016912	0.6739171	0.057744	328.478921	195.363966	0.001919	0.00178	3.608%		
Fresno	2035	LDA	DSL	35	3645.382	0.0064893	0.007388	0.0734215	0.229856	273.561113	165.164459	0.003934	0.003619	0.010%		
Fresno	2035	LDA	GAS	40	1943582.5	0.0078894	0.014581	0.6181806	0.055334	303.471949	180.491197	0.001664	0.001544	5.134%		
Fresno	2035	LDA	DSL	40	5186.4142	0.0063315	0.007208	0.0682691	0.228203	276.084845	166.683111	0.003838	0.003531	0.014%		
Fresno	2035	LDA	GAS	45	1929011.9	0.0072287	0.013361	0.5747455	0.053673	292.328918	173.863779	0.001523	0.001413	5.095%		
Fresno	2035	LDA	DSL	45	5147.5324	0.0065121	0.007414	0.0637359	0.230226	289.122634	174.528631	0.003947	0.003631	0.014%		
Fresno	2035	LDA	GAS	50	2232462.6	0.0069809	0.012904	0.5354171	0.052973	292.125802	173.742948	0.00147	0.001364	5.897%		
Fresno	2035	LDA	DSL	50	5957.2848	0.0070634	0.008041	0.0597434	0.236193	314.18613	189.610649	0.004281	0.003938	0.016%		
Fresno	2035	LDA	GAS	55	1665080.1	0.0071129	0.01315	0.5004716	0.053167	303.02659	180.226197	0.001497	0.001389	4.398%		
Fresno	2035	LDA	DSL	55	4443.2357	0.0080823	0.009201	0.0562346	0.246416	354.307143	213.753563	0.004898	0.004506	0.012%		
Fresno	2035	LDA	GAS	60	1897400.1	0.0076308	0.014111	0.4677985	0.054217	325.917054	193.840412	0.001608	0.001492	5.012%		
Fresno	2035	LDA	DSL	60	5063.1773	0.0097593	0.011111	0.0531705	0.261473	414.65641	250.068876	0.005913	0.00544	0.013%		
Fresno	2035	LDA	GAS	65	2035032.5	0.0086351	0.01597	0.4386353	0.05628	363.783005	216.361367	0.001822	0.001691	5.375%		
Fresno	2035	LDA	DSL	65	5430.4465	0.0124383	0.01416	0.0505307	0.282274	503.663514	303.629111	0.007536	0.006933	0.014%		
Fresno	2035	LDA	GAS	70	1953744	0.0093869	0.017362	0.4261377	0.057624	390.123335	232.027326	0.001979	0.001836	5.161%		
Fresno	2035	LDA	DSL	70	5213.5296	0.0167349	0.019052	0.0483169	0.310021	634.981498	382.650018	0.010138	0.009327	0.014%		
Fresno	2035	LDT1	GAS	5	102.50505	0.0781814	0.141973	1.3479236	0.122225	1314.76791	800.56989	0.013784	0.012789	0.000%		
Fresno	2035	LDT1	DSL	5	0.1360064	0.021304	0.024253	0.1296125	0.371499	504.827175	301.829718	0.010898	0.010026	0.000%		
Fresno	2035	LDT1	GAS	10	5289.7355	0.0489995	0.088828	1.2087702	0.106962	969.207598	590.161462	0.008682	0.008055	0.014%		
Fresno	2035	LDT1	DSL	10	7.018562	0.018082	0.020585	0.1241136	0.353791	455.724636	272.471938	0.00925	0.00851	0.000%		
Fresno	2035	LDT1	GAS	15	3152.7341	0.0330516	0.059827	1.1168612	0.093501	750.848605	457.196034	0.005769	0.005352	0.008%		
Fresno	2035	LDT1	DSL	15	4.1831318	0.0135595	0.015437	0.1143063	0.323706	381.890427	228.327407	0.006936	0.006381	0.000%		
Fresno	2035	LDT1	GAS	20	120003.09	0.0230579	0.041754	1.0085325	0.083475	597.522898	363.837256	0.004043	0.003751	0.317%		
Fresno	2035	LDT1	DSL	20	159.22329	0.0107269	0.012212	0.1050606	0.301221	332.147383	198.586677	0.005487	0.005048	0.000%		
Fresno	2035	LDT1	GAS	25	29267.508	0.0172317	0.031148	0.934299	0.075962	497.463371	302.908369	0.002989	0.002773	0.077%		
Fresno	2035	LDT1	DSL	25	38.832909	0.008525	0.010192	0.057053	0.284745	299.832425	179.265976	0.00458	0.004123	0.000%		
Fresno	2035	LDT1	GAS	30	79830.22	0.0134396	0.024282	0.8567186	0.070363	427.662588	260.40672	0.002331	0.002163	0.211%		
Fresno	2035	LDT1	DSL	30	105.92086	0.0078821	0.008973	0.0898981	0.273609	280.919663	167.958278	0.004032	0.003709	0.000%		
Fresno	2035	LDT1	GAS	35	202764.03	0.0110382	0.019944	0.7872989	0.066188	381.527502	232.315209	0.001917	0.001779	0.536%		
Fresno	2035	LDT1	DSL	35	269.03268	0.0073212	0.008335	0.0834959	0.267127	273.175322	163.328035	0.003745	0.003445	0.001%		
Fresno	2035	LDT1	GAS	40	288479.58	0.009518	0.017205	0.7223129	0.063456	352.529789	214.659347	0.001663	0.001543	0.762%		
Fresno	2035	LDT1	DSL	40	382.76239	0.0071738	0.008167	0.0777592	0.265083	275.712512	164.844988	0.00367	0.003376	0.01%		
Fresno	2035	LDT1	GAS	45	286316.87	0.0087141	0.015757	0.6716524	0.061606	339.573191	206.769651	0.001521	0.001412	0.756%		
Fresno	2035	LDT1	DSL	45	379.89286	0.0074158	0.008442	0.0726125	0.267152	288.820023	172.681802	0.003793	0.00349	0.001%		
Fresno	2035	LDT1	GAS	50	331357.07	0.0084009	0.015197	0.626015	0.060895	339.331167	206.622144	0.001468	0.001362	0.875%		
Fresno	2035	LDT1	DSL	50	439.65337	0.0080872	0.009207	0.0679898	0.273613	314.017531	187.74707	0.004137	0.003806	0.001%		
Fresno	2035	LDT1	GAS	55	247142.36	0.0085378	0.015454	0.5856615	0.061253	351.985417	214.327261	0.001494	0.001386	0.653%		
Fresno	2035	LDT1	DSL	55	327.91509	0.009304	0.010592	0.0638334	0.284763	354.353048	211.86316	0.004759	0.004379	0.001%		
Fresno	2035	LDT1	GAS	60	281624.87	0.0091271	0.016538	0.5481625	0.062653	378.579994	230.521082	0.001604	0.001488	0.744%		
Fresno	2035	LDT1	DSL	60	373.66739	0.0112923	0.012856	0.0600932	0.301159	415.025007	248.13815	0.005776	0.005314	0.001%		
Fresno	2035	LDT1	GAS	65	302053.17	0.0102875	0.018657	0.5149092	0.065297	422.572629	257.308816	0.001816	0.001685	0.798%		
Fresno	2035	LDT1	DSL	65	400.77219	0.0144586	0.01646	0.0567251	0.323678	504.508047	301.638916	0.007396	0.006804	0.001%		
Fresno	2035	LDT1	GAS	70	289987.78	0.0111589	0.020248	0.5007372	0.067016	453.157125	275.931745	0.001972	0.001829	0.766%		
Fresno	2035	LDT1	DSL	70	384.76351	0.0195301	0.022234	0.0536906	0.35342	636.52822	380.57209	0.00999	0.009191	0.001%		
Fresno	2035	LDT2	GAS	5	255.42307	0.0807862	0.148505	1.3373414	0.13084	1537.70722	1044.72707	0.013765	0.012772	0.001%		
Fresno	2035	LDT2	DSL	5	0.1150683	0.0237373	0.027023	0.1586632	0.407101	502.581245	342.876199	0.012342	0.011355	0.000%		
Fresno	2035	LDT2	GAS	10	13181.015	0.0504476	0.092662	1.2015065	0.114698	1133.51983	770.121871	0.008664	0.008039	0.000%		
Fresno	2035	LDT2	DSL	10	5.9380597	0.0202214	0.023021	0.1483564	0.386317	454.171785	309.953162	0.010521	0.009679	0.000%		
Fresno	2035	LDT2	GAS	15	7856.0134	0.0339175	0.062256	1.1120257	0.1004	878.167189	596.631776	0.005753	0.005338	0.021%		
Fresno	2035	LDT2	DSL	15	3.5391415	0.0152463	0.017357	0.								

