



**ARAQMD**  
Protecting our Air

# The Air You Breathe

A free quarterly newsletter from Akron Regional Air Quality Management District.

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## Air Pollution from Cars Affects Everyone

*Excerpts from article by Dr. Jeff Masters of Weather Underground.*

Death certificates never list air pollution as the cause of death. Nevertheless, air pollution is a huge and silent killer: about 3 million premature deaths per year globally are linked to outdoor air pollution. Between 91,000 and 100,000 air pollution related deaths per year occur in the U.S., according to separate studies done in 2016 by the World Bank and the Health Effects Institute (a U.S. non-profit corporation funded by the EPA and the auto industry.) This death rate is nearly triple that of car crashes, which claim about 35,000 U.S. lives each year.

Air pollution has been proven to increase the incidence of death due to stroke, heart attack and lung disease. Since these causes of death are also due to other factors such as life style and family history, we typically refer to air pollution deaths as premature deaths. A premature air pollution-related death typically occurs about twelve years earlier than it otherwise might have, according to Caiazzo *et al.*, 2013. The two pollutants known to be deadly for large numbers of people are ground-level ozone and particulate matter—especially the tiny particles known as PM2.5 (those that are less than 2.5 microns or 0.0001 inch in diameter). PM2.5 pollution is thought to kill about ten times more people than ozone.

### Vehicles are responsible for about 1/4 of U.S. air pollution deaths!

Motor vehicles in the U.S. cause about 26% of all air pollution deaths in the U.S., according to a 2013 MIT study. This translates to roughly 25,000 vehicle-related air pollution deaths each year, if

we assume 100,000 total U.S. air pollution related deaths per year. PM2.5 is the primary cause of traffic-related health impacts, but traffic-related PM2.5 exposure varies greatly depending upon city. Motor-vehicle PM2.5 contributions are estimated to be 49% in Phoenix, AZ and 55% in Los Angeles, CA, but just 5% in Pittsburgh, PA, where very high background levels of PM2.5 exist due to power plant emissions and long-range transport.

The greatest risk of a vehicle-related air pollution death is for people living close to an expressway or major road. The danger zone may extend as far as 500 meters downwind of a major expressway, but only 100 meters or so upwind. The greatest PM2.5 levels are found less than 50 meters from a busy road; one study found a 50% decrease in PM2.5 within 100 to 150 meters from a road. These numbers mean that a large number of people living in urban areas are subjected to air pollution levels much higher than the official EPA pollution monitors report. In 2000, 44% of the population of Los Angeles lived within 500 meters of an expressway or 100 meters of a major road.

### High exposure to pollution while driving.

Levels of PM2.5 pollution along busy roads are roughly double ambient levels, so you are greatly increasing your air pollution exposure if you drive with the windows open. The highest PM concentrations occur in congested traffic or when driving behind a heavy diesel-driven vehicle. Your exposure is not reduced much by driving with the windows up, if the car's ventilation system is operated to bring in outside air. While cars are equipped with a cabin air filter which reduces levels of harmful particulate matter sucked in from the road, these filters only

## Air Pollution from Cars Continued

reduced PM 2.5 levels inside the car by 29% compared to outside pollution levels, according to one study that looked at a wide range of commonly driven 2010 - 2013 model year cars. This is not much better than when the filter was removed, which resulted in a 22% reduction.

To greatly reduce your air pollution exposure while driving, operate the ventilation system under recirculation (RC) mode (you may need to run the air conditioner to keep the windows from fogging up.) Recirculation mode can achieve a reduction of about 90% in PM2.5 levels, and it takes just three minutes once RC mode is turned on for the air to clear to levels typically breathed in an office. However, recirculation mode also causes passenger-exhaled CO2 to accumulate rapidly in the car. Exposure to high CO2 concentrations for several hours can significantly reduce decision-making performance, and may cause drowsiness.

