Update on Shafter Community Air Monitoring

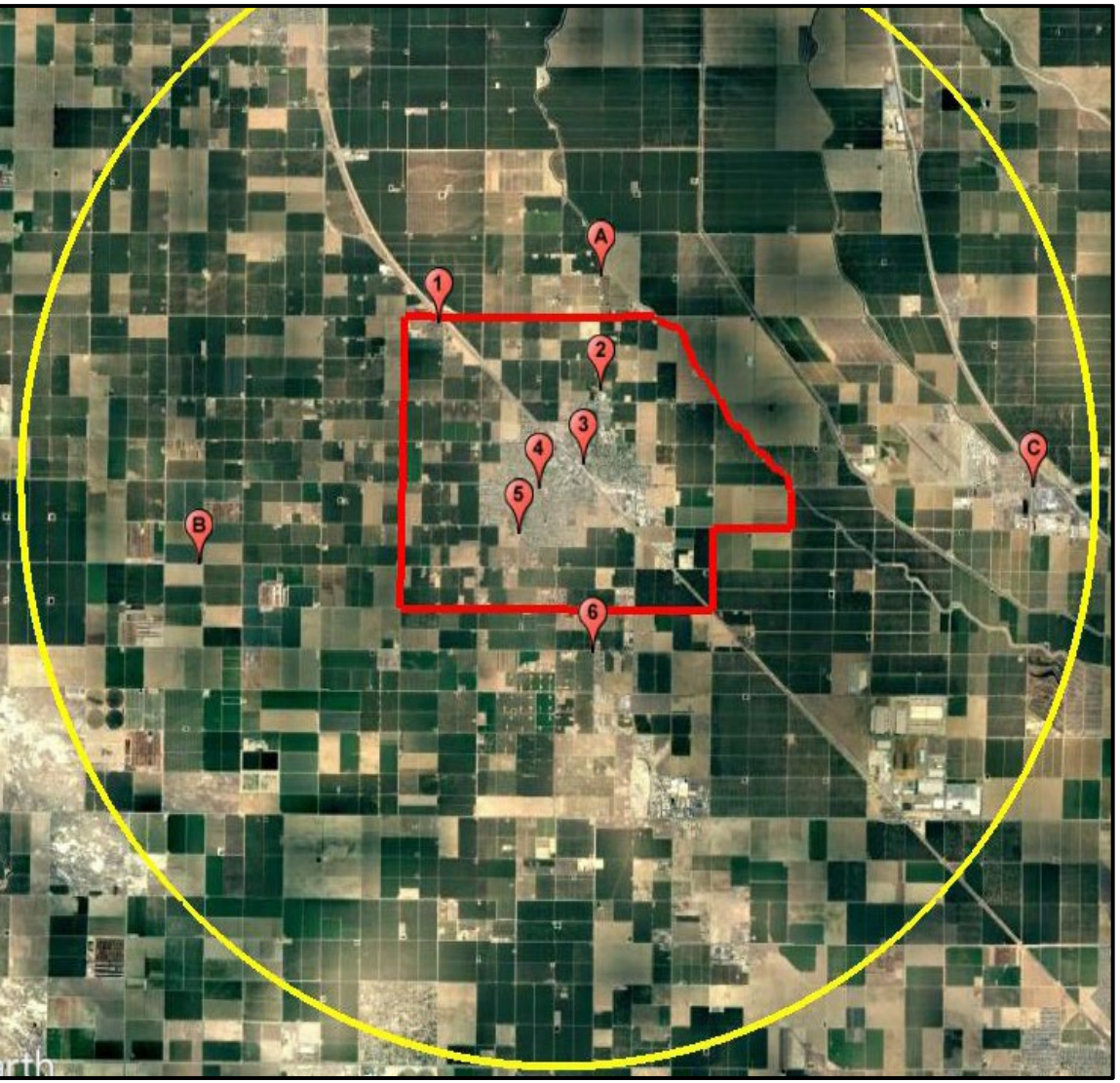
Shafter CSC Meeting

February 12, 2024

Air Monitoring Update

- Status of Community Air Monitoring Plan Implementation
- Review Air Monitoring Data Collected
- Questions, Comments, And Recommendations

CAMP Implementation Status



#	Location	Monitoring	Done
1	Farm Labor Center	Monitoring Trailer	x
2	Sequoia Elementary	Multi-Pollutant	x
3	Shafter DMV	PM2.5	x
4	Golden Oak Elementary	PM2.5	x
5	Grimmway Academy	PM2.5	x
6	Mexican Colony	PM2.5	
A	North of Shafter in agriculture area	Monitoring Van	x
B	West of Shafter near dairy operations	Monitoring Van	x
C	East of Shafter near Highway 99 and Lerdo Highway	Monitoring Van	x