Region	CalYr	Veh	CI	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNI (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNE (gms/mile)	NOX_RUNI (gms/mile)	CO2_RUNE (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2035	LDT2		GAS	60	701755.58	0.0093539	0.017174	0.5462385	0.067149	442.764966	300.817625	0.001599	0.001483	1.854%
Fresno	2035	LDT2		DSL	60	316.14156	0.011956	0.013611	0.0662844	0.330524	414.046697	282.664287	0.006156	0.005664	0.001%
Fresno	2035	LDT2		GAS	65	752659.03	0.0105725	0.01942	0.5124349	0.069848	494.215085	335.773267	0.001811	0.001681	1.988%
Fresno	2035	LDT2		DSL	65	339.0736	0.015162	0.017261	0.0634572	0.358568	502.266607	342.662214	0.007792	0.007169	0.001%
Fresno	2035	LDT2		GAS	70	722594.3	0.0114854	0.021103	0.497949	0.071604	529.986613	360.07659	0.001967	0.001825	1.909%
Fresno	2035	LDT2		DSL	70	325.52944	0.0203114	0.023123	0.0611339	0.396335	632.423233	431.181097	0.010422	0.009588	0.001%
Fresno	2035	LHD1		GAS	5	28730.834	0.0468288	0.078146	0.7368093	0.098011	2513.49712	2262.14741	0.001312	0.001217	0.076%
Fresno	2035	LHD1		DSL	5	10879.472	0.1901904	0.216519	2.3726665	1.447606	519.044	467.1396	0.052137	0.047966	0.029%
Fresno	2035	LHD1		GAS	10	74917.972	0.0377331	0.062942	0.5969772	0.100348	2036.12829	1832.51546	0.001056	0.00098	0.198%
Fresno	2035	LHD1		DSL	10	36179.207	0.1680524	0.191316	1.9590347	1.312197	519.043919	467.139527	0.046068	0.042383	0.096%
Fresno	2035	LHD1		GAS	15	170598.31	0.025285	0.042175	0.408915	0.105095	1392.42973	1253.18676	0.000707	0.000656	0.451%
Fresno	2035	LHD1		DSL	15	78353.787	0.1333898	0.151855	1.3818898	1.109385	519.04397	467.139573	0.036566	0.033641	0.207%
Fresno	2035	LHD1		GAS	20	197125.03	0.0175837	0.029353	0.2948783	0.110421	1006.06851	905.461657	0.000493	0.000457	0.521%
Fresno	2035	LHD1		DSL	20	85901.056	0.1082319	0.123215	1.2021524	0.970248	519.044027	467.139624	0.02967	0.027296	0.227%
Fresno	2035	LHD1		GAS	25	151847.06	0.012682	0.021216	0.2238341	0.116734	768.012023	691.21082	0.000358	0.000332	0.401%
Fresno	2035	LHD1		DSL	25	91937.051	0.0897722	0.1022	0.7881648	0.882282	519.044026	467.139624	0.024609	0.022641	0.243%
Fresno	2035	LHD1		GAS	30	134282.63	0.0096155	0.016078	0.1805665	0.121624	619.43358	557.490222	0.000271	0.000252	0.353%
Fresno	2035	LHD1		DSL	30	77606.52	0.0761173	0.086654	0.6372787	0.827804	519.043982	467.139584	0.020866	0.019197	0.205%
Fresno	2035	LHD1		GAS	35	50176.542	0.0075026	0.012588	0.1525298	0.128927	527.846459	475.061813	0.000214	0.000199	0.133%
Fresno	2035	LHD1		DSL	35	40955.973	0.065975	0.075108	0.539265	0.808703	519.043989	467.13959	0.018086	0.016639	0.108%
Fresno	2035	LHD1		GAS	40	14810.971	0.0060602	0.010275	0.1361152	0.136886	475.233144	427.70983	0.000176	0.000164	0.039%
Fresno	2035	LHD1		DSL	40	22483.492	0.0584561	0.066548	0.4775683	0.817813	519.044031	467.139628	0.016025	0.014743	0.059%
Fresno	2035	LHD1		GAS	45	18233.609	0.0052446	0.008888	0.1303835	0.140061	452.055829	406.850246	0.000151	0.00014	0.048%
Fresno	2035	LHD1		DSL	45	24267.079	0.0529462	0.060276	0.442618	0.852959	519.044071	467.139664	0.014514	0.013353	0.064%
Fresno	2035	LHD1		GAS	50	134634.42	0.0047971	0.008053	0.1328765	0.141188	454.321818	408.889636	0.000135	0.000126	0.356%
Fresno	2035	LHD1		DSL	50	93702.888	0.0490223	0.055809	0.4293219	0.921883	519.044016	467.139615	0.013438	0.012363	0.248%
Fresno	2035	LHD1		GAS	55	37030.824	0.0043361	0.007352	0.1381423	0.152612	482.415478	434.17393	0.000126	0.000117	0.098%
Fresno	2035	LHD1		DSL	55	56428.728	0.0463989	0.052822	0.4358102	1.03814	519.043992	467.139593	0.012719	0.011702	0.149%
Fresno	2035	LHD2		GAS	5	2869.2263	0.0352143	0.063946	0.5594356	0.076166	2513.49728	2262.14755	0.001034	0.000959	0.008%
Fresno	2035	LHD2		DSL	5	2868.0838	0.177619	0.202207	2.2585627	1.338565	519.107914	467.197122	0.049051	0.045127	0.008%
Fresno	2035	LHD2		GAS	10	7481.7397	0.0283664	0.051506	0.4532655	0.077982	2036.12823	1832.51541	0.000833	0.000773	0.020%
Fresno	2035	LHD2		DSL	10	9537.6864	0.1569443	0.178671	1.864823	1.213356	519.107918	467.197126	0.043341	0.039874	0.025%
Fresno	2035	LHD2		GAS	15	17036.93	0.0190077	0.034512	0.3104759	0.081671	1392.42956	1253.1866	0.000557	0.000517	0.045%
Fresno	2035	LHD2		DSL	15	20655.896	0.1245729	0.141818	1.3154333	1.02582	519.10791	467.197119	0.034402	0.03165	0.055%
Fresno	2035	LHD2		GAS	20	19686.039	0.0132258	0.024019	0.2238916	0.08581	1006.06851	905.461663	0.000388	0.00036	0.052%
Fresno	2035	LHD2		DSL	20	22645.534	0.1010778	0.11507	0.9710922	0.897164	519.107917	467.197126	0.027913	0.02568	0.060%
Fresno	2035	LHD2		GAS	25	15164.321	0.0095532	0.017359	0.16995	0.090715	768.01204	691.210836	0.000282	0.000262	0.040%
Fresno	2035	LHD2		DSL	25	24236.761	0.0838384	0.095444	0.7502612	0.815824	519.107974	467.197177	0.023153	0.0213	0.064%
Fresno	2035	LHD2		GAS	30	13410.236	0.0072407	0.013155	0.1370975	0.094516	619.433566	557.490209	0.000214	0.000198	0.035%
Fresno	2035	LHD2		DSL	30	20458.898	0.071086	0.080927	0.6066314	0.76545	519.107941	467.197147	0.019631	0.01806	0.054%
Fresno	2035	LHD2		GAS	35	5010.9181	0.005663	0.010298	0.115811	0.100191	527.84649	475.061841	0.000169	0.000157	0.013%
Fresno	2035	LHD2		DSL	35	10796.955	0.0616141	0.070144	0.5133312	0.747787	519.107889	467.1971	0.017015	0.015654	0.029%
Fresno	2035	LHD2		GAS	40	1479.1088	0.0046079	0.008402	0.1033479	0.106376	475.233142	427.709828	0.000139	0.000129	0.004%
Fresno	2035	LHD2		DSL	40	5927.1756	0.0545922	0.06215	0.4546015	0.756211	519.107876	467.197088	0.015076	0.01387	0.016%
Fresno	2035	LHD2		GAS	45	1820.913	0.003984	0.007262	0.098996	0.108844	452.055826	406.850243	0.000119	0.000111	0.005%
Fresno	2035	LHD2		DSL	45	6397.3717	0.0494465	0.056292	0.4211332	0.78871	519.107898	467.197108	0.013655	0.012563	0.017%
Fresno	2035	LHD2		GAS	50	13445.368	0.0036222	0.006588	0.1008888	0.109719	454.321772	408.889595	0.000107	9.91E-05	0.036%
Fresno	2035	LHD2		DSL	50	24702.279	0.045782	0.05212	0.4086754	0.852442	519.107864	467.197078	0.012643	0.011632	0.065%
Fresno	2035	LHD2		GAS	55	3698.111	0.0032971	0.006012	0.104887	0.118597	482.415456	434.173911	9.95E-05	9.24E-05	0.010%
Fresno	2035	LHD2		DSL	55	14875.936	0.043332	0.049331	0.4148517	0.959942	519.107902	467.197112	0.011966	0.011009	0.039%
Fresno	2035	MCY		GAS	5	10.752747	4.7189475	5.165712	23.870843	1.236078	266.394097	239.754687	0.000467	0.000411	0.000%
Fresno	2035	MCY		GAS	10	554.89158	4.0924659	4.480206	22.084999	1.217711	242.30076	218.070684	0.000402	0.000353	0.001%
Fresno	2035	MCY		GAS	15	330.7208	3.1688185	3.467933	19.076397	1.162584	205.030744	184.52767	0.000309	0.000271	0.001%
Fresno	2035	MCY		GAS	20	12588.286	2.589213	2.830736	17.08271	1.135271	178.738769	160.864892	0.000251	0.000219	0.033%
Fresno	2035	MCY		GAS	25	3070.1522	2.2223167	2.429782	15.901695	1.116377	160.513437	144.462093	0.000214	0.000187	0.008%
Fresno	2035	MCY		GAS	30	8374.1638	2.0085029	2.195247	15.312538	1.14165	148.522673	133.670406	0.000192	0.000167	0.022%
Fresno	2035	MCY		GAS	35	21269.879	1.9075578	2.084042	15.2783	1.121996	141.675292	127.507762	0.000182	0.000158	0.056%
Fresno	2035	MCY		GAS	40	30261.417	1.9062373	2.081751	15.890486	1.142786	139.435532	125.491979	0.000181	0.000156	0.080%
Fresno	2035	MCY		GAS	45	30034.55	1.9966162	2.179985	17.238489	1.167142	141.742565	127.568309	0.000189	0.000163	0.079%
Fresno	2035	MCY		GAS	50	34759.25	2.1978531	2.399426	19.669568	1.20228	149.01587	134.114283	0.000207	0.000179	0.092%
Fresno	2035	MCY		GAS	55	25925.157	2.5415526	2.774636	23.714161	1.247993	162.250226	146.025203	0.00024	0.000207	0.068%
Fresno	2035	MCY		GAS	60	29542.357	3.0875112	3.370405	30.291061	1.306048	183.22816	164.905344	0.000291	0.000252	0.078%
Fresno	2035	MCY		GAS	65	31685.281	3.9413355	4.302831	41.189322	1.378654	214.9121	193.42089	0.000371	0.000321	0.084%
Fresno	2035	MCY		GAS	70	30419.625	5.2796836	5.764605	59.434256	1.464776	262.137322	235.92359	0.000499	0.000432	0.080%
Fresno	2035	MDV		GAS	5	262.23808	0.1100125	0.195436	1.7718606	0.179144	1969.99002	1370.33855	0.013475	0.012502	0.001%
Fresno	2035	MDV		DSL	5	0.204452	0.0191431	0.021793	0.1208349	0.327478	504.233051	348.357588	0.011581	0.010655	0.000%
Fresno	2035	MDV		GAS	10	13532.7	0.0690463	0.122328	1.5896758	0.156103	1452.2532	1010.20434	0.008486	0.007873	0.036%
Fresno	2035	MDV		DSL	10	10.550669	0.0162675	0.018519	0.1147625	0.311503	455.313852	314.587226	0.009842	0.009054	0.000%
Fresno	2035	MDV		GAS	15</										

