

City of Houston Response to the American Lung Association

Clean air is essential to the health and prosperity of all Houstonians and reducing air pollution from ozone, particulate matter and air toxics continues to be a top priority for the City of Houston. Moreover, Houston's air quality has improved in recent years, and an explanation is in order regarding the American Lung Association's (ALA) "F" report card grade for ozone in Harris County, which was announced today. As long as Houston remains in non-attainment of the US Environmental Protection Agency's (EPA) ozone standard, Houston will continue to receive an "F" from the ALA, because the "F" grade is "roughly set to correlate with the number of unhealthy air days that would place a county in non-attainment for the ozone standard (ALA, April 29, 2010)." The City of Houston and surrounding area have been in non-attainment of the EPA ozone standard since a standard was set in 1977. Using this grading approach, Houston has essentially been receiving an "F" report grade for ozone for 30 years. Currently, the counties that make up the Houston-Galveston-Brazoria area (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller) are classified as 'severe nonattainment' and have until June 15, 2019 to attain the EPA ozone standard.

While ozone, as well as other air pollutants, remains a problem in Houston, there is some indication of good news regarding progress with the ozone situation. Mayor Parker's office, continuing in the tradition set by former Mayor White of diligently monitoring the air problem and its sources, released a report today with positive findings. Recognizing that weather as well as other air pollutant emissions is an important factor affecting ozone pollution formation, the report is encouraging as we look across the air monitoring network finding that 28 out of 32 monitors have recorded statistically significant improvement over the last five years with respect to ozone.

Arturo Blanco, the Bureau Chief at the City of Houston Bureau of Air Quality Control, notes that although attainment of the ozone standard is an important regulatory measure of air quality, the non-attainment designation reflects a broad brush countywide count of the overall days with unhealthy pollution. The analysis, conducted by Dr. Loren Raun, Sr. Environmental Analyst for the Mayor's Office, consists of examining the extent of Houston's ozone levels on a monitor by monitor basis and whether that impact is decreasing at a statistically significant rate over time as new pollution controls and efforts are implemented. The analyses include evaluation of an array of statistical metrics of the daily maximum eight hour average of ozone concentration (e.g., annual average, maximum, and number of days above the level considered unhealthy for sensitive groups of the population) and the trend of these measures over time. While ozone concentrations have dropped significantly over the past few decades, this trend analysis is focused on looking for changes on a shorter timeframe intended to reflect the impact from new controls (five years).

In short, these additional analyses conducted on a smaller scale (i.e., monitor by monitor area instead of countywide) add important perspective to the "F" grade, whether ozone has been improving in recent years, which areas of Houston are most severe, and whether those areas are improving.

Based on analysis of 32 area monitors, Houston's ozone problem is improving as follows:

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Key Results

1. The individual monitor results indicate that 87.5% of the monitors have a statistically significant improving trend ($\alpha=0.05$) in at least one ozone metric out of *all* ozone metrics evaluated over the past 5 years. Figure 1 in the report depicts the number of days at each monitor in 2009 that had concentrations above the level unhealthy for sensitive groups. The color green in the figure indicates that the monitor had an improving trend in *at least one of five ozone metrics* over the past five years while red indicates not improving trends were found.
2. Figure 2 depicts the number of days at each monitor in 2009 that had concentrations above the level unhealthy for sensitive groups. The color green indicates that the monitor had an improving trend in this *individual* metric over the past five years while red indicates no improving trend was found in this individual metric.
3. In 2009, the monitors with the most severe ozone conditions (relative to the other monitors) were the monitors at Bayland Park, Northwest Harris County, Deer Park, Manvel Croix Park, Atascocita, Tom Bass, Meyer, and East. Of these 10 monitors with the most severe ozone, 30% show no improving trends, 20% show one improving trend and 50% show two or three improving trends when looking at three key ozone metrics (*three of the five ozone metrics*): average, maximum and number of days above the level unhealthy for sensitive groups.
4. The individual monitor trend results over the past 5 years ($\alpha=0.05$) for the ozone concentration average, maximum and number of days above the level unhealthy for sensitive groups indicate that (Figure 3)
 - a. 28% of the monitors have no statistically significant improving trends
 - b. 22% of the monitors have 1 statistically significant improving trend
 - c. 50% of the monitors have 2 or 3 statistically significant improving trends (28% and 22%, respectively)
5. When comparing the trends of ozone concentrations by monitor between the five years ending 2008 and the five years ending 2009, fourteen monitors (43% of the monitors) have additional ozone metrics showing improving trends.