Community Air Monitoring Platforms

Community Air Monitoring Platforms (cont'd)

Community Air Monitoring Platforms (cont'd)

Ongoing Community Air Monitoring

- District continuing to conduct localized air monitoring in the Shafter community
- Working to deploy final air monitoring platforms across the community, according to Community Steering Committee recommended network design
  - Almost complete except for La Colonia PM2.5 air monitor
- Air monitoring van used to monitor pollutants in areas of interest of the community and near recommended site locations for network design
- Lab analysis of air samples continues for PM2.5 and VOC classification

Shafter Air Monitoring Update

Average fine particulate matter (PM2.5) in October – December 2023 about 5 micrograms lower than same period in 2022

Higher winter-time PM2.5 due to shorter days, strong lid on the valley overnight

Average PM2.5 in 2023 lower than average PM2.5 in 2021 and 2022 at all air monitoring sites

Air monitoring data available online at CARB's "AQview" community data webpage

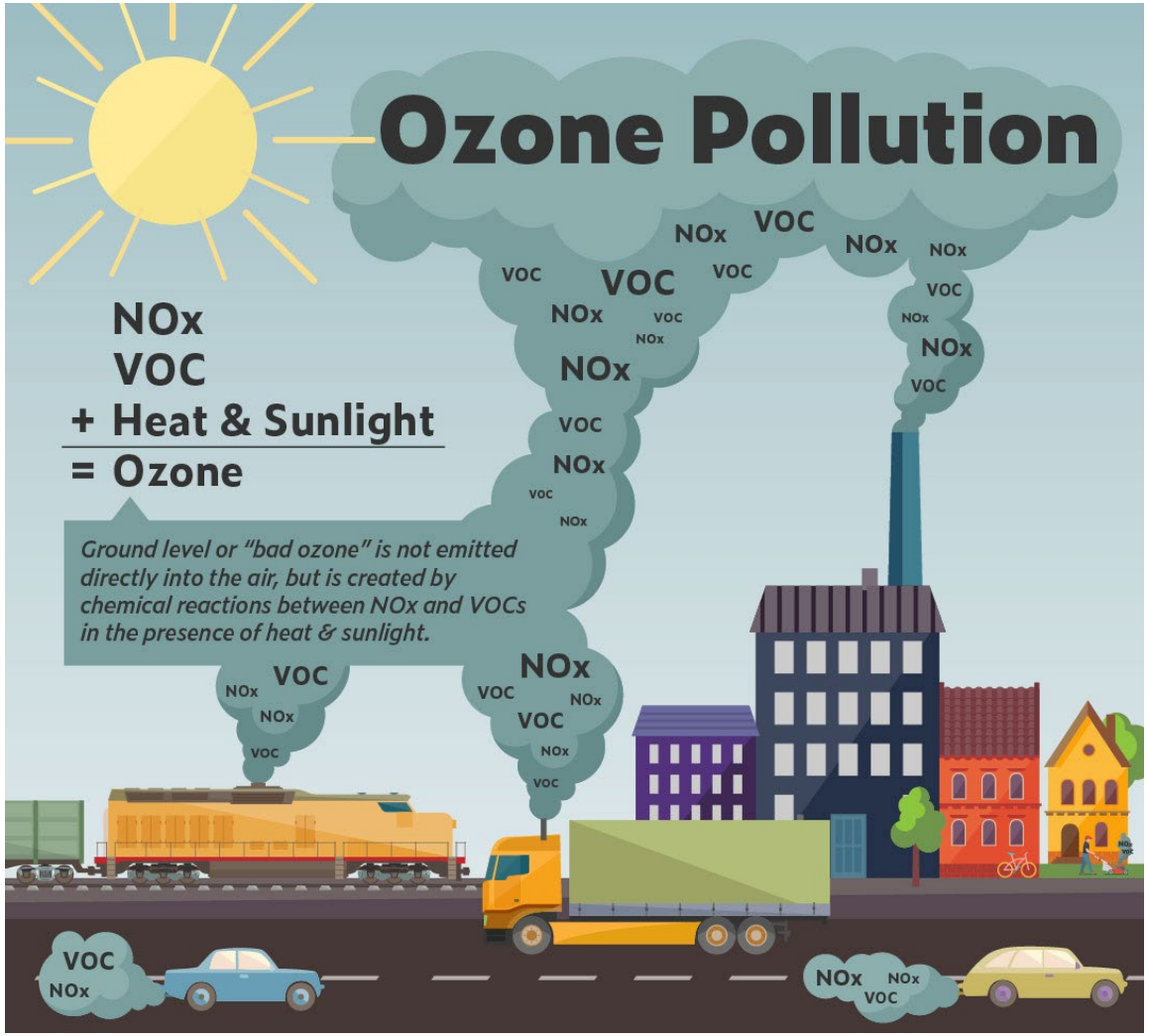
Time of Day, Day of The Week, or Time of Year Influence Air Quality