Region	CalYr	Veh	CI	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNI (gms/mile)	TOG_RUNI (gms/mile)	CO <sub>2</sub> _RUNE (gms/mile)	NOX_RUNI (gms/mile)	CO <sub>2</sub> _RUNE (gms/mile)	CO <sub>2</sub> _RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2035	MDV	GAS		55	632262.83	0.0120264	0.021305	0.7708121	0.089188	527.40799	366.870322	0.00146	0.001354	1.670%
Fresno	2035	MDV	DSL		55	492.93907	0.0082517	0.009394	0.0572962	0.250567	354.320834	244.868774	0.004991	0.004592	0.001%
Fresno	2035	MDV	GAS		60	720479.2	0.0128467	0.022792	0.7213014	0.091557	567.257667	394.590335	0.001567	0.001454	1.903%
Fresno	2035	MDV	DSL		60	561.71632	0.0099812	0.011363	0.0540983	0.265606	414.766203	286.595991	0.006037	0.005554	0.001%
Fresno	2035	MDV	GAS		65	772740.8	0.0144731	0.025705	0.6773478	0.095873	633.176731	440.444571	0.001775	0.001647	2.041%
Fresno	2035	MDV	DSL		65	602.4617	0.0127412	0.014505	0.0513011	0.286347	503.915118	348.138109	0.007705	0.007089	0.002%
Fresno	2035	MDV	GAS		70	741873.94	0.0156958	0.02789	0.6585872	0.098677	679.002269	472.320926	0.001927	0.001788	1.960%
Fresno	2035	MDV	DSL		70	578.39657	0.0171657	0.019542	0.0488944	0.313934	635.442336	438.935217	0.010381	0.00955	0.002%
Fresno	2035	MH	GAS		5	497.37529	0.0553148	0.09933	0.7610391	0.116409	2513.49733	2262.1476	0.001014	0.000941	0.001%
Fresno	2035	MH	DSL		5	100.05503	1.0506642	1.196111	1.8537301	10.40436	2409.45049	2168.50544	0.102742	0.094523	0.000%
Fresno	2035	MH	GAS		10	2500.3099	0.0445366	0.079952	0.6162304	0.119449	2036.12821	1832.51539	0.000817	0.000758	0.007%
Fresno	2035	MH	DSL		10	498.03629	0.7897955	0.89913	1.4655575	8.936126	2187.78829	1969.00946	0.089264	0.082123	0.001%
Fresno	2035	MH	GAS		15	3158.32	0.0299198	0.053672	0.4228694	0.124529	1392.42964	1253.18668	0.000546	0.000507	0.008%
Fresno	2035	MH	DSL		15	672.17609	0.4011829	0.456672	0.8767346	6.620523	1796.35774	1616.72197	0.066961	0.061604	0.002%
Fresno	2035	MH	GAS		20	3275.9536	0.0208567	0.037433	0.3055777	0.130392	1006.06861	905.461752	0.000381	0.000353	0.009%
Fresno	2035	MH	DSL		20	712.8672	0.1900703	0.216382	0.5379409	5.154415	1474.1187	1326.70683	0.05086	0.046792	0.002%
Fresno	2035	MH	GAS		25	3650.1697	0.0151682	0.027222	0.2333843	0.136157	768.012153	691.210938	0.000277	0.000257	0.010%
Fresno	2035	MH	DSL		25	742.42287	0.1466569	0.166859	0.4562472	4.526696	1322.2031	1189.98279	0.044122	0.040592	0.002%
Fresno	2035	MH	GAS		30	4127.0368	0.0114739	0.020587	0.187889	0.142452	619.433653	557.490288	0.00021	0.000195	0.011%
Fresno	2035	MH	DSL		30	892.7034	0.1260962	0.143552	0.4275845	4.128248	1241.08342	1116.97508	0.041074	0.037788	0.002%
Fresno	2035	MH	GAS		35	5129.2808	0.0090439	0.01624	0.1599202	0.148736	527.846586	475.061927	0.000166	0.000154	0.014%
Fresno	2035	MH	DSL		35	1052.6149	0.1087305	0.123782	0.4078958	3.802662	1173.76427	1056.38785	0.040066	0.036861	0.003%
Fresno	2035	MH	GAS		40	6385.4256	0.0074294	0.013359	0.1438589	0.155038	475.233226	427.709904	0.000136	0.000127	0.017%
Fresno	2035	MH	DSL		40	1306.6575	0.0944721	0.10755	0.3971811	3.548249	1120.24542	1008.22088	0.041098	0.03781	0.003%
Fresno	2035	MH	GAS		45	5823.0717	0.0063952	0.011482	0.1370593	0.160335	452.05586	406.850274	0.000117	0.000109	0.015%
Fresno	2035	MH	DSL		45	1069.9793	0.0833209	0.094855	0.3954404	3.358787	1080.52712	972.474412	0.044171	0.040637	0.003%
Fresno	2035	MH	GAS		50	5667.0456	0.0056801	0.010217	0.1370394	0.16791	454.32184	408.889656	0.000105	9.72E-05	0.015%
Fresno	2035	MH	DSL		50	1197.4807	0.0752769	0.085698	0.4026736	3.248634	1054.60923	949.148305	0.049283	0.045341	0.003%
Fresno	2035	MH	GAS		55	7411.9792	0.0052533	0.009506	0.1451595	0.174931	482.415536	434.173982	9.76E-05	9.05E-05	0.020%
Fresno	2035	MH	DSL		55	1754.7995	0.0703401	0.080078	0.4188808	3.209985	1042.49168	938.242513	0.056436	0.051921	0.005%
Fresno	2035	MH	GAS		60	8553.0862	0.0050896	0.009255	0.1630902	0.18043	541.209217	487.088295	9.49E-05	8.8E-05	0.023%
Fresno	2035	MH	DSL		60	2108.6858	0.0685105	0.077995	0.444062	3.238258	1044.17453	939.757077	0.065629	0.060379	0.006%
Fresno	2035	MH	GAS		65	1336.5278	0.0052101	0.009435	0.1945296	0.183905	641.497946	577.348151	9.61E-05	8.92E-05	0.004%
Fresno	2035	MH	DSL		65	331.84716	0.0697882	0.079449	0.4782171	3.327952	1059.65797	953.692172	0.076862	0.070713	0.001%
Fresno	2035	OBUS	GAS		5	300.94714	0.080701	0.127238	1.1942561	0.133115	2513.49723	2262.14751	0.001	0.000927	0.001%
Fresno	2035	OBUS	DSL		5	245.79146	1.5861841	1.80575	2.9797481	4.623698	3000.84531	2700.76078	0.05483	0.050444	0.001%
Fresno	2035	OBUS	GAS		10	1512.8638	0.0649959	0.102413	0.967016	0.136592	2036.12852	1832.51567	0.000805	0.000747	0.004%
Fresno	2035	OBUS	DSL		10	1133.6207	0.8871084	1.009905	1.7708363	3.395818	2416.37885	2174.74096	0.049207	0.04527	0.003%
Fresno	2035	OBUS	GAS		15	1911.0064	0.0436741	0.068748	0.6635853	0.1424	1392.42968	1253.18671	0.000539	0.0005	0.005%
Fresno	2035	OBUS	DSL		15	1492.4488	0.4445821	0.506123	1.0103201	2.534191	1966.4595	1769.81355	0.044572	0.041006	0.004%
Fresno	2035	OBUS	GAS		20	1982.183	0.0304376	0.047949	0.149526	0.149105	1006.06863	905.461765	0.000376	0.000348	0.005%
Fresno	2035	OBUS	DSL		20	1992.1444	0.2134666	0.243015	0.6250055	2.04657	1667.58305	1500.82475	0.04257	0.039164	0.005%
Fresno	2035	OBUS	GAS		25	2208.6102	0.0221363	0.03487	0.3662369	0.155698	768.012086	691.210878	0.000273	0.000253	0.006%
Fresno	2035	OBUS	DSL		25	2066.889	0.1862273	0.212006	0.5889262	1.833109	1554.29946	1398.86952	0.0406	0.030253	0.005%
Fresno	2035	OBUS	GAS		30	2497.1484	0.0167474	0.02637	0.2948437	0.162896	619.4336	557.49024	0.000207	0.000192	0.007%
Fresno	2035	OBUS	DSL		30	2883.156	0.1715128	0.195254	0.6018785	1.709603	1513.47471	1362.12724	0.041611	0.038282	0.008%
Fresno	2035	OBUS	GAS		35	3103.5765	0.0131973	0.020803	0.2509538	0.170082	527.846634	475.061971	0.000163	0.000152	0.008%
Fresno	2035	OBUS	DSL		35	4256.6836	0.1596004	0.181693	0.6328688	1.620436	1496.24306	1346.61875	0.044706	0.041129	0.011%
Fresno	2035	OBUS	GAS		40	3863.633	0.0108323	0.017113	0.2257499	0.177288	475.233178	427.70986	0.000134	0.000125	0.010%
Fresno	2035	OBUS	DSL		40	4543.6948	0.1340432	0.152598	0.599408	1.454882	1388.01842	1249.21658	0.046787	0.043044	0.012%
Fresno	2035	OBUS	GAS		45	3523.3691	0.0093333	0.014707	0.2150795	0.183345	452.055855	406.850269	0.000115	0.000107	0.009%
Fresno	2035	OBUS	DSL		45	5084.9367	0.127837	0.145533	0.6642423	1.433593	1412.70212	1271.43191	0.054142	0.049811	0.013%
Fresno	2035	OBUS	GAS		50	3428.9625	0.0082795	0.013089	0.2150483	0.192007	454.321799	408.889619	0.000103	9.58E-05	0.009%
Fresno	2035	OBUS	DSL		50	5430.6309	0.1132843	0.128966	0.6775239	1.364009	1369.39275	1232.45348	0.060719	0.055861	0.014%
Fresno	2035	OBUS	GAS		55	4484.7705	0.0076242	0.012182	0.2277906	0.200036	482.415543	434.173989	9.62E-05	8.93E-05	0.012%
Fresno	2035	OBUS	DSL		55	7117.4272	0.1009804	0.114876	0.6898339	1.315754	1329.59333	1196.63399	0.068347	0.062879	0.019%
Fresno	2035	OBUS	GAS		60	5175.2205	0.0073623	0.011865	0.2559284	0.206324	541.209208	487.088287	9.35E-05	8.68E-05	0.014%
Fresno	2035	OBUS	DSL		60	4814.1661	0.0766515	0.087262	0.5707986	1.16079	1154.53492	1039.08143	0.069619	0.064049	0.013%
Fresno	2035	OBUS	GAS		65	808.69374	0.0075559	0.012092	0.3052643	0.210298	641.497894	577.348105	9.48E-05	8.79E-05	0.002%
Fresno	2035	OBUS	DSL		65	1253.2168	0.0906658	0.103216	0.7737067	1.349263	1334.34751	1200.91276	0.089797	0.082614	0.003%
Fresno	2035	SBUS	GAS		5	77.848973	0.2742692	0.341615	3.8280772	0.333728	2513.49698	2262.14728	0.001744	0.001618	0.000%
Fresno	2035	SBUS	DSL		5	153.26155	2.281405	2.597206	4.0455771	12.3463	2617.43399	2355.69059	0.064331	0.059184	0.000%
Fresno	2035	SBUS	GAS		10	272.85665	0.2214585	0.275662	3.1074489	0.340815	2036.12814	1832.51532	0.001404	0.001303	0.001%
Fresno	2035	SBUS	DSL		10	537.17386	1.3271759	1.510889	2.5203783	9.282154	2162.20503	1945.98453	0.059001	0.054281	0.001%
Fresno	2035	SBUS	GAS		15	545.71332	0.1481515	0.184413	2.1250646	0.357665	1392.42956	1253.1866	0.000939	0.000872	0.001%
Fresno	2035	SBUS	DSL		15	1074.3477	0.6744066	0.767761	1.4621548	6.983592	1775.35776	1597.82198	0.053848	0.04954	0.003%
Fresno	2035	SBUS	GAS		20	740.71711	0.1033393	0.128624	1.5357503	0.374355	1006.06849	905.461637	0.000655	0.000608	0.002%
Fresno	2035	SBUS	DSL		20	1458.2523	0.289941	0.330076	0.7928132	5.278572	1400.58068	1260.52261	0.04836	0.044491	0.004%
Fresno	2035	SBUS</													

