Air quality in the San Joaquin Valley
Valley Air District

• Regional agency responsible for air quality in 8 counties
  - San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare & the valley air basin portion of Kern
• 15 member Governing Board
• Regulates stationary sources
• Provides grant funding
• Responsible for meeting EPA & CARB mandates to improve public health
The San Joaquin Valley Air District is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality management strategies.
Valley Challenges Unmatched

• Surrounding mountains and meteorology create ideal conditions for air pollution formation and retention.

• High rate of population growth, I-5 and Hwy 99 (major transportation arteries) run all the way through Valley.

• These challenges make it exceedingly difficult to meet federal, health-based ambient air quality standards for Ozone and PM 2.5.
Ozone

- Ozone: Main component of summertime ‘smog.’
- Odorless, colorless, corrosive gas, resulting from chemicals cooking in sunlight and heat.
- Made up of nitrogen oxides (NOx) and volatile organic compounds (VOCs).
- Most of the precursor emissions come from internal-combustion engines (mobile sources), industrial processes, agriculture, consumer products (lawnmowers, paints and solvents, etc).
- Motor vehicles account for up to 80 percent of the Valley’s smog.
ANNUAL VOC EMISSIONS

- Farming Operations Including Confined Animal Facilities: 32%
- Off-Road Mobile: 9%
- On-Road Mobile: 9%
- Pesticides & Fertilizers: 6%
- Petroleum Production & Marketing: 6%
- Consumer Products: 7%
- Other Sources: 31%
Particulate Matter

- **PM2.5 (Particulate Matter, 2.5 microns and smaller)**
  - Winter problem: Emissions from burning in fireplaces and wood stoves.
  - Also generated during wildfires.
  - More dangerous than larger particles because PM2.5 can travel deeper into the lungs.
  - High concentrations can trigger heart attacks, strokes, aggravate asthma and bronchitis; and increase susceptibility to respiratory infections.
  - Strong correlation between PM levels, hospital admissions and premature death.

- **PM10 (Particulate Matter, 10 microns and smaller)**
  - Fall problem. Mostly dust and larger particles.
ANNUAL PM2.5 EMISSIONS

Directly Emitted

- Farming Operations: 22%
- Road Dust: 15%
- Fugitive Windblown Dust: 12%
- Other Mobile Sources: 13%
- 2% Heavy Duty Diesel Trucks
- Other Sources: 5%
- Fireplaces & Wood stoves: 6%
- Cooking Including Charbroiling: 7%
- Agricultural Waste Burning & Forest Management: 18%
Progress to Date

• 92% reduction in emissions from Valley businesses
• Reached attainment of the PM10 Standard in 2005
• First and only region in nation to go from “Extreme” classification to attainment of 1-hour Ozone Standard
• Historic progress possible through investment and sacrifice by businesses and residents
• 2018 PM2.5 Plan demonstrates strategies for attainment by 2025 deadline
2019 record-setting year for ozone progress

Design value describes the air quality status of a given location relative to the level of the National Ambient Air Quality Standard (NAAQS).
2019-2020 winter season cleanest on record

ANNUAL PM2.5 DESIGN VALUE TREND

1997 STANDARD (15 μg/m³)

2012 STANDARD (12 μg/m³)
Receive current air quality information

- **RAAN** – Real-Time Air Advisory Network
  - Online or mobile device access to real time, hourly air-quality information for your area, 24 hours a day
  - Access to actual concentrations of ozone and PM2.5
  - Outdoor activity recommendations based on five different levels

- Access RAAN
  - [www.myraan.com](http://www.myraan.com)
  - Free “Valley Air” app
<table>
<thead>
<tr>
<th>ROAR Level</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEVEL 1</strong></td>
<td>Outdoor activity OK for all</td>
</tr>
<tr>
<td><strong>LEVEL 2</strong></td>
<td>Sensitive individuals should consider reducing prolonged and/or vigorous outdoor activities.</td>
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<tr>
<td><strong>LEVEL 3</strong></td>
<td>Sensitive individuals should exercise indoors or avoid vigorous activities.</td>
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<tr>
<td><strong>LEVEL 4</strong></td>
<td>Sensitive individuals should exercise indoors. Everyone should avoid prolonged or vigorous outdoor activities.</td>
</tr>
<tr>
<td><strong>LEVEL 5</strong></td>
<td>Everyone should avoid outdoor activity.</td>
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</tbody>
</table>
• Engagement with Valley schools
• Educating children, parents and teachers on air quality and District programs
• Protecting health and well-being of Valley children/students
• Encourage use of District’s RAAN (Real-time Air Advisory Network) as a tool to modify outdoor activities based on air quality
• Anti-idling campaign (Eng/Sp signs available)
• Annual calendar contest
• Healthy Air Heroes Activity Kits for grades K-6
Grants and Incentives

- Business
- Public agencies
- Residents
- Technology

In 2019, the District invested more than $250 million in clean air projects. To date, the District has committed more than $2 billion, helping reduce approx. 140,000 tons of emissions.
What you can do

- Reduce vehicle emissions by carpooling, riding the bus, walking or riding your bike
- Avoid vehicle idling
- Seek ways to reduce energy at home and work
- Check Before You Burn or refrain from burning

- Use air-friendly lawn equipment
- Consider switching to an electric vehicle
- Keep gasoline vehicles well-tuned
- Take advantage of the many Air District grant programs: valleyair.org/grants/
Need more information?

Contact Outreach and Communications
public.education@valleyair.org

Fresno office (559) 230-6000
Modesto office (209) 557-6400
Bakersfield office (661) 392-5500

For information on District rules and programs visit:
www.valleyair.org
www.healthyairliving.com

Follow us on social media

Use the Valley Air App for the latest air quality info.