Summer

- Ozone is the main pollutant
- Made from nitrogen oxides (**NOx**) and volatile organic compounds (**VOCs**) with sunlight and heat

NOx in Shafter

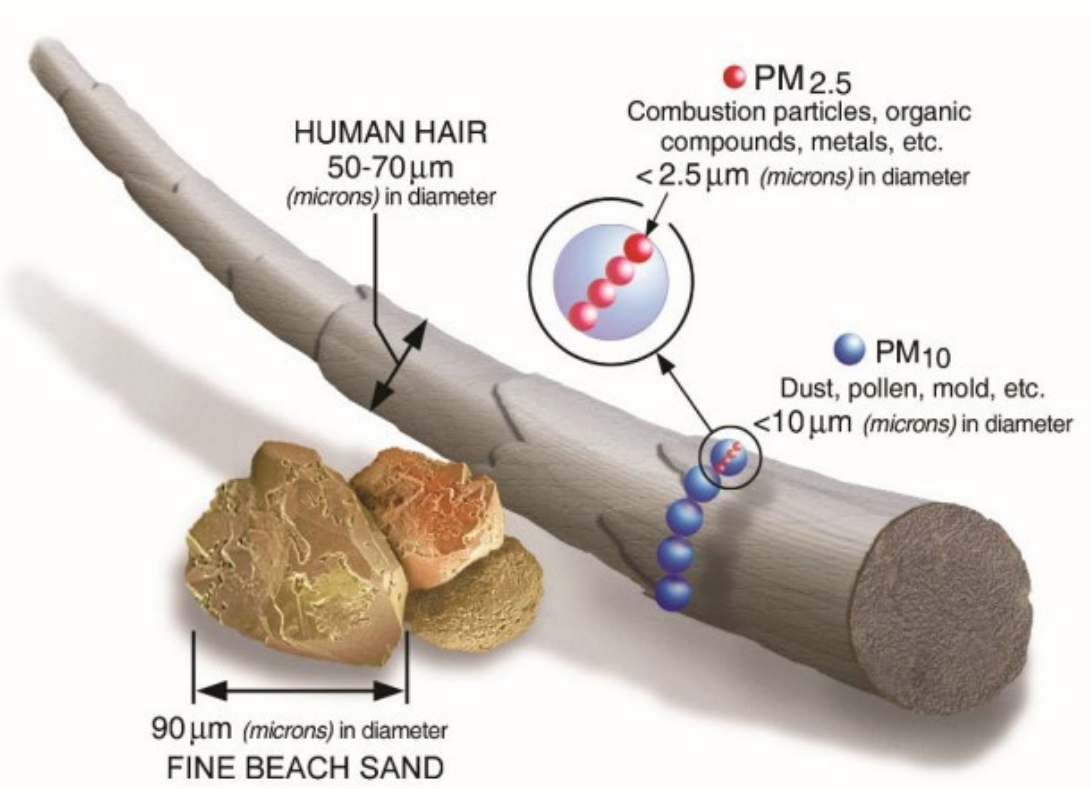
- Trucks, other on-road vehicles
- Heavy-duty off-road vehicles
- Industrial processes



