

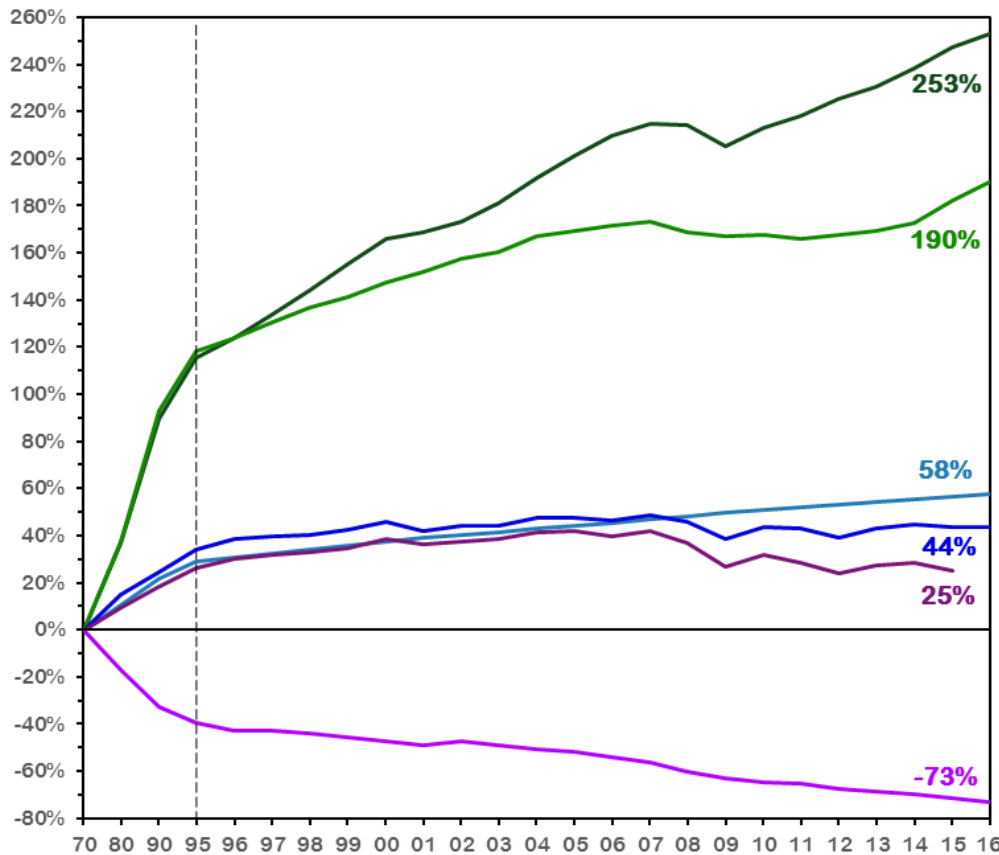


Air Quality Status, Outreach Initiatives and Pollution Reduction Programs

Philip McNeely, Director

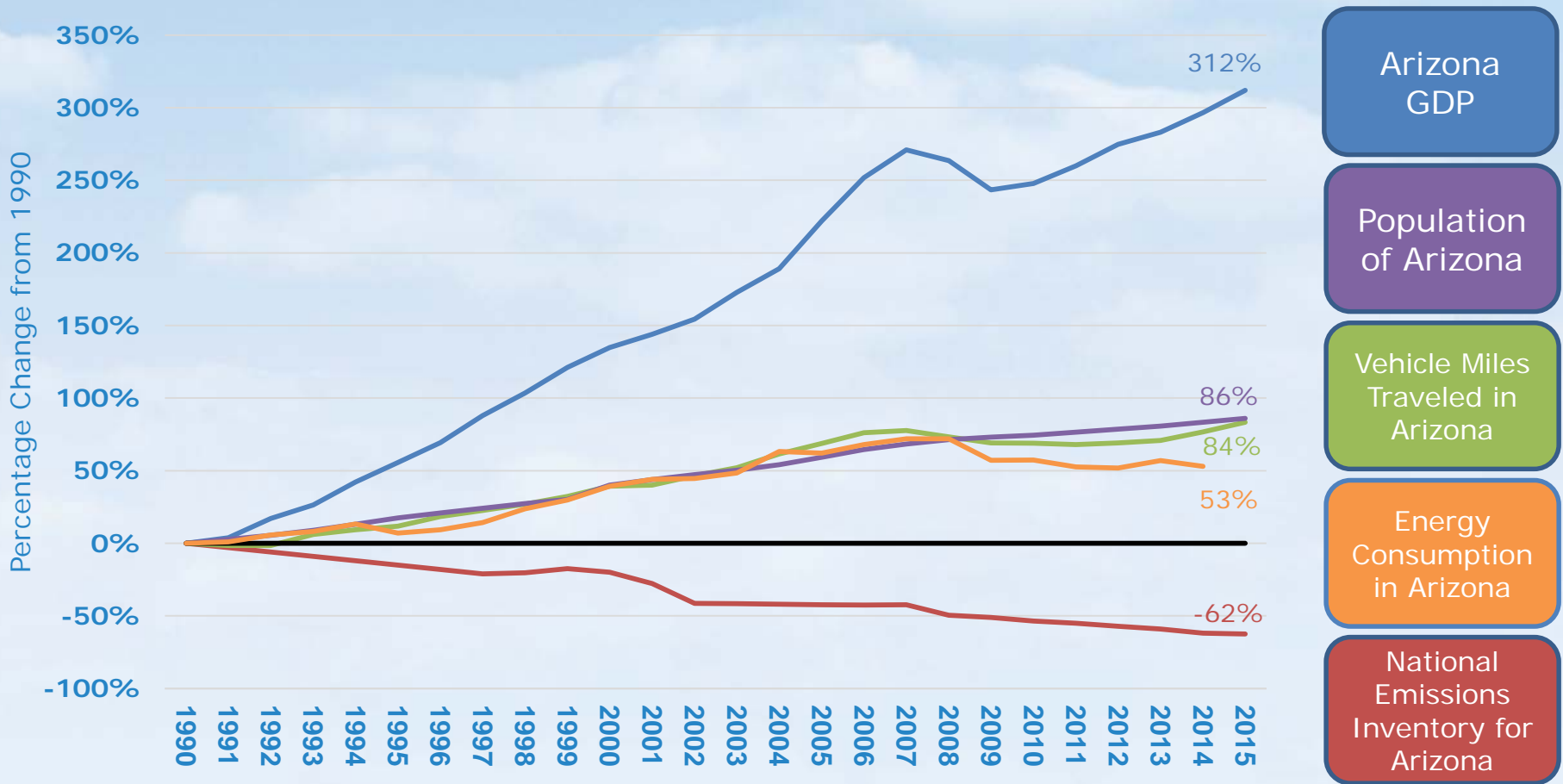
Comparison of Growth Areas vs. Emissions Across the U.S., 1970-2016

Comparison of Growth Areas and Emissions, 1970-2016



Source: U.S. EPA (<https://www.epa.gov/air-trends/air-quality-national-summary>)

Comparison of Growth Factors w/Emissions in AZ (1990-2015)



