NAAQS SIP Stakeholder Meeting

Tony Davis

Arkansas Department of Environmental Quality

January 28, 2015

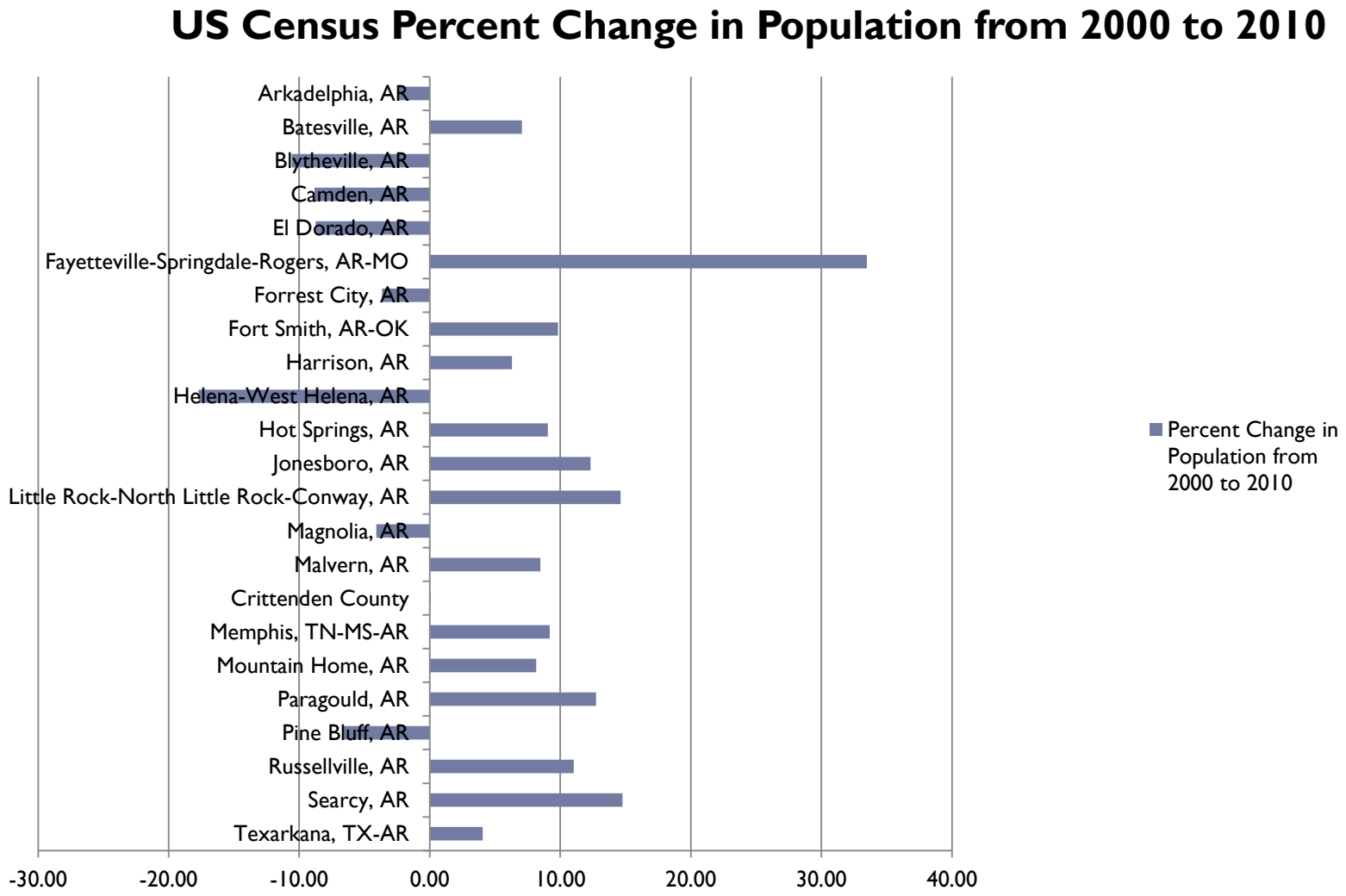
Presentation Topics

- Comparison of Recent Monitor Design Values to NAAQS
- SIP Process & Control Measures Requirements
- Review Stakeholder Suggested Control Measures