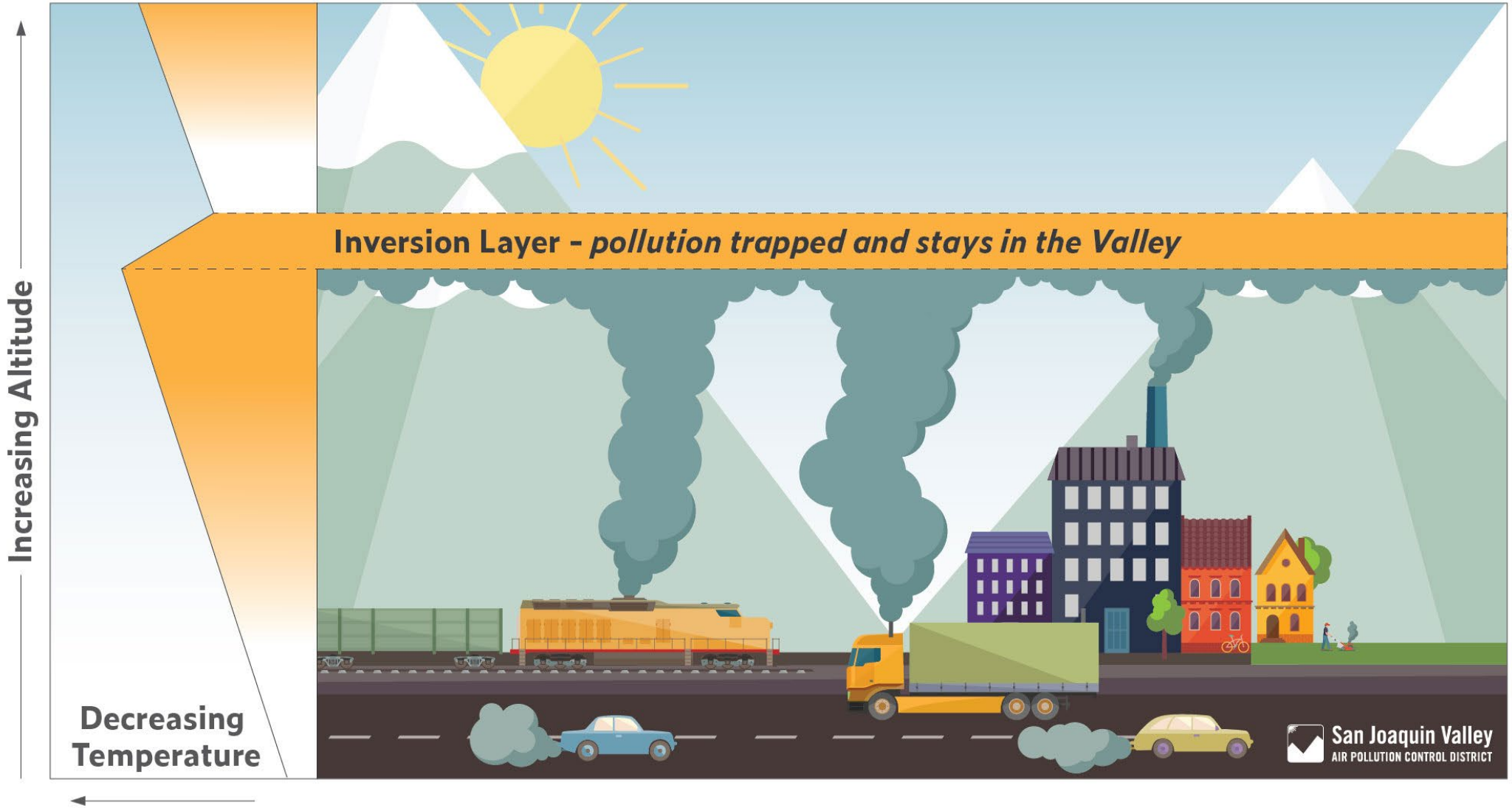
Time of Day, Day of The Week, or Time of Year Influence Air Quality

Winter

- Particulate matter is the main pollutant
- Can be emitted directly, like smoke from fireplaces
- Can form in the atmosphere when certain compounds are present, like NOx from trucks
- PM levels get worse when inversior layer, or lid, sits over Valley



What causes PM2.5 levels to be higher in the winter?

