

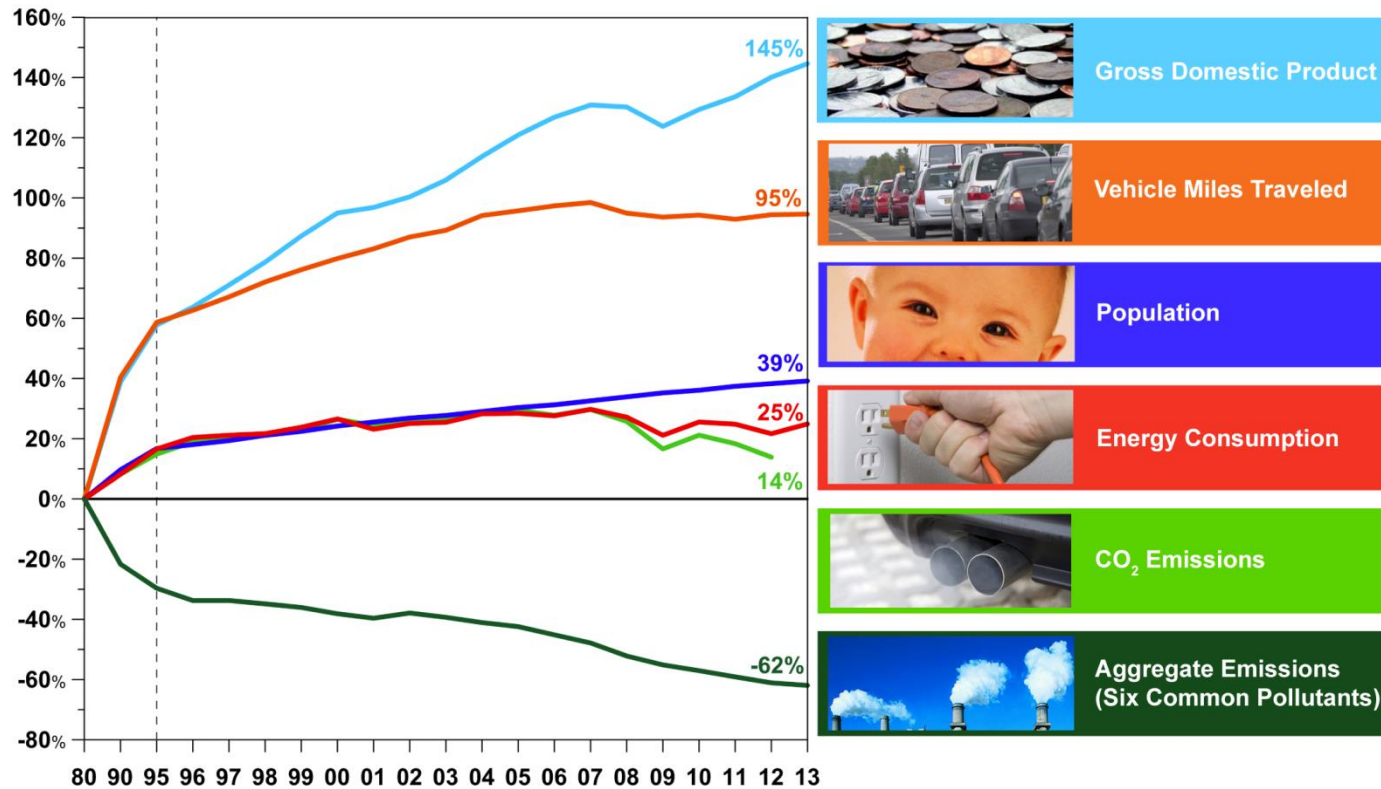
What's Wrong with the Clean Air Act?

