

# Maricopa County Air Quality Department

## 2011 ANNUAL REPORT



*Working to provide clean air to Maricopa County residents and visitors so they can live, work and play in a healthy environment.*



**Maricopa County**  
Air Quality Department

## Message from the Director

Welcome to our department's first Annual Report. Inside this document you will find information on the work our department is conducting to protect the air we all breathe.

On most days, we enjoy clean air in Maricopa County. But there are several days when we need to improve our efforts and take action to promote clean air.

We are currently in nonattainment for coarse particulate matter (PM<sub>10</sub>) and have our challenges meeting ozone and fine particulate (PM<sub>2.5</sub>) standards. When we do not meet air quality standards, human health is adversely impacted and visibility is diminished. In addition, failing to meet air quality standards can result in federal sanctions that impact economic development and citizens' jobs. In short, protecting our air quality means protecting our health and our economy.

In order to meet federal health-based standards and to improve the air in Maricopa County, we approach our regulatory role from a Compliance Assurance model. This model focuses on increasing the number of facilities that meet their permit and air quality obligations (increased compliance rate). Increased compliance results in better air quality. This approach utilizes all tools such as education, outreach, business assistance and enforcement to promote compliance and remove any incentives for noncompliance. Our objective is to work with our communities in the common pursuit of cleaner air and a better quality of life.

We welcome your comments and feedback. You may contact us by email, in person, or by phone during business hours. It's our air and our collective efforts to curb pollution that will provide clean air so we can live, work and play in a healthy environment.



*William (Bill) D. Wiley, P.E.  
Director*



### Phone

(602) 506-6010—main line (8 a.m. - 5 p.m. weekdays)  
(602) 372-2703—report an air quality problem

### Web

[www.maricopa.gov/aq](http://www.maricopa.gov/aq)  
[www.CleanAirMakeMore.com](http://www.CleanAirMakeMore.com)

Sign up to **receive emails or text messages** for pollution advisories, Rapid Response notification, air quality rule workshop and news updates:

[www.maricopa.gov/aq/news/minfo.aspx](http://www.maricopa.gov/aq/news/minfo.aspx)

Like us on Facebook [www.facebook.com/CleanAirMakeMore](http://www.facebook.com/CleanAirMakeMore)

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Summer Dust Storm in Maricopa County

On what was shaping up to be a clean year for our region’s air quality, Mother Nature had other plans. The summer storms in 2011 raged through the Valley, spewing thick dust clouds into every crevice of our breathable space.

The National Weather Service’s preliminary reports show 14 storms of serious magnitude hit our region last summer. Strong winds transported several thousand tons of particulate matter. Dealing with the actual storms wasn’t our only challenge. The days and sometimes weeks following each storm left us with a fine layer of particulate matter on our roads, window sills and sidewalks. The community’s daily activities matched with driving and leaf blower use helped to continually churn that dust back into the air. Without any measurable rainfall, we were stuck.

Air quality experts contend 18 of 19 high pollution days for coarse particulate matter were due to exceptional events beyond regulatory efforts to control dust.

### Air Monitoring in Maricopa County

The department maintains an active, ambient air monitoring network throughout the county. The equipment measures six criteria pollutants including carbon monoxide, nitrogen dioxide, ozone, particulate matter, sulfur dioxide and lead. Three of those prove to be a pollution challenge for our region.



