



**PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY
VOLUNTARY NO-DRIVE DAYS/CLEAN AIR PROGRAM • CONTRACT NO. ADEQ18-198217
QUARTERLY PROGRESS REPORT • OCTOBER 1, 2018 – DECEMBER 31, 2018**

PROGRAM EXPENSES -----

PERCENT OF WORK COMPLETED: 50%

Reimbursable Services Expense totaled \$84,194.02 and included:

- \$49,429.83 – Labor with Fringe Benefit costs in October, November and December:
 - \$37,218.68 – Labor expense
 - \$12,211.15 – Fringe Benefit expense
- \$56.07 – Supplies - Office supplies, calendars, outreach supplies
- \$305.31 – Printing of brochures/bookmarks, business cards to promote ADEQ Air Quality Forecasts and other resources, large display poster, frame for picture taking at outreaches
- \$34,402.81 – Administrative Overhead*

*The manual calculation and application of August’s overhead amount was delayed to this quarter, due to staff turnover in the county’s central Finance Division.

GOAL 1: EXPAND OUTREACH REGARDING HEALTH IMPACTS OF O₃ AND PM-----

PERCENT OF WORK COMPLETED: 50%

WORK ACCOMPLISHED:

EXPAND RELATIONSHIPS WITH SCHOOLS

School Idle Reduction Program

Through connections with the Pima County Schools Superintendent Office, staff worked with a teacher of Amphitheater School District’s Innovation Academy gifted program, principal, and 3rd to 5th grade students to pilot a voluntary parent vehicle idle-reduction program at the school. Based on EPA’s Idle Free Schools Program, PDEQ staff provided orientation and air quality training for students, led outreach activities (i.e. pledges, letters to parents, school-wide survey, Idle Less literature, created and staffed a booth for Science Night at the school, etc.), and collected pre- and post- campaign observations (with students) of parent vehicle idling on campus after school.

Results of the campaign indicate there was a 56% decrease in the number of idling vehicles, a 17% decrease in time spent idling, and a 71% decrease in vehicle emissions. Students acted as citizen scientists and are using the project for future STEM research projects. The PDEQ VNDD’s education messaging also highlighted ways to reduce vehicle trips by having students take the bus and carpool, as well as healthy air quality benefits that support student’s cognitive abilities, lung function and overall health & wellness.

ADEQ Air Quality Flag Program

Staff met with representatives of the Pima County Health Department (PCHD) and Arizona Department of Environmental Quality (ADEQ) to discuss engaging schools and organizations within Pima County to participate in the ADEQ Flag Program. Discussion included the possibility of soliciting participation from the public library system, Fire Departments, health-care facilities and major businesses. PCHD will be taking the lead and PDEQ will provide support as needed, including potential classroom presentations regarding air quality, health effects, and no-drive actions that help to keep air healthy.

EXPAND RELATIONSHIPS WITH SMALL BUSINESSES

Staff maintains a relationship with the Downtown Tucson Partnership (DTP) and works with them to promote special VNDD events. The Partnership is a non-profit 501 (c)(6) corporation created to implement enhanced municipal services for the Downtown Business Improvement District. Included in their services is marketing and promotions to downtown businesses. We hope to partner with DTP on a spring promotion that will implement a trip buddy system to encourage new alternate mode users in the downtown area.

DETERMINE OPTIMAL WAYS TO ENGAGE TARGET AUDIENCES

STEAM Focus

Staff implemented new interactive activities and display materials that address schools' focus on Science, Technology, Engineering, Arts and Math (STEAM). Several simple hands-on demonstrations educate participants about the properties of air, while props (catalytic converter, oxygen sensor and diesel particulate filter) and a new *Engineering Clean Air* display board highlights how engineers study air to be able to design systems or devices for motor vehicles and other sources to help reduce air pollution.

Trip Buddy Program

Staff began developing the concept of a new promotional campaign aimed at downtown workers to encourage drive-alone commuters to use alternate modes of transportation using a buddy system. Staff understands individual's hesitation to try something new and will attempt to recruit existing alternate mode users to step up and help non-users try their mode.

GOAL 2: COMMUNITY-WIDE EVENTS -----

PERCENT OF WORK COMPLETED: 50%

WORK ACCOMPLISHED:

CARPOOL-FOR-YOU EVENTS

Staff implemented a series of outreach events from October 25 through December 11, 2018 that focused on carpooling to and from the downtown Tucson area to reduce vehicle miles traveled. In addition to information on carpooling and encouraging individuals to sign up to find a carpool match, resources on other alternate modes of transportation were provided as well as literature on the health impacts of ozone and particulate matter, how to find real-time air quality data, actions to reduce air pollution and protect health. Staff provided customized trip planning advice utilizing poster-size maps of Park & Ride locations and Loop map with adjacent bus stops.

To attract and engage participants, PDEQ's interactive spinning wheel and festive display provided an opportunity for question/answer interaction in a fun way. As the event locations were in the lobbies of Pima County office buildings, the audience was primarily Pima County employees. Staff promoted these events via the Pima County employee eScoop newsletter, emails, flyers, Pima County Travel Reduction Program intranet site and the Downtown Tucson Partnership.

TUCSON EARTH DAY FESTIVAL

As part of the Tucson Earth Day Festival planning committee, staff worked with other community partners to prepare for the 2019 event. The event will be held on Saturday, April 20, 2019 at the Children's Museum Tucson and adjacent Armory Park. The committee is comprised of employees of Bear Essential News, City of Tucson, Pima County, Kinder Morgan, Children's Museum Tucson, Raytheon, and retired citizens.

This year, the Children's Museum Tucson is playing a major role in organizing the event, taking care of many of the tasks other committee members have completed in the past.

USE THE LOOP FOR YOUR COMMUTE PROJECT

This on-going program encourages no-drive days with The Loop, a non-motorized, multi-use pathway connecting communities within metropolitan Tucson. After targeted outreach to 76 major businesses within one half-mile of the facility in FY 2016-2017, staff continues to fill Loop literature and map orders and promote The Loop to businesses and the general public.