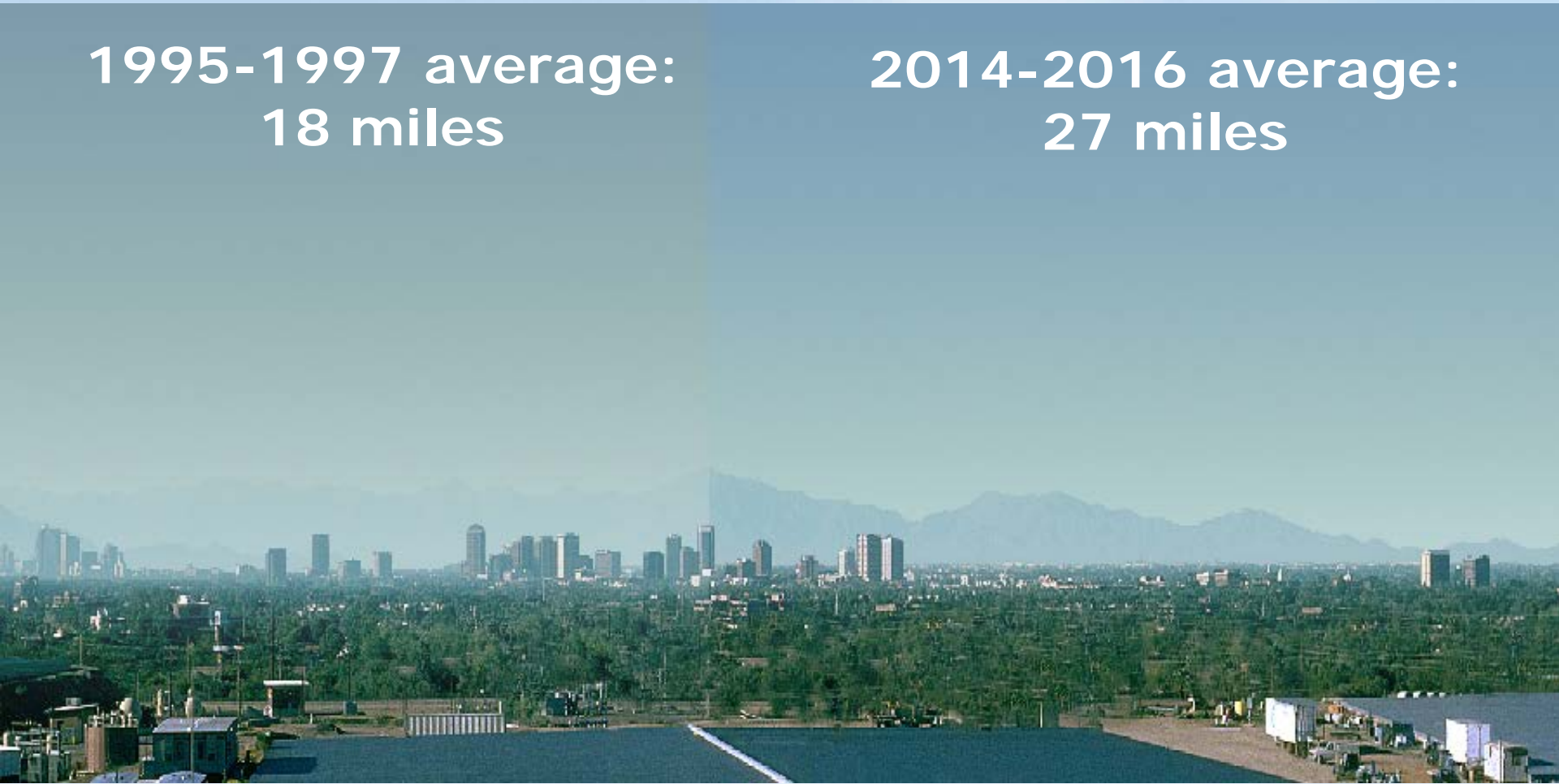
Sources

Gross Domestic Product for Arizona: U.S. Bureau of Economic Analysis
 Vehicle Miles Traveled in Arizona: Arizona Department of Transportation
 Population of Arizona: U.S. Census Bureau
 Energy Consumption in Arizona: U.S. Energy Information Administration
 National Emissions Inventory for Arizona: U.S. Environmental Protection Agency

