

CSUF Certificate in Air Quality Management

Valley Air District Structure, Operations, and the Public's Role in improving Air Quality

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Mission Statement

The San Joaquin Valley Air District is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective, and entrepreneurial air quality management strategies.

Health Effects of Particulate Matter

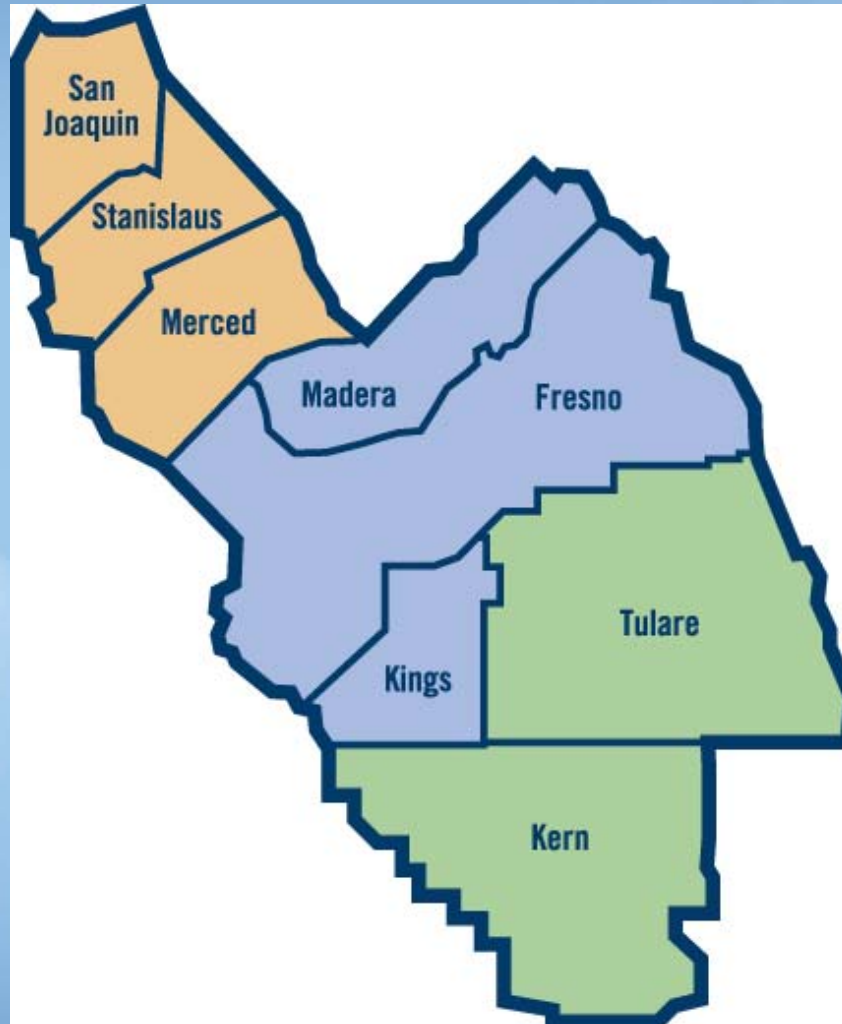
- Aggravated asthma
- Increases in respiratory symptoms like coughing and difficult or painful breathing
- Chronic bronchitis
- Decreased lung function
- Premature death



Health Effects of Ozone

- **Ozone health effects and symptoms:**
 - Chest pain
 - Coughing
 - Throat irritation
 - Congestion
 - Reduced lung function
 - Inflamed lung linings
 - Lung tissue scarring
 - Wheezing
 - Painful breathing
 - Higher hospital admissions
 - More emergency room visits

Valley Air District



History & Structure

- Founded in 1991
- Formed from 8 County APCDs
- Governing Board – 11 elected officials
 - Meets third Thursday of most every month
 - Board Members from 8 counties and 3 cities
- Citizens Advisory Committee (CAC)
 - Meets first Tuesday of most every Month
- Study Agency
- Hearing Boards
- Executive Director/APCO - Seyed Sadredin