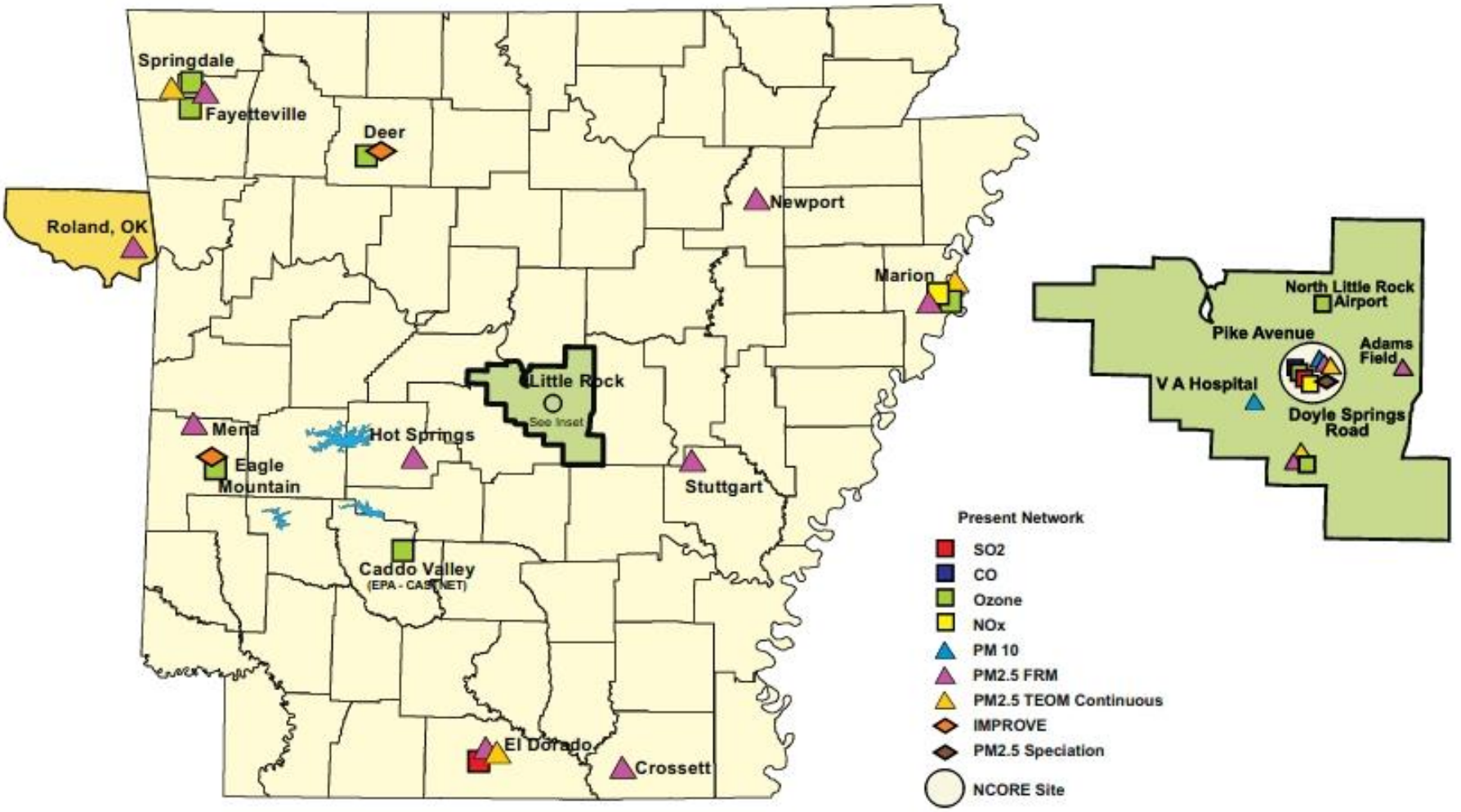
Arkansas Metropolitan Statistical Areas US Census Data 2000 -2010

Title	Population		Change, 2000 to 2010	
	April 1, 2000	April 1, 2010	Number	Percent
UNITED STATES				
Metropolitan statistical area				
Arkadelphia, AR	23,546	22,995	-551	-2.3
Batesville, AR	34,233	36,647	2,414	7.1
Blytheville, AR	51,979	46,480	-5,499	-10.6
Camden, AR	34,534	31,488	-3,046	-8.8
El Dorado, AR	45,629	41,639	-3,990	-8.7
Fayetteville-Springdale-Rogers, AR-MO	347,045	463,204	116,159	33.5
Forrest City, AR	29,329	28,258	-1,071	-3.7
Fort Smith, AR-OK	255,399	280,467	25,068	9.8
Harrison, AR	42,556	45,233	2,677	6.3
Helena-West Helena, AR	26,445	21,757	-4,688	-17.7
Hot Springs, AR	88,068	96,024	7,956	9.0
Jonesboro, AR	107,762	121,026	13,264	12.3
Little Rock-North Little Rock-Conway, AR	610,518	699,757	89,239	14.6
Magnolia, AR	25,603	24,552	-1,051	-4.1
Malvern, AR	30,353	32,923	2,570	8.5
Crittenden County (Part of Memphis MSA)	50,866	50,902	36	0.07
Memphis, TN-MS-AR	1,213,230	1,324,829	111,599	9.2
Mountain Home, AR	38,386	41,513	3,127	8.1
Paragould, AR	37,331	42,090	4,759	12.7
Pine Bluff, AR	107,341	100,258	-7,083	-6.6
Russellville, AR	75,608	83,939	8,331	11.0
Searcy, AR	67,165	77,076	9,911	14.8
Texarkana, TX-AR	143,377	149,198	5,821	4.1