20% Worst Days

1995-1997 average:
18 miles

2014-2016 average:
27 miles



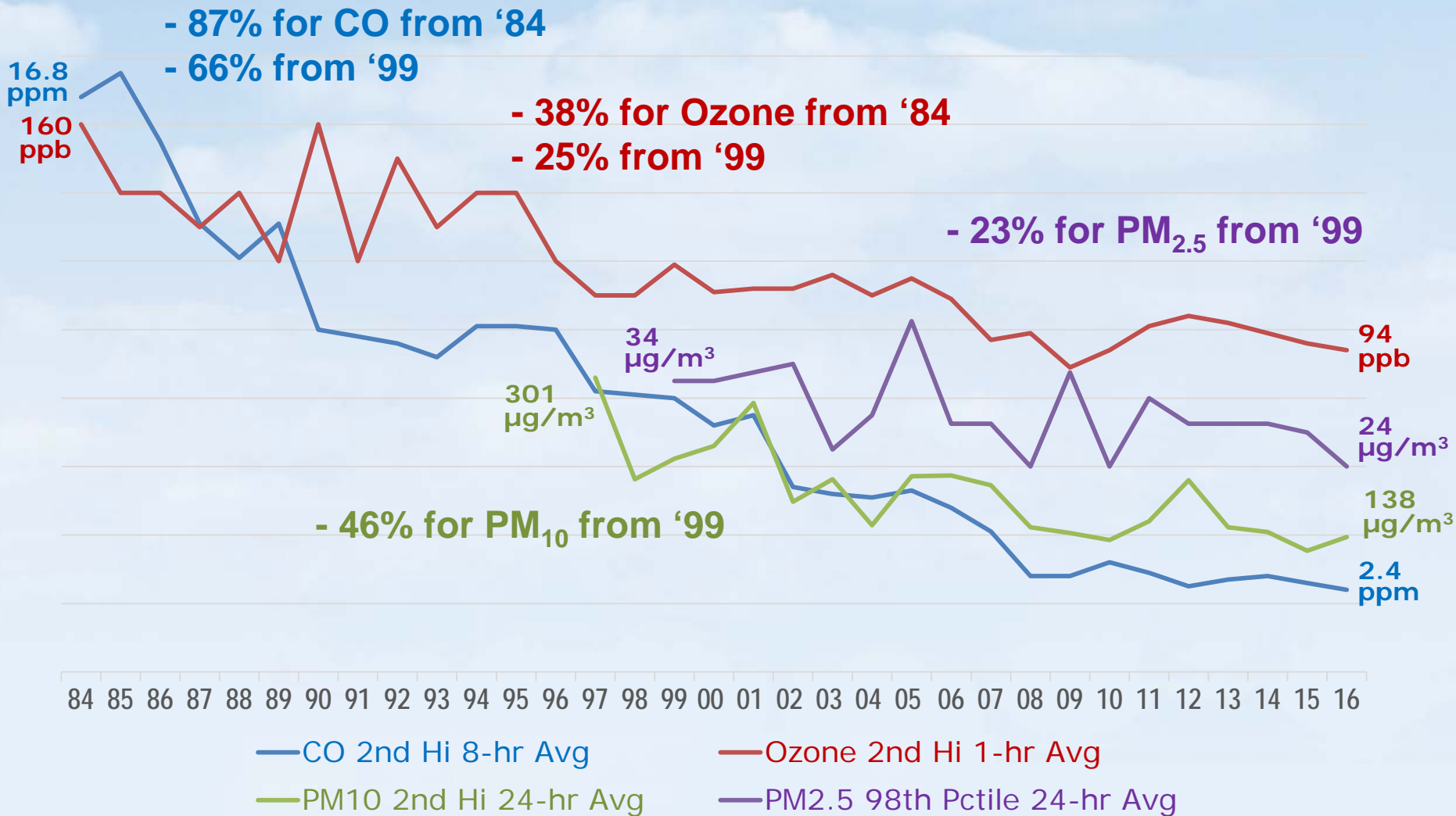
20% Best Days

1995-1997 average:
52 miles

2014-2016 average:
82 miles



Max Network Air Pollutant Concentrations, 1984 to 2016



Outreach

Air Pollution Educational Campaigns

- Ozone – Commit to One Day
- Burn Cleaner, Burn Better

School Outreach (Elementary, Middle and High School)

Mobile App and CleanAirMakeMore.com

Air Quality Educational Kiosks

Booth Events



Ozone Campaign – Commit to One Day

COMMIT TO ONE DAY HELP KEEP OZONE AWAY!

