

Sources of Emissions within South Central Fresno Community

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Criteria Pollutant Emissions

- TOG: Total Organic Gases
- ROG: Reactive Organic Gases (used by ARB)
- VOC: Volatile Organic Compounds (used by EPA and SJV)
- CO: Carbon Monoxide
- NO_x: Oxides of Nitrogen
- SO_x: Oxides of Sulfur
- PM: Particulate Matter
- PM₁₀: Particulate Matter < 10 Microns in diameter
- PM_{2.5}: Particulate Matter < 2.5 Microns in diameter
- NH₃: Ammonia



Image courtesy of the U.S. EPA

Air Toxic Emissions

- Hazardous Air Pollutants (HAPs) – EPA
 - 190 compounds listed
- Toxic Air Contaminants (TACs) – CARB
 - 797 Compounds listed
- Examples of air toxics
 - Particulate matter from diesel engine trucks and generators exhaust
 - Benzene and formaldehyde and from cars and trucks using gasoline
 - Benzene, ethylbenzene, naphthalene in vapors from painting
 - Benzene, toluene, ethylbenzene, and xylene (BTEX) from gas station activities
 - Lead, chrome, nickel and other metals from field and road dust

Sources of Emissions

- Various source types contribute to emissions within community
- Stationary Sources (Regulated by the District)
 - Gas stations, auto body shops, backup diesel generators, oil industry activities
 - 198 permitted facilities
- Mobile On-Road Sources (State and Federal Jurisdiction)
 - Cars and trucks
 - Main roadways (Highways: 99 / 41 / 180 / 168)
- Mobile Off-Road Sources (State and Federal Jurisdiction)
 - Forklifts, construction equipment, railyard equipment
- Areawide Sources (Regulated by Various Agencies)
 - Residential fuel combustion, cooking, consumer products, architectural coating

Work by District to Quantify Emissions

- Actual emissions reported annually to District by permitted facilities
- The emissions are quantified using:
 - Annual process, fuel, or usage rate
 - Emission factor
 - Monitoring data
 - Source test
 - EPA or CARB data
 - Permit limit
 - Other data

South Central Fresno Emissions Summary

Source Category	Emissions (tons/year)		
	NOx	PM2.5	VOC
Stationary Source	14	16	34
Mobile - On Road	1,205	21	369
Mobile - Off Road	114	5	15
Areawide	121	58	856
Total	1,454	100	1,274

Source Category	Emissions (% of total by pollutant)		
	NOx	PM2.5	VOC
Stationary Source	1%	16%	3%
Mobile - On Road	83%	21%	29%
Mobile - Off Road	8%	5%	1%
Areawide	8%	58%	67%
Total	100%	100%	100%