Arkansas Metropolitan Statistical Areas

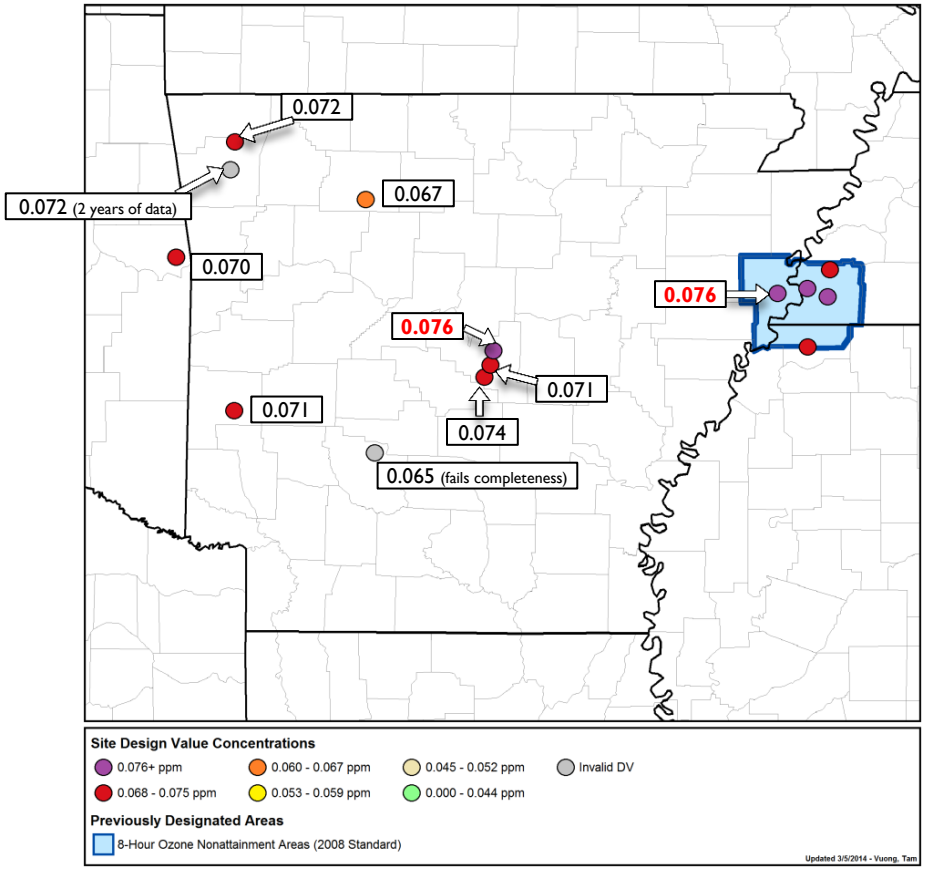


Arkansas Ambient Air Monitoring Network

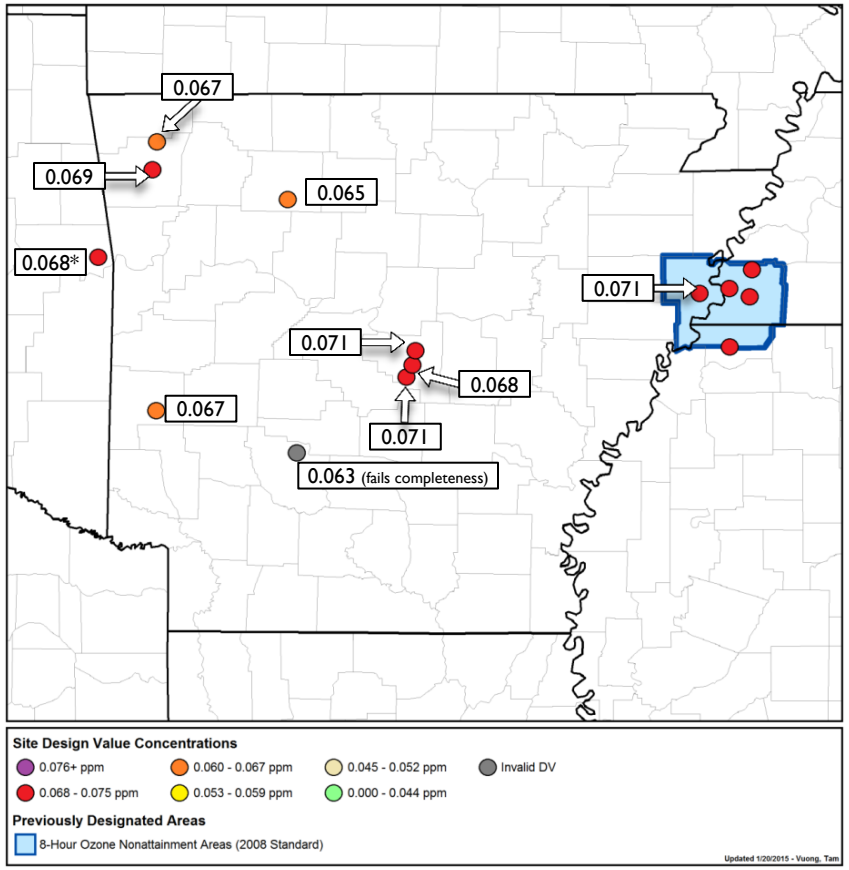


