



CITY COUNCIL UPDATE: AIR MONITORING AND SOIL TESTING

**City Council
January 23, 2025**





Direction Provided on January 17

Public Health Department

- City Council direction
 - > Identify plans of public agencies to test soil and air
 - > Assess gaps in neighborhood-level soil and air monitoring, testing, and reporting beyond the burn area
 - > Evaluate potential paths for the City to address gaps in soil and air testing



Regional Approach is Needed

Public Health Department

- Air quality monitoring and testing is a regional issue, not a local one
 - > Los Angeles County has 4,000 square miles, Pasadena makes up about 23 square miles
 - > Air flows freely throughout
- Air quality monitoring is being done, both by AQMD and crowd sourcing through PurpleAir
- The City will continue to pursue efforts for air testing as is feasible beyond Phase I debris removal sites



Regional Approach is Needed

Public Health Department

- U.S. Environmental Protection Agency (EPA)
 - > Phase 1 mission is focused solely on fire damaged properties
 - Ensure safe removal and transport of hazardous household waste
 - > Air monitoring solely at collection site
 - > Soil testing will be limited to the staging area in Irwindale
 - > Confirmed they will not conduct air or soil testing in the Pasadena community outside fire damaged properties and staging area in Irwindale



Regional Approach is Needed

Public Health Department

- Federal Emergency Management Agency (FEMA)
 - > FEMA is lead for Phase 2 Private Debris Removal
 - FEMA has missioned U.S. Army Corps of Engineers (USACE) to complete Phase 2
 - USACE plans to remove 3 to 6 inches of top soil from each fire damaged property
 - It is unclear whether further soil testing or mitigation on these properties is needed
 - > Confirmed they will not conduct soil testing in Pasadena community, neither on fire-damaged properties or elsewhere in the community



Regional Approach is Needed

Public Health Department

- South Coast Air Quality Management District (AQMD)
 - > Maintain pre-disaster efforts to measure Air Quality
 - Reports air quality in alignment with EPA's index for reporting air quality, known as Air Quality Index (AQI)
 - Measures and reports air quality through existing infrastructure
 - Uses averages for 24-hour exposure over the Pasadena community
 - > Confirmed they do not have plans to expand air quality measurements to include air testing, additional air monitoring stations, or reporting



Regional Approach is Needed

Public Health Department

- The gap between current EPA, FEMA, and AQMD efforts and City Council direction is significant
- In exploring options, city staff have engaged:
 - > Regional public health partners
 - > Academic experts in environmental monitoring, testing, and reporting
 - > Experts from private companies



Air Quality Monitoring and Testing

Public Health Department

- Air Quality Index (AQI) measures some gases, ozone, and particulate matter (PM_{2.5} & PM₁₀)
 - > In general, air quality is fluid and a point in time measurement can be misleading
 - Readings may change depending on conditions such as
 - » High winds
 - » Disruption of fire debris in the vicinity
 - » Normal levels of particulate matter in the air (i.e. smog)
 - > Measures amount, does not identify what
 - > Experts confirmed that PM_{2.5} can serve as a proxy for presence of potential contaminants, i.e. healthier air is a good sign



Air Quality Monitoring and Testing

Public Health Department

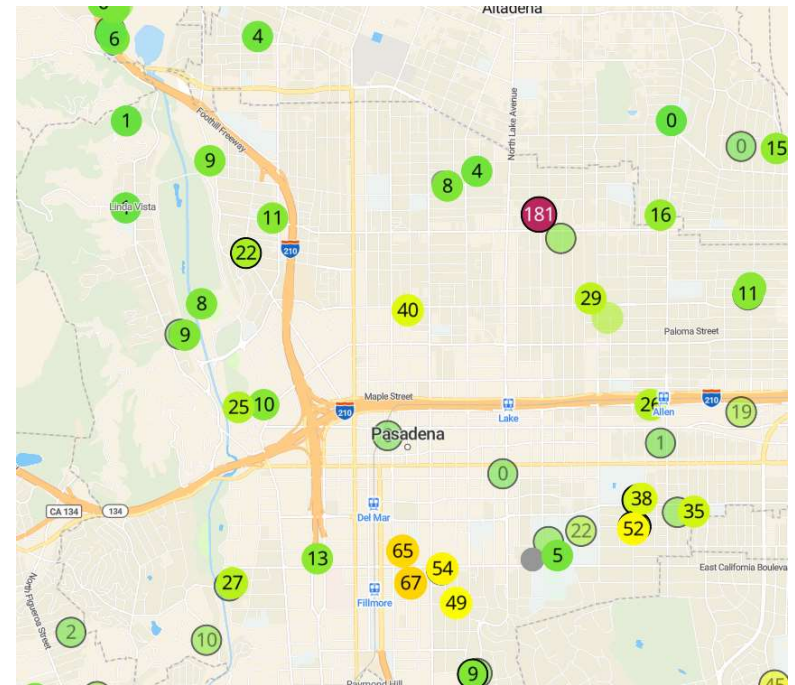
- Real-time testing for airborne contaminants is limited by technology, expertise, and testing process
 - > Air monitoring tools only measure quantity of particulate matter
 - > No universally accepted methodology for measuring airborne contaminants in real-time
 - > Air testing requires sample media such as filters, needing collection and sending to a lab for testing
 - > Lab testing can take several days
 - Air quality will change during the testing process, making the results outdated



Air Quality Monitoring and Testing

Public Health Department

- PurpleAir provides real-time air quality information using a network of privately deployed sensors across the community
- Measures AQI at neighborhood level
- Deployment of sensors at city facilities or schools may help to fill gaps
- Sensors cost about \$300 each



Screenshot taken at 8pm 1/22/25



Soil Testing

Public Health Department

- Soil testing is complex
 - > Requires comprehensive approach including
 - Sampling plan including protocol for sample collection
 - Identified list of potential contaminants to test for
 - Lab capable of testing
 - Detailed scientific reporting
 - > Requires expertise and ability to interpret data
 - > Assessing dispersal of potential contaminants is a challenge without baseline data
 - > Rain or other irrigation is expected to help
 - > Continue to push for EPA and FEMA to look at soil testing



Next Steps

Public Health Department

- Continue exploration of PurpleAir as a resource to inform the Pasadena community
- Continue discussions with EPA, FEMA, AQMD, state agencies, and regional public health partners to develop a regional approach for air quality monitoring and testing
- Work with EPA, FEMA, state agencies, academic and private experts, and public health partners to advocate for soil testing
- Receive any additional City Council direction