By making easy changes to daily activities at least one day a week such as reducing driving, taking light rail or the bus, refueling after dark or riding a bike to work, Maricopa County residents and businesses can have a great impact on reducing ozone concentrations and helping keep our air clean.



CleanAirMakeMore.com



Ozone pollution is a concern in the warmer months of April through September. A small commitment at least one day a week helps reduce ground-level ozone pollution and helps us all breathe easier.



BIKE

Ride your bicycle to places you would normally drive your car. Get some fresh air and save some gas while reducing air pollution.



RIDE PUBLIC TRANSIT

Utilize alternate modes of transportation. Consider taking the light rail, bus or vanpool.



CARPOOL

Carpool to as many locations as possible. Riding together decreases the amount of emissions in the air.



WALK

Reducing air pollution can be as easy as walking to nearby locations instead of driving. Increase the number of steps on your pedometer and improve your health.



AVOID IDLING

Avoid the drive-thru and go inside to order your food, coffee or prescriptions. You won't have to wait in a long drive-thru line and you will reduce exhaust emissions.



FUEL AFTER DARK

Hot temperatures and gasoline fumes create ground-level ozone. Reduce the effect and refuel your vehicle at night time.



SWEEP IT UP

Sweep your driveway, patio, deck, etc. Instead of using a leaf blower. Get some exercise and breathe in fresh air while you burn a few calories.



Download the Clean Air Make More app for iPhone, iPad, and Android!



BCBB Campaign




Campaign to promote wood burning alternatives

- **Billboards** (English/Spanish)
- **TV, Radio, Online, Newspaper** (En/Sp)
- **Grocery Store Signage, Weekly Ads & In-house Radio**
- **Light Rail**
- **ADOT Signs**
- **Meteorologist Spots**
- **Social Media**
- **Public & Private Partnerships**



School Outreach


TEACHER'S GUIDE




Up in the

UP IN THE AIR: AN AIR POLLUTION EDUCATION PROGRAM

KINDERGARTEN - 2ND GRADE UNIT




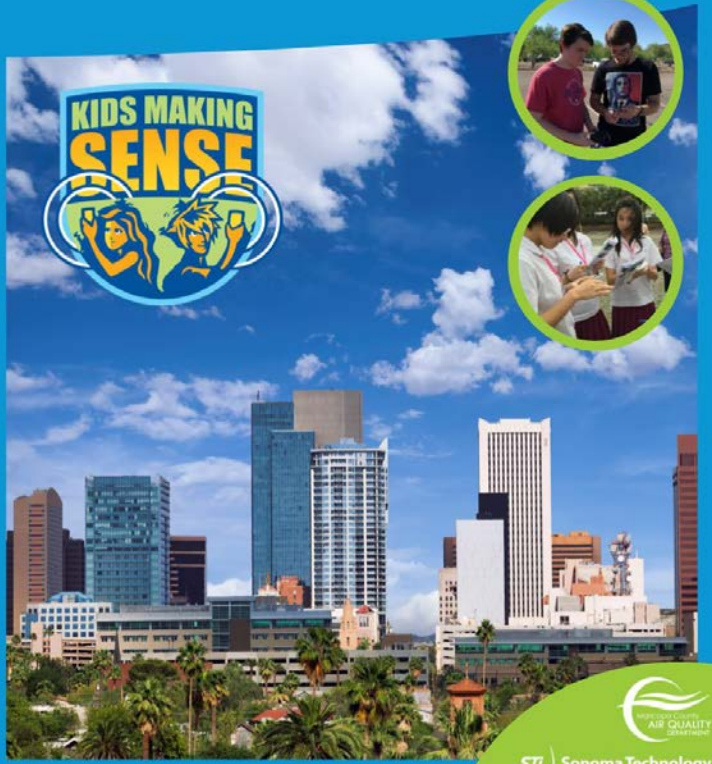


Maricopa County
Air Quality Department



Elementary

Kids Making Sense®

Empowering students to clear the air and improve public health in their communities.