- District stationary source air toxics emissions are 2.3 tons/year

Community Stationary Source Emissions

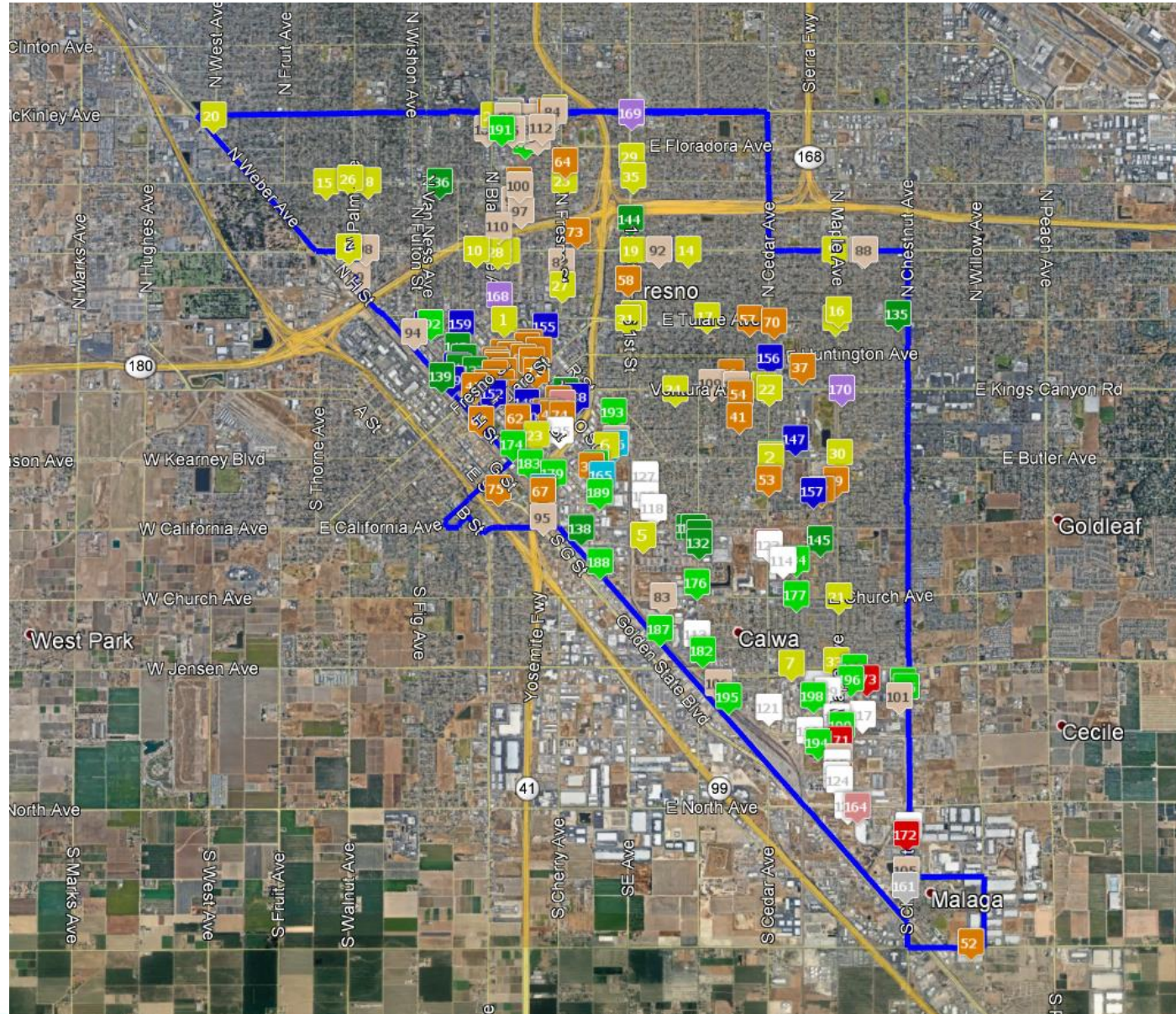
Facility Name	NOx (tpy)
Fresno Community Hospital	3.0
Calco Gen	1.3
Kraft Heinz Foods	1.3
Malaga Power	0.9
Betts Company	0.9

Facility Name	PM2.5 (tpy)
Modern Custom Fabrication	3.8
Kraft Heinz Foods	1.8
Gusmer Enterprises	1.3
Mission Uniform Linen	1.3
Miller Milling	0.9

Facility Name	VOC (tpy)
IPT	7.8
Praxair Distribution	3.6
Tulare Arco	2.3
Betts Company	2.1
Modern Custom Fabrication	1.5

Facility Name	Toxic Name	Air Toxics (tpy)
Malaga Power	Ammonia	0.4
Calco Gen	Ammonia	0.2
Tulare Arco	Toluene	0.2
Kraft Heinz Foods	Propylene	0.1
C&B Arco	Toluene	0.1