Region	CalYr	Veh_Cl	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG_RUNI (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNE (gms/mile)	NOX_RUNI (gms/mile)	CO2_RUNE (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	Percent of Total VMT
Fresno	2035	T6	GAS	5	973.52695	0.0689906	0.114074	1.0368676	0.120933	2513.49722	2262.1475	0.00101	0.000938	0.003%
Fresno	2035	T6	DSL	5	5137.5027	1.1013952	1.253855	1.9529146	3.412478	2559.93331	2303.93998	0.041772	0.03843	0.014%
Fresno	2035	T6	GAS	10	4893.9285	0.0555566	0.091818	0.8395749	0.124092	2036.12822	1832.5154	0.000814	0.000755	0.013%
Fresno	2035	T6	DSL	10	25572.553	0.6407234	0.729415	1.2167127	2.564287	2114.70497	1903.23447	0.038279	0.035216	0.068%
Fresno	2035	T6	GAS	15	6181.8708	0.0373232	0.061637	0.5761328	0.129369	1392.42958	1253.18662	0.000544	0.000505	0.016%
Fresno	2035	T6	DSL	15	34514.07	0.3255844	0.370653	0.7059038	1.928473	1736.35609	1562.72048	0.034911	0.032118	0.091%
Fresno	2035	T6	GAS	20	6412.1182	0.0260159	0.042989	0.4163303	0.13546	1006.0686	905.461738	0.00038	0.000352	0.017%
Fresno	2035	T6	DSL	20	36603.426	0.1399714	0.159347	0.3827906	1.457575	1369.81224	1232.83102	0.031334	0.028827	0.097%
Fresno	2035	T6	GAS	25	7144.5819	0.0189203	0.031263	0.3179713	0.141449	768.012142	691.210927	0.000276	0.000256	0.019%
Fresno	2035	T6	DSL	25	38121.017	0.1222948	0.139223	0.3613306	1.307178	1278.06544	1150.2589	0.029906	0.027513	0.101%
Fresno	2035	T6	GAS	30	8077.9677	0.014313	0.023643	0.2559869	0.147988	619.433656	557.49029	0.000209	0.000194	0.021%
Fresno	2035	T6	DSL	30	45837.434	0.1066437	0.121406	0.3463083	1.179023	1199.65767	1079.69191	0.029695	0.027319	0.121%
Fresno	2035	T6	GAS	35	10039.688	0.0112817	0.018651	0.2178811	0.154517	527.846622	475.06196	0.000165	0.000153	0.027%
Fresno	2035	T6	DSL	35	50408.372	0.0930181	0.105894	0.3377237	1.073112	1134.58895	1021.13006	0.030702	0.028246	0.143%
Fresno	2035	T6	GAS	40	12498.377	0.0092646	0.015342	0.1599988	0.161063	475.233217	427.709895	0.000136	0.000126	0.033%
Fresno	2035	T6	DSL	40	67092.64	0.0814171	0.092688	0.3355767	0.989443	1082.85927	974.573342	0.032927	0.030293	0.177%
Fresno	2035	T6	GAS	45	11397.666	0.0079779	0.013186	0.1867346	0.166567	452.055868	406.850281	0.000117	0.000108	0.030%
Fresno	2035	T6	DSL	45	54939.975	0.0718437	0.081789	0.3398673	0.928018	1044.46863	940.021765	0.03637	0.03346	0.145%
Fresno	2035	T6	GAS	50	11092.272	0.0070824	0.011734	0.1867075	0.174436	454.321814	408.889633	0.000104	9.68E-05	0.029%
Fresno	2035	T6	DSL	50	61486.767	0.0642948	0.073195	0.3505956	0.888836	1019.41703	917.475324	0.04103	0.037748	0.162%
Fresno	2035	T6	GAS	55	14507.68	0.0065376	0.010919	0.1977706	0.18173	482.415542	434.173988	9.73E-05	9.03E-05	0.038%
Fresno	2035	T6	DSL	55	90103.285	0.0587715	0.066907	0.3677616	0.871896	1007.70447	906.93402	0.046909	0.043156	0.238%
Fresno	2035	T6	GAS	60	16741.2	0.0063253	0.010633	0.2222001	0.187443	541.20927	487.088343	9.45E-05	8.77E-05	0.044%
Fresno	2035	T6	DSL	60	108274.2	0.0552737	0.062925	0.3913652	0.8772	1009.33095	908.397853	0.054005	0.049684	0.286%
Fresno	2035	T6	GAS	65	2616.0245	0.0064814	0.010838	0.2650342	0.191053	641.497958	577.348162	9.58E-05	8.89E-05	0.007%
Fresno	2035	T6	DSL	65	17039.28	0.0538015	0.061249	0.4214065	0.904747	1024.29647	921.866823	0.062318	0.057333	0.045%
Fresno	2035	T7	GAS	5	47.101317	2.5476473	3.222386	123.91413	3.559864	2513.49743	2262.14768	0.000946	0.000878	0.000%
Fresno	2035	T7	DSL	5	11173.315	2.4953132	2.840724	4.9860909	6.539606	3956.48963	3560.84066	0.075198	0.069182	0.030%
Fresno	2035	T7	GAS	10	230.20846	2.0717203	2.599449	100.61334	3.62884	2036.12818	1832.51536	0.000762	0.000707	0.001%
Fresno	2035	T7	DSL	10	42682.58	1.4516168	1.652555	3.1064068	4.914833	3268.36963	2941.53267	0.068927	0.063412	0.113%
Fresno	2035	T7	GAS	15	251.04595	1.3811242	1.741608	68.880559	3.802273	1392.42954	1253.18658	0.00051	0.000473	0.001%
Fresno	2035	T7	DSL	15	52201.144	0.7376411	0.839748	1.8022111	3.69664	2683.61478	2415.2533	0.062875	0.057845	0.138%
Fresno	2035	T7	GAS	20	429.03323	0.9595161	1.210978	49.625326	4.006074	1006.06856	905.461705	0.000356	0.00033	0.001%
Fresno	2035	T7	DSL	20	128970.49	0.3103818	0.353346	0.9563304	2.702748	2117.09827	1905.38845	0.054875	0.050485	0.341%
Fresno	2035	T7	GAS	25	559.91571	0.6976479	0.882258	37.961887	4.168442	768.012159	691.210943	0.000258	0.00024	0.001%
Fresno	2035	T7	DSL	25	117904.47	0.2770755	0.315429	0.9224851	2.505512	1975.3064	1777.77576	0.053873	0.049564	0.311%
Fresno	2035	T7	GAS	30	1022.5113	0.5311367	0.668991	30.651513	4.338359	619.433557	557.490202	0.000196	0.000182	0.003%
Fresno	2035	T7	DSL	30	199055.58	0.2416181	0.275064	0.8841482	2.259662	1854.12375	1668.71137	0.053497	0.049127	0.526%
Fresno	2035	T7	GAS	35	1818.6731	0.4189901	0.529092	26.149988	4.508745	527.846584	475.061926	0.000155	0.000143	0.005%
Fresno	2035	T7	DSL	35	358105.96	0.2107489	0.239922	0.8622455	2.056474	1753.55717	1578.20145	0.055313	0.050888	0.946%
Fresno	2035	T7	GAS	40	1585.3806	0.3437894	0.435473	23.532082	4.690899	475.233216	427.709894	0.000127	0.000118	0.004%
Fresno	2035	T7	DSL	40	337948	0.1844679	0.210003	0.8567768	1.895949	1673.60667	1506.246	0.059324	0.054578	0.893%
Fresno	2035	T7	GAS	45	1677.502	0.2929053	0.372855	22.327019	4.898946	452.055835	406.850251	0.000109	0.000101	0.004%
Fresno	2035	T7	DSL	45	473149.1	0.1627751	0.185307	0.8677424	1.778087	1614.27224	1452.84502	0.065527	0.060285	1.250%
Fresno	2035	T7	GAS	50	1755.142	0.2603694	0.333832	22.446469	5.073738	454.321872	408.889685	9.77E-05	9.07E-05	0.005%
Fresno	2035	T7	DSL	50	492063.44	0.1456706	0.165835	0.895142	1.702888	1575.55389	1417.9985	0.073925	0.068011	1.300%
Fresno	2035	T7	GAS	55	2576.419	0.2441222	0.312116	23.903883	5.223222	482.415493	434.173944	9.11E-05	8.45E-05	0.007%
Fresno	2035	T7	DSL	55	600041.24	0.1331542	0.151586	0.9389758	1.670351	1557.45162	1401.70645	0.084515	0.077754	1.585%
Fresno	2035	T7	GAS	60	635.8646	0.2323187	0.303095	26.752832	5.432343	541.209196	487.088277	8.86E-05	8.22E-05	0.002%
Fresno	2035	T7	DSL	60	182793.53	0.1252261	0.14256	0.9992437	1.680477	1559.96541	1403.96887	0.0973	0.089516	0.483%
Fresno	2035	T7	GAS	65	340.81023	0.2375011	0.306124	31.645132	5.629918	641.49795	577.348155	8.97E-05	8.32E-05	0.001%
Fresno	2035	T7	DSL	65	100119.68	0.1218862	0.138758	1.0759458	1.733266	1583.09529	1424.78576	0.112278	0.103296	0.264%
Fresno	2035	UBUS	GAS	5	191.16786	1.5441433	1.71055	1.079579	1.731738	2513.49709	2262.14738	0.001864	0.001729	0.001%
Fresno	2035	UBUS	DSL	5	471.24682	0.7751275	0.882431	5.7401873	11.71731	2299.61401	2069.65261	0.390966	0.359688	0.001%
Fresno	2035	UBUS	GAS	10	686.15946	1.2434709	1.377475	15.453184	1.77563	2036.12824	1832.51542	0.001501	0.001392	0.002%
Fresno	2035	UBUS	DSL	10	1691.4479	0.657308	0.748301	4.5199088	10.184	2299.61406	2069.65266	0.331539	0.305016	0.004%
Fresno	2035	UBUS	GAS	15	1372.319	0.8318581	0.921504	10.567837	1.863414	1392.42956	1253.18661	0.001004	0.000932	0.004%
Fresno	2035	UBUS	DSL	15	3382.8957	0.4852444	0.552418	2.9314344	7.987019	2299.61398	2069.65258	0.244752	0.225172	0.009%
Fresno	2035	UBUS	GAS	20	1810.9826	0.5800775	0.64259	7.6355517	1.951197	1006.06858	905.46172	0.0007	0.00065	0.005%
Fresno	2035	UBUS	DSL	20	4464.2431	0.3709816	0.422338	2.0187768	6.585153	2299.6139	2069.65251	0.187119	0.172149	0.012%
Fresno	2035	UBUS	GAS	25	2727.4697	0.4216442	0.467083	5.8288229	2.038981	768.012079	691.210871	0.000509	0.000472	0.007%
Fresno	2035	UBUS	DSL	25	6723.4701	0.2937276	0.334389	1.4762305	5.707709	2299.61415	2069.65273	0.148153	0.136301	0.018%
Fresno	2035	UBUS	GAS	30	3413.629	0.3194695	0.353898	4.7011878	2.126765	619.433576	557.490218	0.000386	0.000358	0.009%
Fresno	2035	UBUS	DSL	30	8414.9173	0.2408448	0.274186	1.1462454	5.200827	2299.61403	2069.65263	0.121479	0.111761	0.022%
Fresno	2035	UBUS	GAS	35	3345.3412	0.2523108	0.279501	4.0060879	2.214549	527.846502	475.061851	0.000305	0.000283	0.009%
Fresno	2035	UBUS	DSL	35	8246.5816	0.2045173	0.232829	0.9450588	4.981931	2299.61388	2069.65249	0.103156	0.094904	0.022%
Fresno	2035	UBUS	GAS	40	2411.6856	0.2077139	0.230099	3.6067795	2.302333	475.233167	427.70985	0.000251	0.000233	0.006%
Fresno	2035	UBUS	DSL	40	5945.0327	0.1798553	0.204753	0.827366	1.6016928	2299.614	2069.6526	0.090717	0.08346	0.016%
Fresno	2035	UBUS	GAS	45	1051.3267	0.1782455	0.197454	3.4308752	2.390117	452.055845	406.85026	0.000215	0.0002	0.003%
Fresno	2035	UBUS	DSL	45	2591.6195	0.1638011	0.186477	0.7691201	5.311199	2299.61409	2069.65268	0.082619	0.07601	0.007%