If you are on a long drive in heavy traffic, it is probably a good idea to turn RC mode off for a few minutes every half hour or so if you are concerned about staying alert and making good driving decisions. Some new vehicles have the feature of periodically switching off the recirculation and bringing in air from the outside for a short period of time during the recirculation setting.

To read the full article and see citations, graphs, and hyperlinks to even more details, go to:

<https://www.wunderground.com/cat6/air-pollution-cars-affects-everyone-why-we-should-care>

ARAQMD works hard doing our part to ensure reduced air pollution from business & industry. It's time individuals understand the impact their vehicles have on air quality, too. Clean air is a team sport!

For weekday  
Air Quality  
Index  
updates and links to  
timely articles & info.  
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## ARAQMD Staff Highlight

Sean Vadas, from our permitting staff, is once again co-chair of the Permitting and Enforcement (P & E) Workgroup for the State of Ohio. The primary purpose of the P & E Workgroup is to continually improve air pollution permitting, compliance and enforcement programs in Ohio by supporting staff for the Ohio EPA Division of Air Pollution Control's (DAPC) District Offices, Local Air Agencies, and DAPC's Central Office through a variety of means.

These include:

- Promoting statewide consistency in air permitting, compliance & enforcement;
- Addressing statewide procedural and technical permitting, compliance & enforcement issues;
- Developing recommendations for statewide procedural and technical permitting, compliance & enforcement guidance; and
- Identifying and developing

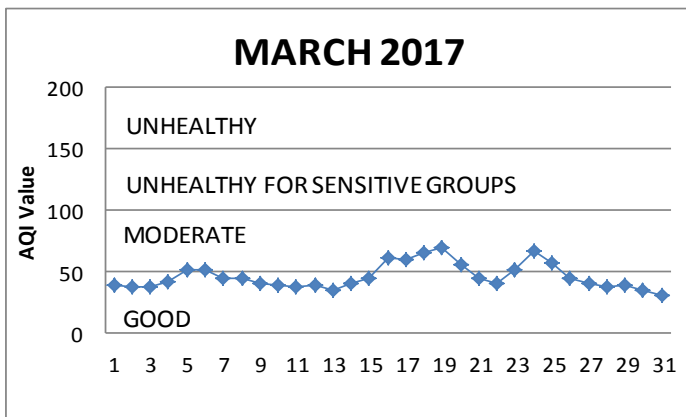
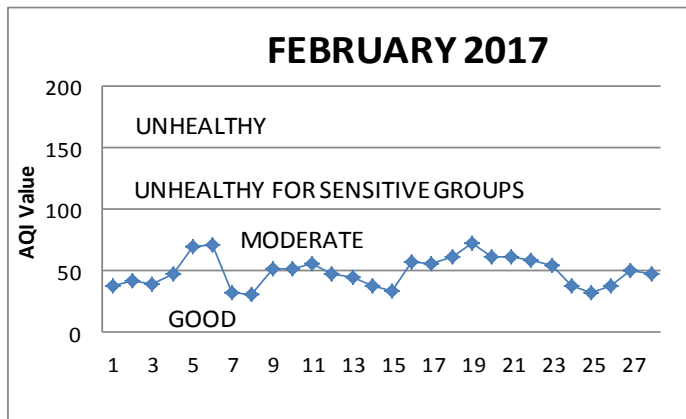
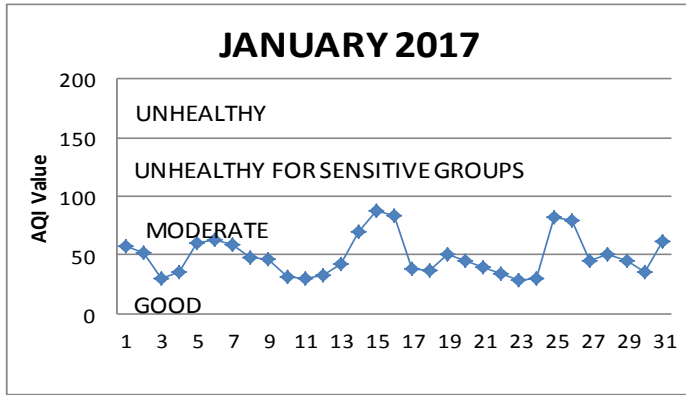
recommendations for process improvements for both the permitting & enforcement sections.