Ron Gore

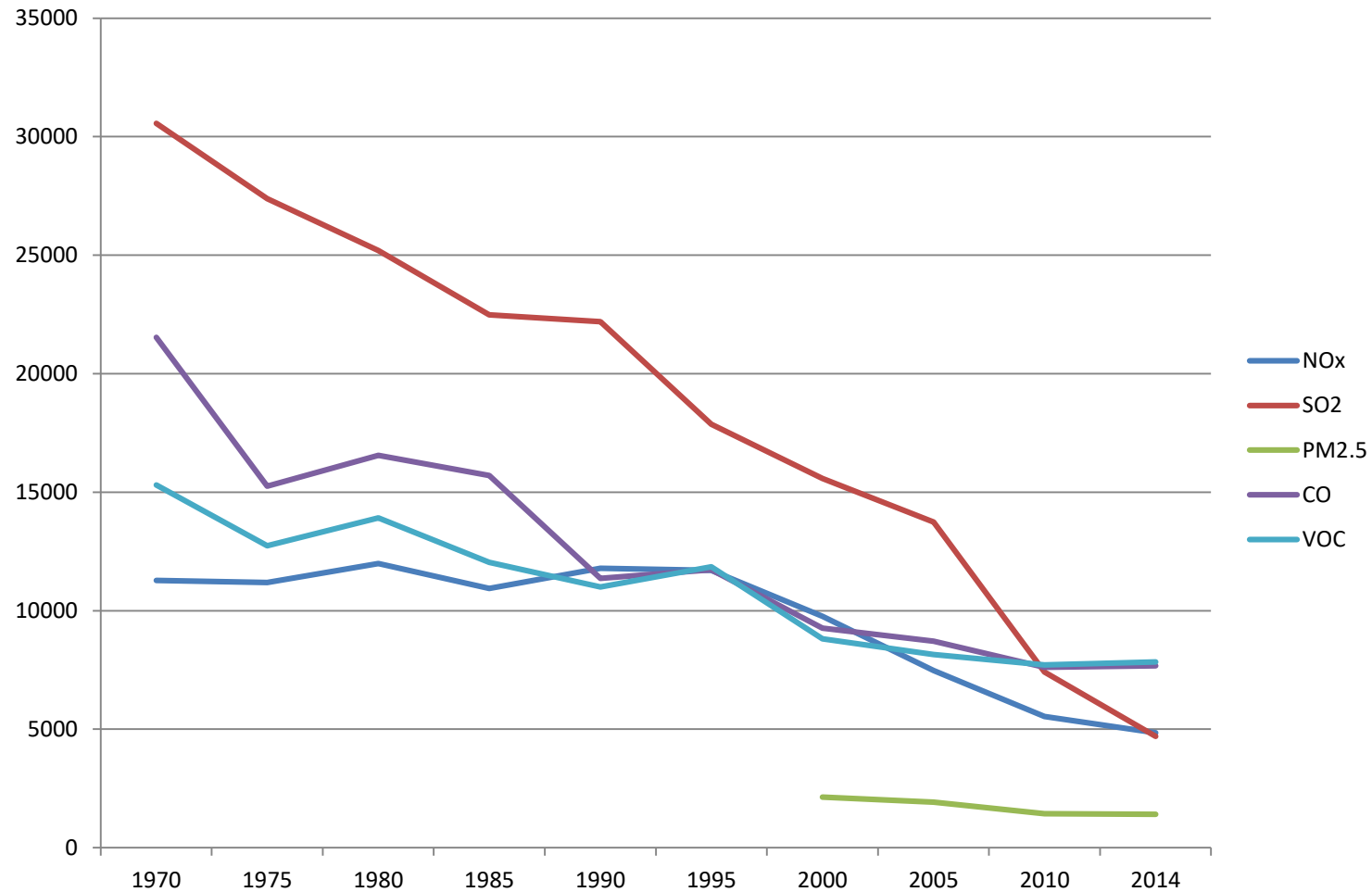
ADEM

June 2017

Comparison of Growth Areas and Emissions, 1980-2013



National Emissions from Major Sources (thousands of tons), 1970 - 2014



National Emissions from Highway Vehicles

(thousands of tons)

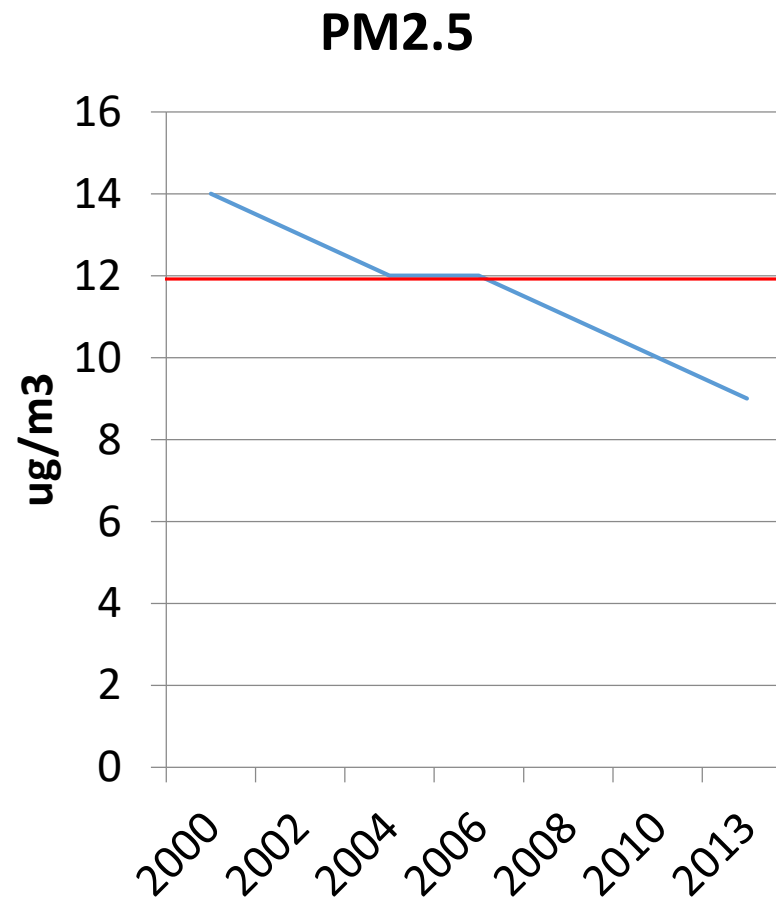
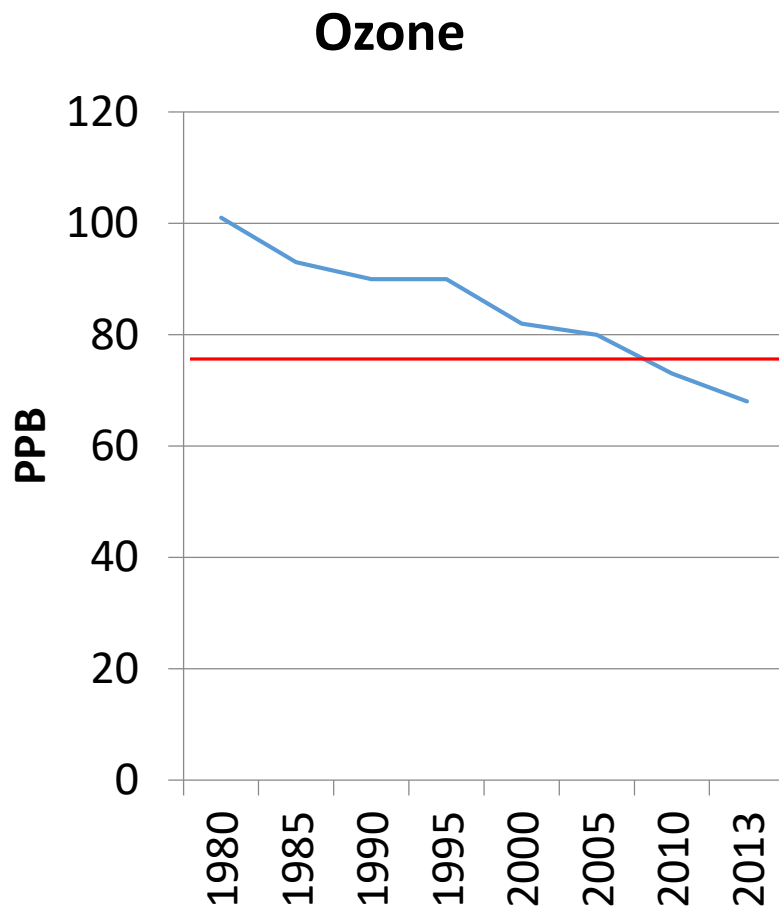
	1970	2014
CO	163,231	22,261
NOx	12,624	4,489
SO2	273	22
PM2.5	323	167
VOC	16,910	2,159
TOTALS	193,361	29,098

