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2015 Ozone NAAQS- Proposed PAMS Monitoring

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St. Louis Air Monitoring Agencies Meeting, May 5, 2015
St. Louis, MO

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Photochemical Assessment Monitoring Stations (PAMS)

Section 182(c)(1) of the 1990 Clean Air Act Amendments (CAAA) required the Administrator to promulgate rules for the enhanced monitoring of ozone, oxides of nitrogen (NOx), and volatile organic compounds (VOC) to obtain more comprehensive and representative data on ozone air pollution.

- Currently required for Ozone nonattainment areas classified as serious, severe, or extreme.

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2015 Ozone NAAQS-

EPA Proposes adding PAMS monitoring for:

- NCore sites (Core Monitoring Network) in ozone nonattainment areas regardless of nonattainment classification. (St. Louis MO)
- Enhanced Monitoring (In new areas designated nonattainment for the 2015 Ozone NAAQS)
- Minimum PAMS Monitoring Season: June, July, and August.

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PAMS Measurements Include:

- ✓ Hourly averaged speciated volatile organic compounds (VOCs),
- ✓ 8 3-hour averaged carbonyls daily,
- ✓ Hourly averaged O3,
- ✓ Hourly averaged nitrogen oxide (NO), nitrogen dioxide (NO_2), and total reactive nitrogen (NOy),

Meteorology (may be able to use nearby met station)

- ✓ Hourly averaged 3 meter ambient temperature,
- ✓ Hourly vector-averaged 10 meter wind direction,
- ✓ Hourly averaged 10 meter wind speed,
- ✓ Hourly average atmospheric pressure,
- ✓ Hourly averaged relative humidity, and
- ✓ Hourly averaged mixing-height.

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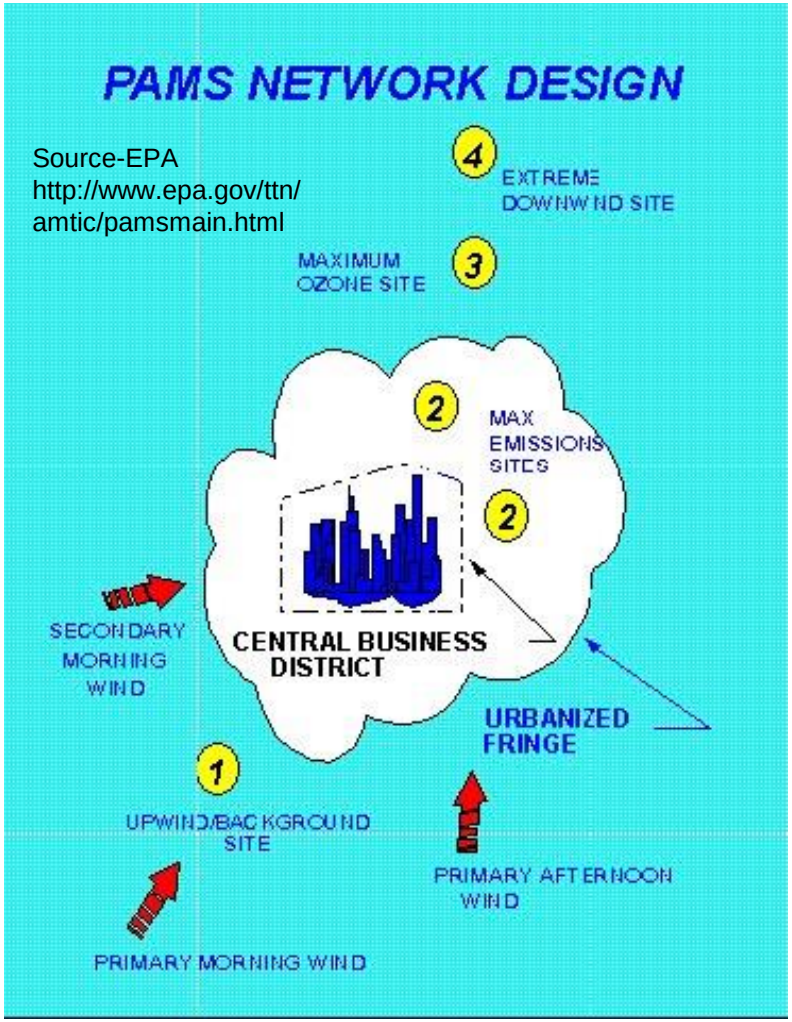
EPA- PAMS Network Design



PAMS Network Proposal-

EPA proposes flexibility in network design. (NCore sites-Likely near max precursor emissions sites (EPA PAMS Type 2 classification)

Enhance Monitoring Plan- States have flexibility but the requirements are not specific. (e.g. States need to design the network- What parameters (VOC, NOy, O3, NOx) where to monitor, how many sites, etc…?)