**City of Fresno General Plan  
Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

**Year 2056**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.066	0.041	0.028	0.019	0.014	0.011	0.009	0.008	0.007	0.007	0.007	0.008	0.009	0.009	0.000
LDT1		0.078	0.049	0.033	0.023	0.017	0.013	0.011	0.010	0.009	0.008	0.009	0.009	0.010	0.011	0.000
LDT2		0.081	0.050	0.034	0.024	0.018	0.014	0.011	0.010	0.009	0.009	0.009	0.009	0.011	0.011	0.000
LHD1		0.047	0.038	0.025	0.018	0.013	0.010	0.008	0.006	0.005	0.005	0.004	0.000	0.000	0.000	0.000
LHD2		0.035	0.028	0.019	0.013	0.010	0.007	0.006	0.005	0.004	0.004	0.003	0.000	0.000	0.000	0.000
MCY		4.719	4.092	3.169	2.589	2.222	2.009	1.908	1.906	1.997	2.198	2.542	3.088	3.941	5.280	0.000
MDV		0.110	0.069	0.047	0.032	0.024	0.019	0.016	0.013	0.012	0.012	0.012	0.013	0.014	0.016	0.000
MH		0.055	0.045	0.030	0.021	0.015	0.011	0.009	0.007	0.006	0.006	0.005	0.005	0.005	0.000	0.000
OBUS		0.081	0.065	0.044	0.030	0.022	0.017	0.013	0.011	0.009	0.008	0.008	0.007	0.008	0.000	0.000
SBUS		0.274	0.221	0.148	0.103	0.075	0.057	0.045	0.037	0.032	0.028	0.026	0.025	0.000	0.000	0.000
T6		0.069	0.056	0.037	0.026	0.019	0.014	0.011	0.009	0.008	0.007	0.007	0.006	0.006	0.000	0.000
T7		2.548	2.072	1.381	0.960	0.698	0.531	0.419	0.344	0.293	0.260	0.244	0.232	0.238	0.000	0.000
UBUS		1.544	1.243	0.832	0.580	0.422	0.319	0.252	0.208	0.178	0.159	0.149	0.144	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
LDA		0.019	0.016	0.012	0.010	0.008	0.007	0.006	0.006	0.007	0.007	0.008	0.010	0.012	0.017	0.000
LDT1		0.021	0.018	0.014	0.011	0.009	0.008	0.007	0.007	0.007	0.008	0.009	0.011	0.014	0.020	0.000
LDT2		0.024	0.020	0.015	0.012	0.010	0.009	0.008	0.008	0.008	0.009	0.010	0.012	0.015	0.020	0.000
LHD1		0.190	0.168	0.133	0.108	0.090	0.076	0.066	0.058	0.053	0.049	0.046	0.000	0.000	0.000	0.000
LHD2		0.178	0.157	0.125	0.101	0.084	0.071	0.062	0.055	0.049	0.046	0.043	0.000	0.000	0.000	0.000
MCY		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MDV		0.019	0.016	0.012	0.010	0.008	0.007	0.007	0.006	0.007	0.007	0.008	0.010	0.013	0.017	0.000
MH		1.051	0.790	0.401	0.190	0.147	0.126	0.109	0.094	0.083	0.075	0.070	0.069	0.070	0.000	0.000
OBUS		1.586	0.887	0.445	0.213	0.186	0.172	0.160	0.134	0.128	0.113	0.101	0.077	0.091	0.000	0.000
SBUS		2.281	1.327	0.674	0.290	0.253	0.221	0.193	0.169	0.149	0.133	0.122	0.114	0.000	0.000	0.000
T6		1.101	0.641	0.326	0.140	0.122	0.107	0.093	0.081	0.072	0.064	0.059	0.055	0.054	0.000	0.000
T7		2.495	1.452	0.738	0.310	0.277	0.242	0.211	0.184	0.163	0.146	0.133	0.125	0.122	0.000	0.000
UBUS		0.775	0.657	0.485	0.371	0.294	0.241	0.205	0.180	0.164	0.154	0.151	0.153	0.000	0.000	0.000



