

Air Quality in Pima County

Current and Historic Trends

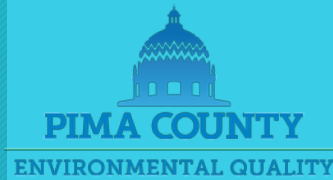
Beth Gorman, Senior Program Manager
Pima County Department of Environmental Quality
PAG Air Quality Forum
May 24, 2017

Today's Discussion



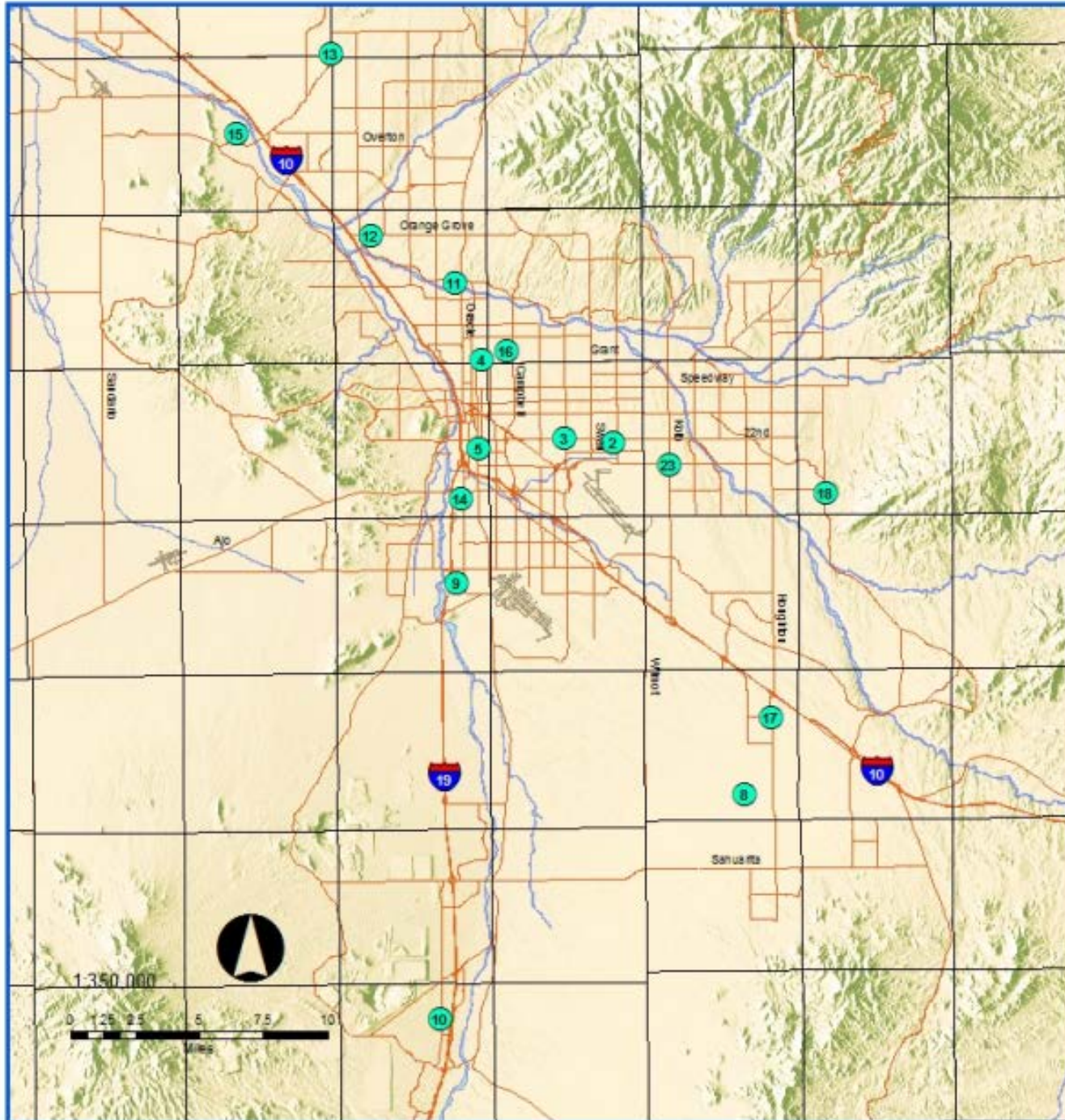
- PDEQ Basics
- Air Monitoring Sites
- Historic & Current Air Quality Trends
- PDEQ Community Outreach & Public Education