Promotion of The Loop was directed towards healthcare facilities including Banner Health and El Rio, and educational facilities including multiple Pima Community College campuses and the public library network. The Loop is also discussed and the promotional flyer is available at new employee orientations for Pima County employees throughout the year as well as at the Carpool-For-You events held this quarter.

SUPPORTING COMMUNITY PROGRAMS TO ENHANCE NO-DRIVE DAY GOALS

VNDD staff works with many local groups to incorporate No-Drive Day efforts throughout the community.

- **Arizona Department of Environmental Quality**

PDEQ staff continued to promote the Arizona Department of Environmental Quality five-day air quality forecast program for the Pima County region for ground-level ozone and coarse particulate matter. It is intended to not only provide warnings to people who might have health issues associated with elevated levels of air pollution, but also to act as a preemptive measure, providing time for people to make plans that could keep air quality in a healthy range when it is forecasted to be unhealthy.

The forecasting has proved to be helpful for VNDD staff and provides information that we can include in our air quality advisories, including from where the pollution is coming and weather patterns that are affecting air quality. It is especially helpful towards the end of the work week for potential weekend warnings.

VNDD staff promoted the forecasting service at presentations and events, on social media, in news releases and on a link on the main page of PDEQ's website.

- **Green Valley Community**

Staff represented Pima County DEQ at the Green Valley Council monthly meetings to keep the committee updated on air quality issues. Presentations on air quality issues are given each month and questions about local concerns are addressed. This involvement has strengthened rapport with the Green Valley community and has proven helpful when reaching out to the at-risk population on sensitive issues, such as air quality and mining activity.

- **Living Streets Alliance**

The Living Streets Alliance (LSA) is a 501(c)(3) organization established to promote healthy communities by empowering people to transform streets into vibrant places for walking, bicycling, socializing and play. VNDD staff discussed supporting the Cyclovia Tucson event again in 2019 to help promote bicycling and walking in place of vehicle trips.

Bike Valet Program:

- Free, conveniently placed bike racks at community events encourages participants to leave cars at home and use bicycle transportation to venues;
- VNDD staff provided funding for the purchase of bike racks during Fiscal Year 2014-2015 that continue to be used; and
- During this quarter, the bike racks were deployed at three venues: October Costume Ride, November BICAS Art Auction and December Cultivate Market. At least 40 bikes were

parked during these events. Due to lack of resources, valet service is no longer available by LSA. Instead, they provide delivery and pick-up of the bike racks for event organizers. LSA also provides tags and banners for event staff to operate the valet service.

- **National Weather Service**

Staff collaborates with the National Weather Service (NWS) to provide air quality information to the public. The partnership provides timely reports that warn the public of potential or existing airborne dust issues and include a health impact statement to protect public health. When NWS issues dust alerts, the message also includes information about the availability of air quality information on the PDEQ website.

- **Pima Association of Governments**

Staff continued to collaborate with PAG on a variety of programs and projects:

- Air Quality Subcommittee: Chair meetings; help develop agenda with informative speakers to educate members about air quality issues and concerns; provide presentations regarding various air quality subjects.
- Travel Reduction Task Force: Jurisdictional representative, Travel Reduction Program Enforcement Agency for companies located in unincorporated areas of Pima County.
- Travel Reduction Program: Promoted alternate modes of transportation to approximately 7,000 Pima County employees via presentations, newsletter articles, email blasts, intranet site, Facebook group *Commute Trips & Tips*, and Reduced Emissions and Air Pollution (REAP) rewards program utilizing PAG resources.
- Distributed the annual PAG Travel Reduction Program Employee Survey for Pima County employees in October. The survey was promoted to employees by an email blast from the County Administrator's Office, posting in the ADP portal, emails to department personnel representatives, TRP list serves and email reminders.

- **Pima County Government Departments**

Communications Office

- Staff worked with graphic designers and communications specialists on a variety of projects including eScoop articles, news releases, announcement for email blast to county employees, and designing and printing promotional pieces including *Free Air Quality Resources* card, illustrations of air pollution control devices, and *Engineering Clean Air* poster.

Environmental Quality

- Due to Pima Association of Governments cancelling their Guaranteed Ride Home Program in July 2018, and with funding from PDEQ Director's Office, staff was able to implement a Guaranteed Ride Home Program for Pima County employees. This helps to serve employees who use alternate modes of transportation for their work commutes by providing a free ride home in cases of emergency and when they are caught without a personal vehicle. Staff processed four claims for emergency rides home from Uber this quarter. Employees were reimbursed a total of \$84.26 with funding from the PDEQ Director's Office.

Health Department

- Bicycle and Pedestrian Program: Promoted bike safety classes, on-line and paper maps of bike routes and The Loop non-motorized pathway, and related literature with the general public and Pima County employees.
- Support role in planning to adopt the ADEQ Air Quality Flag Program in Tucson.

Human Resources

- New Employee Orientations: Provided Travel Reduction Program presentations and informational literature about alternate modes of transportation to new employees. Four presentations were delivered this quarter, reaching 117 attendees.
- Bus Pass Sales: 953 bus passes were sold to Pima County employees this quarter via the HR Benefits program.

Natural Resources, Parks & Recreation

- Staff provides educational literature at an environmental education center, Desert Discovery Center, which serves to inform environmental educators and families about sustainability topics and regionally significant ecological issues relating to the desert environment and wildlife corridors, including water and air quality.