2008 8-Hour Ozone NAAQS of 0.075 ppm

2013 Design Values



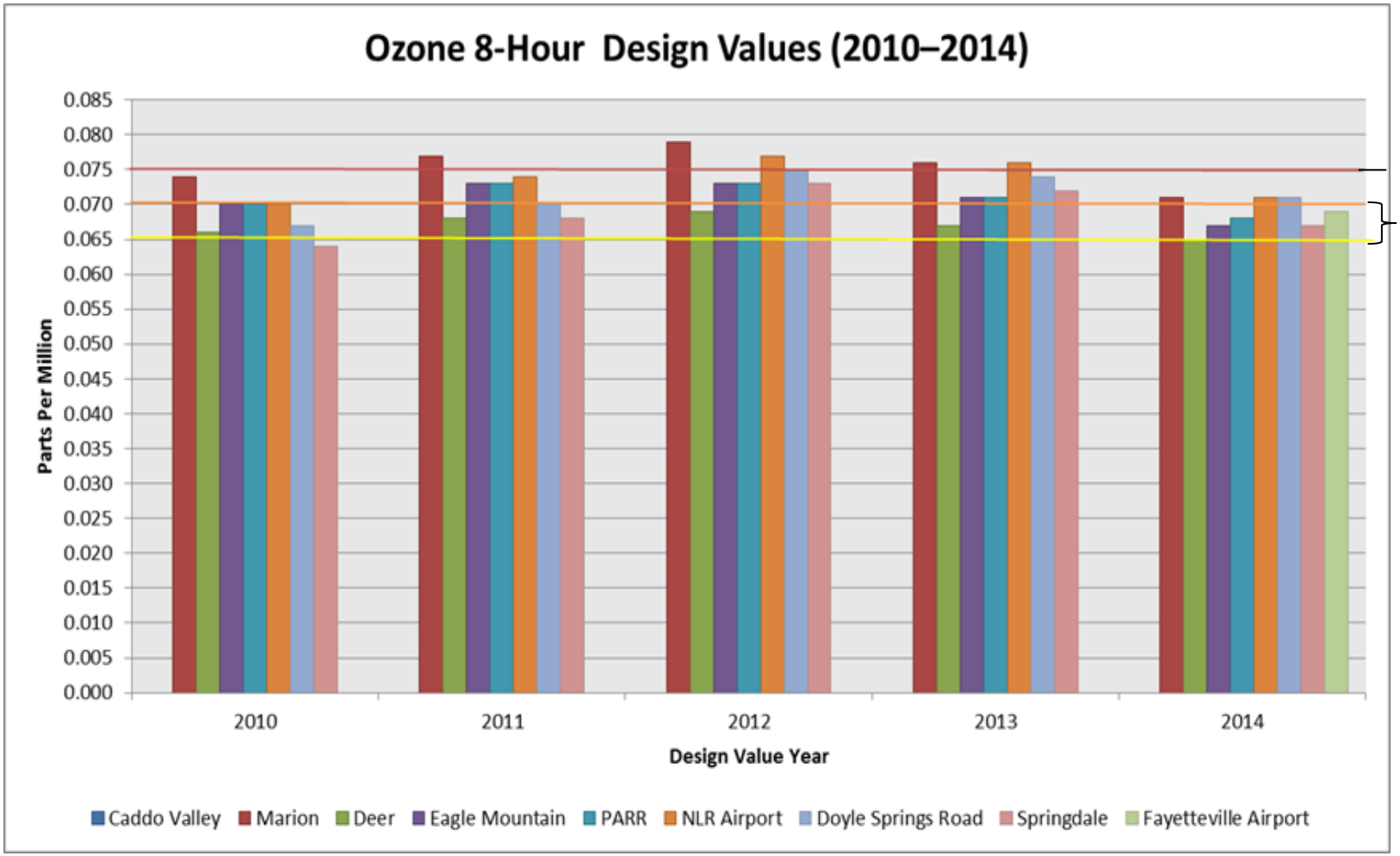
Preliminary 2014 Design Values