STI | Sonoma Technology

Middle School & High School

Air Quality Educational Kiosks



Mobile Kiosk

Stationary Kiosks:

- Lake Pleasant Recreation Center
- South Mountain Environmental Education Center



Air Quality Educational Kiosks



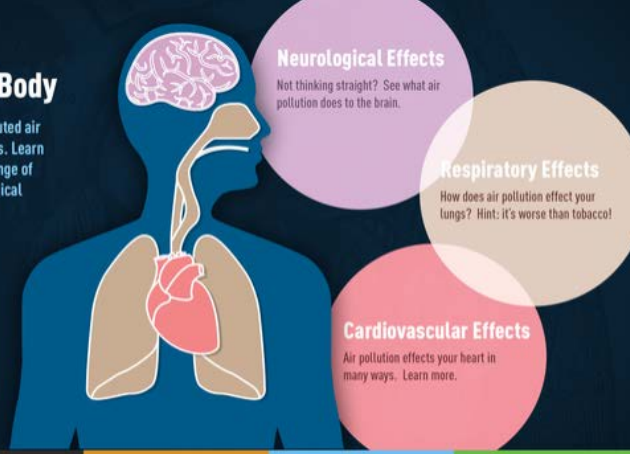
Air Quality Educational Kiosks



Air Quality and the Body

Like smoking or poor dietary habits, polluted air poses a threat to our bodies in many ways. Learn more about how air pollution causes a range of respiratory, cardiovascular, and neurological symptoms.




👉 Tap the elements to learn more.



Neurological Effects
Not thinking straight? See what air pollution does to the brain.

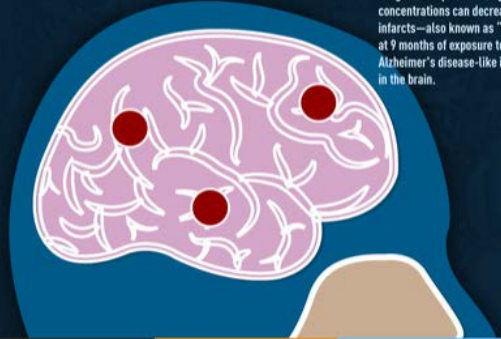
Respiratory Effects
How does air pollution effect your lungs? Hint: it's worse than tobacco!




Cardiovascular Effects
Air pollution effects your heart in many ways. Learn more.

  CLEAN AIR MAKE MORE 

Particulate Matter and Alzheimer's

Long-term exposure to high Particulate Matter concentrations can decrease total brain volume and increase infarcts—also known as “silent strokes.” One study showed at 9 months of exposure to elevated Particulate Matter, an Alzheimer’s disease-like inflammation profile was observed in the brain.



  CLEAN AIR MAKE MORE 

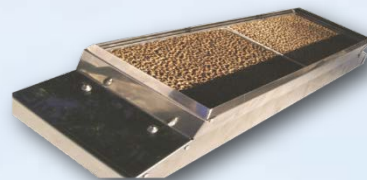
MC Fireplace Retrofit Program

MCFRP is a pilot program designed to reduce air pollution in your neighborhood by modernizing wood burning fireplaces.

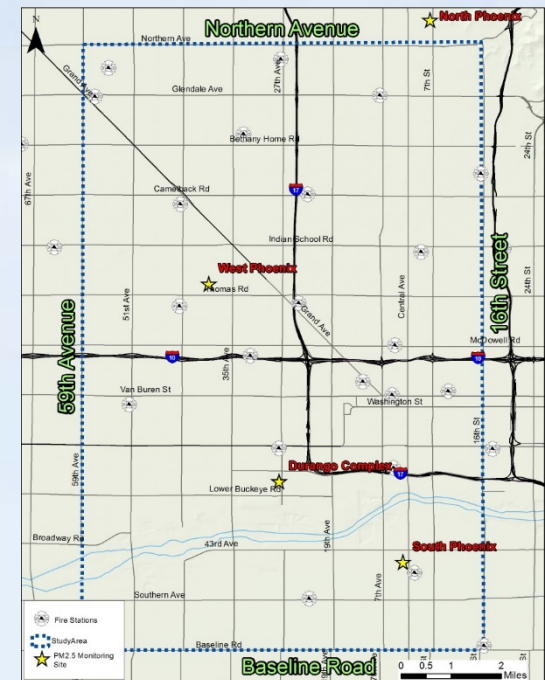
- Established in 2016
- Program funded through penalty/settlement money
- **Boundary area:** Northern Ave to Baseline Rd & 16th St to 59th Ave