The Brown Act

- The Brown Act ([Government Code §§ 54950-54962](#)) governs meeting access for local public bodies.
 - Meeting Notices
 - Agendas
 - Consent Items
 - Public speaking opportunities (and time limit)

<http://www.valleyair.org/>

Current Governing Board

Councilmember Mike Maggard, Chair
City of Bakersfield

**Supervisor J. Steven Worthley, Vice
Chair**
Tulare County

Councilmember Sam Armentrout
City of Madera

Supervisor Barbara Patrick
Kern County

Supervisor Tony Barba
Kings County

Supervisor Judith G. Case
Fresno County

Supervisor Michael G. Nelson
Merced County

Supervisor Jack A. Sieglock
San Joaquin County

Supervisor Ronn Dominici
Madera County

Councilmember Dan Prince
City of Ripon

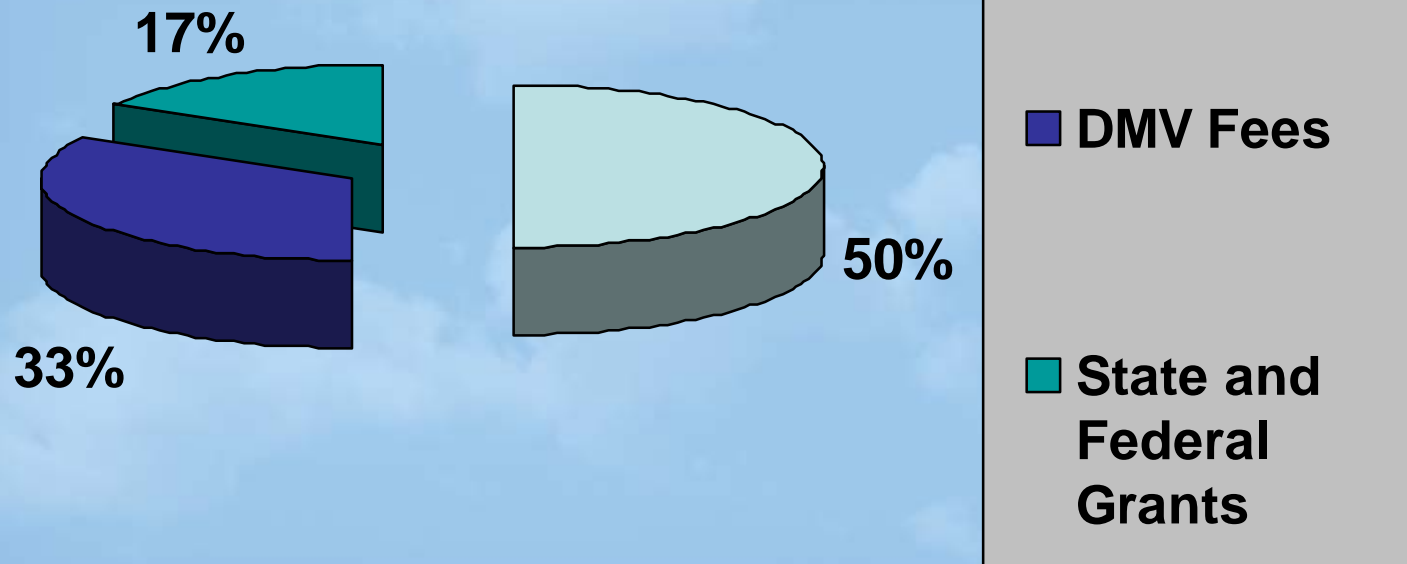
Supervisor Thomas W. Mayfield
Stanislaus County

Organizational Structure

- *Core Programs - Planning, Permit Services, Compliance, ERIP*
- *Support Programs - ITS, Personnel, Finance/General Services, Legal, Public Outreach*
- *3 Offices (Modesto/Fresno/Bakersfield)*

Air District Funding

Operating Budget 30.5 million dollars



Clean Air Ladder



Clean Air

Emission Reductions

Public's Role

Grant Programs (ERIP)

Compliance - Enforcement of Rules

Permitting - Application of Rules

Rule Development

Air Quality Modeling & Plan Development

Air Monitoring Data & Emission Inventory

PLANNING DEPARTMENT

“First Steps on the Clean Air Ladder”