Crittenden County currently nonattainment for the 2008 8-hour Ozone NAAQS

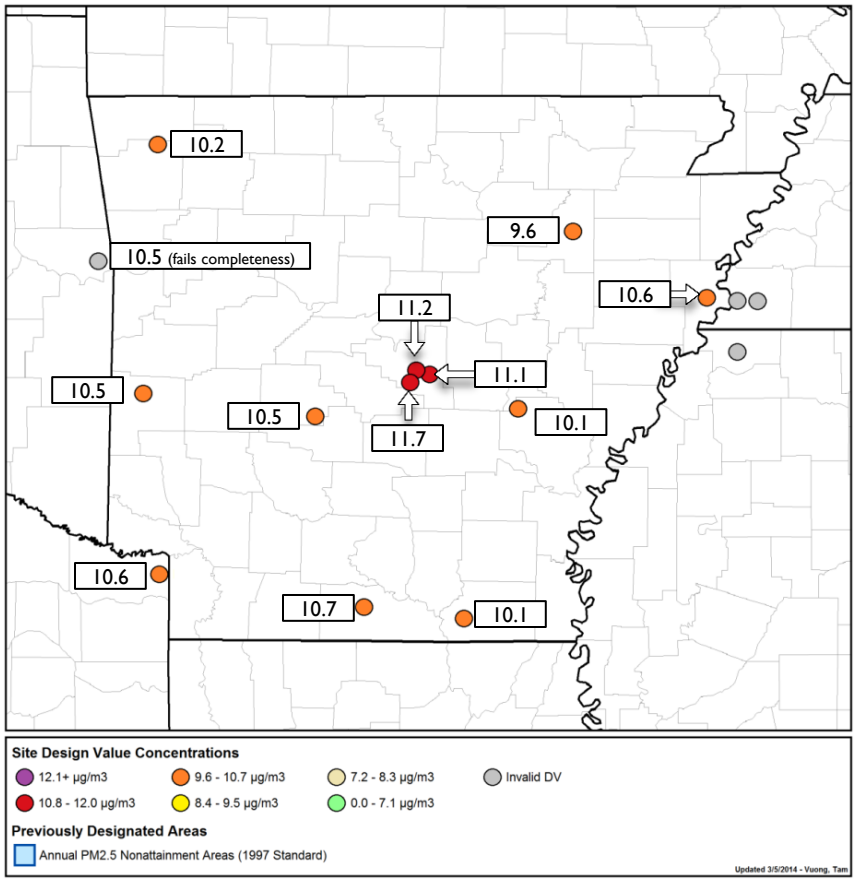
NOTE: 2014 DVs are not certified and are subject to change.