#### 2011 Maricopa County Air Monitoring Data

# days not meeting the standard

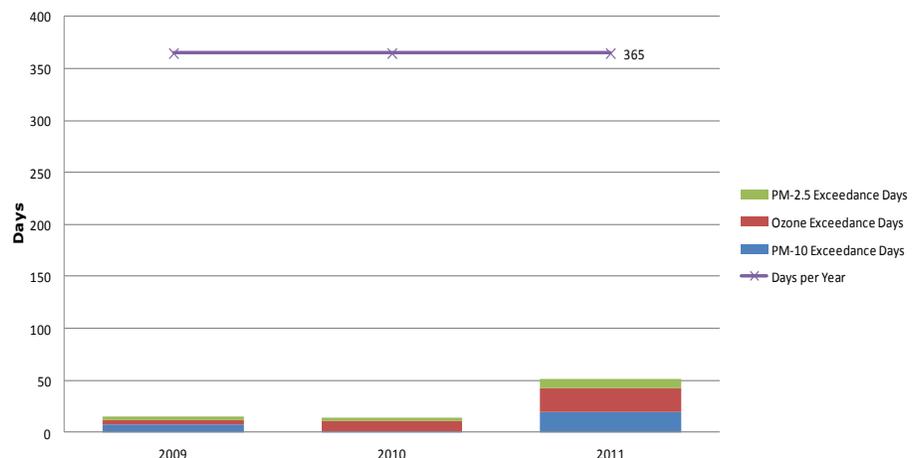
- PM<sub>10</sub> = 19
- PM<sub>2.5</sub> = 9
- Ozone = 23

Air Monitoring (Fixed) Sites  
 24 Maricopa County sites  
 9 Other sites in the non-attainment area

63 active pollution monitors

Learn more about the department’s [air monitoring network](http://maricopa.gov/aq) at [maricopa.gov/aq](http://maricopa.gov/aq).

#### Total Number of PM-10, Ozone, and PM-2.5 Exceedance Days for 2009, 2010, and 2011



The region's 5% Plan for PM<sub>10</sub> underwent major revisions in 2011. Last January, the Arizona Department of Environmental Quality [ADEQ] withdrew the particulate matter air quality plan from EPA's review after the federal agency proposed to partially approve and partially disapprove the 5% Plan.



Originally submitted in 2007, the 5% Plan called for significant reductions in emissions of particulate matter 10 microns or less in size, also known as PM<sub>10</sub>, from a variety of sources throughout the Valley.

ADEQ reported if the plan had not been withdrawn, EPA would have taken final action on January 28, 2011, resulting in sanctions freezing regional transportation funding for Maricopa County. Unless resolved, disapproval could also impact the construction of new, large sources of dust within 18 months, and federal highway dollars after 24 months.

Work on revisions to the 5% Plan for PM<sub>10</sub> now has two tracks: compilation and preparation of the plan itself, and on documentation and submittal of exceptional events demonstrations for 21 of 22 exceedance days this year covering 99 out of 100 exceedances within the nonattainment area.

Highlights of revisions made include a new Dust Action General Permit administered by ADEQ, a rapid response effort and a commitment by our department to conduct a rule effectiveness study on Rules 310, 310.01 and 316. A revised plan is expected to be posted by ADEQ for public comment in February 2012 and is on schedule to be submitted to the EPA in the spring of 2012.



As the region of Maricopa County strives to meet the federal health limits for dust pollution, the awareness and actions of every individual can go a long way toward clean air. Finding a way to immediately pinpoint a growing, human-caused pollution problem and stop it in its tracks would make a significant difference in cleaning the air we breathe. That's the concept behind Maricopa County's Rapid Response Notification System.

With a "go live" date of June 1, 2011, the Air Quality Department went to work outfitting the department's air monitoring sites with updated equipment. The technology would allow the sites to report real-time monitoring data; something previously updated every hour. The Maricopa Association of Governments approved funding for the monitoring system upgrades and 13 air monitoring sites were outfitted with the improved communication technology. The upgrade pulls data every five minutes, providing a more accurate picture of what is happening with our air quality at any given area of the network.

Next, Maricopa County's Information Technology group established a notification system to automatically send an email, text message, Twitter and Facebook post when a Rapid Response Notification was enabled. Once an alert is triggered, Air Quality Department compliance inspectors and stakeholders go directly to the alert area, canvass activities and search for troublesome dust generating activity.

The program is part of the department's three-tiered approach to protecting air quality including inspections, complaints and notifications. To date, two exceedances of the federal health standard have been prevented due to Rapid Response intervention. Since its inception in June 2011, more than 4300 subscribers have signed up for Rapid Response notifications on the department's website [www.maricopa.gov/air](http://www.maricopa.gov/air).