Office of Sustainability and Conservation

- Staff contributes to the Alternate Fuels Chapter of the Sustainability Action Plan for County Operations. This subcommittee is dedicated to reduce miles driven, improve efficiencies, and reduce emissions from the fleet of vehicles used by Pima County employees. Key participating departments on the subcommittee include Fleet Services, Environmental Quality, Human Resources, Facilities Management, and others as topics warrant.
- The team is working on projects to reduce emissions by decreasing employee vehicle idling and providing services to make using alternate modes more amenable. An idle reduction program for Pima County departments and employees is partially implemented. Promotional bookmarks continue to be distributed, GPS data reports on vehicle idling duration is reported to department heads, and plans are being developed to bill departments for unnecessary idling.

Public Libraries and Community Centers

- Several years ago, staff had set up a partnership with the Pima County Public Library system on a materials distribution program, *EcoNook for Desert Dwellers* (for teenagers and adults) and *Eco Kids Corner* (for 12 years and younger). The program promotes air quality and environmental awareness through PDEQ educational materials. VNDD staff remained available to respond to requests for literature.
- Staff previously provided master copies of some flyers to librarians to photocopy and resupply themselves with eco-literature customized to the specific interest of their library patrons. This frees up PDEQ staff time and resources. On average, staff sends fresh supplies of printed materials once or twice per year.

• Sun Tran and Sun Link Streetcar Transit Services

- Promoted transit services to Pima County employees and the general public by providing on-line resources, Ride Guides and other brochures about how to ride transit.
- *Healthy Air Is In Our Hands, Drive Less* campaign: Interior bus posters continue to be displayed in Sun Tran busses.
- Sun Tran donated \$10 value-loaded SunGO transit passes to distribute to Pima County employees. Twenty-four passes were distributed this quarter at New Employee orientations, an additional 11 were distributed after promotions of the passes to county employees in the eScoop newsletter, and three were distributed via random inquiries. Staff provided the identification numbers of the distributed cards so that Sun Tran can track their usage through time to assess the effectiveness of the promotion.

- **Tucson Audubon Society**
 - Desert Dwellers Education Project: PDEQ staff continued to collaborate with Tucson Audubon Society to distribute the desert conservation poster, *Desert Dwellers Know – A Celebration of Byrd’s Words* and other VNDD literature.
 - The companion coloring and activity book, *Desert Dwellers Know Desert Colors*, is for sale at the Audubon Society gift store. The piece was developed to extend the Desert Dwellers Know concept using attractive artwork and the poetry of Byrd Baylor to provide lessons about sustainable desert living. A series of facts, questions and academic challenges helps adhere this piece to core STEAM (science, technology, engineering, art and math) principles for easy integration with elementary school classrooms. Proceeds from the sales will be used for reprinting the poster and activity book.

- **Tucson Clean & Beautiful**
 - Staff serves on the Board of Directors of Tucson Clean & Beautiful and shares information regarding No-Drive Days goals and special events as appropriate.
 - TCB has a very active “Trees for Tucson” program that staff helps to promote for the many air quality benefits provided by shade trees.
 - VNDD and TCB promote each other’s materials at select community outreach events.

- **University of Arizona**
 - Staff facilitated the renewal of the annual affiliation agreement of an internship program between the UofA and PDEQ.
 - Worked with a Master’s of Public Health intern on the *Idle Less* school pilot program.
 - Staff participated on a panel for the *UofA Epidemiology Principles of Health Education and Health Promotion* class in October. Discussion focused on ways to reach the public regarding public health issues.
 - Staff provided a presentation for the *UofA ENVS 195A Careers in Environmental Science* class. The presentation was well received and was stated to be all-inclusive of the topics the students and professor wish to learn from. Staff was invited to be the first speaker of next semester’s class as it will provide a great springboard for the duration of the coursework.

REPORTS OR DATA PRODUCED:

Emissions reduction from Healthy Air Is In Our Hands Campaign:

- 334 contest participants pledged to not drive 110,174 miles this quarter.
- 100,158 pounds of pollution and greenhouse gases avoided.

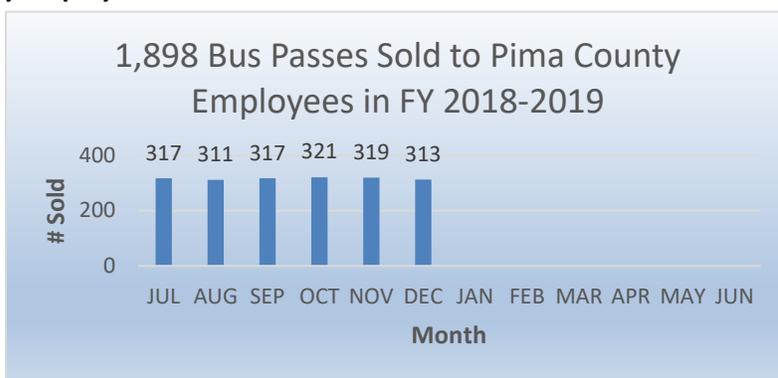
Emissions reduction through monthly Sun Rideshare Rewards Program:

Staff received data regarding Pima County employees who entered their alternate mode trips in PAG’s Sun Rideshare travel database in October, November and December 2018.

- 38 employees submitted alternate mode trips.
- 1,708 daily commute logs entered this quarter.
- 30,445 total vehicle miles reduced.
- 27,677 pounds of air pollution and greenhouse gases reduced.

Emissions reduction from Pima County employee use of transit:

According to the employee survey conducted in October of 2018, we know that the average round-trip commute for Pima County employees is 25.4 miles. In this quarter, 953 transit passes were sold to Pima County employees, an average of 318 each month. If these employees were able to use transit an average of three days per week (accounting for holidays, vacation days and days where driving is necessary), for the 13 weeks during this quarter they would have reduced driving by 315,011 miles and subsequently reduced vehicle emissions of air pollution and greenhouse gases by 269,240 pounds.