Pima County Department of Environmental Quality






- PDEQ made up of six divisions:
 - Permitting
 - Compliance/Enforcement
 - Water (wastewater, drinking water, stormwater)
 - Solid Waste
 - Air Monitoring & Analysis
 - Community Education & Outreach
- Thirty-eight employees

Pima County Monitoring Sites



- 2 - 22nd / Craycroft
- 3 - 22nd / Alvemon
- 4 - Geronimo
- 5 - South Tucson
- 8 - Corona de Tucson
- 9 - Santa Clara
- 10 - Green Valley
- 11 - Children's Park NCore
- 12 - Orange Grove
- 13 - Tangerine
- 14 - Rose Elementary
- 15 - Coachline
- 16 - Cherry / Glenn
- 17 - Fairgrounds
- 18 - Saguaro National Park East
- 23 - Golf Links / Kolb

-  PDEQ Monitoring Sites
-  Major Streets
-  Washes

Revised: March 2017

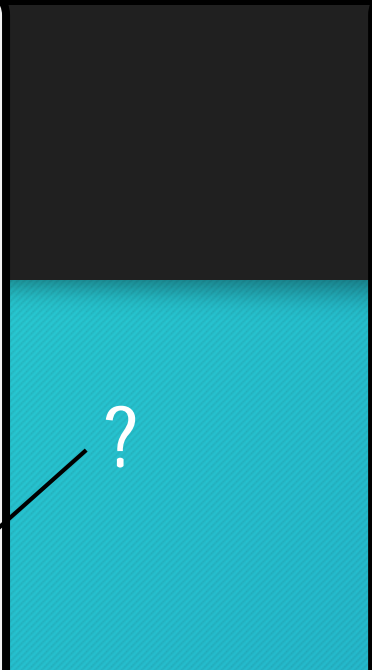
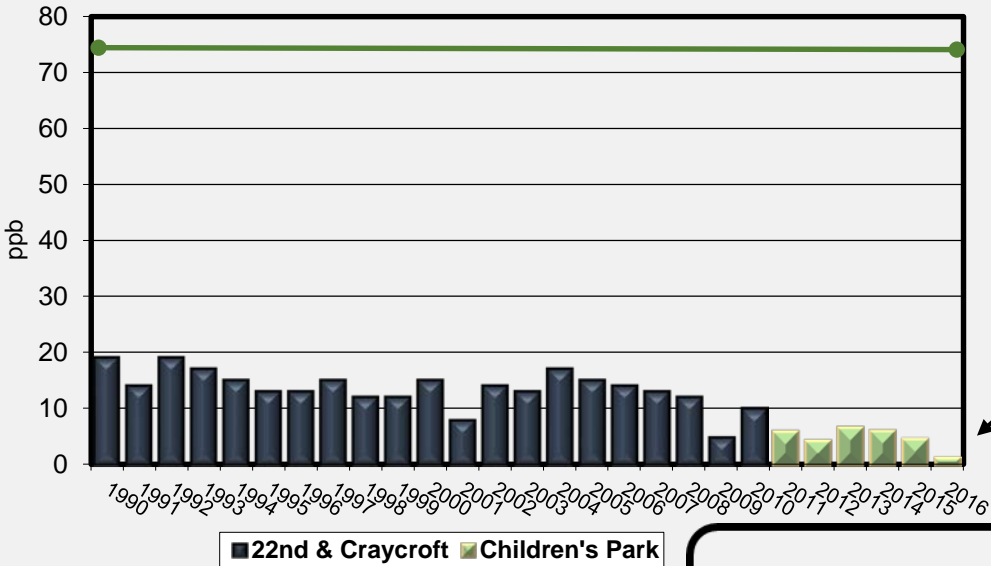
Comments
All information is provided as is, with all faults, and without warranty of any kind, expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.