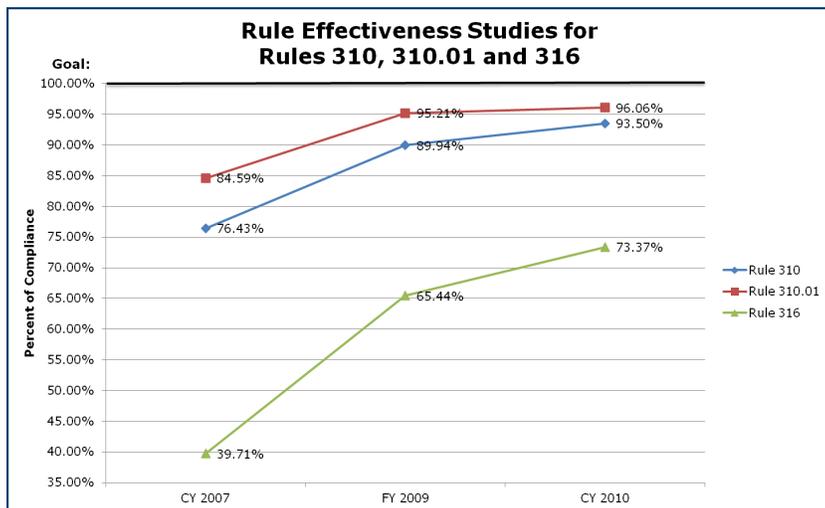
Focusing on a comprehensive method to achieve clean air, the Air Quality Department announced its Compliance Assurance strategic vision in 2011.

“We do our job by implementing and enforcing our statutes, ordinances and rules,” states Air Quality Department Director Bill Wiley. “Compliance Assurance is nothing more than fully implementing these authorities, essentially striving for 100% compliance. With compliance comes cleaner air.” This effort is measured through increased “rule effectiveness” and air monitoring data.

The department regulates nearly 6,000 businesses through air quality rules, permitting, monitoring and compliance. Education, outreach, business assistance and enforcement (penalties) are key elements through which the department will implement its Compliance Assurance model.

“When businesses and individuals are in compliance with air quality standards, we all benefit by enjoying better air quality,” explains Wiley. “Breathing clean and healthy air is a fundamental and critical need for all of us – our families, our friends, our children.”

The philosophy focuses on increasing the percentage of facilities operating in compliance by utilizing a variety of approaches including outreach, business assistance, training, targeted inspections as well as enforcement. Enforcement should be both potent and effective and used when necessary. View a copy of the department’s Compliance Assurance strategic vision document [here](#).



*Rule effectiveness studies are a central component of state implementation plans [SIP] required for EPA approval and in meeting air quality standards. Rule effectiveness measures emission-based compliance rate for county air quality rules.*

<b>Compliance &amp; Enforcement</b>	
<b>Inspections Conducted</b>	
Rule 310 (dust)	5,587
Rule 316 (rock mining)	159
Rule 310.01 (vacant lots)	4,680
Non-Title V Permits	852
General Permits	1,888
Title V Permits	30
Asbestos	665
<b>Complaints Received</b>	
Smoking Vehicle	1,660
All other	2,060
Notices of Violation Issued	801
Opportunity to Correct Issued*	533
Enforcement Cases**	678
Penalties Received	\$1,704,922

\* The department changed its former Notice to Comply (NTC) to Opportunity to Correct (OTC) on November 7, 2011

\*\* Cases logged into the enforcement unit for action. Not all cases result in a penalty.