National VMT 1970 – 2014

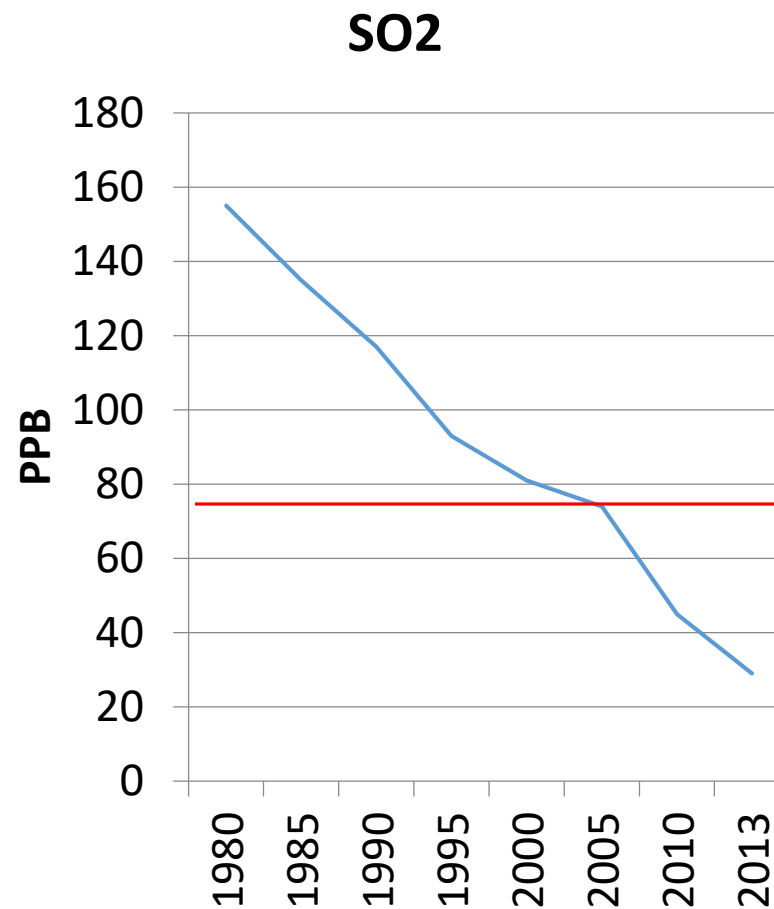
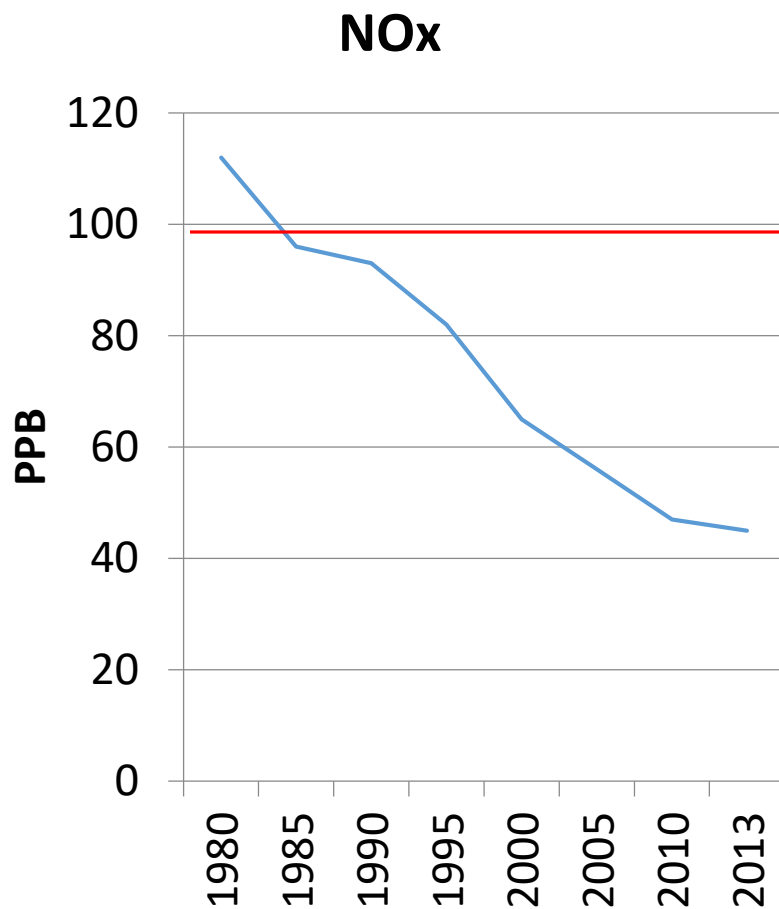
(millions of miles)

