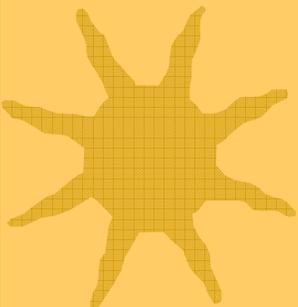
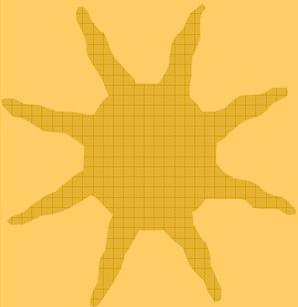
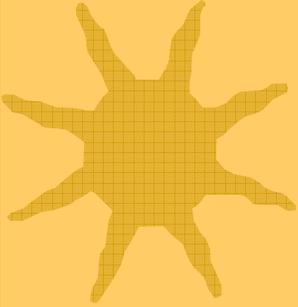


# *Dust Control and Unpaved Roads*

---

Public Involvement Meeting  
November 28, 2007  
Sonoran Trails Middle School



# *Staff Presentation*

---

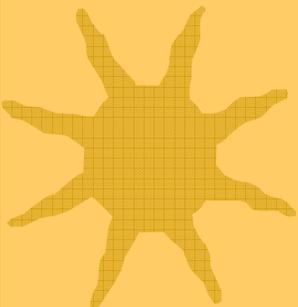
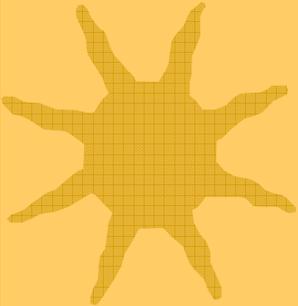
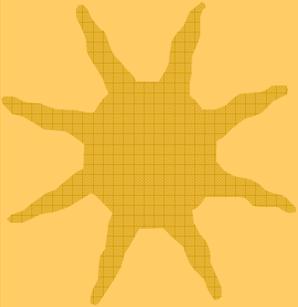
- ★ Regulatory Context and City Response
- ★ New dust control mandates – 2007
- ★ What has changed?
- ★ Existing city policy elements
- ★ Current Dust Abatement Efforts
- ★ Traffic counts
- ★ Options for revising the city program
- ★ Survey Results



