



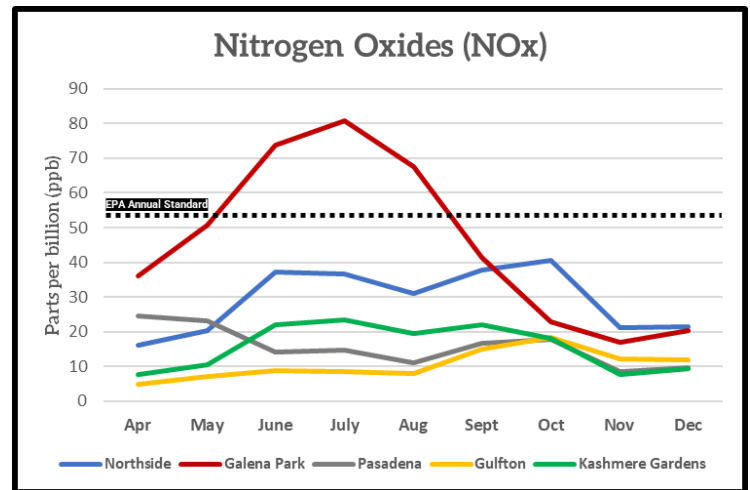
This handout summarizes key data findings from the first year of Air Alliance Houston's Community Air Monitoring Program (C.A.M.P.) (2022). Our network consists of strategically placed air monitors in: Galena Park/Jacinto City, Gulfton, Kashmere Gardens, Near Northside/Northline, and Pasadena.

Nitrogen Oxides (NOx): Released from vehicle exhaust and burning fossil fuels. Includes both Nitrogen Dioxide (NO₂) and Nitrogen Oxide (NO).

Health effects: Breathing NOx can irritate the eyes, nose, throat, and lungs, causing coughing, shortness of breath, tiredness, and nausea.

Takeaways:

- **Galena Park/Jacinto City:** Average monthly NOx concentrations at certain sites were 3x the level of the EPA annual maximum standard of 53 parts per billion (ppb) and exceeded the 1-hour standard of 100 ppb above which the air is considered unhealthy to breathe.
- NOx levels downwind of the Ship Channel in Galena Park/Jacinto City were far above all other community averages especially over the summer.
- Major contributors to high NOx levels in Galena Park/Jacinto City may include the heavy industrial and petrochemical presence and traffic along the Ship Channel.

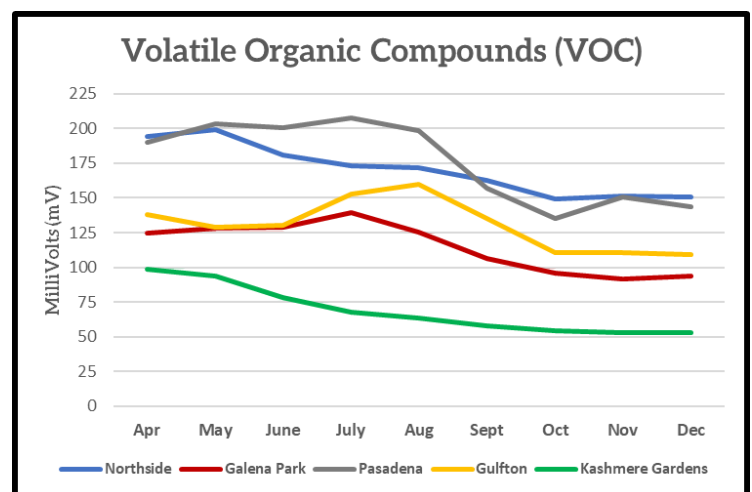


Volatile Organic Compounds (VOCs): Highly reactive carbon compounds – such as benzene, formaldehyde, and ethylene – released by vehicle exhaust, refineries, and other industry sources.

Health effects: Breathing VOCs can irritate the eyes, nose and throat, causing headaches, difficulty breathing, and nausea. It can damage the central nervous system, liver, kidneys, and other organs. Some VOCs can cause cancer.

Takeaways:

- **Pasadena:** Average monthly VOC levels were the highest compared to all other areas. While we cannot compare these levels to EPA maximum standards, we know that prolonged exposure to VOC can cause negative health impacts.
- Major contributors to high VOC levels in Pasadena may include the heavy industrial and petrochemical presence along the Ship Channel.

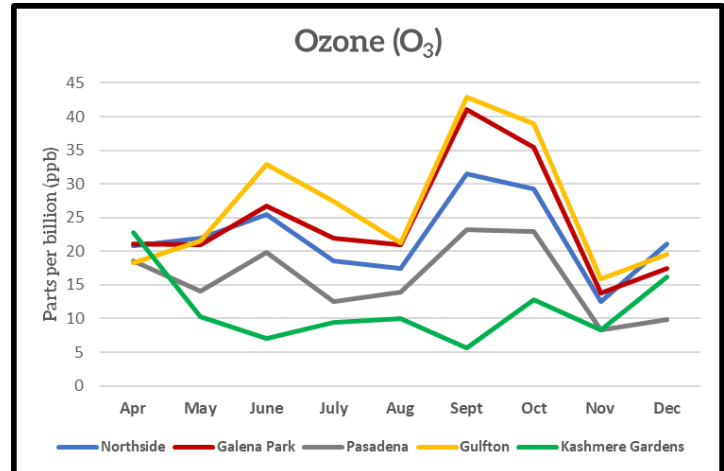


Ozone (O₃): Forms when NO_x and VOCs released by vehicles, refineries, and other industries combine with heat and sunlight.

Health effects: Breathing ozone can cause chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ozone also can reduce lung function and inflame the lining of the lungs.

Takeaways:

- **Gulfton, Galena Park/Jacinto City, and Near Northside/ Northline:** Average ozone levels recorded were the highest compared to other communities. While we cannot compare these levels to EPA maximum standards, we know that exposure to O₃ can cause negative health impacts.
- Major sources of ozone in the above three communities may include high traffic, industrial emissions, and the severe urban heat island effect due to lack of greenspace.



Particulate Matter (PM_{2.5}): A mixture of various particles such as dust, dirt, soot, and smoke emitted by industries, vehicles, construction sites, fires, or unpaved roads.

Health effects: PM_{2.5} can cause short-term health effects such as eye, nose, throat and lung irritation, coughing, sneezing, runny nose and shortness of breath. PM_{2.5} exposure can also affect lung function and worsen conditions such as asthma and heart disease.

Takeaways:

- **Galena Park/Jacinto City:** Average PM_{2.5} concentrations exceeded the annual EPA maximum standard for 11 months compared to all other communities.
- **Near Northside/Northline:** PM_{2.5} near Independent Texas Recyclers were the highest levels recorded - 50% higher than the EPA annual maximum standard - and remained there over-time.