**City of Fresno General Plan  
Motor Vehicle Emissions  
Reactive Organic Gases (ROG)**

Year 2056

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	8.2	0.1	0.6	1.8	1.3	7.0	2.7	2.7	1.3	5.1	5.0	0.0	0.0	0.0	<b>35.8</b>
LDT1		0.0	1.4	0.0	0.1	0.3	0.2	1.3	0.5	0.5	0.2	0.9	0.9	0.0	0.0	0.0	<b>6.4</b>
LDT2		0.0	3.7	0.1	0.3	0.8	0.6	3.2	1.2	1.2	0.6	2.3	2.3	0.0	0.0	0.0	<b>16.3</b>
LHD1		0.0	0.5	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	<b>1.5</b>
LHD2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
MCY		0.1	12.7	0.3	1.3	4.3	3.8	22.7	10.1	11.4	6.4	28.2	31.3	0.0	0.0	0.0	<b>132.5</b>
MDV		0.0	5.2	0.1	0.4	1.1	0.9	4.5	1.7	1.7	0.8	3.3	3.2	0.0	0.0	0.0	<b>23.0</b>
MH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
OBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
SBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
T6		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
T7		0.0	0.3	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.2</b>
UBUS		0.0	0.3	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.1</b>
<b>Total</b>		<b>0.2</b>	<b>32.5</b>	<b>0.6</b>	<b>2.8</b>	<b>8.6</b>	<b>7.0</b>	<b>39.6</b>	<b>16.6</b>	<b>17.8</b>	<b>9.5</b>	<b>40.2</b>	<b>42.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>218.4</b>

<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.0	1.2	0.0	0.1	0.4	0.3	1.9	0.7	0.7	0.3	1.2	0.0	0.0	0.0	0.0	<b>7.1</b>
LHD2		0.0	0.3	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.7</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
OBUS		0.0	0.4	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	<b>1.5</b>
SBUS		0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.7</b>
T6		0.0	4.9	0.1	0.2	0.6	0.5	2.7	1.1	1.0	0.5	1.6	1.4	0.0	0.0	0.0	<b>14.5</b>
T7		0.3	53.8	0.7	1.9	6.4	5.4	30.0	11.7	11.1	5.1	17.7	15.2	0.0	0.0	0.0	<b>159.4</b>
UBUS		0.0	0.4	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.1</b>
<b>Total</b>		<b>0.4</b>	<b>61.5</b>	<b>0.9</b>	<b>2.3</b>	<b>7.7</b>	<b>6.5</b>	<b>36.1</b>	<b>14.1</b>	<b>13.4</b>	<b>6.1</b>	<b>21.4</b>	<b>17.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>187.5</b>

**Total Emissions (tons/year)**

**405.9**

**Total Emissions (tons/day)**

**1.1**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**NOx**

Year 2056

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.106	0.093	0.081	0.073	0.066	0.061	0.058	0.055	0.054	0.053	0.053	0.054	0.056	0.058	0.000
	LDT1	0.122	0.107	0.094	0.083	0.076	0.070	0.066	0.063	0.062	0.061	0.061	0.063	0.065	0.067	0.000
	LDT2	0.131	0.115	0.100	0.090	0.082	0.076	0.071	0.068	0.066	0.065	0.066	0.067	0.070	0.072	0.000
	LHD1	0.098	0.100	0.105	0.110	0.117	0.122	0.129	0.137	0.140	0.141	0.153	0.000	0.000	0.000	0.000
	LHD2	0.076	0.078	0.082	0.086	0.091	0.095	0.100	0.106	0.109	0.110	0.119	0.000	0.000	0.000	0.000
	MCY	1.236	1.218	1.163	1.135	1.116	1.114	1.122	1.143	1.167	1.202	1.248	1.306	1.379	1.465	0.000
	MDV	0.179	0.156	0.136	0.121	0.110	0.102	0.096	0.092	0.089	0.088	0.089	0.092	0.096	0.099	0.000
	MH	0.116	0.119	0.125	0.130	0.136	0.142	0.149	0.155	0.160	0.168	0.175	0.180	0.184	0.000	0.000
	OBUS	0.133	0.137	0.142	0.149	0.156	0.163	0.170	0.177	0.183	0.192	0.200	0.206	0.210	0.000	0.000
	SBUS	0.334	0.341	0.358	0.374	0.391	0.409	0.427	0.445	0.463	0.478	0.505	0.520	0.000	0.000	0.000
	T6	0.121	0.124	0.129	0.135	0.141	0.148	0.155	0.161	0.167	0.174	0.182	0.187	0.191	0.000	0.000
	T7	3.560	3.629	3.802	4.006	4.168	4.338	4.509	4.691	4.899	5.074	5.223	5.432	5.630	0.000	0.000
	UBUS	1.732	1.776	1.863	1.951	2.039	2.127	2.215	2.302	2.390	2.478	2.566	2.653	0.000	0.000	0.000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.322	0.306	0.280	0.260	0.245	0.235	0.230	0.228	0.230	0.236	0.246	0.261	0.282	0.310	0.000
	LDT1	0.371	0.354	0.324	0.301	0.285	0.274	0.267	0.265	0.267	0.274	0.285	0.301	0.324	0.353	0.000
	LDT2	0.407	0.386	0.351	0.326	0.307	0.295	0.288	0.286	0.289	0.297	0.310	0.331	0.359	0.396	0.000
	LHD1	1.448	1.312	1.109	0.970	0.882	0.828	0.809	0.818	0.853	0.922	1.038	0.000	0.000	0.000	0.000
	LHD2	1.339	1.213	1.026	0.897	0.816	0.765	0.748	0.756	0.789	0.852	0.960	0.000	0.000	0.000	0.000
	MCY	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	MDV	0.327	0.312	0.284	0.264	0.250	0.240	0.234	0.232	0.234	0.240	0.251	0.266	0.286	0.314	0.000
	MH	10.404	8.936	6.621	5.154	4.527	4.128	3.803	3.548	3.359	3.249	3.210	3.238	3.328	0.000	0.000
	OBUS	4.624	3.396	2.534	2.047	1.833	1.710	1.620	1.455	1.434	1.364	1.316	1.161	1.349	0.000	0.000
	SBUS	12.346	9.282	6.984	5.279	4.732	4.267	3.882	3.578	3.355	3.213	3.151	3.170	0.000	0.000	0.000
	T6	3.412	2.564	1.928	1.458	1.307	1.179	1.073	0.989	0.928	0.889	0.872	0.877	0.905	0.000	0.000
	T7	6.540	4.915	3.697	2.703	2.506	2.260	2.056	1.896	1.778	1.703	1.670	1.680	1.733	0.000	0.000
	UBUS	11.717	10.184	7.987	6.585	5.708	5.201	4.982	5.017	5.311	5.911	6.916	8.506	0.000	0.000	0.000

**City of Fresno General Plan  
Motor Vehicle Emissions**

**NOx**

**Year 2056**

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.1	18.4	0.4	2.3	8.2	7.4	44.2	18.9	19.7	9.9	37.8	35.3	0.0	0.0	0.0	<b>202.7</b>
LDT1		0.0	3.2	0.1	0.4	1.4	1.3	7.5	3.2	3.4	1.7	6.5	6.1	0.0	0.0	0.0	<b>34.6</b>
LDT2		0.0	8.4	0.2	1.1	3.8	3.4	20.1	8.6	9.0	4.5	17.3	16.2	0.0	0.0	0.0	<b>92.6</b>
LHD1		0.0	1.2	0.0	0.2	0.9	0.9	6.0	2.8	3.1	1.6	6.6	0.0	0.0	0.0	0.0	<b>23.5</b>
LHD2		0.0	0.1	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.5	0.0	0.0	0.0	0.0	<b>1.8</b>
MCY		0.0	3.8	0.1	0.6	2.2	2.1	13.4	6.1	6.7	3.5	13.8	13.2	0.0	0.0	0.0	<b>65.4</b>
MDV		0.0	11.8	0.3	1.5	5.2	4.7	27.8	11.9	12.5	6.3	24.1	22.6	0.0	0.0	0.0	<b>128.7</b>
MH		0.0	0.1	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>1.9</b>
OBUS		0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0	<b>1.3</b>
SBUS		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0	<b>0.8</b>
T6		0.0	0.2	0.0	0.0	0.1	0.1	0.8	0.4	0.4	0.2	0.9	0.8	0.0	0.0	0.0	<b>4.0</b>
T7		0.0	0.6	0.0	0.1	0.4	0.4	2.7	1.2	1.4	0.7	2.9	2.8	0.0	0.0	0.0	<b>13.2</b>
UBUS		0.0	0.4	0.0	0.1	0.3	0.3	2.0	0.9	1.0	0.5	2.1	2.0	0.0	0.0	0.0	<b>9.6</b>
<b>Total</b>		<b>0.2</b>	<b>48.2</b>	<b>1.2</b>	<b>6.3</b>	<b>22.6</b>	<b>20.7</b>	<b>125.7</b>	<b>54.7</b>	<b>57.9</b>	<b>29.3</b>	<b>113.5</b>	<b>99.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>580.1</b>