1970	1,120,328
1980	1,520,856
1990	2,147,501
2000	2,274,926
2014	3,038,144

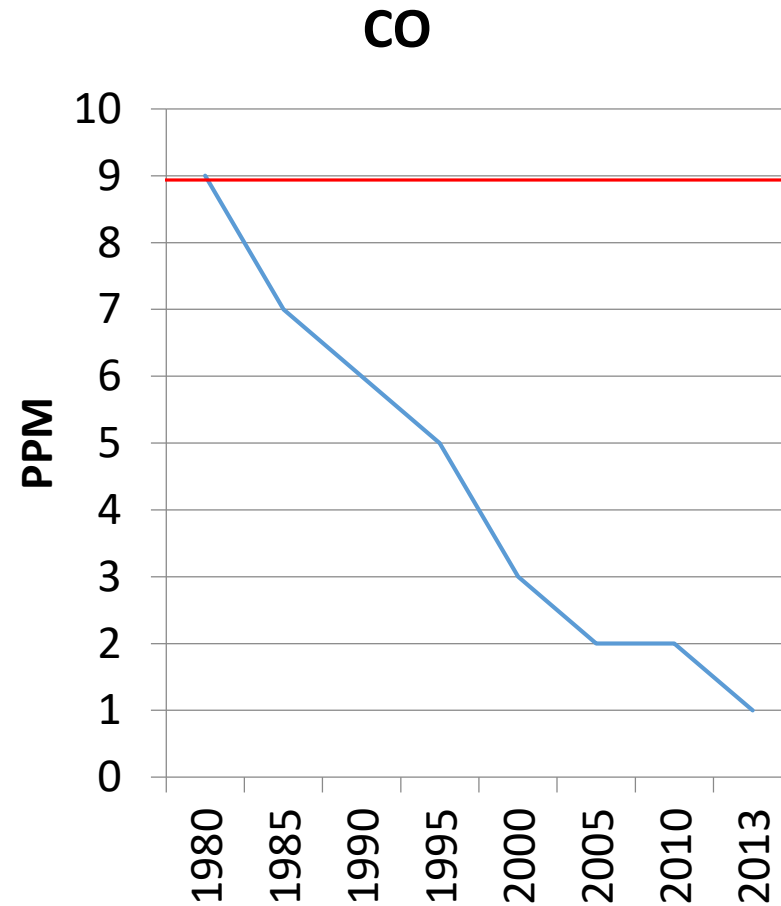
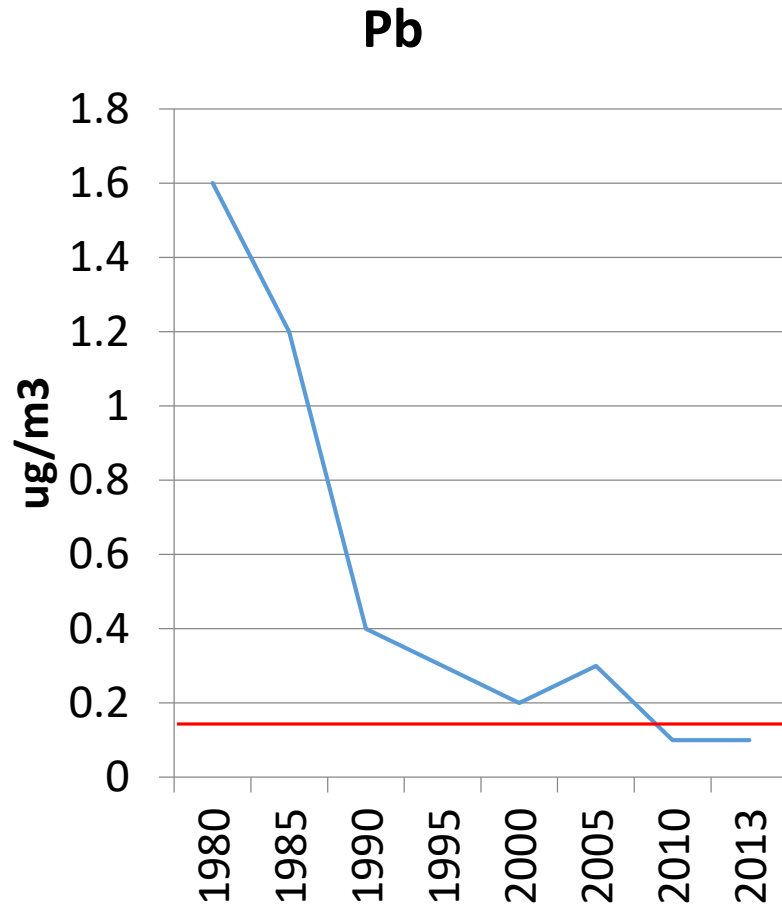
Ambient Concentrations of Criteria Pollutants – National Avg.