## *Regulatory Context*

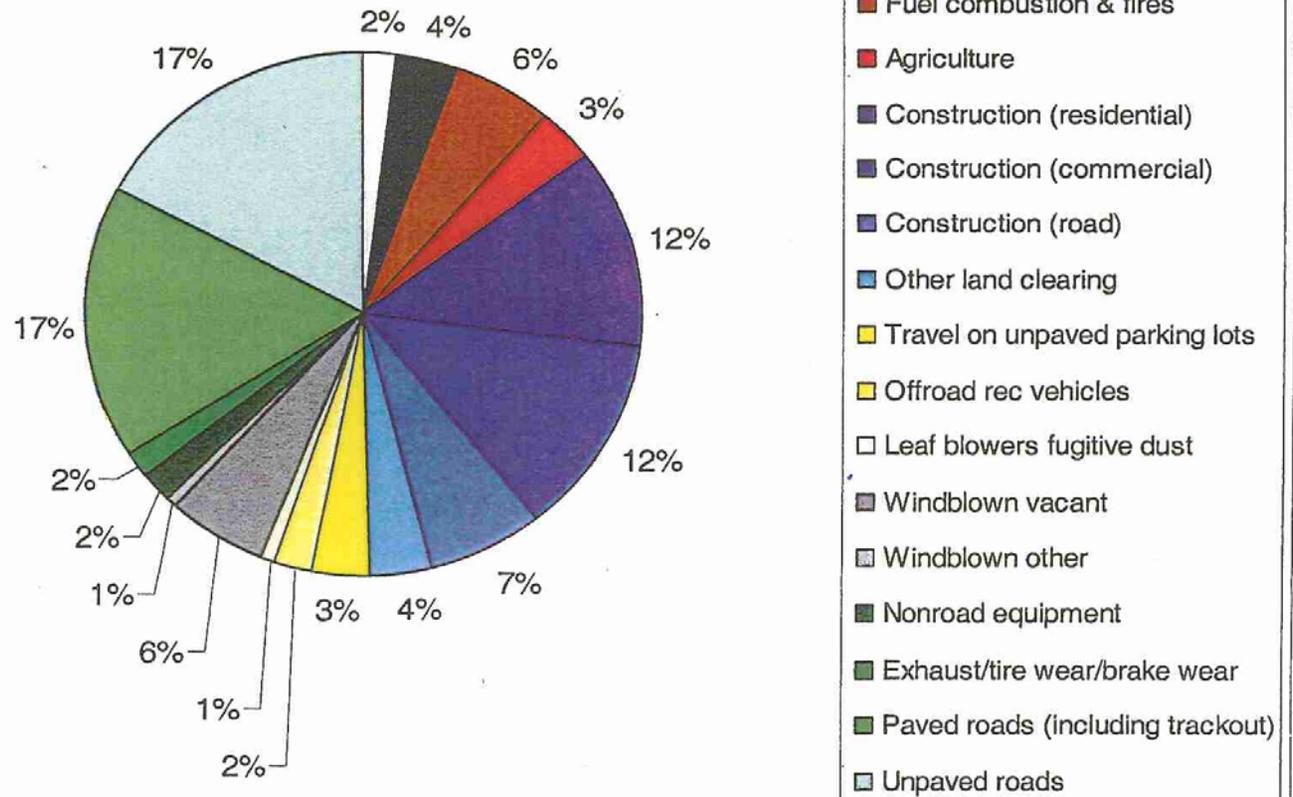
---

- ★ Regional Air Quality Plans since 1987
- ★ Particulates (dust), Ozone and Carbon Monoxide
- ★ Requirement = attain a certain standard for air quality
- ★ 1992 & 1997 Regional Plans failed
- ★ 1998 & 2004 strengthened measures -- failed
- ★ December 31, 2006 EPA invokes first penalty phase of the Clean Air Act = Five Percent Plan
- ★ EPA/State concerned Five Percent Plan will fail



# Regional Dust Sources

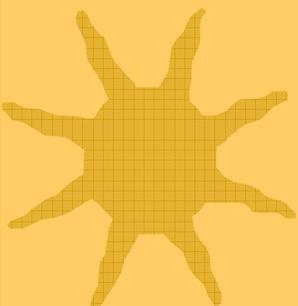
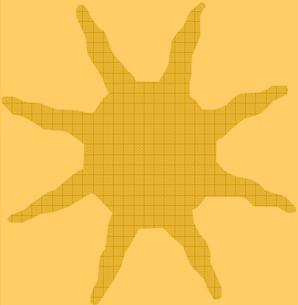
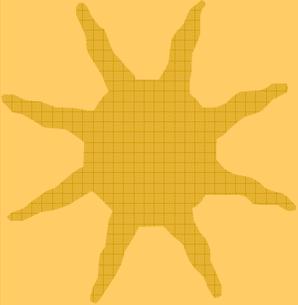
**2007 PM-10 Emissions  
with Committed Control Measures  
Total = 96,445 tons/year**

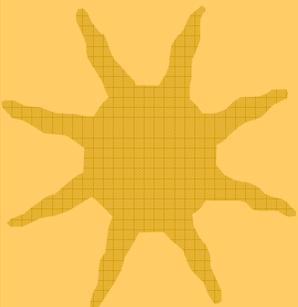
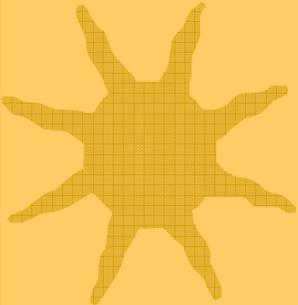
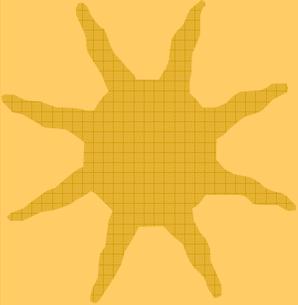