## Process Improvement

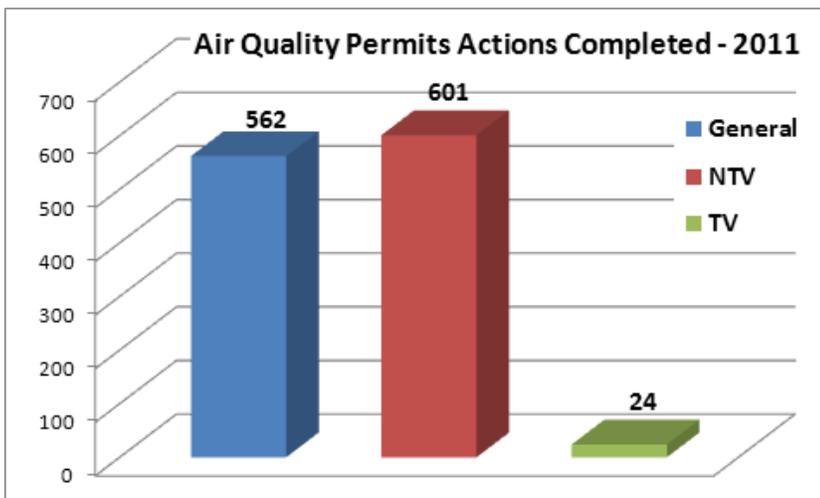
In January 2011, the Air Quality Department initiated discussions to review our operations and identify needed improvements. The Process Improvement initiative began for our Compliance and Permitting divisions with teams of employees and external stakeholders.

The teams worked to identify issues and, more importantly, solutions to streamline department processes. Several major issues were identified and have been assigned and implemented. Examples of our success include a significant reduction in paperwork processing through electronic transmittal of a permit; development of a single inspection form to replace seven original forms and a dedicated staffer to answer the department's main phone line. You may view a full listing of our Process Improvement solutions on the department's [website](#).

In November the Planning and Analysis Division began its Process Improvement work and is going through the same issue identification and solution recommendation process.

Our Process Improvement teams and department employees recognize this is an ongoing process. Our overall objective is to make improvements in how we go about doing our job. We look forward to continued improvements. If you have a suggestion, contact Deputy Director [Ken Proksa](#) at (602) 506-5150.

## Permitting



The department issues air quality permits for a variety of sources including gas stations, dry cleaners, construction sites, sand and gravel (mining) activity, power plants, print shops, vapor recovery, and paint refinishers. An air quality permit establishes emission controls to regulate the amount of pollution in our air.

### Air Quality Permits in Maricopa County 2011

2198	Dust permits 2011
1069	Asbestos notifications 2011
3696	Registered Subcontractors
2587	General permits
1667	Non-Title V permits
32	Title V permits

#### Average Time to Permit Issuance (business days)

18	General
87	Non-Title V



## 2011 Rulemaking Activity

Rule 321: Municipal Solid Waste Landfills  
 Rule 337: Graphic Arts  
 Rule 360: New Source Performance Standards  
 Rule 370: Federal Hazardous Air Pollutant Program  
 Rule 371: Acid Rain  
 Appendix G: Incorporated Materials  
 P-27: Vehicle Parking And Use On Unstabilized Vacant Lots  
 P-28: Off-Road Vehicle Use In Unincorporated Areas Of Maricopa County

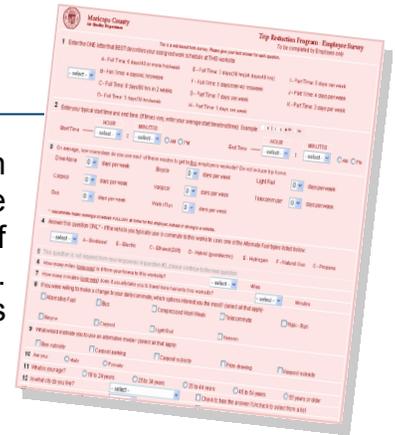
## Planning & Analysis

The Planning and Analysis Division writes air pollution control rules and ordinances. Division staff also compile emissions inventories for pollution sources within Maricopa County; 483 emission inventory reports were reviewed in 2011. You may find a list of our 67 rules and 5 ordinances as well as technical guidance documents and Emissions Inventory on our website under "[Rules and Regulations.](#)"

The rules and ordinances revised and adopted by the Maricopa County Board of Supervisors in 2011 are outlined at left.