Five-Year Trend in 8-hour Ozone Design Values

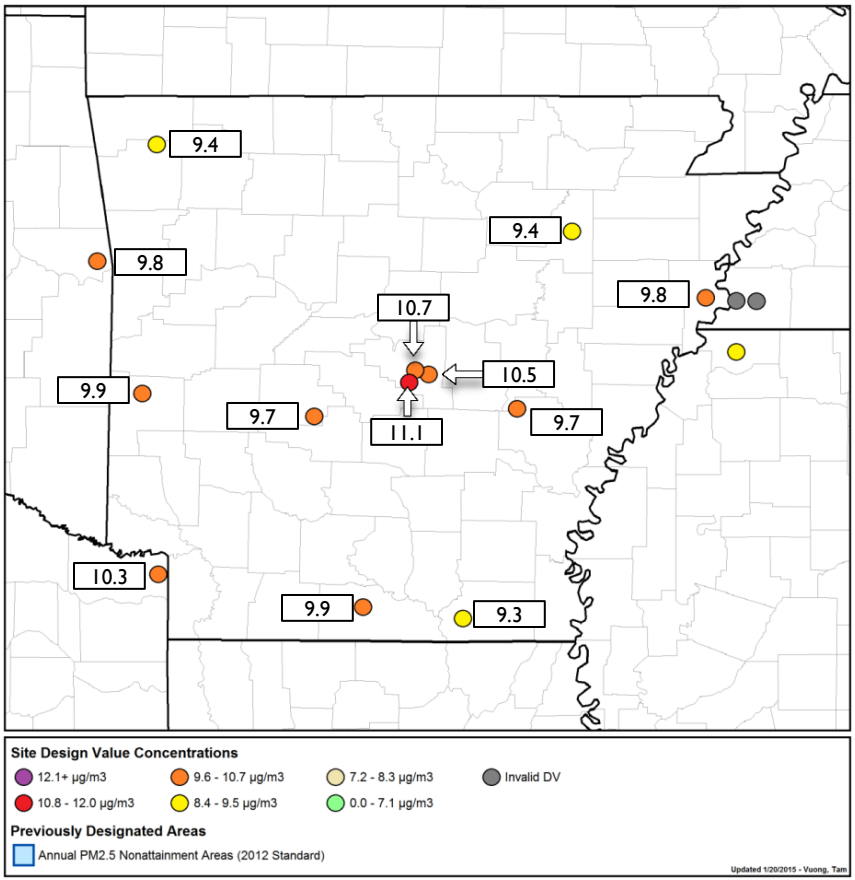


2012 Annual $PM_{2.5}$ NAAQS of 12 µg/m³

2013 Design Values



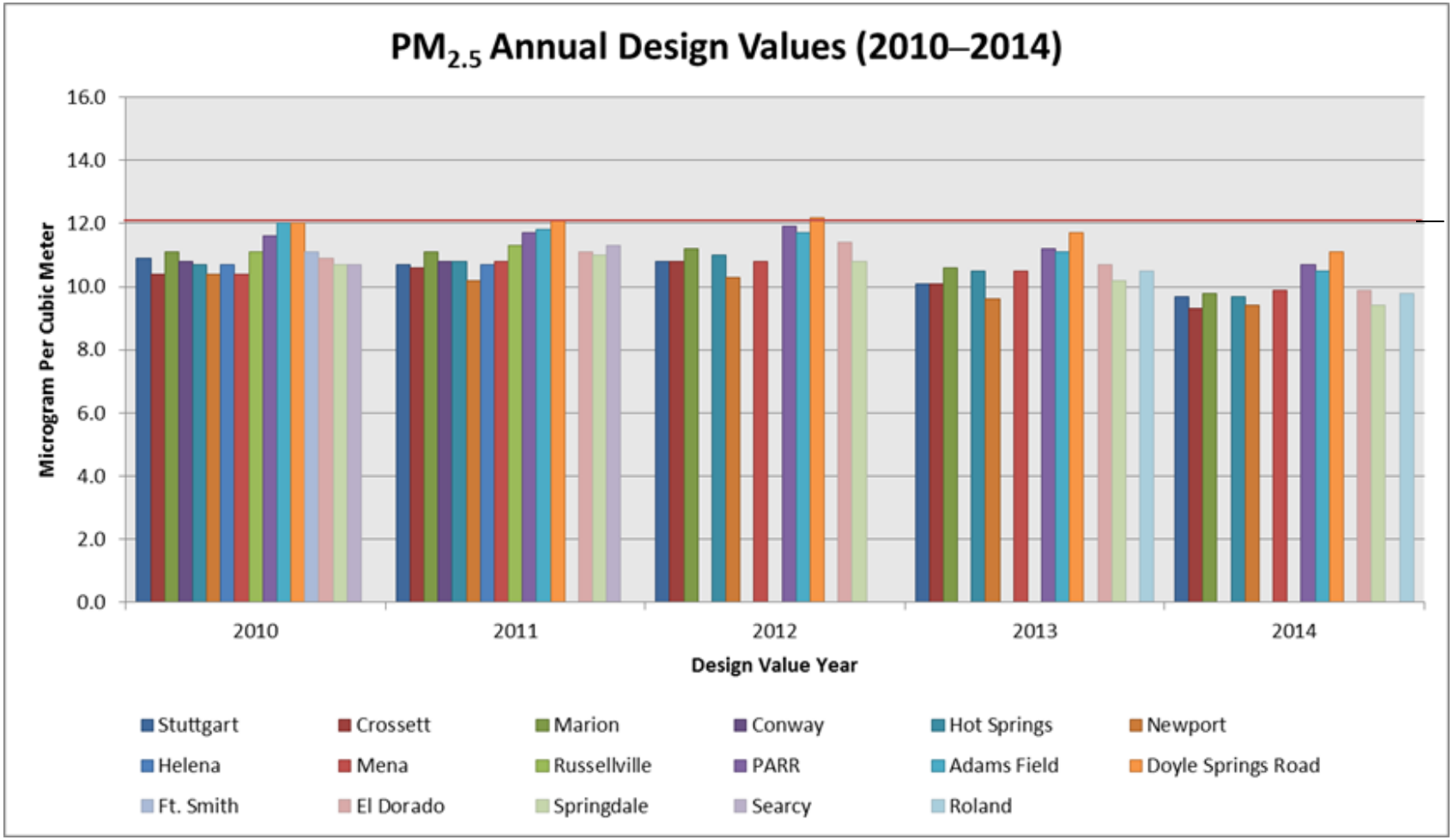
Preliminary 2014 Design Values



All counties currently attainment/unclassifiable for the 2012 $PM_{2.5}$ Annual Standard