Air Monitoring



- District operates 19 monitoring stations to measure air pollution levels and meteorological conditions

- Data collected

- Tracks changes in air quality
- Establishes attainment status for the pollutants, e.g., ozone and PM_{2.5}
- Is used for daily air quality forecasts and open burning allocations

Air Quality Analysis

- Modeling
 - Simulates atmospheric responses to changes in emissions
 - Used for attainment planning
- Research
 - Emission factors
 - Control techniques



- Daily Forecasting
 - Air quality forecasts for public information
 - Open burning allocations

Plan Development

- Long-range “blueprints” show how the District, ARB, and local municipalities will reduce emissions to meet healthy air standards



- PLD staff members coordinate the preparation of plans by many authors and agencies
- Outreach to stakeholders via workshops

Rule Development



- Research and write new regulations for stationary (and mobile!) sources
- Economic analysis
- Emissions analysis
- Public workshops
- Governing Board hearings
- Amendments

PERMITTING DEPARTMENT

“Next Steps on the Clean Air Ladder”

- Permit Processing
 - ATC (Authority to Construct)
 - PTO (Permit to Operate)
 - Title V
- Portable Equipment Registration
- Conservation Management Practices (CMP) Plans
- Emission Reduction Credits (ERCs)
- Health Risk Assessments (HRAs)



- California Environmental Quality Act (CEQA)
- Indirect Source Review (ISR)
- Criteria Pollutant Emissions Inventory
- Air Toxics Hot Spots (SB 2588)
- Small Business Assistance (SBA)



COMPLIANCE DEPARTMENT

“Continuing up the Clean Air Ladder”

- Verify sources and individuals comply with rules, permits, and contracts.
- When sources don't comply, take enforcement action (reactive step).
- Utilize compliance assistance as a (proactive step).



- Compliance Assistance
- Source Inspections
- Portable Equip. Inspections
- Asbestos
- Complaints
- Gas Stations
- Variances
- Breakdowns
- Source Testing
- Mutual Settlements



EMISSION REDUCTIONS AND INCENTIVE PROGRAMS

“Further up the Clean Air Ladder”

- Purpose of Incentive Programs
 - To assist in attaining air quality standards by:
 - Early introduction of new technologies
 - Promote alternative transportation measures



- District currently operates two major incentive programs:
 - Heavy-Duty Engine Program
 - REMOVE II Program
- Administer smoking vehicle program



Transforming Ourselves “Higher Rungs of the Clean Air Ladder”

Thinking Differently about Pollution

Video clip from “The Next Industrial
Revolution: William McDonough,
Michael Braungart and the Birth of
the Sustainable Economy”

<http://www.natcap.org/images/other/HBR-RMINatCap.pdf>

Video Discussion

- What motivated the changes at Rohner?
- Where did they find unlikely allies?
- What is the ripple effect of this type of industrial transformation?
- What would it take for something like this to happen in the Valley?
- What could we do today to encourage this change?

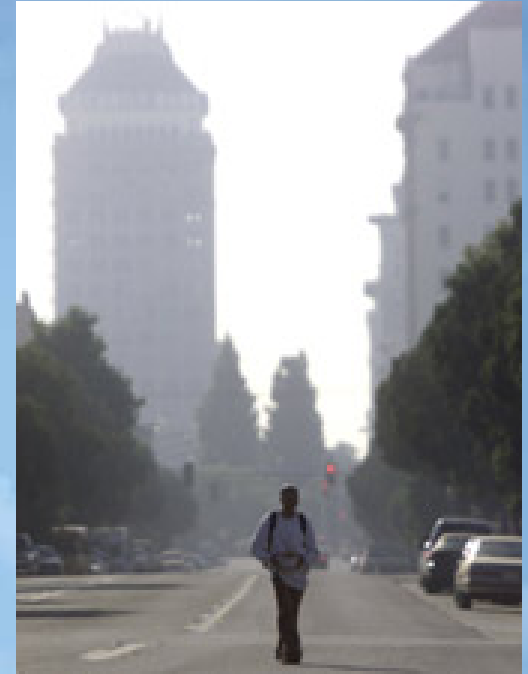
Social Marketing & Behavior Change

- Behavior Change Theory
 - Model regarding the mental processes an individual or society goes through when making a change in behavior
- Social Marketing
 - The use of marketing principles and techniques to influence a target audience to voluntarily accept, reject, modify or abandon a behavior for the benefit of individuals, groups or society as a whole.