Emissions reduction from Pima County employee Guaranteed Ride Home Program:

- Employees currently signed up for this program: 60 (16 joined during the second quarter)
- Vehicle miles traveled reduced this quarter by employees using alternate modes: 81,107
- Annual miles traveled reduced by these employees: 311,950
- Pounds of air pollution and greenhouse gas emissions reduced per year: 283,591

GOAL 3: PRESENTATIONS & IN-DEPTH INTERVIEWS-----

PERCENT OF WORK COMPLETED: 57%

WORK ACCOMPLISHED:

Staff creates, customizes, updates and delivers presentations to a wide range of audiences to educate and create greater awareness about air quality issues and no-drive actions that can be taken to reduce emissions and keep the air healthy to breathe.

REPORTS OR DATA PRODUCED:

Staff delivered 15 presentations directly related to No-Drive Days this quarter to youth and adult groups, reaching at least 426 individuals. In addition, staff provided seven in-depth interviews for KOLD, KGUN-9 TV, AZ Daily Star, Green Valley News/Sahuarita Sun, Arizona Public Media, and the Desert Leaf, likely reaching thousands of residents. Topics of the interviews include windblown dust, air quality, and wildfire smoke.

Presentations			
Date	Location	# Presentations	# Attendees
5-Oct-18	EPAC - PAG	1	40
8-Oct-18	Addressing Poverty Working Group	1	12
10-Oct-18	Academy Village	1	21
15-Oct-18	PAG TRP	1	25
18-Oct-18	Pima County New Employee Orientation	1	41
19-Oct-18	Innovation Academy	2	68
30-Oct-18	PAG AQ Subcommittee	1	30

7-Nov-18	Pima County New Employee Orientation	1	21
29-Nov-18	Pima County New Employee Orientation	1	18
30-Nov-18	University of Arizona ENVA 195A Class	1	35
1-Dec-18	Wheeler Taft Abbett Library	1	23
9-Dec-18	St. Francis in the Foothills Church	1	15
7-Dec-18	EPAC	1	40
20-Dec-18	Pima County New Employee Orientation	1	37
	TOTAL	15	426

In-Depth Interviews		
Date	Location	# Interviews
8_Oct-18	KOLD TV & Green Valley News/Sahuarita Sun – mine tailing dust	2
10-Oct – 18	Arizona Public Media – wind-blown dust	1
14-Nov-18	KOLD - Tucson News Now – wind-blown dust	1
11-Nov-18	AZ Daily Star - Tony Davis – wind-blown dust	1
26-Nov-18	Desert Leaf - Lee Allen – State of the Air	1
28-Nov-18	KGUN-9 – Fireplace smoke	1
	TOTAL	7

GOAL 4: DEVELOPMENT OF INFORMATIONAL MATERIALS -----

PERCENT OF WORK COMPLETED: 119%

WORK ACCOMPLISHED:

ENGINEERING CLEAN AIR, POSTER, PROPS AND HANDS-ON DEMONSTRATIONS

Staff researched, developed content and worked with Pima County Communications Office to produce a large display poster that includes information about how engineers study the properties of air to create systems or products to help keep air healthy to breathe. The poster includes a pie chart of the sources of air pollution, showing driving motor vehicles as the single largest source of air pollution in Pima County. Text explains health effects from breathing polluted air, actions to take to keep air healthy, questions about the properties of air, and artwork showcasing devices that engineers have designed to remove or avoid pollutants at the source.

Illustrations related to emissions controls on motor vehicles include a charging electric vehicle, catalytic converter, diesel particulate filter, and an on-board refueling vapor recovery system. Illustrations of devices employed at factories, power plants, mines and agriculture include a wet scrubber, cyclonic filter, electrostatic precipitator and a bag house filtration system.

Staff also received from Pima County Fleet Services an actual catalytic converter, the cross-section of a catalytic converter, an oxygen sensor for proper fuel/air mixture, and an on-board vapor recovery device.

These props and display are great conversation openers and were used at family-oriented STEAM-based school functions to engage visitors to discuss vehicle emission reduction techniques.

FREE AIR QUALITY RESOURCES/DRIVE LESS IDLE LESS, CARD

Staff worked with the Pima County Communications Office and Print Shop to develop a business card-sized piece to promote PDEQ Air Quality Advisories, real-time air pollution levels, ADEQ 5-day Air Quality Forecasts and Clean Air Program presentations and information. The reverse side of the card includes the Healthy Air Is In Our Hands icon and tips to drive less and idle vehicles less.

HEALTHY AIR PLEDGE

Staff reconfigured the template for students to make paper rockets during our Awesome Air and Stomp Rocket presentation. Instead of information about clean air, staff re-worked the text in the format of a pledge to protect air quality. Students have options/suggestions of actions that reduce vehicle driving miles, idling less, or learning more about the subject.

IDLE LESS DISPLAY POSTERS

To share facts about our *Idle Less for a Healthy School Environment* pilot campaign at the Innovation Academy, staff created posters that were mounted on a display board during the school's annual Open House event.

PROPERTIES OF AIR DEMONSTRATIONS

To engage young audiences during school STEAM events, staff researched simple hands-on activities to demonstrate the properties of air. One demonstration proves that air has mass and weight by using a newly purchased digital scale to compare the weight of two identical balloons, one of which is filled with air. Another demonstration shows that air takes up space and exerts pressure by using a plastic cup, plastic bag and rubber band that seals the bag to the cup. When air is trapped in the cup and bag, the bag cannot be stuffed into the cup. When the bag is inserted into the cup and smoothed against its inside wall, the rubber band sealing the mouth prevents air from entering the cup. The bag cannot be pulled from the inside of the cup due to the formation of a vacuum in the cup and external air pressure forcing the bag down. A third demonstration shows that air can push water out of the way. A tissue is crumpled and placed at the bottom of a plastic cup. The tissue-filled cup is inverted and submerged under water. When the cup is removed, participants discover that the tissue is dry. No water entered the cup because the air that is in the cup had no place to go and forced the water away. A final demonstration has participants trying to blow up a balloon inside a 2-liter bottle. The balloon cannot inflate much because air inside the bottle is taking up space within.