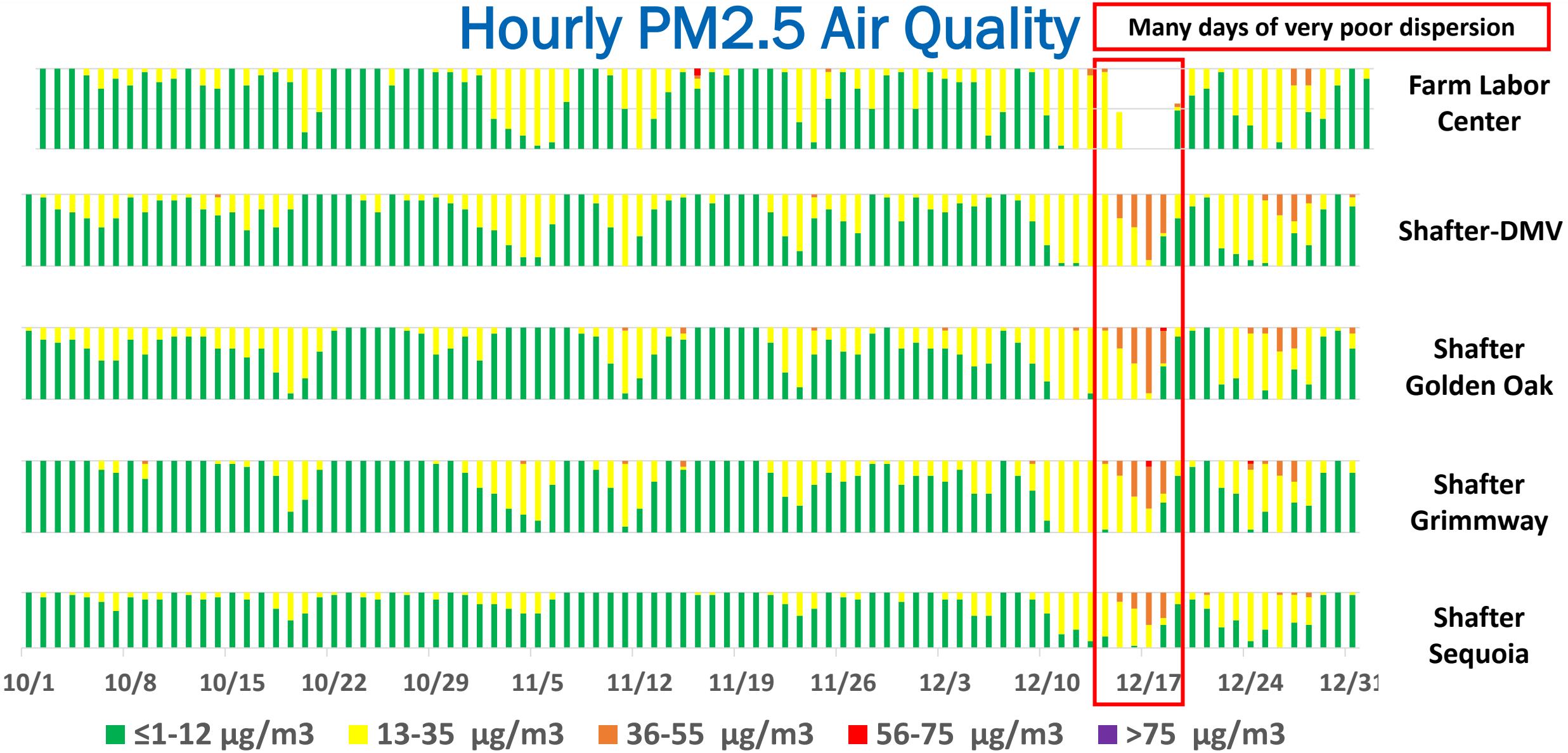


PM2.5 Quarterly Average Comparisons

	2023 Quarter 4 Average PM2.5 (µg/m^3)	2022 Quarter 4 Average PM2.5 (µg/m^3)
Shafter Community Monitors		
Shafter-DMV	11.9	15.6
Grimmway Academy	10.8	16.0
Golden Oak Elementary	12.7	17.5
Farm Labor Center	10.9	16.6
Sequoia Elementary	8.4	12.6
Kings & Kern Nearby Regulatory Monitors		
Bakersfield-California	16.3	17.4
Corcoran	13.1	19.6