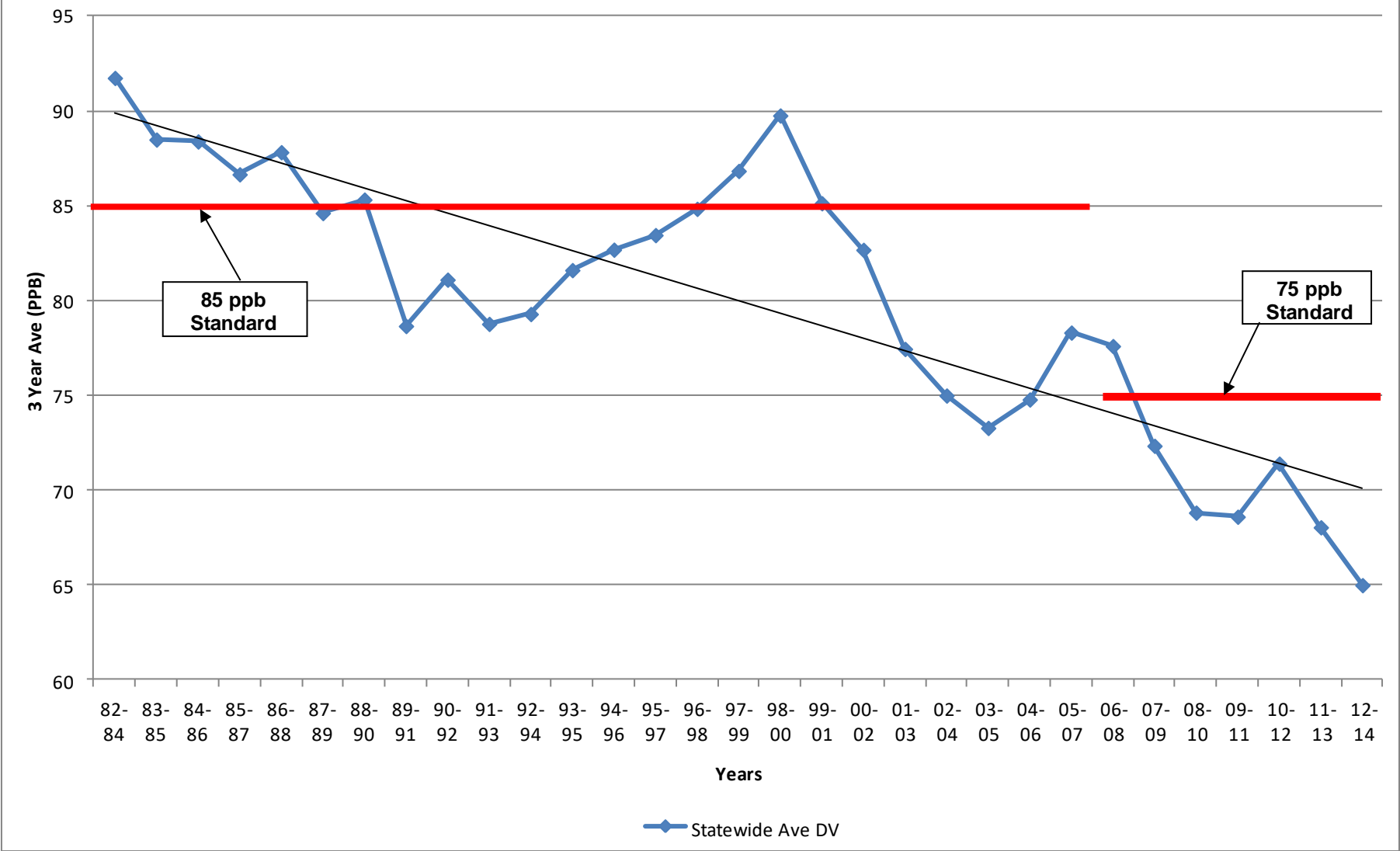
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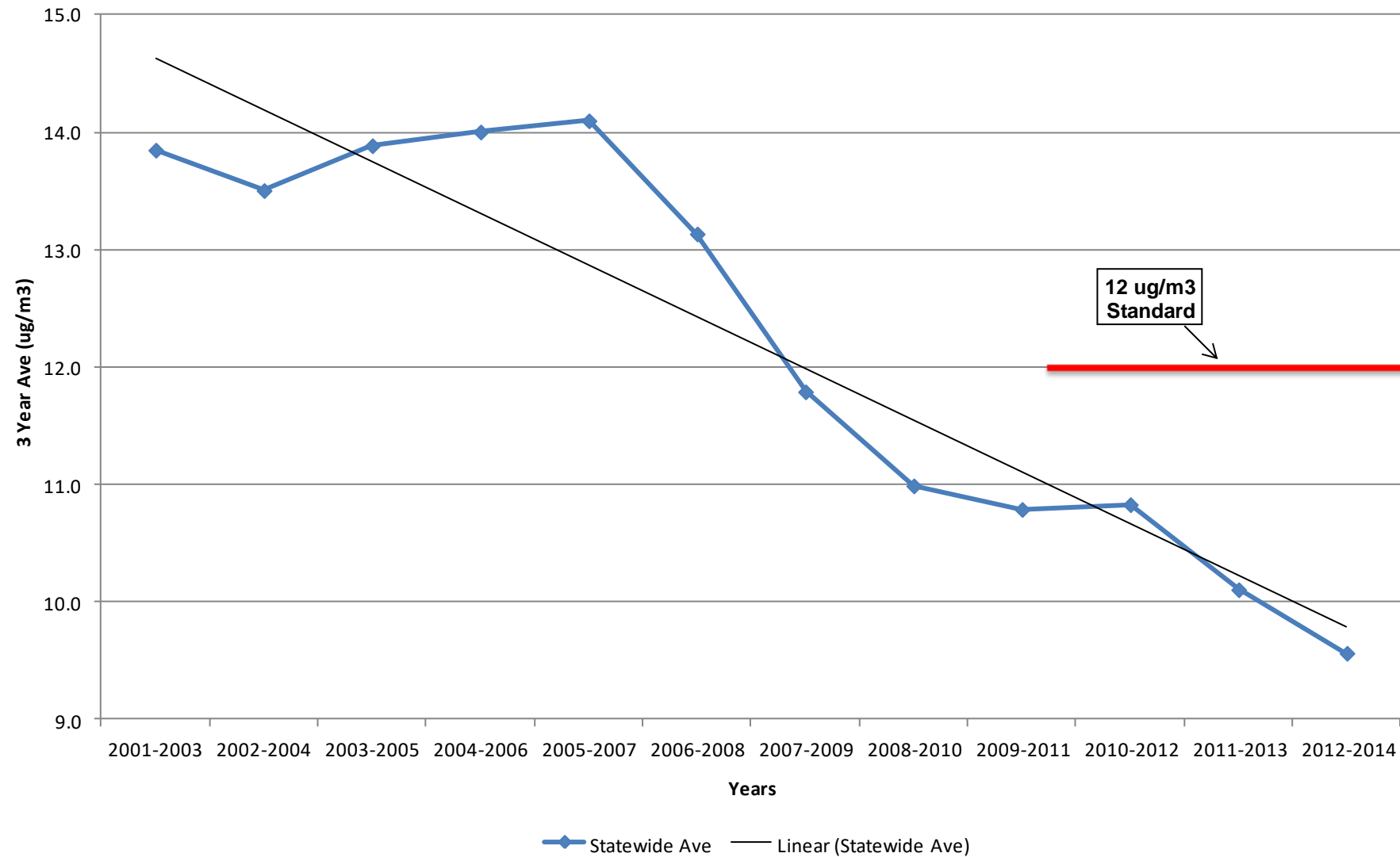