## Trip Reduction Program

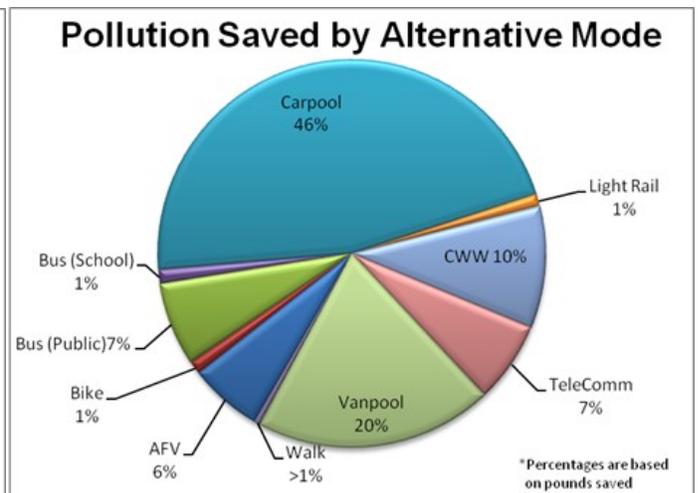
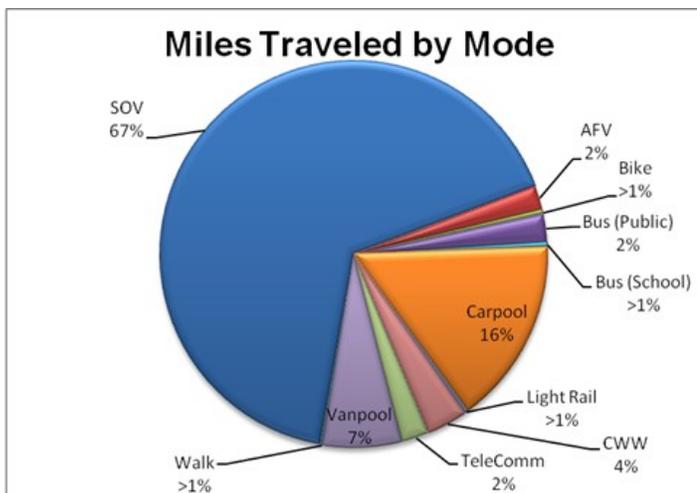
The Trip Reduction Program [TRP] serves to reduce air pollution from behind the wheel. Regionally, an estimated 80 million vehicle miles are traveled each day and responsible for a major source of air pollution from carbon monoxide, ozone and particulate matter. The TRP helps employers and schools with driving age students meet compliance requirements.



In 2011, the Trip Reduction Program:

- Served 1,177 employers at 3,032 work/school sites
- Administered annual survey to some 692,000 employees/students
- Increased use of the e-survey by 11%; reducing paper waste
- Participants reduced weekly commuting by 27,157,065\* miles
- Participants saved 15,350 tons of pollution (46.0 miles/lb.)

\*All calculations are based on a commuter's round-trip to/from a worksite or school.



The charts above reflect information acquired from 2011 TRP survey response data.

## Dust Control Training

Working to provide consistent application of dust control measures, the department assumed sole responsibility for regulatory dust control training in 2011.

Air Quality Department Rule 310, Fugitive Dust from Dust-Generating Operations, and Rule 316, Nonmetallic Mineral Processing, require site superintendents, permit holders, water truck and water pull drivers among others to attend training. The purpose is to ensure those working in dust-generating operations are aware of air quality regulations and pollution prevention practices.

The department conducted 142 Rule 310 dust control training classes in 2011 (96 in-house; 46 off-site). Additionally, there were approximately 25 city/town block permit training classes conducted. The department also conducted 21 Rule 316 dust control training classes last year (10 Basic; 11 Comprehensive). The following figures reflect the number of individuals trained by the department in each category in 2011:

	Rule 310	Rule 316
<b>Basic (in-house)</b>	<b>1,180</b>	<b>80</b>
<b>Comprehensive (in-house)</b>	<b>1,581</b>	<b>146</b>
<b>Basic (off-site; group)</b>	<b>1,033</b>	<b>0</b>
<b>Comprehensive (off-site; group)</b>	<b>537</b>	<b>0</b>
<b>City/Town Block Permit Basic</b>	<b>551</b>	<b>N/A</b>
<b>Total</b>	<b>4,882</b>	<b>226</b>