These demonstrations attract and sometimes amaze participants as they learn about the properties of air. Natural conversation flows as staff explains that engineers study the properties of air so that they can design and build systems or devices to help keep air cleaner at pollution sources. Naturally, conversation flows to the single largest source of air pollution: driving motor vehicles, and no-drive day actions that can be taken to reduce air pollution.

ARTICLES WRITTEN

eScoop Newsletter

Staff wrote four articles for this on-line newsletter for thousands of Pima County employees to read. The articles provided information about carpooling and the Carpool-for-You event schedule, TRP employee survey, free rides on transit, tips for driving smarter and more fuel-efficiently, and travel reduction resources including the Guaranteed Ride Home Program, transit, bike, walk, carpool, commuter contests, and the Pima County Employee Commute Trips & Tips Facebook group.

PDEQ Internet

Six articles based on VNDD news releases were posted on the PDEQ website this quarter. Many of these articles were also posted on Pima County's main website and their weekly public newsletter, the FYI.

GOAL 5: USE OF MEDIA FOR NOTICES OF UNHEALTHY OZONE FORECASTS -----

PERCENT OF WORK COMPLETED: 50%

Prompted by ADEQ Five-Day Air Quality Forecasts of high levels of ozone, PDEQ staff creates and distributes social media messages and news releases for Pima County residents. It is expected these warnings will only need to be released during ozone season, the first and fourth quarters of our fiscal year.

WORK ACCOMPLISHED:

SOCIAL MEDIA MESSAGING

Although a few dozen Tweets and Retweets were posted and an air quality watch and advisory were distributed, no advisories or warnings for ozone were necessary.

GOAL 6: DISTRIBUTION OF INFORMATIONAL MATERIALS -----

Staff distributes information to the general public and specific audiences via website posting, e-mails to list serves, articles for newsletters, social media, and the distribution of literature through libraries, community centers and community outreach events.

PERCENT OF WORK COMPLETED: 163%

WORK ACCOMPLISHED:

PDEQ WEBSITE:

Staff continued to promote, update and maintain the PDEQ website, posting six new pages developed from news releases about air quality issues.

Articles Posted on PDEQ Website
October 11, 2018 – Air Quality Health Watch for Green Valley (particulates)
October 24, 2018 – PDEQ suggests idling less on Halloween
November 13, 2018 – Pima DEQ issues health advisory for particulate matter
November 28, 2018 – Smoke from fireplaces can cause breathing issues for some
November 29, 2018 – DEQ encourages you to check your car's tire pressure
December 27, 2018 – Ways to feel good about your commute in 2019

ECO KIDS CORNER WEBSITE:

Staff continued to promote the Eco Kids Corner website by distributing 70 bookmarks this quarter to public libraries, at presentations, and while tabling at community events. Debuted in January 2012, this kid-friendly website includes educational information regarding air quality, water, soil, climate change and reducing, reusing, and recycling. Kids can interact with a guessing game, create 13 different types of nature poems, and find additional resources for local eco-related activities, as well as discover a plentitude of resources for more information and engaging websites.

LIST SERVES:

Staff maintains list serves to share timely air quality and No-Drive Day information quickly with interested individuals.

- **Air Quality List Serve**

Staff issues air quality advisories to individuals on our Air Quality List Serve when air quality is expected to reach unhealthy levels or when air quality related news releases or notices of community events are sent to the media. Staff encourages a voluntary reduction in motor vehicle use as part of the advisories as appropriate. The public can sign up for this list serve on the PDEQ website or list their names on sign-up sheets that staff provides at select outreach events. There

are currently 858 members on the Air Quality List Serve, 137 members on the Media list serve and seven air quality-related informational pieces were distributed to them this quarter.

INFORMATION FOR PIMA COUNTY EMPLOYEES:

As administrator of the Pima County Employee Travel Reduction Program (TRP) for approximately 7,000 employees, PDEQ staff shares resources and information and encourages all employees to adopt No-Drive Day practices in their work commutes by using transit, carpooling, vanpooling, biking and walking. During this quarter, staff:

- Replied to inquiries regarding the use of alternate modes of transportation;
- Delivered travel reduction presentations and distributed resources at four New Employee Orientations;
- Registered 19 employees in the Guaranteed Ride Home Program for Pima County employees, and processed four emergency trips for alternate mode commuters.
- Worked with the Love to Ride organization to secure a list of Pima County employee participants in the National Bike Challenge Cycle September event. Stainless steel insulated beverage bottles were donated by the Pima County Wellness Program, and front and rear LED bike light sets were donated by Pima Association of Governments to use as prizes for participants. Randomly choosing from 26 cyclists, staff distributed 11 stainless steel beverage bottles as prizes. Bike light sets were offered to all participants, and 16 accepted.
- Distributed alternate mode news and information via four employee newsletter articles;
- Promoted the Pima Association of Governments (PAG) Sun Rideshare resources via eScoop newsletter articles, website, and employee presentations;
- Contacted members of Travel Reduction Program alternate modes list serves, sharing timely news with those Pima County employees interested in transit (57 members), bicycle (90 members), walk (two members), and carpool and vanpool (12 members). Staff distributed information on six occasions this quarter including an announcement and reminders about the annual TRP employee survey, temporary transit route changes due to a special event, Cycle September results and prizes, and changes to Sun Tran routes 104X and 204X Park & Ride location.
- Maintained and updated the TRP intranet webpages providing resources and information about all alternative modes of transportation and the benefits they provide;
- Maintained a Facebook group, *Commuter Trips and Tips* for Pima County employees; and
- Distributed Survey Monkey surveys to new employees to assess the effectiveness of the TRP presentations and resources delivered during new employee orientations.

HARD COPY MATERIALS DISTRIBUTION:

Staff distributed 4,217 pieces of literature and promotional materials during this quarter. At least 77 different items authored by PDEQ and other agencies were distributed.