Behavior Change Model

- Stage 1: **Precontemplation**

**“We don’t have an
Air Quality problem
in the Valley”**



MURKY ARCHITECTURE: A pedestrian crosses at Fulton and Divisadero streets in downtown Fresno on a smoggy morning. The poor air quality obscures the skyline in the background. (Mark Crosse / The Fresno Bee)

Behavior Change Model

Stage 2: Contemplation



TRYING TO BREATHE: Alyssa Carion, 7, an asthma patient at Children's Hospital Central California in Madera County, inhales medication after an asthma attack. (Mark Crosse / The Fresno Bee)

“Maybe we do have poor air-quality. That is unfortunate.”



Behavior Change Model



“I am going to change my behavior, the behavior of my business, the behavior of my community, but first I need to access resources and remove barriers

Stage 3: Preparation

Behavior Change Model

- Stage 4: **Action**



TRADING UP: John Cadrett, left, and Charlie Goldberg load up old gas-powered mowers at the Home Depot in Merced after residents traded gas mowers in for electric mowers to help reduce emissions.

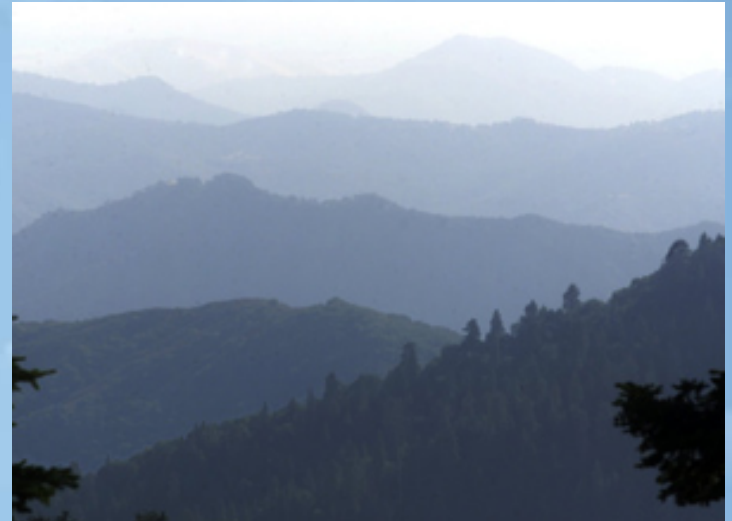
(Mark Crosse / The Fresno Bee)

“My family and I traded in our gas lawn mower, bought a Prius, testified at a public meeting, shop air friendly businesses, stay informed on air quality issues.”



Behavior Change Model

**“You know things
are getting better,
but we still have a
long way to go.”**



Air pollution stacks up near sunset on Sept. 4, 2004, southwest of Sequoia National Park, which has the worst smog of any national park in the West. (Mark Crosse / The Fresno Bee)

- **Stage 5: Maintenance**

Successful Social Marketing Campaigns (Getting folks to think about issues)

Loose Lips...