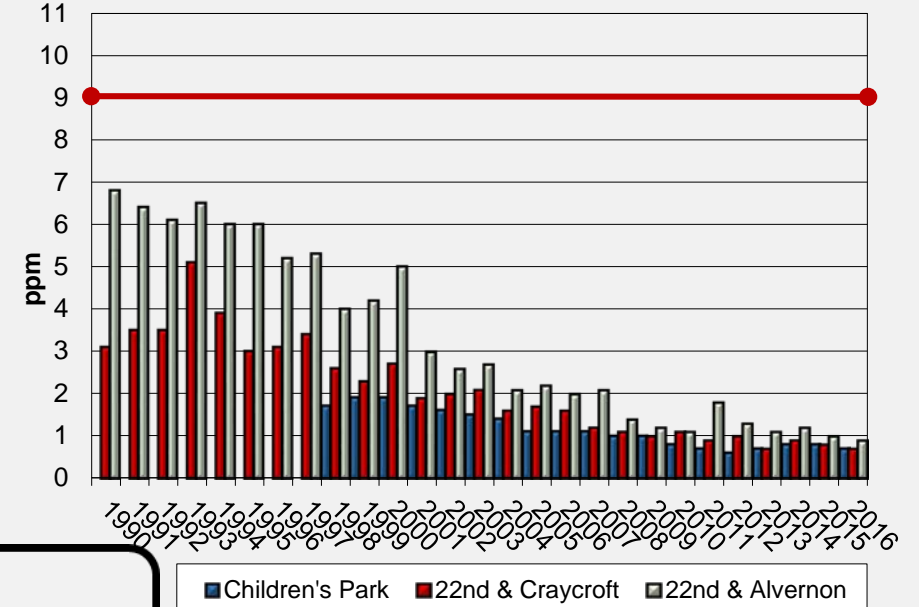
Positive Trends in Air Pollution Levels

Sulfur Dioxide 1990-2016
99th Percentile Concentration

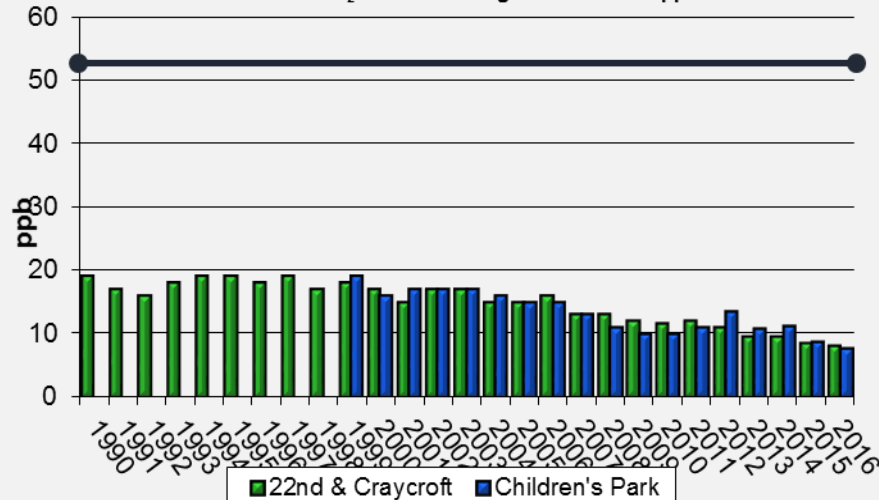
SO₂ 1- Hr standard: 3 year average of the 99th percentile value is <= 75 ppb



Carbon Monoxide 1990-2016
Highest 8-Hour Average Concentration
CO 8-Hour NAAQS = 9 ppm