In addition to distributing materials at booths and presentations, staff also distributed literature and promotional items individually on at least 55 separate occasions reaching approximately 626 people.

Materials Distribution			
Date	Location	# Events	# Recipients
1-Oct-18	Main Library	1	100
2-Oct-18	UofA Principles of Health Education & Health Promotion Class	2	160
11-Oct-18	D&D Pinball	1	50
11-Oct-18	Healthy Living Training, Pima Health Dept.	1	45
11-Oct-18	Sonoran Institute	1	12

15-Oct-18	Pima County Housing Center	1	50
18-Oct-18	Pima County Health Department	1	0
24-Oct-18	Innovation Academy	1	6
25-Oct-18	Pima County Housing Center	1	100
25-Oct-18	Pima County ITD	1	6
1-Nov-18	Cycle September Participants	38	38
1-Nov-18	Pima County Sustainability & Conservation	1	25
14-Nov-18	Environmental Education Exchange	1	3
16-Nov-18	Pima County Administration Building	1	15
16-Nov-18	Girl Scouts of So. AZ Troop #2164	1	4
28-Nov-18	Wildlife Inspiration Station	1	8
11-Dec-18	PDEQ Staff	1	4
	TOTAL	55	626

REPORTS OR DATA PRODUCED:

PDEQ Website:

Staff tracks pageviews to the PDEQ website using Google Analytics. During the second quarter of FY 2018-2019, 22,622 pageviews were documented.

TRP Intranet Site:

Staff received data from Google Analytics reporting that there were 535 pageviews on the TRP intranet site during the second quarter.



GOAL 7: HEALTHY AIR IS IN OUR HANDS DRIVE-LESS PLEDGE -----

This on-going program encourages the public to take the *Drive-Less Pledge* and commit to reducing miles traveled by motor vehicles. The pledge is promoted at outreach events, on the PDEQ website, and posters inside Sun Tran busses. Each quarter a \$100 Visa card is randomly awarded to one lucky participant to act as an incentive for participation. Data is collected and analyzed to track pledged miles not driven and associated emission reductions.

PERCENT OF WORK COMPLETED: 50%

WORK ACCOMPLISHED:

- 110 pledge cards distributed.
- 74 Healthy Air Is In Our Hands bookmarks distributed.
- 334 people pledged to drive less this quarter.
- 110,174 miles contest participants pledged to not drive during this quarter.
- 100,158 pounds of air pollution and greenhouse gases reduced this quarter.

GOAL 8: COMMUNITY EVENT OUTREACHES -----

Staff provides visually stimulating, interactive displays to entice interest and engage audiences, providing information on ozone and actions that prevent air pollution, including no-drive days.

PERCENT OF WORK COMPLETED: 96%

WORK ACCOMPLISHED:

Staff tabled at 14 community events this quarter reaching approximately 2,135 attendees with No-Drive Day messaging.

Booths			
Date	Location	# Events	# Attendees
23-Oct-18	Innovation Academy Science Night Open House	1	300
25-Oct-18	Carpool For You – 33 N. Stone	1	45
25-Oct-18	Quail Run Elementary Science Night	1	30
30-Oct-18	Carpool For You – 201 N. Stone	1	40
6-Nov-18	County & City Health & Wellness Fair	1	250
8-Nov-18	Carpool For You - Legal Services	1	25
9-Nov-18	Sustainable Action Plan for County Operations Open House	1	45
13-Nov-18	Borton Magnet Elementary STEAM Night	1	100
15-Nov-18	Carpool For You - Admin West	1	35
15-Nov-18	Butterfield Elementary STEAM Night	1	150
16-Nov-18	AZ STEM Adventure	1	1000
29-Nov-18	Carpool for You - Admin East	1	25
4-Dec-18	Carpool for You - Public Service Center	1	60
11-Dec-18	Carpool for You - Main Library	1	30
	TOTAL	14	2,135

GOAL 9: NEWS RELEASES & MEDIA EXPOSURE -----

Staff worked with the media to promote No-Drive Days activities, inform the public regarding air quality status, and encourage actions to reduce emissions. News releases were distributed to the media such as KOLD, KVOA, KGUN, Fox 11, various radio stations, and the Arizona Daily Star, and to individuals on our air quality advisory list serve.

PERCENT OF WORK COMPLETED: 76%

WORK ACCOMPLISHED:

NEWS RELEASES TO MEDIA:

Staff developed and distributed seven news releases this quarter, including an air quality health watch and health advisory for particulate matter, idling less during Trick-or-Treating, fireplace smoke, tire pressure, and alternate modes of transportation for work commutes.

News Releases	
Date	Title
11-Oct-18	Air Quality Health Watch for Green Valley (particulate matter)
24-Oct-18	Breathing Shouldn't Be Scary on Halloween, Idle Less for Healthy Air
30-Oct-18	Breathing Shouldn't Be Scary on Halloween, Idle Less for Healthy Air
13-Nov-18	PDEQ Issues Health Advisory for Particulate Matter, Dust Levels Increasing with Winds
28-Nov-18	Fireplaces Heat Up As Temperatures Cool Down
29-Nov-18	Tire Pressure and Temperatures Drop Together
27-Dec-18	Feel Good About Your Commute in 2019

AIR INDEX NOW INFORMATION:

The media can obtain real-time Air Quality Index (AQI) information from PDEQ's website, www.pima.gov/deq. This information is published daily in local newspapers and on media websites. In addition, KVOA-TV, KOLD-TV, and KGUN-TV news programs normally incorporate the AQI into their weather report when advisories occur. The media can also access AQI data and five-day air quality forecasts from ADEQ.

During the second quarter, staff provided seven in-depth interviews to the media, including KOLD, KGUN-9 TV, Arizona Daily Star, Green Valley News/Sahuarita Sun, Arizona Public Media and the Desert Leaf. Topics of discussion included windblown dust, air quality, and wildfire smoke.