District Permitted Facilities



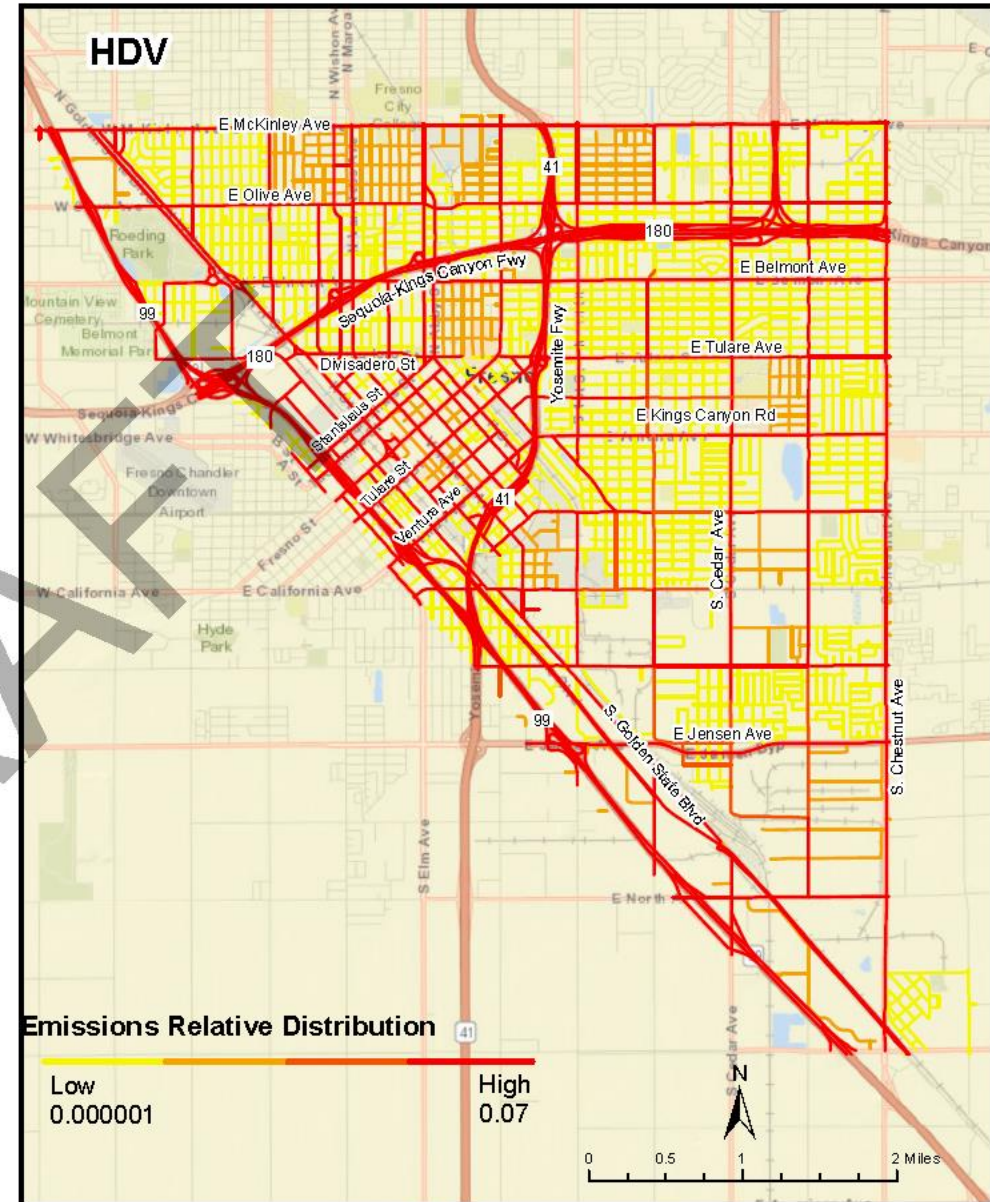
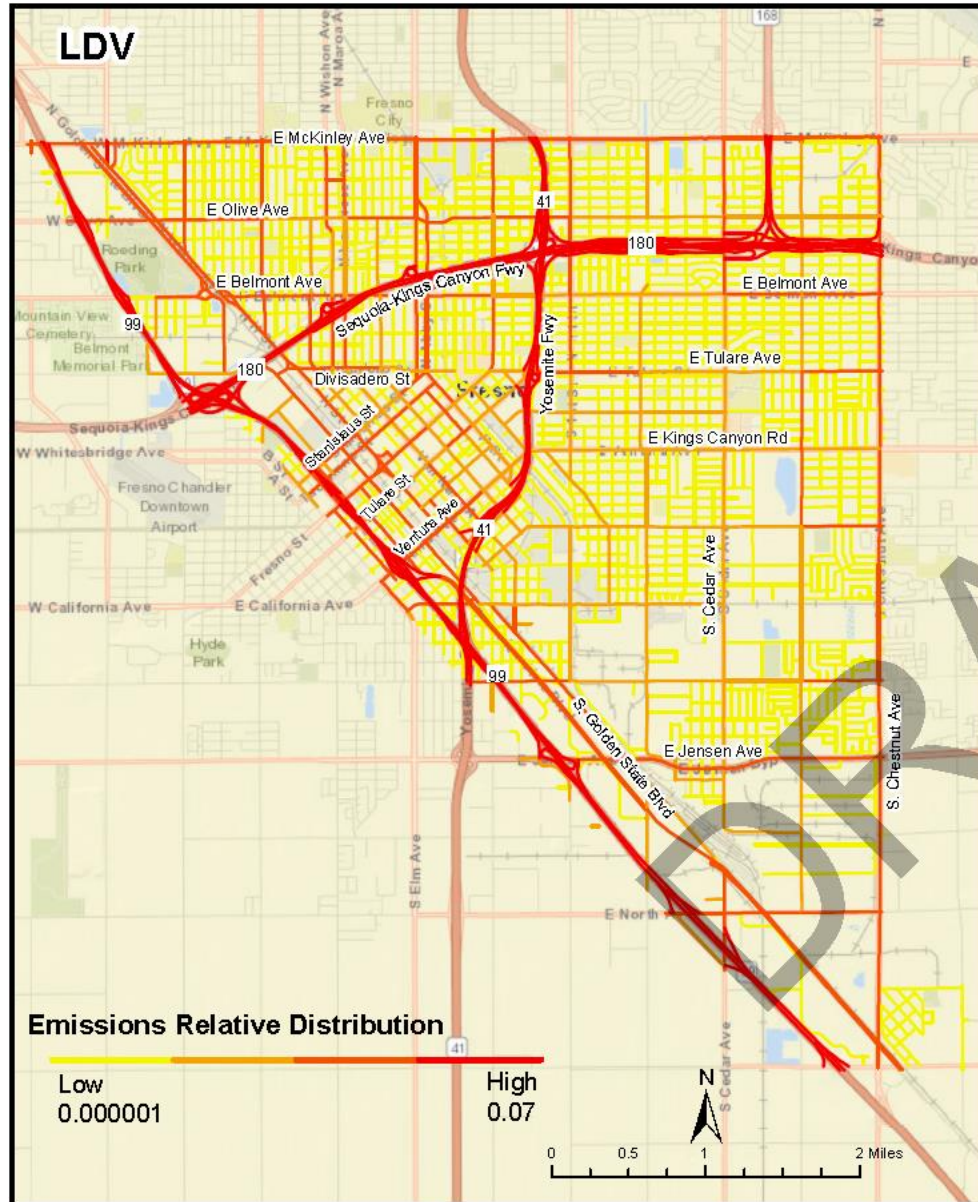
Areawide Emissions in S. Central Fresno

Categories (Top 5 Contributors)	NOx (tpy)
Residential Fuel Burning	45.7
Manufacturing and Industrial	34.4
Service and Commercial	33.5
Other Fuel Combustion	7
Fires	0.3

Categories (Top 5 Contributors)	VOC (tpy)
Other Cleaning and Surface Coatings	317.6
Consumer Products	206.2
Architectural Coatings and Solvents	98.9
Coatings and Solvents	79.8
Printing	41.7

Categories (Top 5 Contributors)	PM2.5 (tpy)
Cooking	46.1
Construction and Demolition	4.9
Residential Fuel Burning	4
Service and Commercial	1.8
Fires	0.9

On-Road Mobile Source Emissions in S. Central Fresno



Mobile Source Emissions in S. Central Fresno

Mobile Sources	Emissions (tons/year)		
	NOx	PM2.5	VOC
On-Road Heavy Duty Vehicles	803	18	44
On-Road Light Duty Vehicles	402	3	325
Off-Road Vehicles	114	5	15
Total	1,319	26	384