NOTE: 2014 DVs are not certified and are subject to change.

Five-Year Trend in Annual $PM_{2.5}$ Design Values



Some of the Major Types of SIPs

- Attainment Plans: nonattainment areas
- Maintenance Plans: attainment and former nonattainment areas
- Program SIPs
- Infrastructure SIPs: 110(a)
- NAAQS SIP: Act 1302 of 2013

Typical Stages of SIP Development

- EPA updates federal rules
- ADEQ proposes revisions to APC&EC Regulations
  - Public Comment & Response
- Legislative review
- APC&EC adopts Regulations
- ADEQ prepares SIP package
  - Public Comment & Response
- ADEQ provides written notice of finalized SIP
- Governor submits SIP to EPA for approval
- EPA reviews & publishes proposed approval status
  - Public Comment & Response
- EPA publishes final decision

Control Strategies Definition

- A set of specific measures identified and implemented to achieve reductions in air pollution
  - These measures may vary by:
    - Source type
    - Pollutant targeted
  - Costs and benefits to be assessed in the development of the control strategy

Control Strategy Development

- The process of assessing specific abatement measures, management practices, or control technologies,
- to determine the best combination of approaches to provide the emission reductions necessary,
- so the air quality standard or goal is achieved

Control Strategy in a SIP

- The SIP must contain an enforceable control strategy to ensure attainment and maintenance of all the National Ambient Air Quality Standards (NAAQS)
- 40 CFR 51.112 (a) "Each plan must demonstrate that measures, rules, and regulations in it are adequate to provide for the timely attainment and maintenance of the national standard it implements"

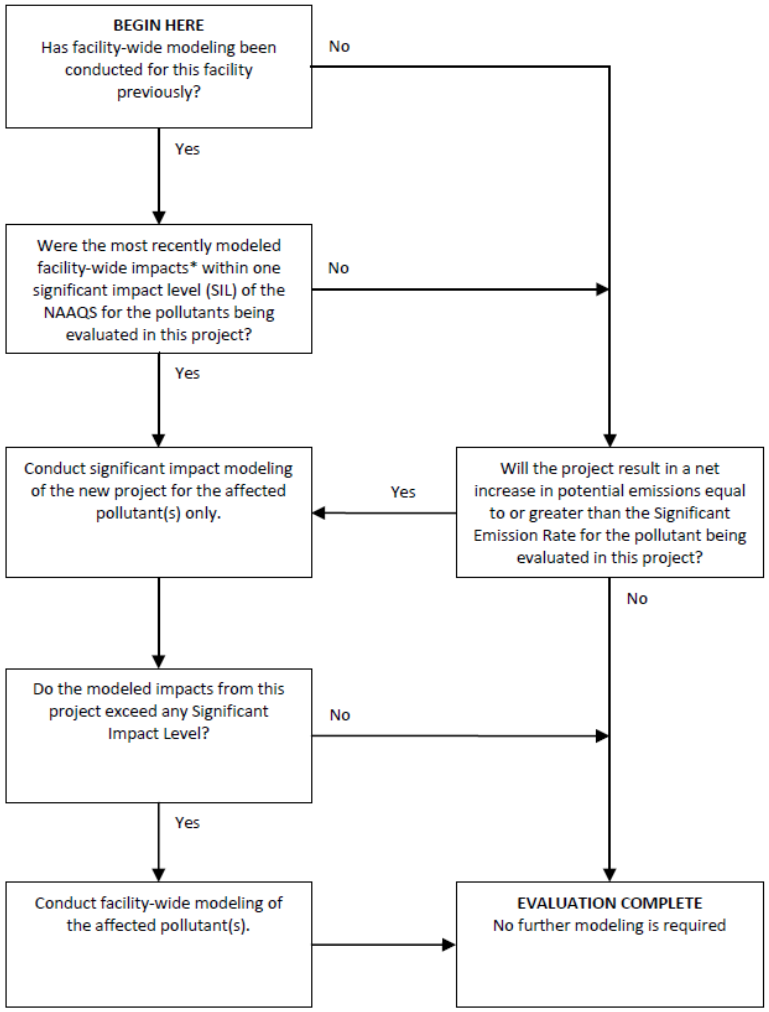
EPA Requirements of Control Strategies

- Enforceable
  - State/permitting authority
  - EPA
- Measurable/Quantifiable
  - Adequate monitoring and reporting requirements to assess effectiveness of control measures and aid enforcement
  - Monitoring
  - Modeling
- Permanent
  - "Anti-Backsliding"- If an air pollution requirement is dropped, it must be replaced with an alternative control strategy to make up for lost reductions
- Authority
  - State Law or Regulation