Natural Gas Log Set



Air Pollution
Reduction Device



MCFRP Status

**300 total
installs to date**

Air Pollution Reduction
Devices

Natural Gas Log Sets





Maricopa County Propane Fire Pit Program



PRO



ARIZONA
PROPANE GAS ASSOCIATION

MC Fire Pit Program

Program to retrofit outdoor wood burning fire pits in Maricopa County.

- Partnering with Home Depot and the Arizona Propane Gas Association
- Voucher Program includes \$75 Rebate (MC \$50 + APGA \$25)
- For the purchase of outdoor gas fire pits (propane)
- Available for first 1,000 purchases



State Clean Diesel Program

On average a school bus travels 10,800 miles and consumes on average 1,800 gallons of diesel fuel per year.

Diesel engines are the primary contributors to PM 2.5 and NOX.

In 2008 the EPA began to award grants under the Diesel Emissions Reduction Act to the states to help reduce emissions.



Arizona State Clean Diesel Program

2016 Governor Ducey Designated the program to MCAQD.

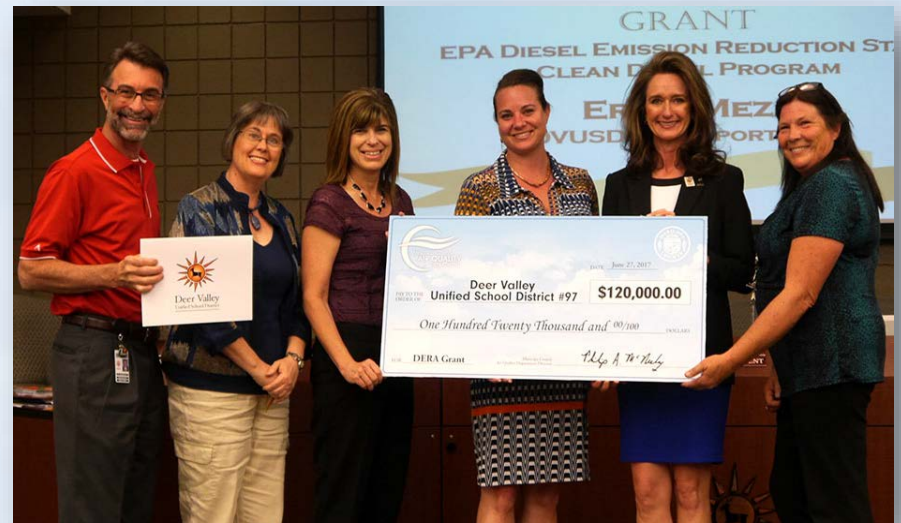
First Year

- Awarded funding to:
 - Deer Valley Unified School District #97
 - Maricopa County Equipment Services

Second Year

- Awarded funding to:
 - Awarded to Agua Fria Union and Cartwright School Districts

[http://www.maricopa.gov/4509/
Clean-Diesel-Program](http://www.maricopa.gov/4509/Clean-Diesel-Program)



Lawn Equipment Replacement Program

COMING SOON



Thank you.

Contact Information

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- Philip McNeely is the Director of the Maricopa County Air Quality Department, a regulatory agency whose goal is to ensure clean air standards are achieved in Maricopa County. Philip has 25 years of environmental experience in both the public and private sectors. Prior to Maricopa County, he served as the Environmental Programs Manager for six years at the City of Phoenix.
- Phil also worked at the Arizona Department of Environmental Quality for 10 years as the Director of the Tank Programs Division and managed Arizona's Superfund Program. Philip worked as an environmental consultant prior to joining ADEQ.
- Philip has a Master of Science in geology from the University of Florida and is an Arizona Registered Geologist, and a LEED, AP.