NEWS STORIES:

At least 19 news stories or announcements related to No-Drive Day messaging reached thousands of community members via a variety of news stations, websites, newspapers, and newsletters.

Media Exposure via TV, Radio, Print, Outdoor Advertising and Publicity		
Date	Publication/Station	Description
9-Oct-18	gvnews.com	Dust blankets Green Valley homes, Sierrita Mine investigated as potential cause
11-Oct-18	gvnews.com	County sees record number of complaints over mine-tailing dust
11-Oct-18	kvoa.com	Air Quality Health Watch issued for Green Valley
25-Oct-18	@AmphiSchools	PDEQ attended Innovation Academy STEM-mazing event, Idle Less
25-Oct-18	pima.gov	PDEQ suggests idling less on Halloween
26-Oct-18	Pima County FYI newsletter	PDEQ suggests idling less on Halloween
13-Nov-18	pagregion.com	Defining the terms: understanding "nonattainment designation"
13-Nov-18	pagregion.com	Employer Tip: Inexpensive ways to jump-start carpools
14-Nov-18	tucsonnewsnow.com	Haze over Tucson not caused by California fires
14-Nov-18	pima.gov	Pima DEQ issues health advisory for particulate matter
16-Nov-18	kvoa.com	Deflategate: How cold temps impact your car tires
15-Nov-18	azbusinessdaily.com	Pima DEQ issues health advisory for particulate matter
26-Nov-18	tucson.com	Freeport broke the law with blowing dust from mine tailings, Pima County says
29-Nov-18	pima.gov	DEQ encourages you to check your car's tire pressure
29-Nov-18	pima.gov	Smoke from fireplaces can cause breathing issues for some
30-Nov-18	Pima County FYI newsletter	Smoke from fireplaces can cause breathing issues for some
14-Dec-18	Pima County FYI newsletter	DEQ encourages checking car's tire pressure
21-Dec-18	Pima County FYI newsletter	Smoke from fireplaces can cause breathing issues for some
28-Dec-18	pima.gov	Ways to feel good about your commute in 2019

GOAL 10: CONTENT PRODUCED FOR SOCIAL MEDIA -----

VNDD/Clean Air Program staff posts videos, photos, or text messages on Twitter and Facebook to reach younger audiences regarding No-Drive Days messaging.

PERCENT OF WORK COMPLETED: 53%

WORK ACCOMPLISHED:

PURCHASED PROMOTION:

Pima County Communications Office posted the VNDD PM_{2.5} video *Help keep particles out of the air this New Year's* on Facebook and Twitter, and boosted the posts as paid advertising in December (and early January). The ads ran on both platforms for nine days. The number of people reached on Facebook was 9,151. The impressions reported from Twitter activity was 3,463.

TWITTER:

PDEQ's first tweet on Twitter.com was on July 21, 2015. This quarter, PDEQ posted 32 tweets which yielded 41,900 impressions regarding various environmental subjects. Posts focused on air topics including: weather and air quality, vehicle idling, animals need healthy air, benefits of trees, fire prevention, gusty and dusty in Green Valley, warning about airborne dust, good air quality, avoid engine idling while Trick-or-Treating, benefits to riding a bike, chimney smoke, wind and airborne dust, Air Quality Watch for wind-blown particulates, Air Index, hazy skies due to California fires, wood burning tips for cleaner air, tire pressure changes during cold weather, benefits of walking, freedom feeling by not driving motor vehicles, check tire pressure monthly, choices we make affect air quality, take action to keep air healthy during the holiday season, air quality STEM activities, and New Year's resolution that makes you feel good about your commute.

FACEBOOK, TRAVEL REDUCTION PROGRAM GROUP:

In May 2017, staff established a Facebook group for Pima County employees, *Commute Trips and Tips*, as a way to reach employees regarding driving less and using alternate modes of transportation for work commutes. Eight messages were posted during this quarter, including messages regarding TRP employee survey, new articulated bus, free rides on SunLink, open house for 104X and 204X transit riders, and "The Pueblo Express" holiday performances near streetcar stops. There are 40 members of this Facebook group.

YOUTUBE:

With the assistance of Pima County Communications, PDEQ produced and posted public service announcements related to air pollution and actions people can take for healthier air. The videos were posted in previous years, and views continue to increase.

REPORTS OR DATA PRODUCED:

TWITTER:

Quarterly impressions on Twitter have increased from 215 in the first quarter we began tweeting to 41,900 impressions this quarter. PDEQ has 765 Twitter followers and is following 549 individuals and organizations.

YOUTUBE VIDEO VIEWS:

Views to-date are listed below and are cumulative from original upload date.

- *Idle Less*
 - 15-second version (uploaded May 2018): 31 views
 - 40-second version (uploaded April 2018): 191 views
- *Help keep particles out of the air this New Year's*

- English version (uploaded September 2017): 33 views
- Spanish version (uploaded September 2017): 26 views
- *Love the Air* (uploaded April 2015): 591 views
 - *Love the Air* also plays in a video loop on at least one monitor located in a downtown county-owned building for people to view while they are waiting in the lobby.

GOAL 11: PROGRAM EVALUATION -----

The Voluntary No-Drive Days/Clean Air Program is evaluated in the spring annually as well as throughout the year to assess effectiveness of the outreach and services the program provides.

PERCENT OF WORK COMPLETED: 25%

WORK ACCOMPLISHED:

ANNUAL EVALUATION OF THE VOLUNTARY NO-DRIVE DAYS CAMPAIGN:

Per Pima County protocol, staff is in the process of going out to bid for a new contractor to perform the annual telephone and internet survey. The survey will be conducted during the fourth quarter.

YOUTH & ADULT PRESENTATION SURVEYS:

Surveys are distributed at or after presentations, as appropriate, to evaluate the effectiveness of the program in informing and encouraging no-drive actions among attendees. Three evaluations were returned this quarter.