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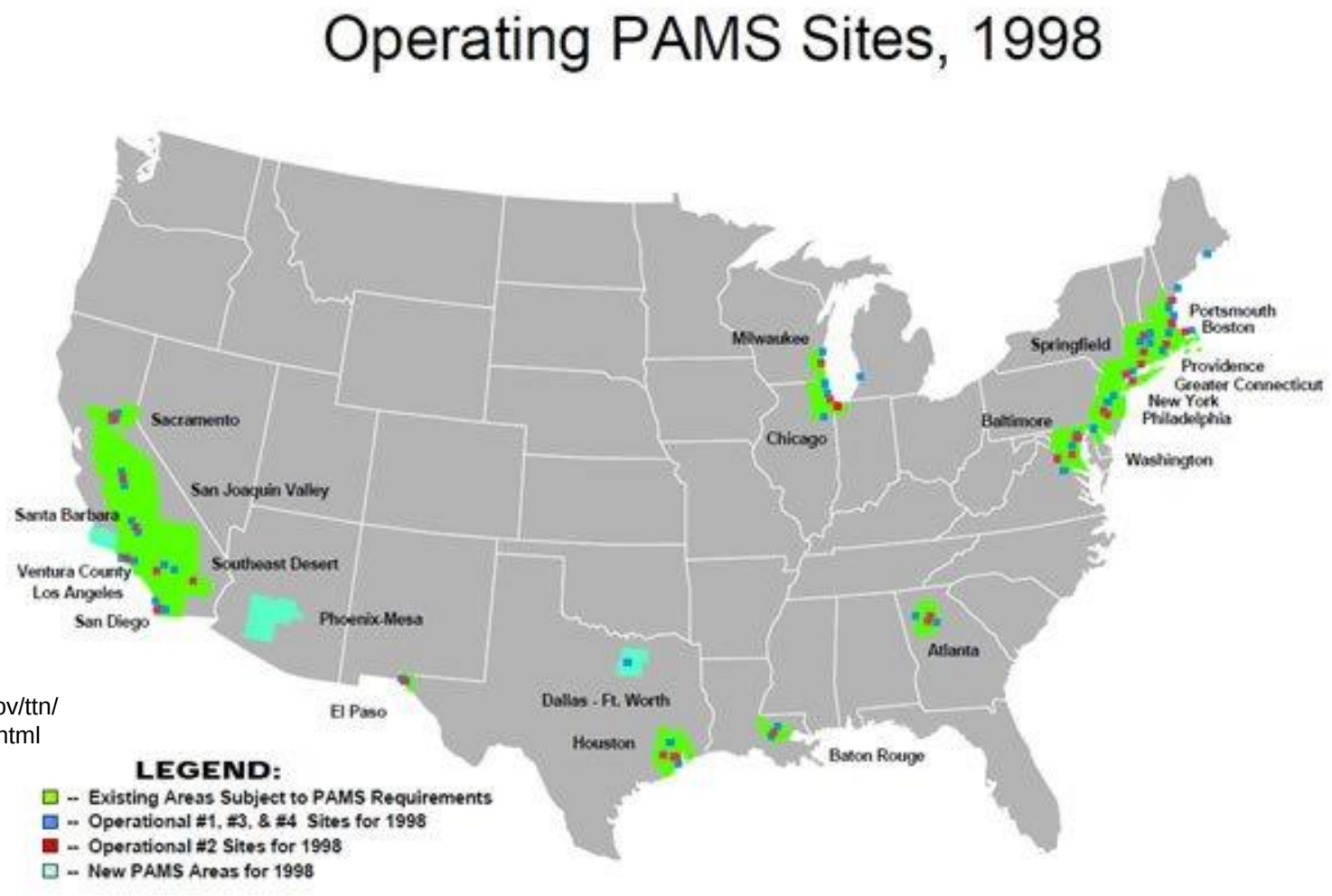
Historic PAMS Monitoring Areas