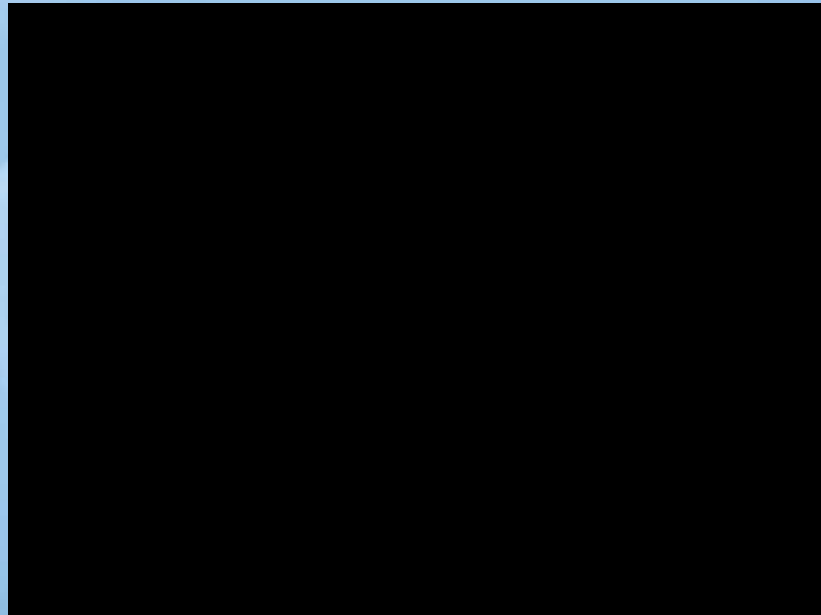
...Sink Ships

The War Advertising Council's "Loose Lips Sink Ships" and "Keep it Under Your Stetson" public service ads reminding Americans of the dangers of revealing too much information are still remembered today. The campaign encouraged Americans to be discreet in their communication to prevent information from being leaked to the enemy during World War II.

Successful Social Marketing Campaigns

This is your brain... ..this is your brain on
drugs. Any questions?

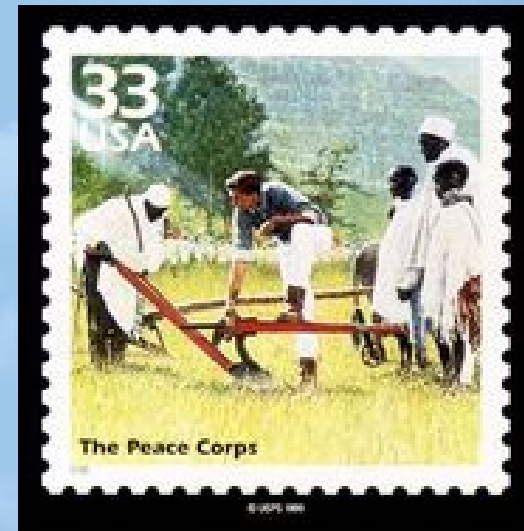
The Partnership's famous tagline *This is your brain. This is your brain on drugs* is the most widely-shown TV message of any created by the Partnership for Drug-Free America in its 20-year history.



Successful Social Marketing Campaigns

The Toughest Job... ...You'll Ever Love

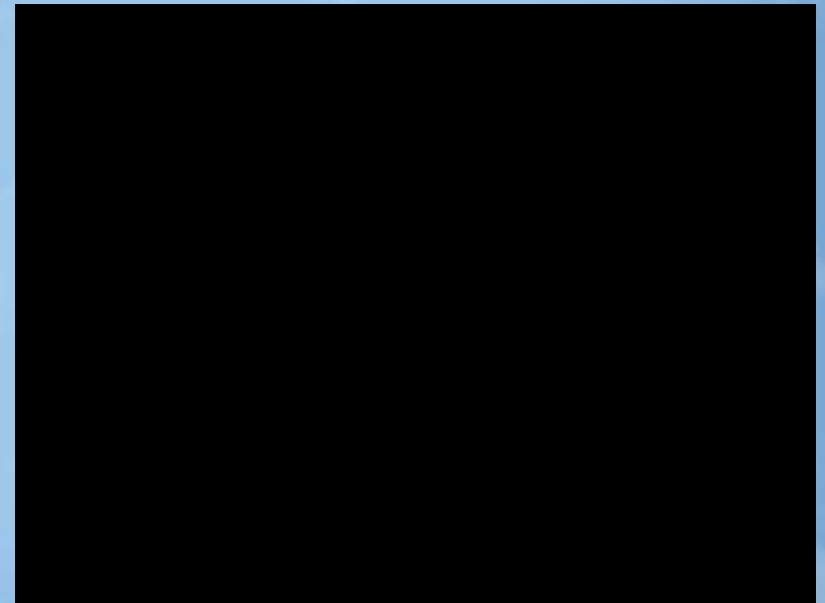
In 1961, many Americans didn't understand President Kennedy's Peace Corps program. To that end, The Ad Council created the slogan that conveyed its hardship and rewards -- "The Toughest Job You'll Ever Love." The ads challenged young people and began attracting volunteers to the program almost immediately. In 1962, shortly after the campaign began, more than 30,000 people applied to the Peace Corps.