More information on the department's Rule 310 and Rule 316 training may be found through the following channels:

On the web: [www.maricopa.gov/aq](http://www.maricopa.gov/aq)  Search "Dust Control Training"

By phone: 602-372-1467

By email: [aqdustcompliancetraining@mail.maricopa.gov](mailto:aqdustcompliancetraining@mail.maricopa.gov)



### *Class survey comments:*

*"It greatly improved my knowledge as to the details inspectors look at."*

*"Surprisingly interesting class on what could be a "dry" subject!"*

*"...the AQD really wants to improve air quality for the safety and well-being of the community."*



## Fireplace Outreach

Winter pollution season showed up in full force with the department issuing six No Burn Day restrictions in December and one on New Year's Day 2012.

Despite woodburning restrictions and enforcement by Air Quality Department inspectors, Maricopa County's air quality failed to meet health standards for fine particulate matter (PM<sub>2.5</sub>) on four days over the Christmas and New Year's holidays.

Air monitoring data shows the 24-hour average of fine particulate pollution reached 67µg/m<sup>3</sup> on Christmas Day; well above the federal health standard of 35 µg/m<sup>3</sup>.

The news wasn't much better for New Year's as data shows the 24-hour average of fine particulate pollution reached 61.3µg/m<sup>3</sup> on New Year's Eve and then peaked to 89.2 µg/m<sup>3</sup>.



### What is a No Burn Day?

Woodburning restrictions are governed by Maricopa County [Rule 314](#) and [Ordinance P-26](#); residential woodburning. When pollution levels begin to rise, No Burn Day restrictions are issued in an attempt to keep fine particulate matter pollution from approaching or exceeding the federal health standard. While the regulations restrict general fireplace use and outdoor fires, there are exemptions to the rule including sole source of heat, gas powered fires, grilling or food preparation and fireworks displays.

The key to improving air quality on No Burn Days is to reduce woodburning activity. This requires public awareness of the impact of burning on our health and the realization that each of us can make a difference when it comes to protecting our air quality.

There are several ways you can learn about No Burn Day restrictions:

- ⇒ Log on to [www.CleanAirMakeMore.com](http://www.CleanAirMakeMore.com) to find out if today is a No Burn Day.
- ⇒ Sign up to receive email alerts or text messages when a No Burn Day is issued at [www.CleanAirMakeMore.com](http://www.CleanAirMakeMore.com) and click "Make the Commitment."
- ⇒ Download the Clean Air Make More Desktop Widget which automatically updates with the current air quality forecast and restrictions. Find step-by-step instructions for the download on our website here: [www.CleanAirMakeMore.com/widget.html](http://www.CleanAirMakeMore.com/widget.html).
- ⇒ Call the Maricopa County Burn Line at (602) 506-6400 for a recorded message in English and Spanish.



[CleanAirMakeMore.com](http://CleanAirMakeMore.com)



*Clean air requires the actions of every individual in Maricopa County*

Based on deteriorating financial conditions throughout the county, the Air Quality Department faced some tough layoff decisions in 2011. The department first conducted a voluntary reduction in force [RIF] in May when seven employees chose this option. Once volunteers were identified, an additional eight positions within the market range titles of Inspector, Inspector Supervisor, and Management Analyst were reduced in order to ensure department financial stability. The process was one that, sadly, was all too familiar to the department. Employees have endured three layoffs within the time span of three years as the department has gone from 258 to 140 full time positions.

The department's Leadership Team also underwent changes in 2011 with Jo Crumbaker moving into the role of Policy Advisor, Dennis Dickerson into the role of Compliance Division Manager, Lucinda Swann into the role of Permit Division Manager and Johanna Kuspert given a special work assignment as Manager of the Planning and Analysis Division.

The department moved forward to create its culture of Compliance Assurance and pledged to continue to align department expenditures and revenues and is evaluating expenses and fees to improve its fiscal health on an ongoing basis.