# *Scottsdale's Responses*

- ★ Scottsdale and County only ones with unpaved roads
  - Phoenix paved 72 miles in 2000 to eliminate need to comply
- ★ 1999 & 2000 Public Involvement Meetings
  - Overwhelming majority opinion = keep the unpaved roads
  - Standard = 20% opacity on unpaved roads
  - Regulatory Threshold = 250 ADT
- ★ City Policy = budget \$1.2 M initially and < \$1 M annually, use dust palliatives on unpaved roads down to ~ 210 ADT and pave only when absolutely necessary (>400 ADT)
- ★ 2000-2007 Policy implemented, only change 2004 regulatory threshold reduced to 150 ADT, city applies palliatives down to ~ 110 ADT, budget = \$1.1 M





# *2007 Dust Control Mandates*

---

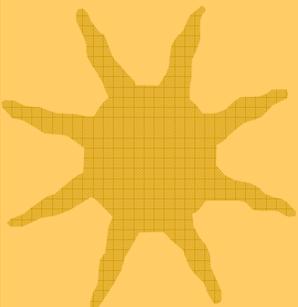
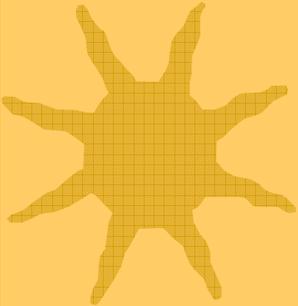
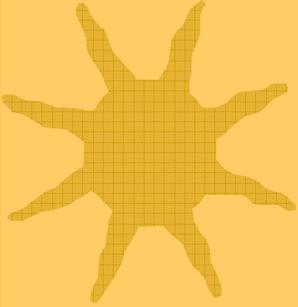
- ★ SB 1552 State Air Quality Legislation -- July 2007
- ★ Maricopa County Air Quality Department Rules 310, 310.01 & 316
- ★ MAG Five Percent Plan

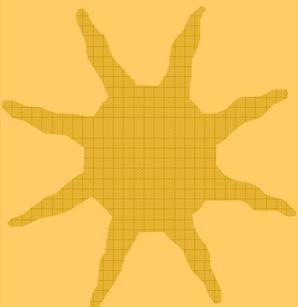
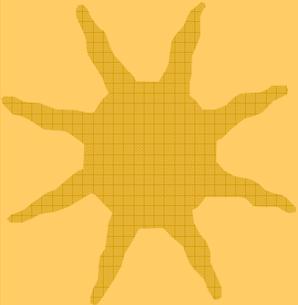
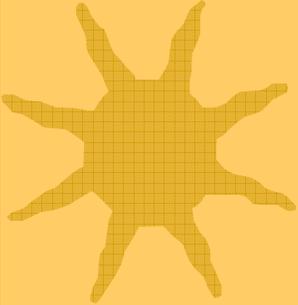


# *What has changed?*

---

- ★ Strengthened existing regulations
  - Unpaved roads, shoulders, parking lots, vacant lots
  - Construction (residential, commercial, roads)
  - Agriculture
  - Industry
  - Paved road sweeping, trackout cleanup, etc.
- ★ Added new requirements
  - Cities enact and enforce dust control ordinances
  - Leaf blowers
  - Off-road recreational vehicles, etc.
- ★ Added enforcement staff
  - Maricopa County Dust Inspectors – From 6 to 81
  - Plus city inspectors





## *Existing City Policy Elements*

---

- ★ Implement Sustainable Practices
- ★ Protect the Environment & Citizen Health
- ★ Budget to Comply with Mandates
  - And go beyond regulations where feasible
- ★ Avoid Fines
- ★ Continually Refine the Program
- ★ Seek Citizen Input and Feedback
- ★ Respond to Major Changes
  - Regulatory
  - Demographic
  - Attitudinal



# *Current Dust Abatement Efforts*

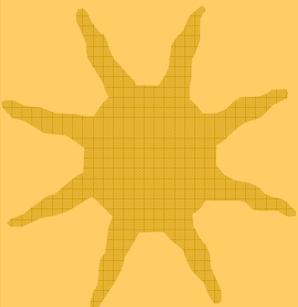
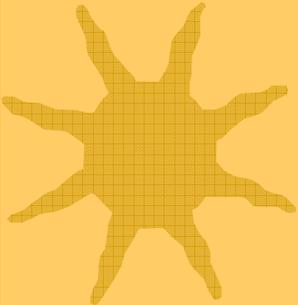
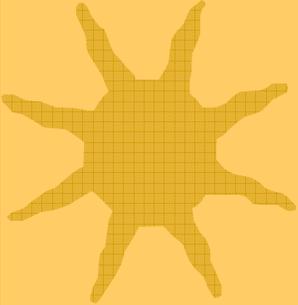
---