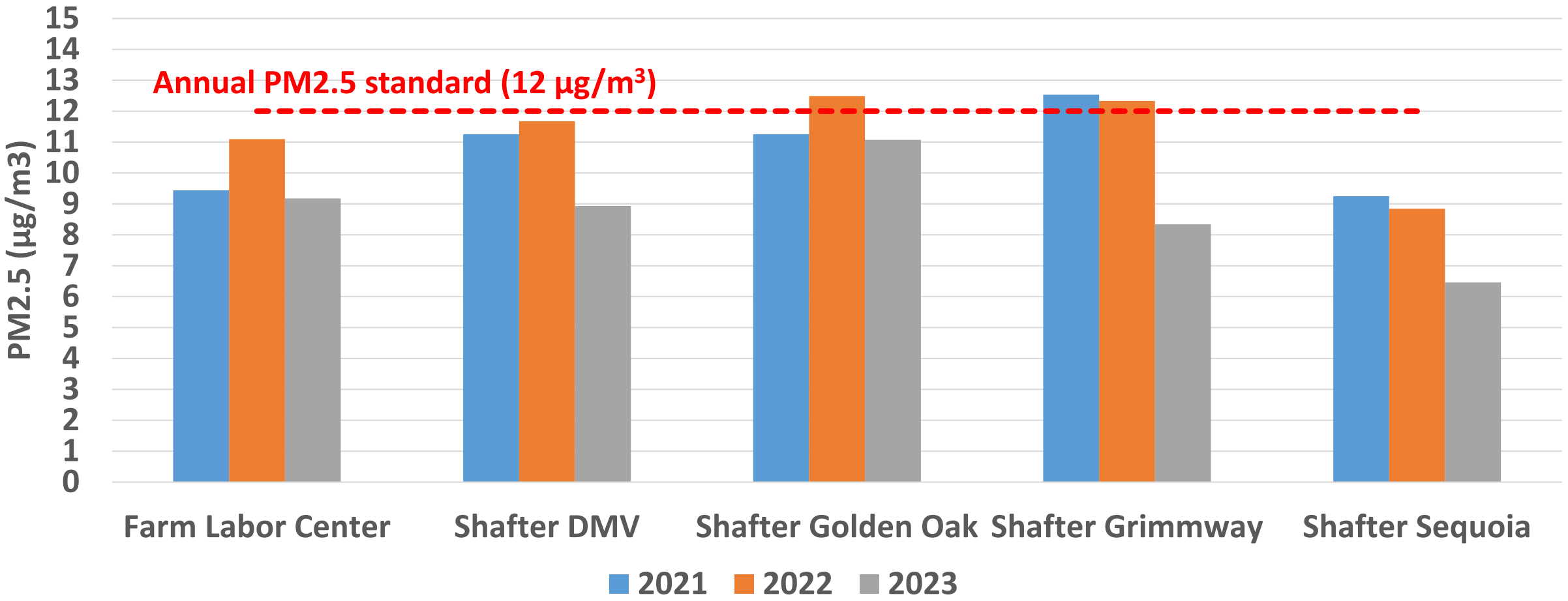
All community air monitoring sites have improved PM2.5 compared to prior year. Golden Oak Elementary PM2.5 remains highest quarterly average.

Hourly PM2.5 Air Quality



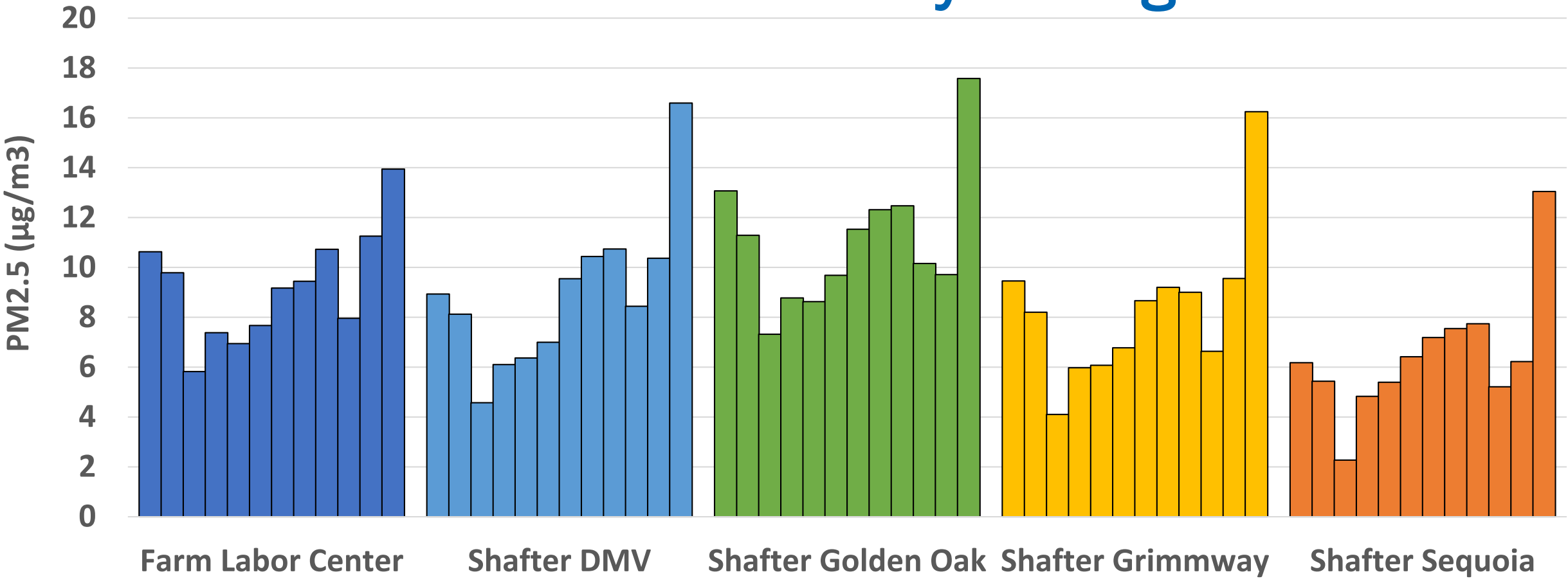
Fewer hours in the "green" air quality range during winter conditions.