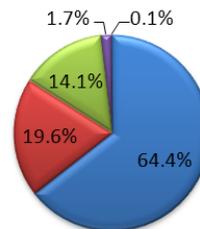
### Financial Outlook

The department is primarily funded by fees, grants and settlement funds. After a dismal fiscal outlook at the beginning of the year, the department ended its fiscal year with a net gain of \$814,071. This was due to a combination of expenditures reduced as a result of cost cutting measures augmented by increased revenue from penalties and asset sales (vehicles).

In FY 2011 (June 2010—July 2011), the county supplemented the department's budget by providing \$444,400 for personnel expenditures and \$754,261 for air monitoring equipment purchases.

#### FY 2011 AIR QUALITY REVENUE (SOURCES)

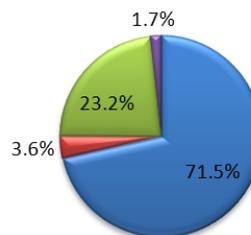
**\$15,311,401**



■ PERMIT FEES \$9,851,113	■ GRANTS \$2,996,636
■ FINES \$2,161,576	■ SALE OF ASSETS \$265,176
■ MISCELLANEOUS \$19,929	

#### FY 2011 AIR QUALITY EXPENDITURES (USES)

**\$14,497,330**



■ PERSONAL SERVICES \$10,372,176	■ SUPPLIES \$516,749
■ SERVICES \$3,362,080	■ CAPITAL \$246,326

## Clean Air Council



In seeking a way to reach key stakeholders to educate them on current air quality issues and initiatives, Air Quality Department Director Bill Wiley created the Clean Air Council. Representatives from environmental groups, permitted sources, community and business associations, city leaders and even a state legislator often attend the monthly meetings.

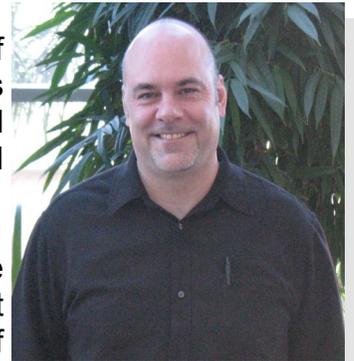
Those attending usually rotate in every so often so you may see a new person or two each time. The end result is a forum for our department to educate our stakeholders on what's happening in our department and in the region.

Meetings are held on the third Wednesday of every month. Agendas are posted to the department's internal and external websites and an employee representative from the Communication Advisory Team is invited to attend each meeting. If you have any questions on the Clean Air Council, please contact [Heather Thrasher](#) at (602) 506-6443.

## Ombudsman

In October the department welcomed Ken Hooker into the role of Ombudsman and Small Business Assistance [SBA] lead. In this role, Ken provides small business owners information and technical assistance on the county's air quality rules and regulations.

Ken brings nine years of direct air quality experience within the agency to his new role. He started with the Air Quality Department in 2002 as an Inspector and moved into the position of Compliance Inspector Supervisor in 2005.



Businesses or individuals needing Ombudsman or Small Business assistance may reach [Ken Hooker](#) at (602) 506-5102.



## Front Desk/Lobby Open for Business

The Ombudsman's office is located adjacent to our first floor lobby in Suite 125. Our environmentally friendly reception area is once again open to serve as the primary point of contact for department business, visitors and deliveries.

The department's main lobby also hosts a kiosk for members of the public to use in search of Air Quality Department information. The kiosk was established to reduce response time for basic public records requests by allowing our customers direct access to public records.



It's hard to know where you're going if you don't have a map to help you get there. That's the theory behind the department's Business Operations Plan. Connected to Maricopa County's Strategic Plan and Managing for Results measures, in 2011 the department developed its goals, strategies, measures and lead implementation assignments. Here are our four main goals for 2012 and beyond:

- ◆ Protect and improve air quality
- ◆ Customer service and awareness
- ◆ Department effectiveness and organization
- ◆ Fiscal stability and resiliency

## **2011 Annual Report**

**Prepared by:**

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**(602) 506-6010**

**[www.maricopa.gov/aq](http://www.maricopa.gov/aq)**

**[www.CleanAirMakeMore.com](http://www.CleanAirMakeMore.com)**