In his new role, Sean will be the voice of all Local Air Agencies (LAAs) in the state of Ohio (ARAQMD is one of nine LAAs in the state). Sean was nominated to this esteemed role by a collective vote of the LAA Directors, and was appointed by the Assistant Chief of the Permitting section from the Central Office. Being nominated speaks to Sean's depth of experience and breadth of knowledge. He will serve in this role for 2 years, helping shape the way permitting & enforcement work is done around the state for years to come.

We are proud of Sean and know he will have a positive impact on the work done not only in our service area, but throughout Ohio!

# Statistic Snap Shot

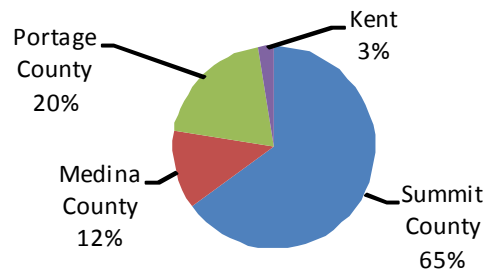
## 1st Quarter 2017



## 1st Quarter 2017 Complaints

Area	Commercial/Industrial	Residential	Total
Summit County	5	21	26
Medina County	3	2	5
Portage County	1	7	8
Kent	0	1	1

## 1st Quarter Complaints



Site Visits	1st Quarter 2017
FEPTIO	1
Title V	3
Non Title V	17
GDF	0
Full Compliance Evaluations	4

## Permits Issued

Quarter	PTI		PTIO		TV		PBR
	Draft	Final	Draft	Final	Draft**	Final	Total
1st Q 2017	2	4	2	17	2	0	61

## Asbestos

1st Q—Notifications	107
1st Q—Inspections	46

## Indoor Air Quality Inquiries

1st Q— 24



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Follow us on Facebook!  
AQI, Pollen Counts,  
AQ Advisory alerts & links to  
informative AQ articles!

## Air Quality Awareness Week 2017

Air Quality Awareness Week 2017 was May 1-5 this year. ARAQMD decided to take a shot at some social media advertising and ran a Facebook campaign during the week. The ad remarked about everyone's need for clean air and encouraged folks to click over to our web page dedicated to AQA week:

[www.araqmd.org/air-quality-awareness-week](http://www.araqmd.org/air-quality-awareness-week). At the web page, visitors were given the opportunity to learn about ways they could make small changes that would positively impact air quality with their transportation and home energy efficiency. Those who chose to commit to making at least one change in favor of cleaner air were rewarded with a brand new tire gauge...to help make sure those tires were properly filled! Small improvements to vehicle maintenance can positively impact air quality. And, it can be as simple as keeping those tires properly inflated!



Everyone Needs Clean Air!



All the tire gauges

But that wasn't it! All those who took the time to make a pledge, not only

got the free tire gauge, but were put into a grand prize drawing. Each county we serve had a winner of a selection of energy efficiency prizes. Winners were:

- ◆ Joy T. from Wadsworth, OH - Medina Co.
- ◆ Brooke H. from Akron, OH - Summit Co.
- ◆ Lisa M. from Ravenna, OH- Portage Co.

### The Grand Prize(s) Included:



- ← 6 LED lightbulbs
- ← Save A Watt Indicator
- ← Smart Power Strip
- ← Solar Cell Charger

*While we've awarded the 3 grand prizes, we still have a limited supply of tire gauges and we'd be happy to send you one!* We'll be leaving the Air Quality Awareness page up for awhile to give folks the opportunity to sign up and receive one!

**Don't miss out! Supply is limited!** Go to:  
[www.araqmd.org/air-quality-awareness-week](http://www.araqmd.org/air-quality-awareness-week) **NOW!!**