Figure 1

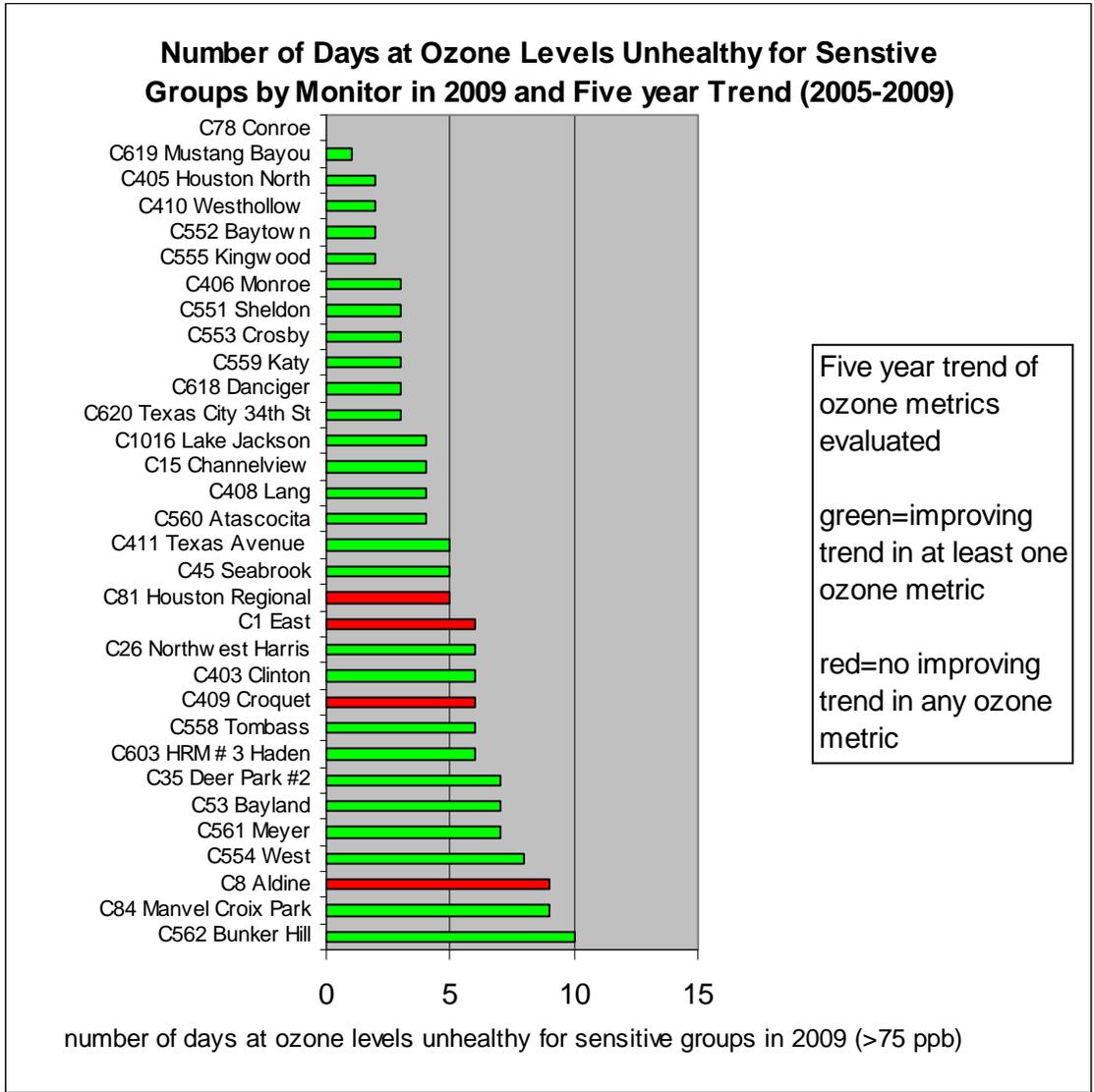
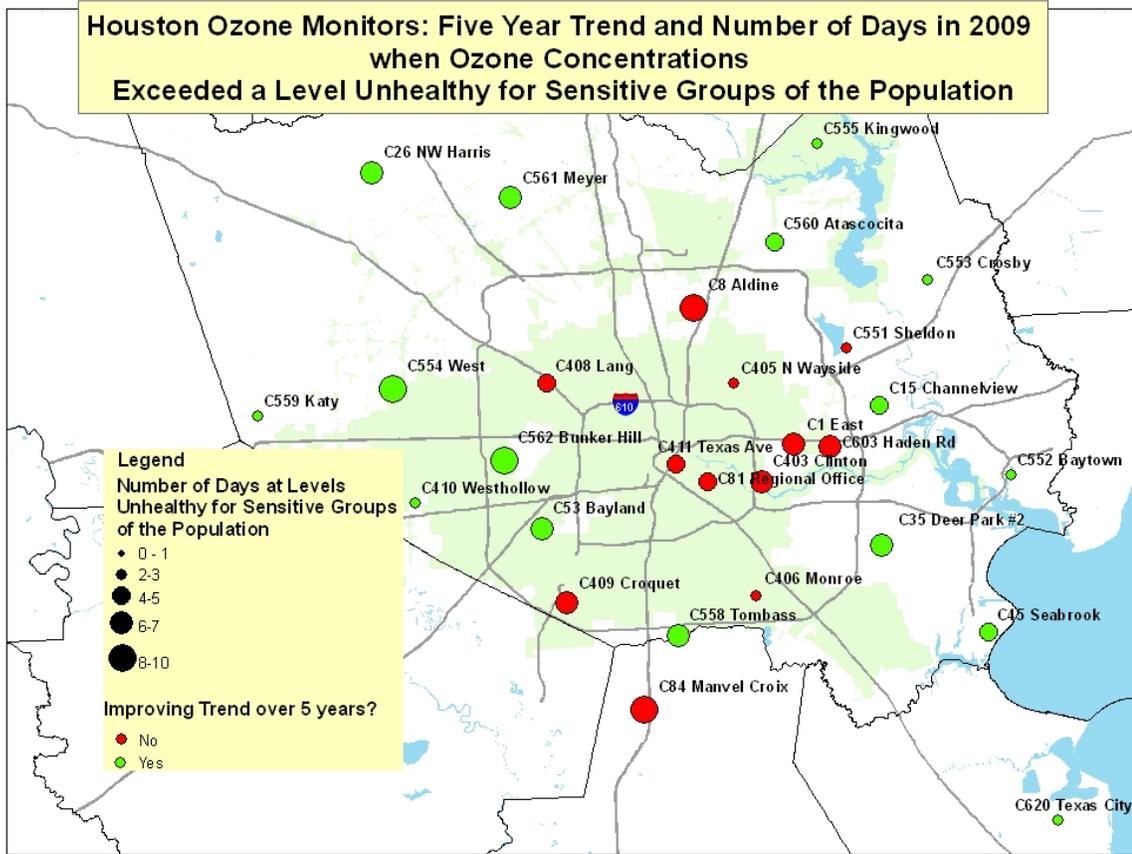
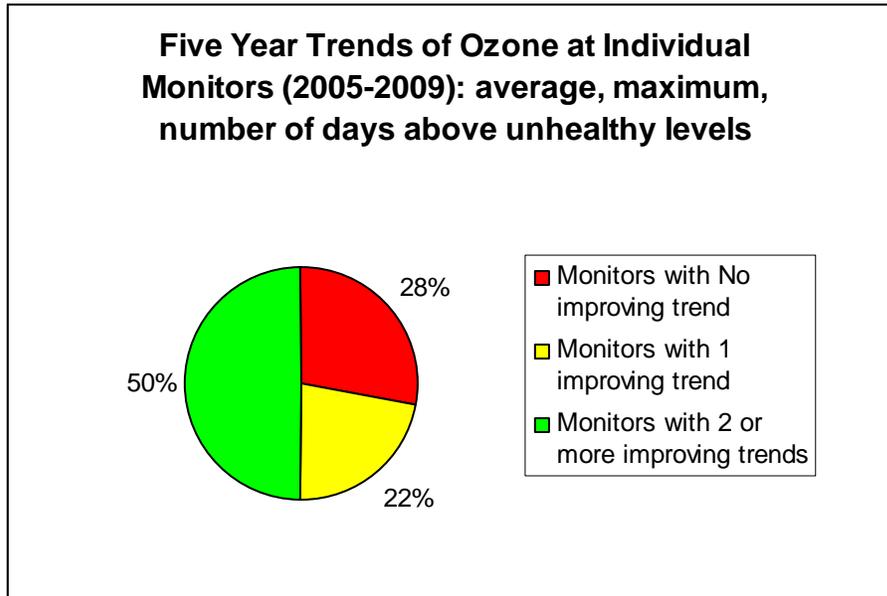


Figure 2



Note: Trend analysis depicted in this figure reflects trend of only one ozone metric: number of days at levels unhealthy for sensitive groups.

Figure 3



Note: This figure is based on all 32 monitors