*Currently No PAMS Monitoring In EPA Region VII States



Source-EPA
http://www.epa.gov/ttn/amtic/pamssites.html

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Monitoring Equipment
(and related issues)

- Hourly VOCs- Requires Gas Chromatograph (GC) (complex and costly to purchase and maintain. Requires expert staff for operation and data analysis. Likely need to operate before and after the minimum three month PAMS monitoring period for set-up/break-in/shut down, off-season maintenance. 5-6 months dedicated staff time?)

- 8 (3-hour) Carbonyl samples- Requires Multi-channel samplers (or multiple samplers) and staff time to change and ship filters for analysis.

- Carbonyl Analysis- States need to decide: do it 'in house' or subcontract analysis to an outside lab? (Capital equipment cost vs. long term contract & shipping costs.)

- EPA has dedicated Section 105 funds to help with costs, but PAMS will require significant state resource planning and some state matching funding.

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Next Steps:

- Internal staff discussions and resource planning
- Evaluate final rule- expected late 2015
- Begin Network design planning and procurement (NCore PAMS anticipated start date: 1/1/2017 (assuming EPA does not promulgate extension provisions for areas that are new to PAMS monitoring.)

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Source for More Information:

- Ambient air and Air Toxics Data by Monitoring Site: http://www.epa.gov/airdata/
- MDNR/APCP: http://dnr.mo.gov/env/apcp/airpollutants.htm
- Ozone Proposal http://www.epa.gov/ttn/naaqs/standards/ozone/s_o3_index.html
- National Air Monitoring Resources: http://www.epa.gov/ttn/amtic/

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EPA's Air Data Tool:

- Hazardous Air Pollutants Report: http://www.epa.gov/airdata/ad_rep_monhaps.html

EPA's AirData tools allows users to quickly export AQS data and summary statistics in a CSV spreadsheet or PDF format for analysis.

Monitor Values Report - Hazardous Air Pollutants

Geographic Area: St. Louis City, MO

Year: 2014

Obs	Obs <MDL	Obs Nondetect	Max Fed MDL	Max Alt MDL	Data Complete	Min	10th %ile	Median	Mean	90th %ile	95th %ile	Max	Units	Parameter Name	Monitor Number	Site ID	Address	City	County	State	EPA Region
59	59	1	0.1	0.014	Yes	0	0.06074	0.08099	0.08271	0.10124	0.12149	0.18223	Micrograms/cubic meter (25 C)	Ethylene dichloride	6	295100085	Blair Street: 3247 Blair Street, St. Louis, Mo 63107	St. Louis	St. Louis City	MO	07
59	55	1	0.1	0.013	Yes	0	0.06786	0.10179	0.13572	0.27145	0.37324	0.40717	Micrograms/cubic meter (25 C)	Tetrachloroethylene	6	295100085	Blair Street: 3247 Blair Street, St. Louis, Mo 63107	St. Louis	St. Louis City	MO	07
59	59	59	0.1	0.015	Yes	0	0	0	0	0	0	0	Micrograms/cubic meter (25 C)	1,2-Dichloropropane	6	295100085	Blair Street: 3247 Blair Street, St. Louis, Mo 63107	St. Louis	St. Louis City	MO	07
59	59	59	0.1	0.02	Yes	0	0	0	0	0	0	0	Micrograms/cubic meter (25 C)	trans-1,3-Dichloropropene	6	295100085	Blair Street: 3247 Blair Street, St. Louis, Mo 63107	St. Louis	St. Louis City	MO	07
59	0	0	0.1	0.014	Yes	0.41707	0.55609	0.93841	2.05119	5.80426	7.78536	13.24206	Micrograms/cubic meter (25 C)	Dichloromethane	6	295100085	Blair Street: 3247 Blair Street, St. Louis, Mo 63107	St. Louis	St. Louis City	MO	07

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Division of Environmental Quality

Director: Leanne Tippett Mosby

May 5, 2015

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