Annual PM2.5 Average for 2023 Lower Across All Sites



All sites lower PM2.5 in 2023 compared to 2022 with Golden Oak the highest average in 2022 and 2023.

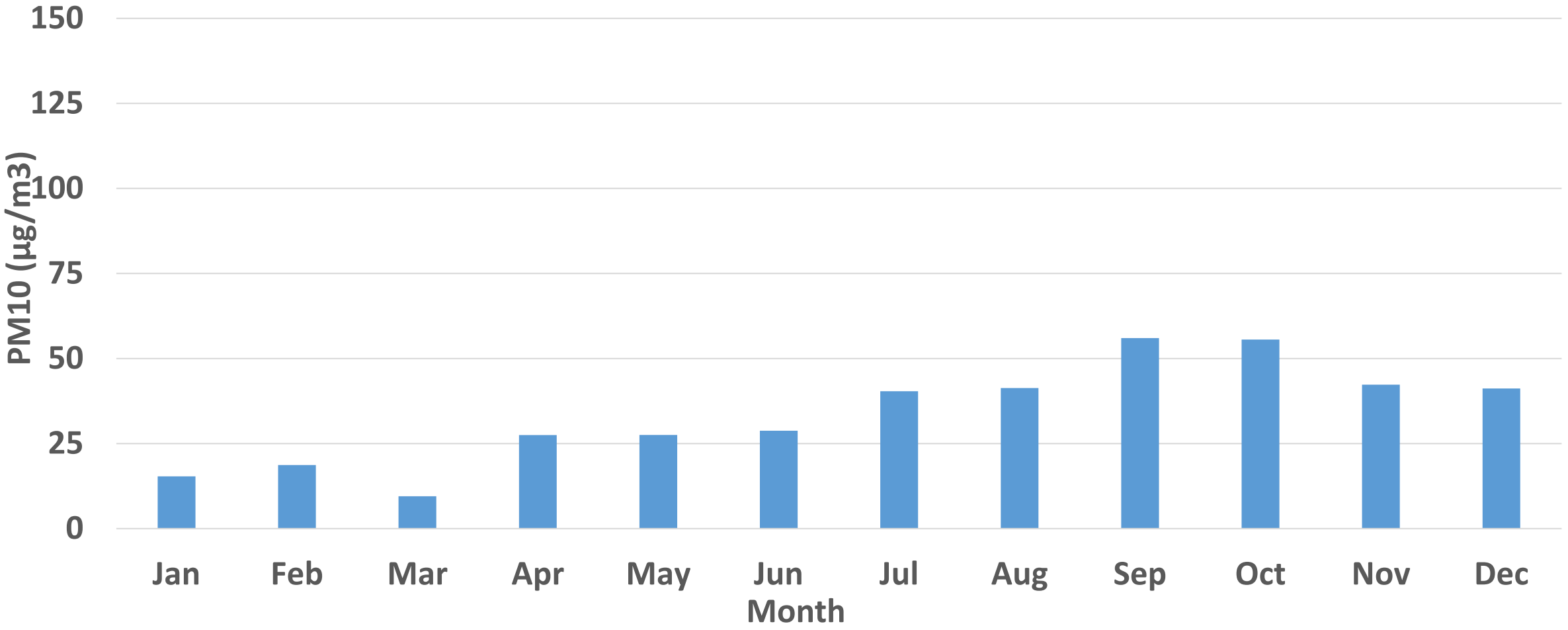
2023 PM2.5 Monthly Averages



**each bar in the chart represents the monthly average PM2.5, from January to December*

Average PM2.5 higher in winter months (Jan, Feb, Nov, Dec) compared to summer months.