TRAVEL REDUCTION PROGRAM SURVEYS DISTRIBUTED:

- **New Employee Orientation Evaluations:**

Staff received survey results regarding Travel Reduction program presentations during New Employee Orientations for Pima County. These surveys are distributed by the Human Resources Department. Overall, the topic is relevant to participants, presentations were clear, and the quality of the presentation materials either met or exceeded the expectations of the attendees.

- **Survey Monkey Evaluations:**

Staff distributed short on-line surveys to Pima County employees who attended Travel Reduction Program presentations at recent New Employee Orientations. Designed to determine employee commute modes of choice, the survey is distributed every month to attendees of presentations held one month prior. The delay provides employees an opportunity to establish commute habits and acts as a timely reminder for those who have not chosen to use them to consider alternate modes for their future work commutes.

Staff distributed Survey Monkey surveys to 112 employees this quarter, receiving 31 responses (28% response rate).

REPORTS OR DATA PRODUCED:

YOUTH AND ADULT PRESENTATION SURVEYS

On a scale of one (1) to five (5) where one is “Low” and five is “High,” the audience rated the effectiveness of the presentation in increasing attendees’ knowledge of environmental issues a 4.67. On the same scale, they ranked the effectiveness of the presentation in encouraging actions to reduce air pollution at 4.67.

Attendees were asked what they liked best about the presentation. Comments include: clarity, the lung demonstration, use of props for the purpose of symbolizing multiple perspectives, and stomp rockets. When asked how we could improve the presentation, one person mentioned for it to relate more to

climate change. Additional comments included an apology for not choosing the best location for the presentation, and that the presentation was amazing!

NEW EMPLOYEE ORIENTATION EVALUATIONS

Of the 112 Pima County employees submitting evaluations, several made comments regarding the Travel Reduction Program presentation at the New Employee Orientation. Comments include:

- “Good info.”
- “Great resource information.”
- “The Loop & bike maps, thank you.”
- “Learned on how to reduce pollution. Presenter – nice!”
- “Very informative!”
- “Really helpful info, tons of literature to take home, and even a chance to try the bus – amazing!! Thanks!!”
- “I personally live far from an area for a bus or transit route, however she gave me some other great options. Well presented.”
- “Great job.”
- “Good and applicable presentation.”
- “Not relevant for employees. Live close to town.”
- “Very informative.”
- “Interesting ideas.”
- “Good info was presented. Presenter was a little hard to hear.”
- “Go green!”
- “Good info.”
- “I already walk. Another 20 minutes I should have spent working.”
- “Everyone kind of already knows this.”
- CO2 pollution alone is a myth. There are 15 factors that affect air pollution. I like to ride bus or bike.”
- “Great resources.”

TRP SURVEY MONKEY SURVEYS OF NEW PIMA COUNTY EMPLOYEES

When asked what modes of transportation participants use for their work commutes at least one day per week, alternate modes including transit, carpool, bike and walk represent 29% of those trips. Due to these employees use of alternate modes of transportation, data collected indicates:

- 16,300 vehicle miles traveled are avoided per year by these respondents.
- 14,818 pounds of air pollution and greenhouse gases are reduced per year.

Three respondents also left comments while taking the survey this quarter, including:

- “Offer the opportunity to sign up for the subsidized bus pass at the NEO, and/or reduce the wait time to receive the pass.”
- “I appreciate all the helpful info, and the presentation was very fun and informative! Thank you so much!”
- “It would be nice if there were more incentives, in addition to the guaranteed ride home, to use zero emission modes of transportation.”

GOAL 12: RESEARCH EMISSIONS REDUCTIONS METHODOLOGIES -----

Staff is available to participate in conference calls or meetings with ADEQ and TRP agencies to discuss methodologies that calculate emission reductions and benefits that result from VNDD activities.

PERCENT OF WORK COMPLETED: 0%

No ADEQ conference calls or meetings were scheduled.

WORK ACCOMPLISHED:

No meetings were scheduled to calculate emission reductions from VNDD activities.

GOAL 13: DECREASE NUMBER OF VEHICLE MILES TRAVELED IN PIMA COUNTY ---

Staff gathers data from surveys, contests and databases administered and/or promoted by VND program to estimate the reduction in vehicle miles traveled associated with the program. The goal for this fiscal year is to decrease vehicle miles traveled by 1.75% in Pima County.

PERCENT OF WORK COMPLETED: 50%

WORK ACCOMPLISHED:

Baseline parameters were established this quarter (see chart below) and staff is tracking activity each quarter.

Vehicle Miles Traveled Reduced in Pima County FY 2018-2019			
Program	Miles Reduced		
	FY 2017-2018	2018-2019	% Change
Healthy Air Is In Our Hands	698,337		
Annual CAP Survey ^A	4,141,734		
Annual TRP Survey Pima County employees ^B	7,514,180	6,750,321	-10.17
PC Employee NEO Survey ^C	88,100		
Guaranteed Ride Home - PC employees	Not offered this year		
Tire Inflation Education Program ^D	1,256,232		
TOTAL	13,698,583		

A. CAP Survey: data regarding work, school, shopping and leisure trips and % VND/CAP awareness used to estimate influence on miles not driven.

B. From Pima Association of Governments

C. New employees responding to survey and indicating how many miles they do not drive per week due to use of alternate modes.

D. From Annual CAP Survey, gallons reduced from proper tire inflation translated into miles reduced by dividing total gallons saved by 25.68 mi. (PAG, Cotty, 12/21/18)

Vehicle Miles Reduced Quarterly Data FY 2018-2019					
Program	Q1	Q2	Q3	Q4	Total
Healthy Air Is In Our Hands	131,984	110,174			242,158
Annual CAP Survey ^A					
Annual TRP Survey Pima County employees ^B		6,750,321			6,750,321
PC Employee NEO Survey ^C	4,750	16,300			21,050
Guaranteed Ride Home - PC employees	61,750	81,107			142,857
Tire Inflation Education Program ^D					