<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.0	0.2	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.5	0.5	0.0	0.0	0.0	<b>2.3</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
LHD1		0.0	9.7	0.2	1.2	4.1	3.7	23.0	10.4	11.7	6.4	27.5	0.0	0.0	0.0	0.0	<b>97.9</b>
LHD2		0.0	2.4	0.1	0.3	1.0	0.9	5.6	2.5	2.8	1.6	6.7	0.0	0.0	0.0	0.0	<b>23.9</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.3</b>
MH		0.0	1.3	0.0	0.1	0.4	0.4	2.2	0.9	0.9	0.5	1.7	1.6	0.0	0.0	0.0	<b>10.0</b>
OBUS		0.0	1.7	0.0	0.2	0.6	0.5	3.2	1.3	1.3	0.6	2.4	1.9	0.0	0.0	0.0	<b>13.8</b>
SBUS		0.0	1.7	0.0	0.2	0.5	0.5	2.8	1.1	1.1	0.6	2.1	1.9	0.0	0.0	0.0	<b>12.6</b>
T6		0.1	19.6	0.4	1.8	6.2	5.5	31.5	13.0	13.1	6.4	23.8	21.9	0.0	0.0	0.0	<b>143.4</b>
T7		0.8	182.2	3.7	16.2	57.9	50.8	292.9	120.6	121.7	59.1	221.5	203.8	0.0	0.0	0.0	<b>1,331.4</b>
UBUS		0.0	5.8	0.1	0.6	2.0	1.8	10.9	4.9	5.6	3.2	14.1	15.8	0.0	0.0	0.0	<b>64.8</b>
<b>Total</b>		<b>1.0</b>	<b>224.7</b>	<b>4.6</b>	<b>20.6</b>	<b>72.9</b>	<b>64.1</b>	<b>372.6</b>	<b>155.0</b>	<b>158.6</b>	<b>78.4</b>	<b>300.4</b>	<b>247.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1,700.7</b>

**Total Emissions (tons/year)**

**2,280.8**

**Total Emissions (tons/day)**

**6.2**

**City of Fresno General Plan  
Motor Vehicle Emissions  
Carbon Monoxide (CO)**

**Year 2056**

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	1.1	1.0	1.0	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.0
	LDT1	1.3	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.0
	LDT2	1.3	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.0
	LHD1	0.7	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
	LHD2	0.6	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
	MCY	23.9	22.1	19.1	17.1	15.9	15.3	15.3	15.9	17.2	19.7	23.7	30.3	41.2	59.4	0.0
	MDV	1.8	1.6	1.5	1.3	1.2	1.1	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.0
	MH	0.8	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.0
	OBUS	1.2	1.0	0.7	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0
	SBUS	3.8	3.1	2.1	1.5	1.2	0.9	0.8	0.7	0.7	0.7	0.7	0.8	0.0	0.0	0.0
	T6	1.0	0.8	0.6	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0
	T7	123.9	100.6	68.9	49.6	38.0	30.7	26.1	23.5	22.3	22.4	23.9	26.8	31.6	0.0	0.0
	UBUS	19.1	15.5	10.6	7.6	5.8	4.7	4.0	3.6	3.4	3.4	3.7	4.1	0.0	0.0	0.0

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
	LDT1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	LDT2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	LHD1	2.4	2.0	1.4	1.0	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.0
	LHD2	2.3	1.9	1.3	1.0	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.0
	MCY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MDV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
	MH	1.9	1.5	0.9	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.0	0.0
	OBUS	3.0	1.8	1.0	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.8	0.0	0.0
	SBUS	4.0	2.5	1.5	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.0	0.0	0.0
	T6	2.0	1.2	0.7	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.0	0.0
	T7	5.0	3.1	1.8	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.1	0.0	0.0
	UBUS	5.7	4.5	2.9	2.0	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.9	0.0	0.0	0.0

**City of Fresno General Plan**  
**Motor Vehicle Emissions**  
**Carbon Monoxide (CO)**  
**Year 2056**  
Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>	
LDA		0.8	204.6	5.1	27.8	99.2	88.4	515.3	211.2	211.2	99.8	356.2	304.6	0.0	0.0	0.0	<b>2,124.4</b>	
LDT1		0.1	35.7	0.9	4.8	17.2	15.3	89.4	36.6	36.6	17.3	61.9	53.0	0.0	0.0	0.0	<b>368.9</b>	
LDT2		0.3	88.5	2.2	12.0	42.8	38.2	222.4	91.1	91.2	43.1	153.8	131.6	0.0	0.0	0.0	<b>917.1</b>	
LHD1		0.0	7.2	0.1	0.6	1.7	1.3	7.1	2.8	2.9	1.5	6.0	0.0	0.0	0.0	0.0	<b>31.4</b>	
LHD2		0.0	0.5	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.5	0.0	0.0	0.0	0.0	<b>2.4</b>	
MCY		0.3	68.5	1.6	8.6	30.7	28.8	181.9	84.5	98.6	57.1	262.8	307.1	0.0	0.0	0.0	<b>1,130.5</b>	
MDV		0.5	120.2	3.0	16.3	58.0	51.7	301.0	123.3	123.4	58.3	208.3	178.3	0.0	0.0	0.0	<b>1,242.2</b>	
MH		0.0	0.4	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.2</b>	
OBUS		0.0	0.4	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0	<b>2.1</b>	
SBUS		0.0	0.3	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.3	0.0	0.0	0.0	<b>1.5</b>	
T6		0.0	1.1	0.0	0.1	0.3	0.2	1.1	0.5	0.5	0.2	1.0	1.0	0.0	0.0	0.0	<b>5.9</b>	
T7		0.1	15.6	0.3	1.2	3.7	2.9	15.6	6.3	6.4	3.3	13.2	13.5	0.0	0.0	0.0	<b>81.9</b>	
UBUS		0.0	3.6	0.1	0.3	0.8	0.7	3.6	1.4	1.5	0.7	3.0	3.1	0.0	0.0	0.0	<b>18.8</b>	
<b>Total</b>		<b>2.1</b>	<b>546.6</b>	<b>13.4</b>	<b>71.8</b>	<b>254.8</b>	<b>227.7</b>	<b>1,338.9</b>	<b>558.4</b>	<b>573.0</b>	<b>281.7</b>	<b>1,067.7</b>	<b>993.2</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>5,929.3</b>	
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>	
LDA		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	<b>0.6</b>
LDT1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
LDT2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.1	14.5	0.3	1.2	3.6	2.9	15.3	6.1	6.1	3.0	11.5	0.0	0.0	0.0	0.0	0.0	<b>64.6</b>
LHD2		0.0	3.6	0.1	0.3	0.9	0.7	3.9	1.5	1.5	0.7	2.9	0.0	0.0	0.0	0.0	0.0	<b>16.2</b>
MCY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
MH		0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	<b>1.3</b>
OBUS		0.0	0.9	0.0	0.1	0.2	0.2	1.2	0.5	0.6	0.3	1.2	0.9	0.0	0.0	0.0	0.0	<b>6.2</b>
SBUS		0.0	0.5	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.5	0.5	0.0	0.0	0.0	0.0	<b>2.8</b>
T6		0.1	9.3	0.1	0.5	1.7	1.6	9.9	4.4	4.8	2.5	10.1	9.8	0.0	0.0	0.0	0.0	<b>54.8</b>
T7		0.6	115.2	1.8	5.7	21.3	19.9	122.8	54.5	59.4	31.1	124.5	121.2	0.0	0.0	0.0	0.0	<b>678.0</b>
UBUS		0.0	2.6	0.0	0.2	0.5	0.4	2.1	0.8	0.8	0.4	1.6	1.6	0.0	0.0	0.0	0.0	<b>11.1</b>
<b>Total</b>		<b>0.8</b>	<b>146.9</b>	<b>2.4</b>	<b>8.0</b>	<b>28.5</b>	<b>25.8</b>	<b>156.1</b>	<b>68.2</b>	<b>73.6</b>	<b>38.3</b>	<b>152.7</b>	<b>134.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>835.8</b>	