2023 PM10 Monthly Averages



Average PM10 higher in drier months and when there is higher winds.

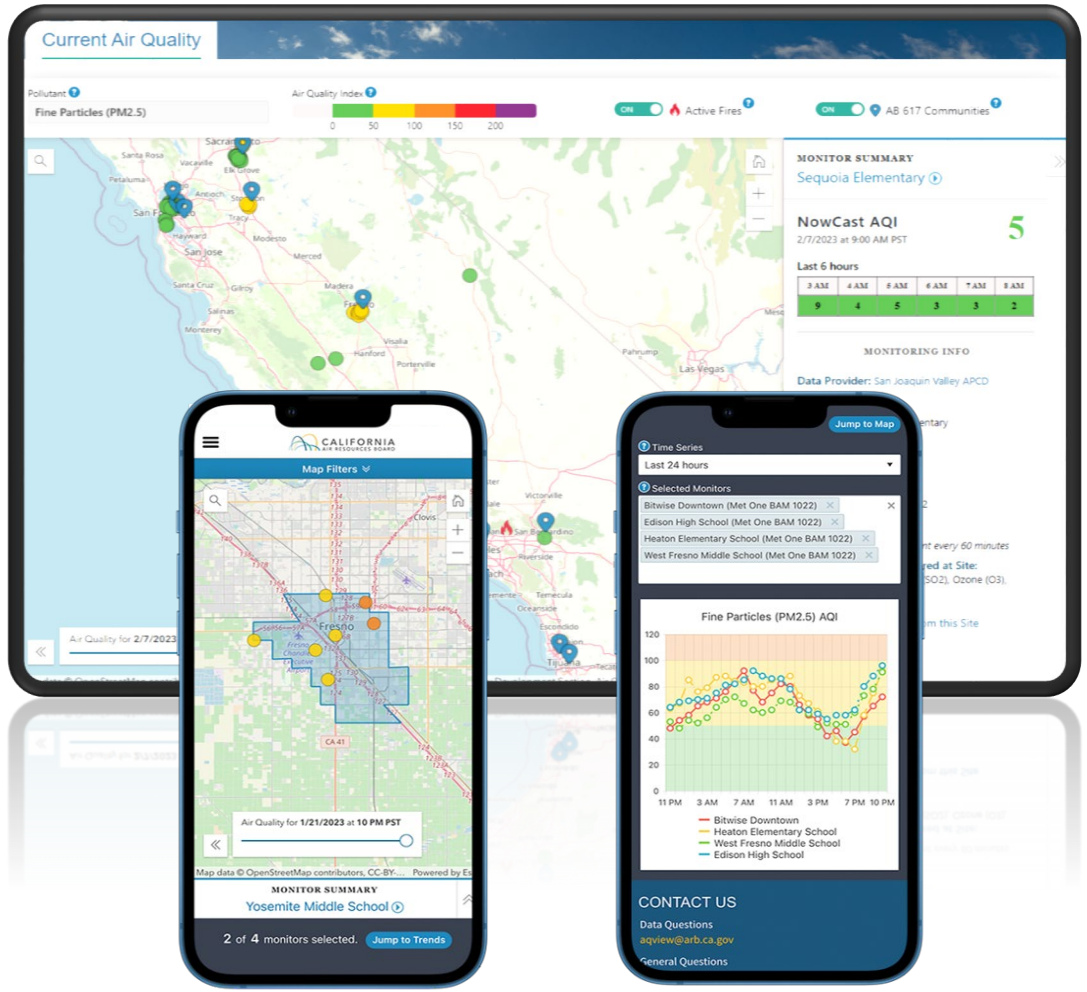
Community Air Quality Data

- District AB 617 webpage at: http://community.valleyair.org/community-air-monitoring
  - Real-time community air monitoring data
  - Air monitoring data from vans
  - Quarterly reports
  - Weekly air monitoring updates
- CARB's statewide air quality data portal (AQview) displays and provides community air monitoring data from AB 617 communities
  - AQview website located at: https://aqview.arb.ca.gov/
  - Air quality data from Valley AB 617 communities available at this website
  - Development ongoing, new features to be added

AQview Map is Now Live!

CARB AQview Goals:

- Provide latest up-to-date information on AB 617 communities and community air monitoring efforts
- Provide single platform to view and access air quality data from different networks
- Provide simple, intuitive, and mobile-friendly interfaces for viewing real-time exposure
- Can be accessed at https://aqview.arb.ca.gov/map



Comments/Questions?