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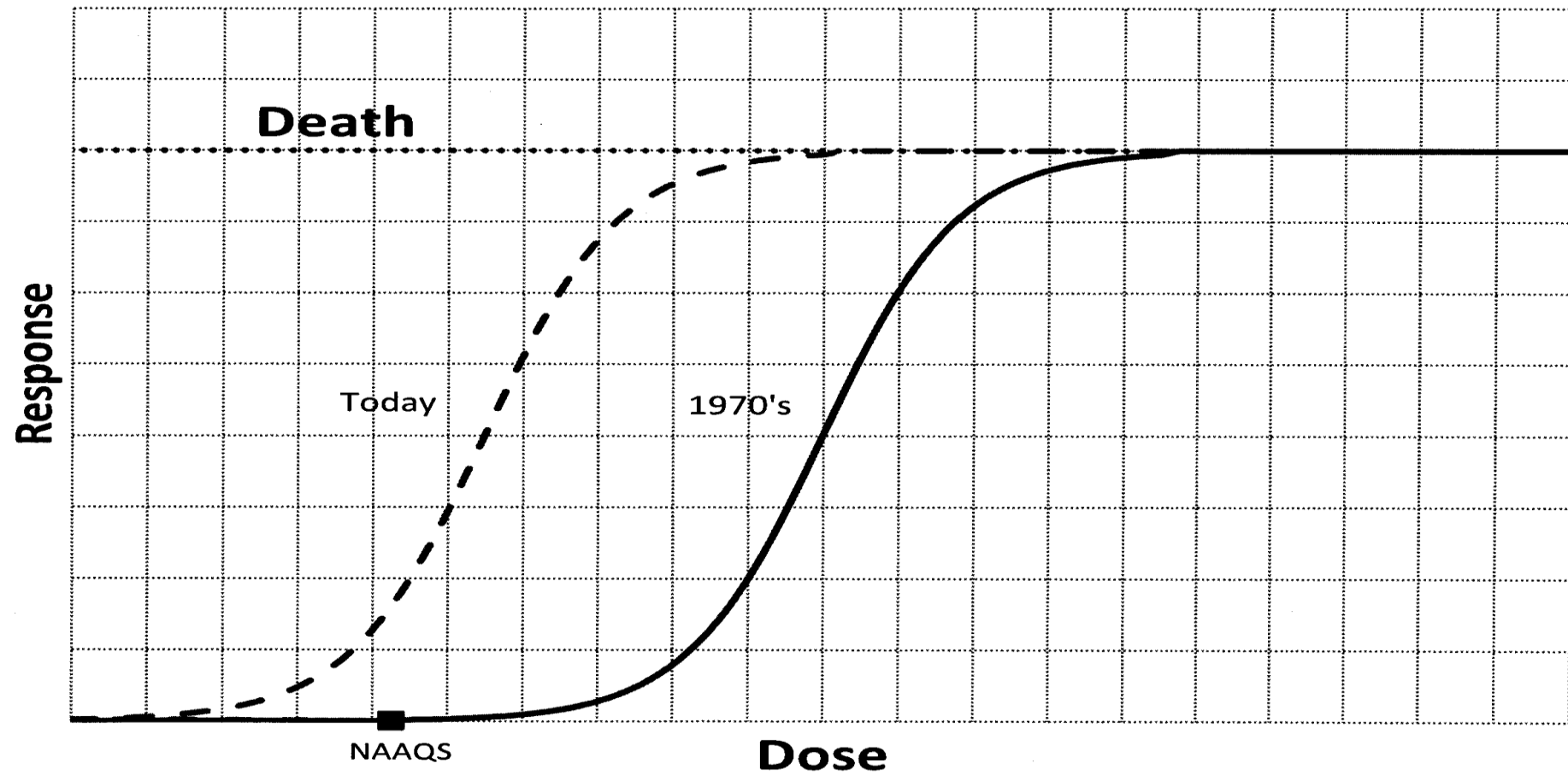