## ★ Dust Control Options:

- Pave
- Dust Palliatives
- Recycled Asphalt Paving (RAP)

## ★ Various Options Applied to:

- Unpaved Roads over 150 ADT
- Unpaved Arterial Shoulders
- Alleys
- City-Owned Unpaved Parking and Vacant Lots



## *Dust Control Option Choices*

---

- 1. 3" Asphalt Pavement:** 400+ ADT Roads, Un-Curbed Arterial Shoulders
- 2. Recycled Asphalt Paving (RAP):** in Alleys, on Parking Lots
- 3. Dust Palliatives:** <150 ADT Roads in Rural Neighborhoods, Vacant Lots



# *Dust Palliative Choices*

Dustac



Soil Sement





# *Current Treatment Summary*

## *Unpaved Roads*

*Total Inventory = 31 Miles*

~ 5 Miles Unpaved Roads  
Paved Since 1999

~ 3 Miles Urban Unpaved  
Roads w/ Recycled Asphalt





# *Unpaved Roads*

*(~ 25-30 miles of un-inventoried unpaved roads)*

16.2 Miles Dust  
Palliatives 110+ ADT

15.3 Miles < 110 ADT  
Graded Only





# *Unpaved Arterial Shoulders*

~ 33 Miles Unpaved  
Shoulders w/ Paved Bike  
Lanes



106.8 Miles Unpaved  
Shoulders w/ Dust  
Palliatives





# *Unpaved Alleys*

*Total Inventory = 89.2 miles*

---

Before



After

100 % w/ RAP Plus Dust  
Palliatives annually

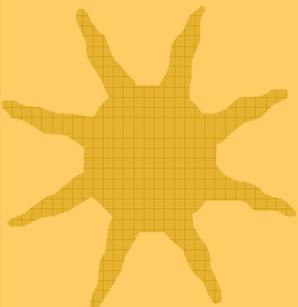
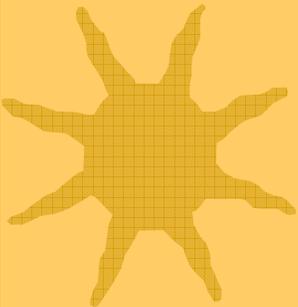
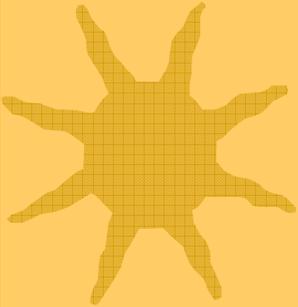




## *Budgeted Funding*

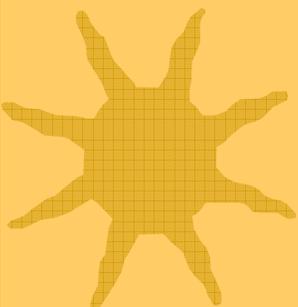
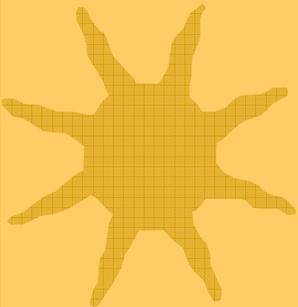
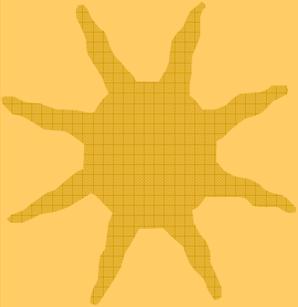
---

- ★ \$3,000,000 over 4 years beginning 7/99
- ★ \$1,500,000 Annual Budget
  - Unpaved Roads
  - Unpaved Shoulders on Arterials
  - Alleys, etc.
- ★ \$440,000 added FY2007/2008