**Total Emissions (tons/year)** **6,765.1**  
**Tons/day** **18.5**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

Year 2056

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0139	0.0087	0.0058	0.0041	0.0030	0.0023	0.0019	0.0017	0.0015	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	LDT1	0.0138	0.0087	0.0058	0.0040	0.0030	0.0023	0.0019	0.0017	0.0015	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	LDT2	0.0138	0.0087	0.0058	0.0040	0.0030	0.0023	0.0019	0.0017	0.0015	0.0015	0.0015	0.0016	0.0018	0.0020	0.0000
	LHD1	0.0013	0.0011	0.0007	0.0005	0.0004	0.0003	0.0002	0.0002	0.0002	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0010	0.0008	0.0006	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	MCY	0.0005	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0004	0.0005	0.0000
	MDV	0.0135	0.0085	0.0056	0.0040	0.0029	0.0023	0.0019	0.0016	0.0015	0.0014	0.0015	0.0016	0.0018	0.0019	0.0000
	MH	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	OBUS	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	SBUS	0.0017	0.0014	0.0009	0.0007	0.0005	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000
	T6	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	T7	0.0009	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	UBUS	0.0019	0.0015	0.0010	0.0007	0.0005	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0114	0.0097	0.0073	0.0058	0.0048	0.0042	0.0039	0.0038	0.0039	0.0043	0.0049	0.0059	0.0075	0.0101	0.0000
	LDT1	0.0109	0.0092	0.0069	0.0055	0.0046	0.0040	0.0037	0.0037	0.0038	0.0041	0.0048	0.0058	0.0074	0.0100	0.0000
	LDT2	0.0123	0.0105	0.0079	0.0063	0.0053	0.0046	0.0042	0.0041	0.0042	0.0045	0.0051	0.0062	0.0078	0.0104	0.0000
	LHD1	0.0521	0.0461	0.0366	0.0297	0.0246	0.0209	0.0181	0.0160	0.0145	0.0134	0.0127	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0491	0.0433	0.0344	0.0279	0.0232	0.0196	0.0170	0.0151	0.0137	0.0126	0.0120	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.0116	0.0098	0.0074	0.0059	0.0049	0.0043	0.0040	0.0039	0.0040	0.0044	0.0050	0.0060	0.0077	0.0104	0.0000
	MH	0.1027	0.0893	0.0670	0.0509	0.0441	0.0411	0.0401	0.0411	0.0442	0.0493	0.0564	0.0656	0.0769	0.0000	0.0000
	OBUS	0.0548	0.0492	0.0446	0.0426	0.0406	0.0416	0.0447	0.0468	0.0541	0.0607	0.0683	0.0696	0.0898	0.0000	0.0000
	SBUS	0.0643	0.0590	0.0538	0.0484	0.0462	0.0458	0.0474	0.0508	0.0562	0.0634	0.0724	0.0834	0.0000	0.0000	0.0000
	T6	0.0418	0.0383	0.0349	0.0313	0.0299	0.0297	0.0307	0.0329	0.0364	0.0410	0.0469	0.0540	0.0623	0.0000	0.0000
	T7	0.0752	0.0689	0.0629	0.0549	0.0539	0.0535	0.0553	0.0593	0.0655	0.0739	0.0845	0.0973	0.1123	0.0000	0.0000
	UBUS	0.3910	0.3315	0.2448	0.1871	0.1482	0.1215	0.1032	0.0907	0.0826	0.0779	0.0761	0.0770	0.0000	0.0000	0.0000

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM10**

Year 2056

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.009	1.7	0.0	0.1	0.4	0.3	1.5	0.6	0.6	0.3	1.1	1.0	0.0	0.0	0.0	<b>7.5</b>
LDT1		0.001	0.3	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0	<b>1.1</b>
LDT2		0.003	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.8</b>
LHD1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.003	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.8</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T6		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T7		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
UBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Total</b>		<b>0.018</b>	<b>3.3</b>	<b>0.1</b>	<b>0.2</b>	<b>0.7</b>	<b>0.5</b>	<b>2.8</b>	<b>1.1</b>	<b>1.1</b>	<b>0.5</b>	<b>2.0</b>	<b>2.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>14.3</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.001	0.3	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.9</b>
LHD2		0.000	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.5</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.5</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	<b>0.2</b>
T6		0.001	0.3	0.0	0.0	0.1	0.1	0.9	0.4	0.5	0.3	1.3	1.4	0.0	0.0	0.0	<b>5.4</b>
T7		0.010	2.6	0.1	0.3	1.2	1.2	7.9	3.8	4.5	2.6	11.2	11.8	0.0	0.0	0.0	<b>47.1</b>
UBUS		0.001	0.2	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	<b>1.0</b>
<b>Total</b>		<b>0.0</b>	<b>3.5</b>	<b>0.1</b>	<b>0.4</b>	<b>1.6</b>	<b>1.5</b>	<b>9.8</b>	<b>4.6</b>	<b>5.4</b>	<b>3.1</b>	<b>13.3</b>	<b>13.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>56.9</b>

**Total Emissions (tons/year)**

**71.2**

**Total Emissions (tons/day)**

**0.2**

**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM2.5**

Year 2056

Prepared by FirstCarbon Solutions

*EMFAC2011 Emission factors (g/mile)*

<b>GAS</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0129	0.0081	0.0054	0.0038	0.0028	0.0022	0.0018	0.0015	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	LDT1	0.0128	0.0081	0.0054	0.0038	0.0028	0.0022	0.0018	0.0015	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	LDT2	0.0128	0.0080	0.0053	0.0037	0.0028	0.0022	0.0018	0.0015	0.0014	0.0014	0.0014	0.0015	0.0017	0.0018	0.0000
	LHD1	0.0012	0.0010	0.0007	0.0005	0.0003	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0010	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
	MCY	0.0004	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0004	0.0000
	MDV	0.0125	0.0079	0.0052	0.0037	0.0027	0.0021	0.0017	0.0015	0.0014	0.0013	0.0014	0.0015	0.0016	0.0018	0.0000
	MH	0.0009	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	OBUS	0.0009	0.0007	0.0005	0.0003	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	SBUS	0.0016	0.0013	0.0009	0.0006	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000
	T6	0.0009	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	T7	0.0009	0.0007	0.0005	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	UBUS	0.0017	0.0014	0.0009	0.0006	0.0005	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000

*EMFAC2011 Emission factors (g/mile)*

<b>DSL</b>	<b>Speed (mph):</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>
	LDA	0.0105	0.0090	0.0067	0.0053	0.0044	0.0039	0.0036	0.0035	0.0036	0.0039	0.0045	0.0054	0.0069	0.0093	0.0000
	LDT1	0.0100	0.0085	0.0064	0.0050	0.0042	0.0037	0.0034	0.0034	0.0035	0.0038	0.0044	0.0053	0.0068	0.0092	0.0000
	LDT2	0.0114	0.0097	0.0073	0.0058	0.0048	0.0042	0.0039	0.0038	0.0039	0.0042	0.0047	0.0057	0.0072	0.0096	0.0000
	LHD1	0.0480	0.0424	0.0336	0.0273	0.0226	0.0192	0.0166	0.0147	0.0134	0.0124	0.0117	0.0000	0.0000	0.0000	0.0000
	LHD2	0.0451	0.0399	0.0316	0.0257	0.0213	0.0181	0.0157	0.0139	0.0126	0.0116	0.0110	0.0000	0.0000	0.0000	0.0000
	MCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MDV	0.0107	0.0091	0.0068	0.0054	0.0045	0.0040	0.0037	0.0036	0.0037	0.0040	0.0046	0.0056	0.0071	0.0096	0.0000
	MH	0.0945	0.0821	0.0616	0.0468	0.0406	0.0378	0.0369	0.0378	0.0406	0.0453	0.0519	0.0604	0.0707	0.0000	0.0000
	OBUS	0.0504	0.0453	0.0410	0.0392	0.0374	0.0383	0.0411	0.0430	0.0498	0.0559	0.0629	0.0640	0.0826	0.0000	0.0000
	SBUS	0.0592	0.0543	0.0495	0.0445	0.0425	0.0422	0.0436	0.0468	0.0517	0.0583	0.0666	0.0767	0.0000	0.0000	0.0000
	T6	0.0384	0.0352	0.0321	0.0288	0.0275	0.0273	0.0282	0.0303	0.0335	0.0377	0.0432	0.0497	0.0573	0.0000	0.0000
	T7	0.0692	0.0634	0.0578	0.0505	0.0496	0.0492	0.0509	0.0546	0.0603	0.0680	0.0778	0.0895	0.1033	0.0000	0.0000
	UBUS	0.3597	0.3050	0.2252	0.1721	0.1363	0.1118	0.0949	0.0835	0.0760	0.0717	0.0700	0.0708	0.0000	0.0000	0.0000



**City of Fresno General Plan  
Motor Vehicle Emissions**

**PM2.5**

Year 2056

Prepared by FirstCarbon Solutions

*Emissions (tons/year) - converted from grams by multiplying by 1.1E-6 and converted to annual emissions by multiplying by 365 days/year*

<b>GAS</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.009	1.6	0.0	0.1	0.3	0.3	1.4	0.5	0.5	0.3	1.0	1.0	0.0	0.0	0.0	<b>7.0</b>
LDT1		0.001	0.2	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.0</b>
LDT2		0.003	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.6</b>
LHD1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.003	0.6	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.4	0.4	0.0	0.0	0.0	<b>2.6</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T6		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
T7		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
UBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Total</b>		<b>0.017</b>	<b>3.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.7</b>	<b>0.5</b>	<b>2.6</b>	<b>1.0</b>	<b>1.0</b>	<b>0.5</b>	<b>1.9</b>	<b>1.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>13.3</b>
<b>DSL</b>	<b>Speed</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>Total</b>
LDA		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT1		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LDT2		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
LHD1		0.001	0.3	0.0	0.0	0.1	0.1	0.5	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	<b>1.8</b>
LHD2		0.000	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	<b>0.4</b>
MCY		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MDV		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
MH		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
OBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	<b>0.5</b>
SBUS		0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
T6		0.001	0.3	0.0	0.0	0.1	0.1	0.8	0.4	0.5	0.3	1.2	1.2	0.0	0.0	0.0	<b>5.0</b>
T7		0.009	2.4	0.1	0.3	1.1	1.1	7.2	3.5	4.1	2.4	10.3	10.9	0.0	0.0	0.0	<b>43.3</b>
UBUS		0.001	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	<b>1.0</b>
<b>Total</b>		<b>0.012</b>	<b>3.2</b>	<b>0.1</b>	<b>0.4</b>	<b>1.5</b>	<b>1.4</b>	<b>9.0</b>	<b>4.3</b>	<b>5.0</b>	<b>2.8</b>	<b>12.2</b>	<b>12.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>52.3</b>

**Total Emissions (tons/year)**

**65.6**

**Total Emissions (tons/day)**

**0.2**