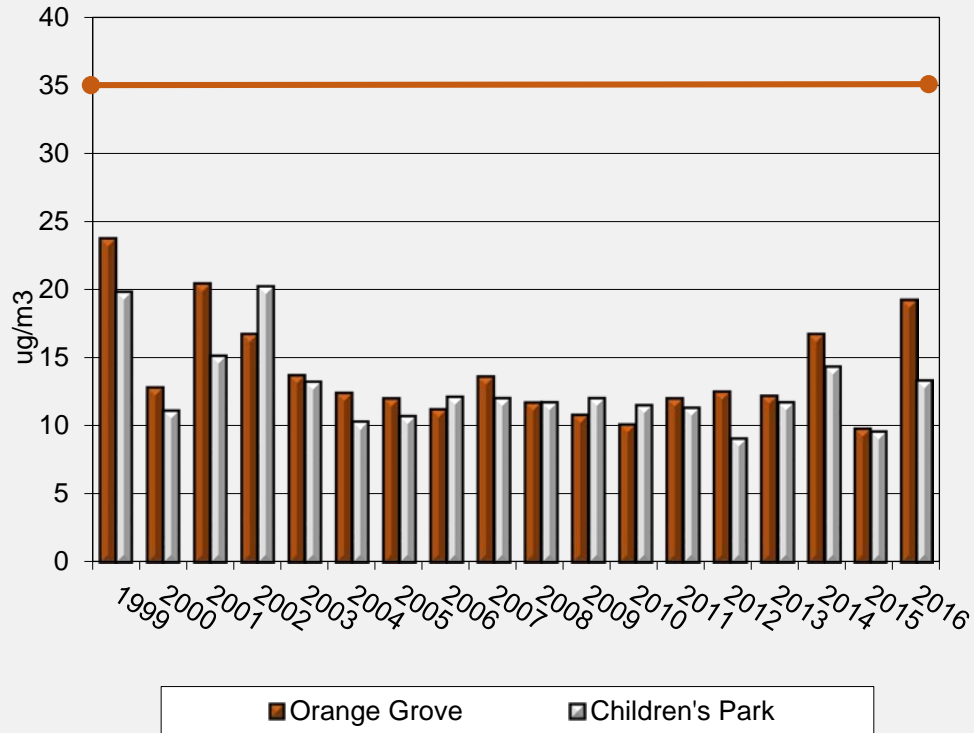
Nitrogen Dioxide 1990-2016
Annual Average Concentration
NO₂ Annual Average NAAQS = 53 ppb



Ups and Downs of Particulate Matter

PM_{2.5} 98th Percentile Values 1999- 2016

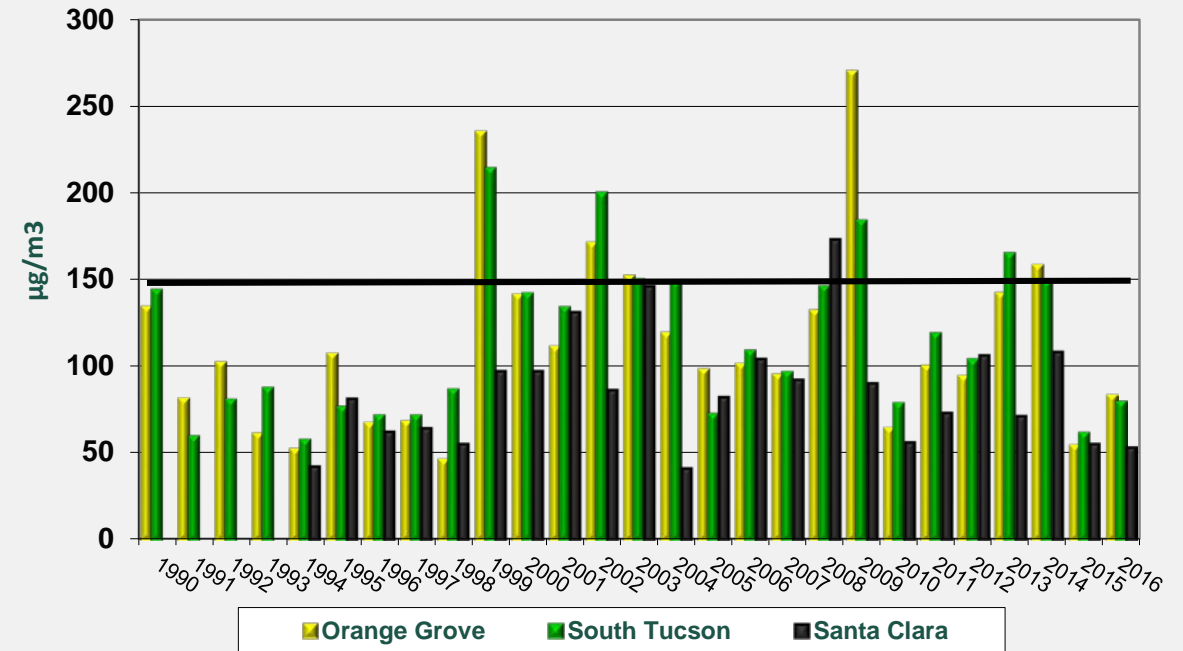
PM_{2.5} 24-hour standard: 3 year average of the 98th percentile value is $\leq 35 \mu\text{g}/\text{m}^3$.



Particulate Matter PM₁₀ 1990-2016

Highest 24- Hour Averages

24-Hour Standard - $150 \mu\text{g}/\text{m}^3$ not to be exceeded more than once per year on average over 3 years.