Statewide Average Ozone Design Value 1984-2014



Statewide Average PM2.5 Design Value 2003 - 2014





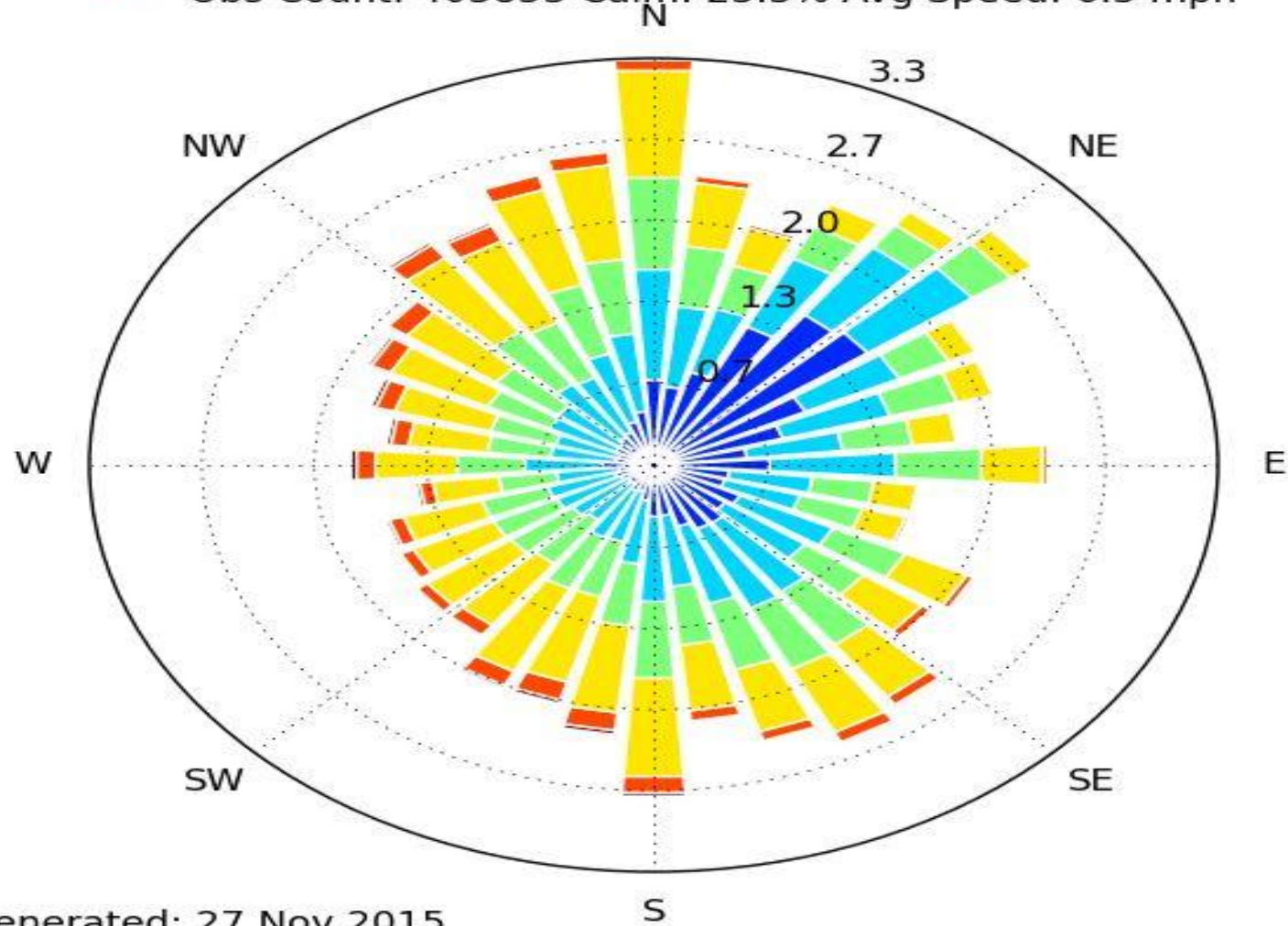


[BHM] BIRMINGHAM MUNI

Windrose Plot [All Year]

Period of Record: 01 Jan 1970 - 26 Nov 2015

Obs Count: 403853 Calm: 23.3% Avg Speed: 6.3 mph



Generated: 27 Nov 2015

Wind Speed [mph]