Successful Social Marketing Campaigns



More than four decades ago, the Ad Council partnered with Keep America Beautiful to create a powerful visual image that dramatized how litter and other forms of pollution were hurting the environment, and how every individual has the responsibility to help protect it. The ad, which featured Native American actor Iron Eyes Cody, "The Crying Indian," first aired on Earth Day in 1971. The campaign used the line, "People Start Pollution. People can stop it." The ad became one of the most memorable and successful campaigns in advertising history.



Successful Social Marketing Campaigns

Only you can prevent... ...Forest Fires

The longest running campaign in Ad Council history, Smokey Bear and his famous warning, "Only You Can Prevent Forest Fires," was introduced to Americans in 1944. The Forest Fire Prevention campaign has reduced the number of acres lost annually from 22 million to 8.4 million (in 2000). Responding to the massive outbreak of wildfires in 2000, the campaign changed its focus to wildfires and Smokey's slogan to "Only You Can Prevent Wildfires."



Individual and social behavior change is prompted by several factors, all equally important, occurring in tandem!

- **Tobacco Cessation**

- 1940 Emily Post states "those who smoke outnumber those who do not by a hundred to one ... [so nonsmokers] ... must learn to adapt themselves to existing conditions ... and when they come into contact with smokers, it is scarcely fair that the few should be allowed to prohibit the many from the pursuit of their comforts and their pleasures." --"The Etiquette of Smoking." Good Housekeeping. Sept. 1940,
- 1950 American and British researchers link smoking & lung cancer,
- 1957 Pope Pius XII suggests that the Jesuit order give up smoking,
- 1965
 - "Warning: Cigarette **Smoking** may be Hazardous to your Health", now federally mandated label on all cigarette packages,
- 1970, Great American Smokeout is born on "Smokeout Day." Massachusetts smoker and guidance counselor Arthur P. Mullaney and some Randolph High School kids come up with the idea of setting aside one day when everyone in town would quit smoking,

Individual and social behavior change is prompted by several factors, all equally important, occurring in tandem!

- **Tobacco Cessation**

- 1987, Congress bans smoking on domestic flights of less than two hours. Aspen, Colo., becomes the first city in the United States to ban smoking in restaurants,
- 1992, Supreme Court rules that the 1965 warning label law does not shield tobacco companies from suits accusing them of deceiving the public about the health effects of smoking, tobacco litigation increases dramatically,
- 2006, National state average is now 92 cent tax per pack,



Individual and social behavior change is prompted by several factors, all equally important, occurring in tandem!

- Valley Use of Wood Stoves and Fireplaces
 - Late 1980s and early 1990s, Air quality monitors show connection between high Particulate Matter levels and the burning of wood in fireplaces and wood stoves.
 - 1993, District adopts first incarnation of Rule 4901, “Residential Fireplace Rule” (requires EPA certified devices)
 - 1995, District starts “Please Don’t Light Tonight” voluntary campaign
 - 2001, EPA sponsors first “Great American Woodstove Change-out” Campaign



Case Study

Individual and social behavior change is prompted by several factors, all equally important, occurring in tandem!

Fireplace/Woodstove
BURNING STATUS

Air quality forecast:
**UNHEALTHY for
SENSITIVE
GROUPS**

**WOOD
BURNING
DISCOURAGED**

Choose not to light
midnight to midnight.
1-800 SMOG INFO
www.valleyair.org



- Valley Use of Wood Stoves and Fireplaces
 - 2003 some Valley developers voluntarily stop putting wood fireplaces in new homes
 - 2003, District amends Rule 4901 to prohibit use of woodstoves and fireplaces when air quality is unhealthy
 - 2005, Valley reaches federal attainment levels for PM10
 - 2007, Valley partners with Operation Clean Air to offer woodstove change-out program

Clean Air = Change in Thinking