Example

- Modeling before Permit Issuance (Options for when to model)
  - All sources
  - Based on PSD increments
  - Near nonattainment areas (when a % of NAAQS is reached)
  - Permit Limits
- Adapt a similar idea as the example Permit Modelling Flow Chart?

Example Permit Modeling Flowchart



Pollutants	Significant Emission Rates TPY	Significant Emission Rates (lb/hr)
CO	100	22.83
NOx	40	9.13
SO2	40	9.13
PM	25	5.71
PM10	15	3.42
PM2.5	10 (direct), 40 (SO2), 40 (NOx)	2.28 (direct), 9.13 (SO2), 9.13 (NOx)
Ozone	40 (VOC or NOx)	9.13 VOC or NOx
Lead	0.6	0.14

Expand Programs Like Go Red! (DERA)

- Voluntary Control Measures
  - Pursue additional money through grants or local venue funding
  - Legislature create Arkansas Emission Reduction Program
    - provide financial incentives to eligible individuals, businesses, or local governments to reduce emissions from polluting vehicles and equipment.
    - Encourages the use of alternative fuel vehicles
    - Encourages more efficient fleets
- Enforceable Control Measure
  - Required phase out of older, less efficient vehicles/equipment

Transportation

- Voluntary
  - Expansion of Clean Cities Program
    - Replace petroleum with alternative and renewable fuels
    - Reduce petroleum consumption through smarter driving practices and fuel economy improvements
    - Eliminate petroleum use through idle reduction and other fuel-saving technologies and practices.
  - Create a Clean Arkansas Program
    - Encourage the use of alternative fuel vehicles
    - Encourage more efficient fleets
    - Encourage rideshare alternatives
    - Encourage flex schedules
    - Encourage telecommuting
    - Encourage idle reduction

Transportation

- Voluntary
  - Plan for more efficient vehicle movement
  - Decrease the number of vehicles on the road
    - Raise the fuel tax, which could be rolled back into transportation planning
- Enforceable
  - Mandate traffic flow standards

State Government

- Voluntary
  - Lead by example
    - Encourage efficient commuting policies
    - Rideshare options
    - Flex schedules
    - Telecommuting
  - More efficient fleets
    - Increase alternative fuel vehicles
    - Most efficient vehicle for the job
  - Idling Reduction
- Enforceable
  - Require agencies to participate (legislation/governor's order)

eTrip: San Joaquin Valley Air District

Enforceable

- Employer Trip Reduction Implementation Plan
- Require businesses with 100 or more employees to offer alternatives to encourage employees at the worksite to use alternative transportation and ridesharing for their morning and evening commutes
  - Promote the use of alternative fuel vehicles
  - Promote more efficient fleets
  - Promote rideshare/vanpool alternatives
  - Promote flex schedules
  - Promote telecommuting
  - Promote idle reduction

Area Sources

- Enforceable
  - Greater enforcement of current state & federal regulations, i.e.: Area MACTS

Prescribed Burns

- Voluntary
  - Smoke Management Plan
  - Expand the use to include all types of burns
  - Additional focus on sensitive areas
  - Try to schedule burns outside of ozone season
  - Continued education
  - Continue to improve and enhance
- Enforceable
  - Require all burns to utilize the plan
  - Permit burns

Unpaved Roads

- Voluntary
  - Pave more county roads
    - Update Arkansas Unpaved Roads Program to include dust as well as water quality
  - Study road usages
    - Identify areas of concern with heavy use
    - Obtain a better understanding of road dust impact
    - Improve traffic counts
    - Understand weight impact
  - Incentivize dust suppression water trucks
    - Seasonal or short-term periods of heavy traffic
- Enforceable
  - Require paving or suppression

Debris Removal

- Alternative to burning
  - Wood waste chipping program
    - Provide as mulch
    - Supply wood fired boilers
- Voluntary or Enforceable

For Additional Information:

- **Tony Davis**

  Air Planning Branch Manager

  Arkansas Department of Environmental Quality

  (501) 682-0728

  davisa@adeq.state.ar.us