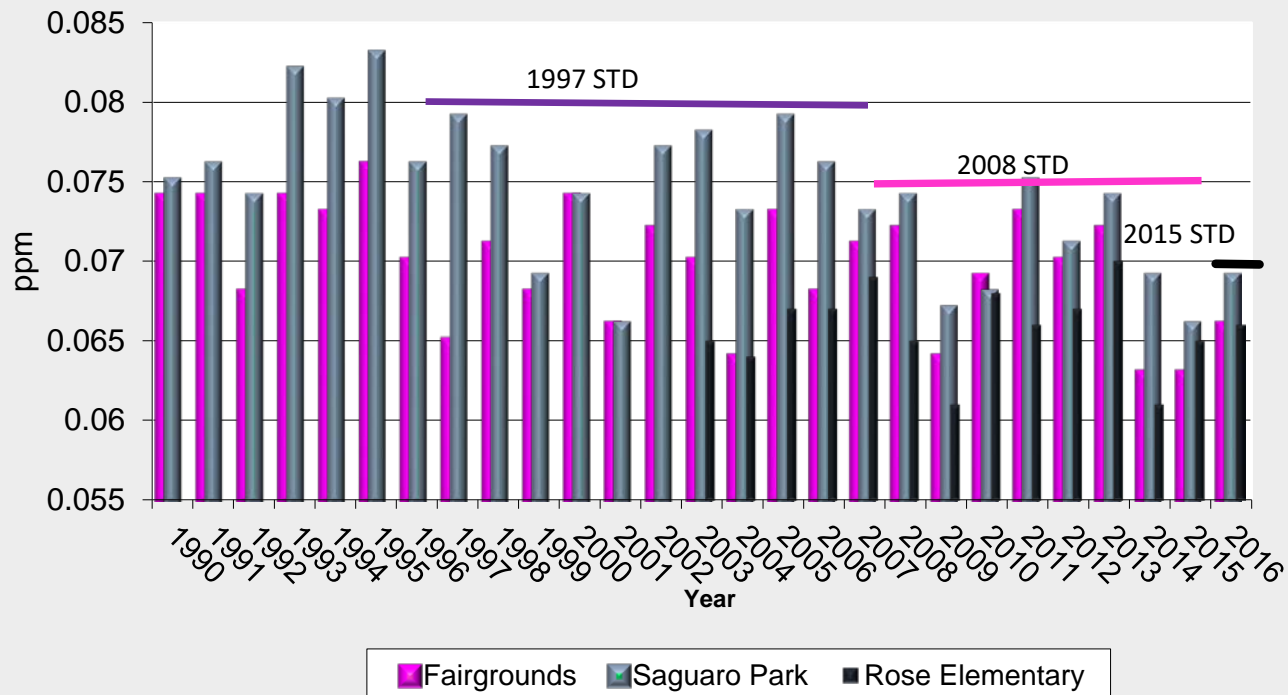


Particulate Matter - two sizes
PM_{2.5} from combustion; PM₁₀ is more crustal

Positive Trend for Ground-level Ozone

More protective EPA health standards

Ozone 1990 - 2016
4th Highest 8-Hour Average Concentration



- Still in attainment -- Very close to exceeding EPA health standard
- Challenging pollutant to control
- Not emitted directly from a source
- Photochemical reaction with VOCs and NO_x in direct sunlight
- Emissions Inventory being completed
- More community education on sources, health impacts and solutions

2017 Ozone Season (to date)

How close are we to a violation???



- So far this season, the 4th highest 8-hour average is .070 ppm (at the standard)
- The three-year average of 4th highest reading is .068 ppm (definition of violation)

Year - Saguaro Park	4 th highest 8-hr. average
2015	.066 ppm
2016	.069 ppm
2017	.070 ppm (as of 5/19/17)
3-year average	.068 ppm

PDEQ Projects to Increase Awareness

- Healthy Air Is In Our Hands - alternative modes
- “Use The Loop For Your Commute” - bicycling
- Annual 2016 Outreach to Community
 - 72 Presentations - Reached 1,852 Residents
 - 37 Booths - Reached 72,796 Individuals
 - 209 Tweets - 65,776 Impressions
 - 8 Community-wide events planned & participated in
 - 400 web articles, brochures, fact sheets
 - 23 news releases generating 152 news stories or website postings
 - 48,290 items with air quality messages distributed
- Extra funding to do more outreach to new groups



Questions?



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