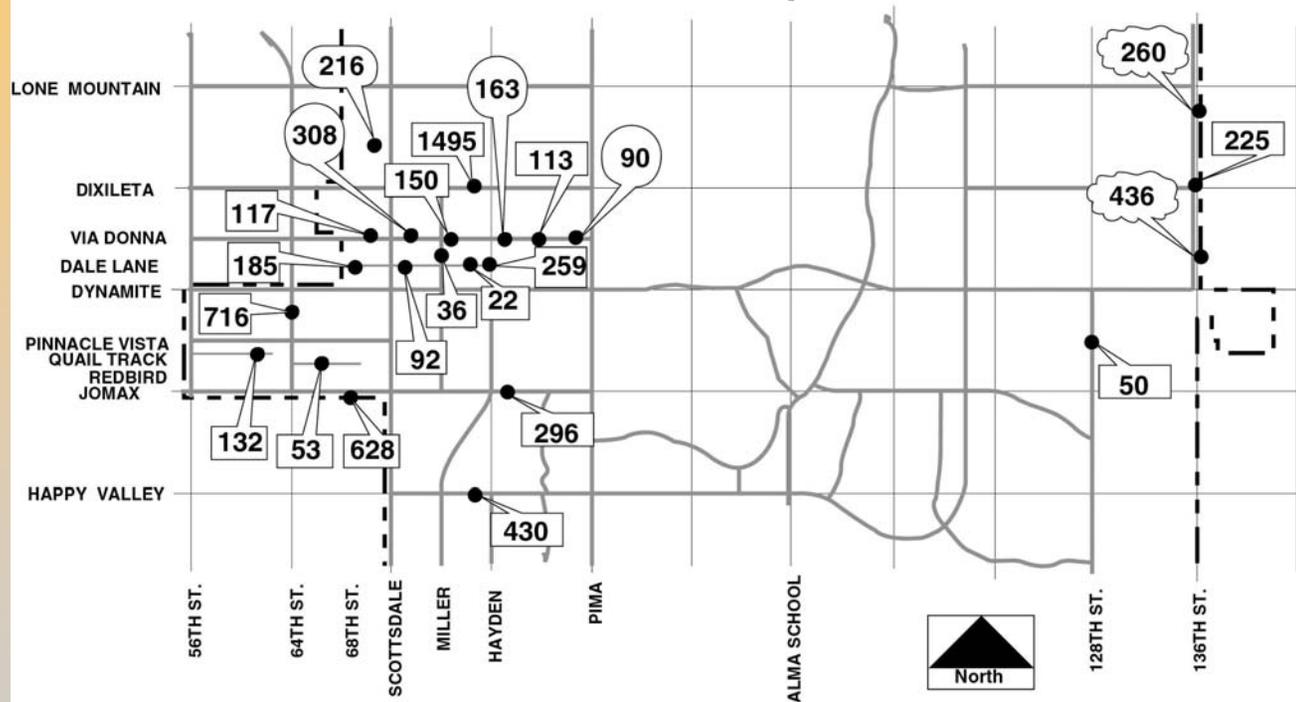




# 1999 Traffic Counts



## Traffic Volume on Unpaved Roads



### Unpaved Road Counts

Traffic volume counted between 4/20/99 -- 2/10/00



Ap. '99



Nov. '99



Dec. '99



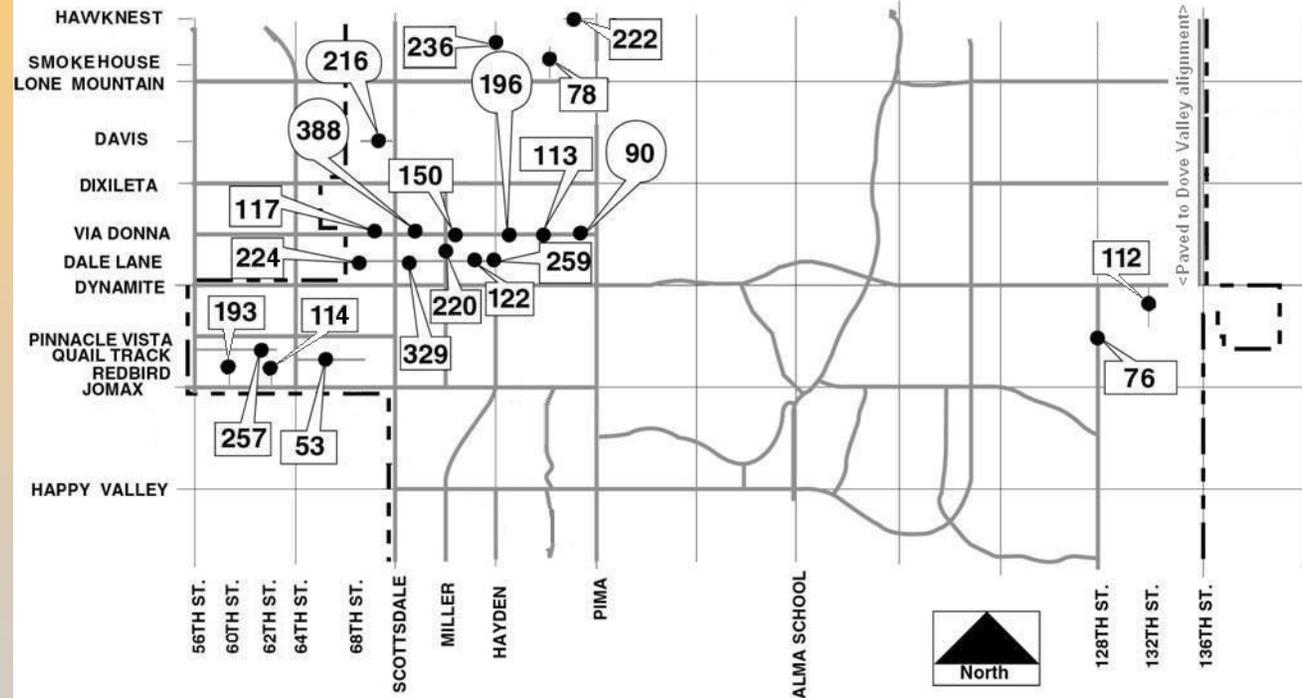
Feb. '99

NOTE: Traffic volume counts are the average of two 24 hour periods, with counts listed for each 15 minute increment throughout the 24 hours. This is the EPA recognized standard procedure for calculating traffic volume.



# 2007 Traffic Counts

## Traffic Volume on Unpaved Roads



### Unpaved Road Counts

Traffic volume counted between 4/20/99 -- 2007

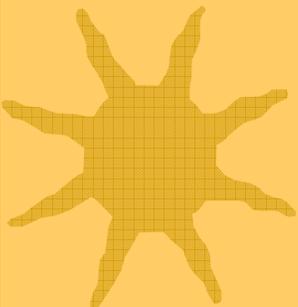
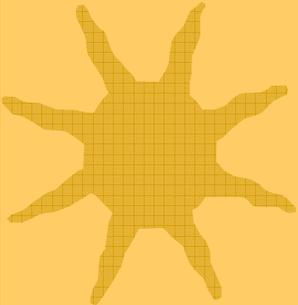
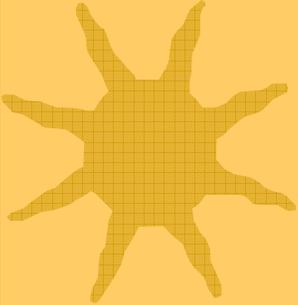
NOTE: Traffic volume counts are the average of two 24 hour periods, with counts listed for each 15 minute increment throughout the 24 hours. This is the EPA recognized standard procedure for calculating traffic volume.





# *Unpaved Road Dust Control Revision Options*

---



- ★ Option 1: Make minimal changes to existing program
  - NOTE: Likely city will incur fines under this option
- ★ Option 2: Expand existing program to comply with stricter requirements
- ★ Option 3: Apply dust palliatives to all 31 miles of city maintained unpaved roads
- ★ Option 4: Pave any unpaved road that is/becomes subject to dust regulations, ~13 miles
- ★ Option 5: Pave all 31 miles of city maintained unpaved roads



# Survey Results

*(Unscientific Survey)*

## 86 Responses

- ★ 90% live on an unpaved road
- ★ 60% prefer paved roads
- ★ 29% own or ride horses
- ★ Option 1: 10% Minimal efforts to comply
- ★ Option 2: 16% Expand efforts to comply fully
- ★ Option 3: 48% Apply palliatives to 31 miles
- ★ Option 4: 13% Pave 16 miles of unpaved road
- ★ Option 5: 12% Pave 31 miles of unpaved road
- ★ Second Choice: 57% dust palliatives/43% pave
- ★ 3<sup>rd</sup>/4<sup>th</sup> Choices: 90% pave