2-5



5-7



7-10



10-15



15-20



20+

HOURLY
CONC'S

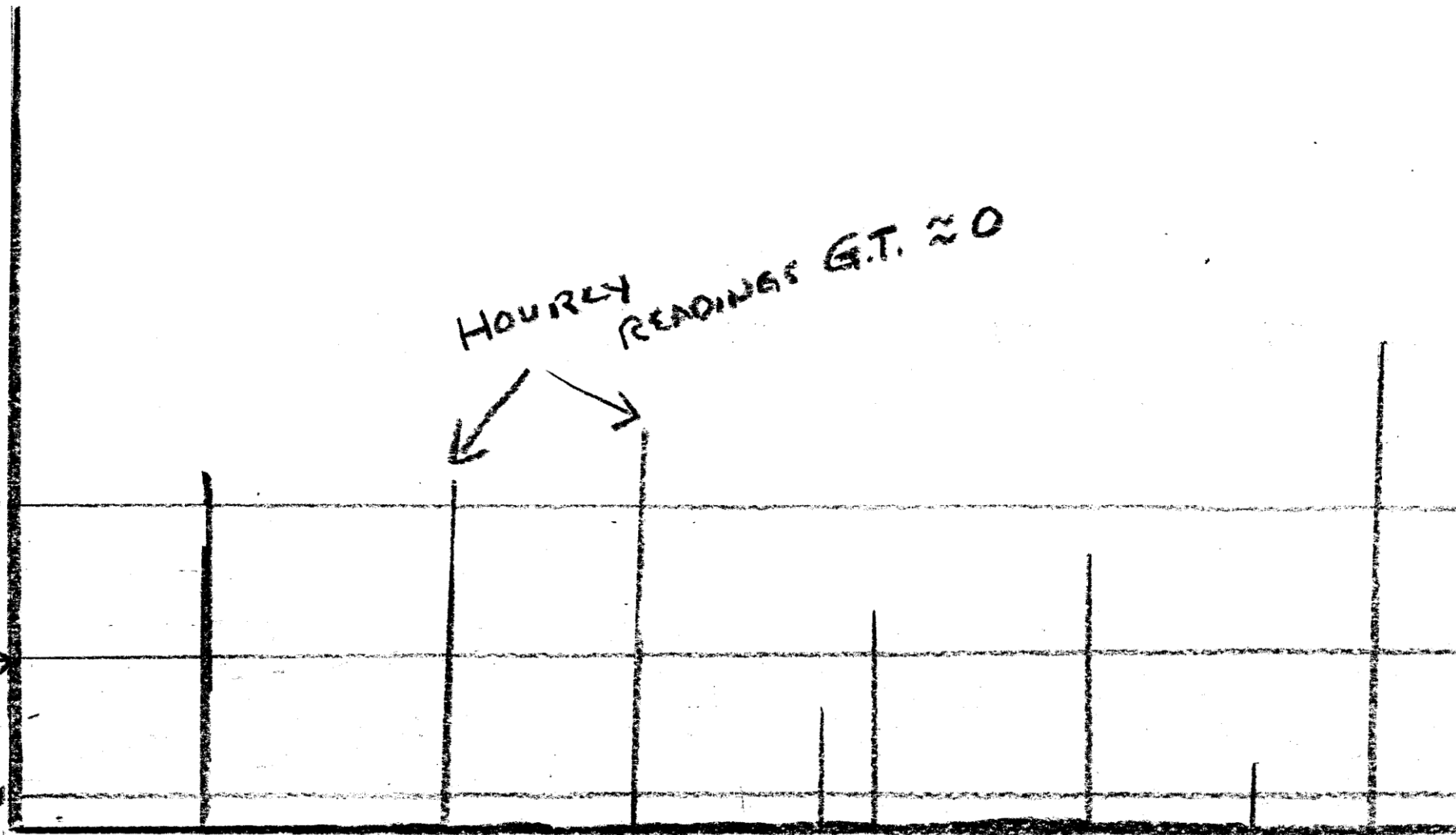
24-HR.
STANDARD →

ANNUAL
STANDARD →

ANNUAL
AVERAGE →

HOURLY
READINGS G.T. 20

1 YR'S READINGS
(8760 HOURS)



Why should Air Permits for New/Modified
Sources have to be Pre-Construction?

Why can't it be like Water Programs?

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1. Protects applicants from building sources and never getting a permit.

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Why should Air Permits for New/Modified Sources have to be Pre-Construction?

1. Protects applicants from building sources and never getting a permit
2. Public can't say “ they've built it so they WILL get a permit”
3. Leverage for permitting agencies

Prevention of Significant Deterioration Permit

What does PSD really mean?

Prevention of Significant Deterioration Permit

- Preventing Sources in Dixie

Three Components of a PSD Permit

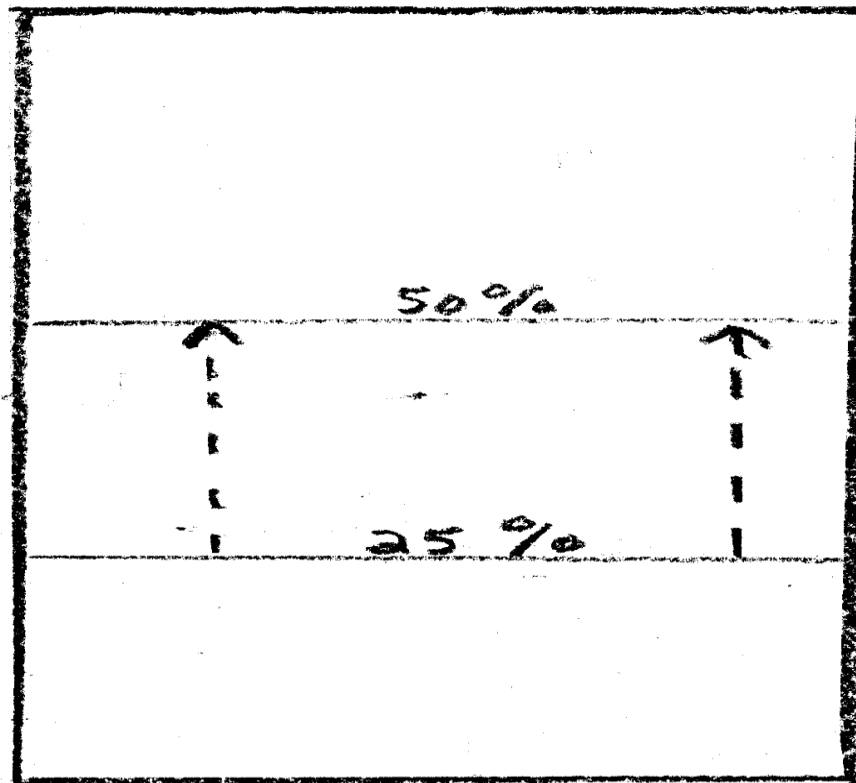
1. Best Available Control Technology

Why can't rules (New Source Performance standards and air toxics standards suffice) ?

Three Components of a PSD Permit

1. BACT
2. Air Quality Increments

CONC. IN
RURAL
ALABAMA



50%

25%

AIR QUALITY
STANDARD

ALLOWED
INCREMENT
FOR
GROWTH

ZERO
CONC.
OF
POLLUTANT

Three Components of a PSD Permit

1. BACT
2. AQI
3. Air Quality Standards

Comparison of Monitoring Data to Model Estimates at a DRR source in Shelby County, Alabama

Highest 1-hour concentration of the 1879 hours in the three months as predicted by the model: **1739** $\mu\text{g}/\text{m}^3$

Highest 1-hour concentration of these hours as measured: **121** $\mu\text{g}/\text{m}^3$

Difference: Model overpredicts by a factor of **14x**.

Average of all hours (2160) in the 3-month period as predicted by model: **25.08** $\mu\text{g}/\text{m}^3$

Average of all hours (1879) monitored: **0.89** $\mu\text{g}/\text{m}^3$

Model overpredicts by a factor of **28x**.

Highest 4th highest concentration from modelling: **1153** µg/m³

Highest 4th highest concentration from monitor: **33.8** µg/m³

Difference: Model overpredicts by a factor of **34x**.

State Implementation Plans

- State adopts rules designed to achieve Air Quality Standards
- EPA adopts those rules by reference: These rules DISPLACE federal rules
- Many disconnects between State and Federal rules due to time and disagreements

SIP Plans

Why can't EPA enforce through permits as Water does?

Duplicative Efforts

- EPA reviews every PSD permit closely
- EPA reviews many Title V operating permits closely
- EPA gets a monthly update on enforcement actions
- What happened to auditing?