

# Improving Air Quality in Southeast Michigan

Southwestern Ontario Clean Air Summit  
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# Seven-County SEMCOG Planning Area



● Detroit

# What is SEMCOG

- Local government member organization
- Solves regional issues
- Advocates for region at state and national level
- Metropolitan Planning Organization

# What is SEMCOG



Planning areas:

- Transportation
- Environment
- Economic development
- Demographic forecasting

# SEMCOG Role in Air Quality Planning

- Develop cost-effective strategies for meeting national standards
- Collaborate with State
- Involve local stakeholders
- Ensure strategy implementation
- Educate the public

# National Ambient Air Quality Standards

Six criteria pollutants:

- Ozone
- Particulate matter (PM<sub>2.5</sub> & PM<sub>10</sub>)
- Carbon monoxide
- Lead
- Nitrogen dioxide
- Sulfur oxides

# National Ambient Air Quality Standards

- Set by U.S. EPA
  - Determines area compliance
  - Requires some broad controls
- State develops local compliance plan
  - Partners with SEMCOG in SE MI
- EPA must approve plan
- Must meet standard by EPA deadline

# Air Quality Planning Process

- Analyze available data
- Estimate needed emissions reductions
- Determine impact of existing controls
- Estimate additional reduction needed

# Air Quality Planning Process

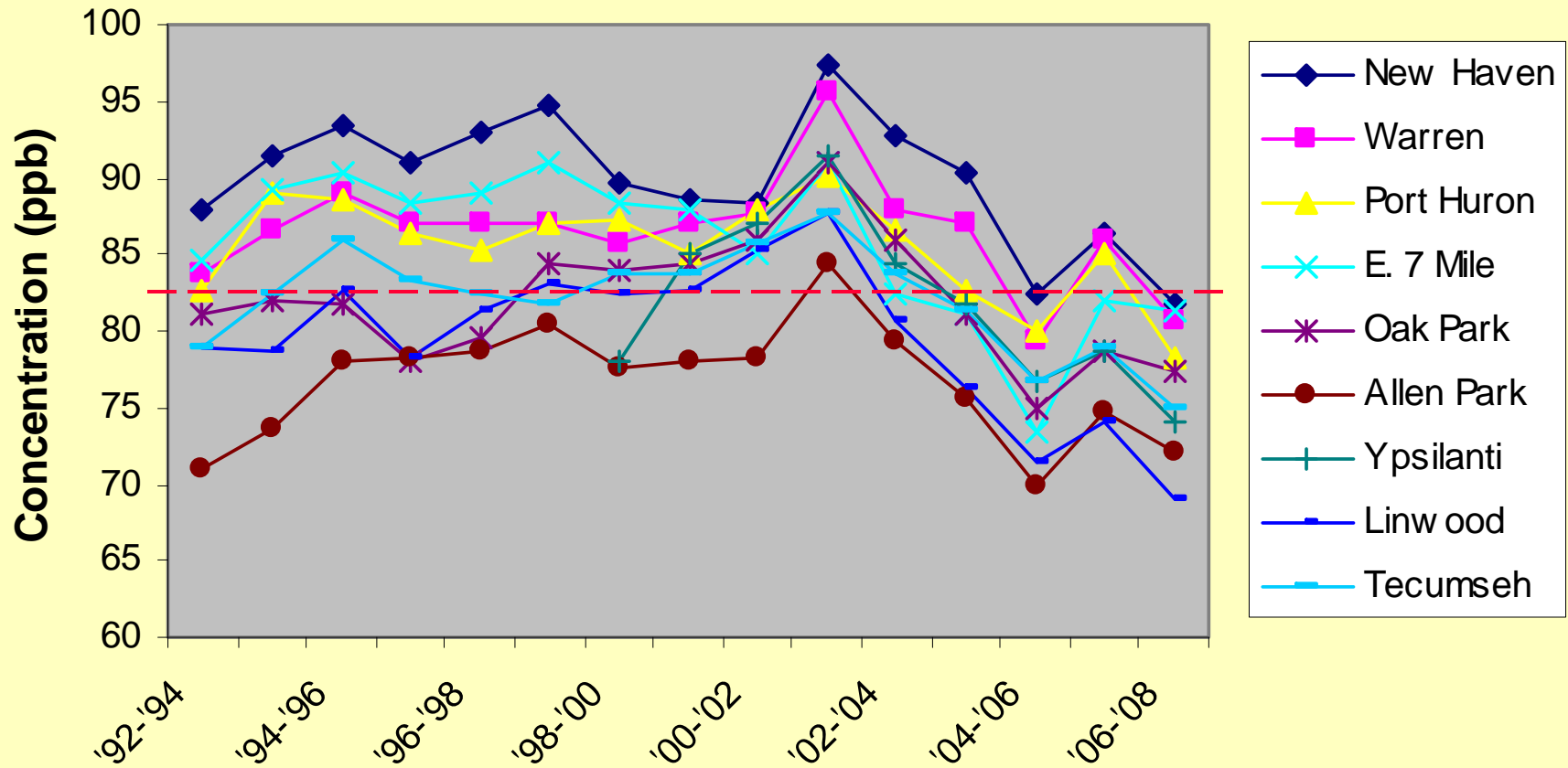
- Analyze control-strategy options
- Involve local stakeholders
- Select most cost-effective strategy
- Implement controls
- Monitor progress and adjust if needed



# Ozone Trends and Attainment Status

# Ozone in Southeast Michigan

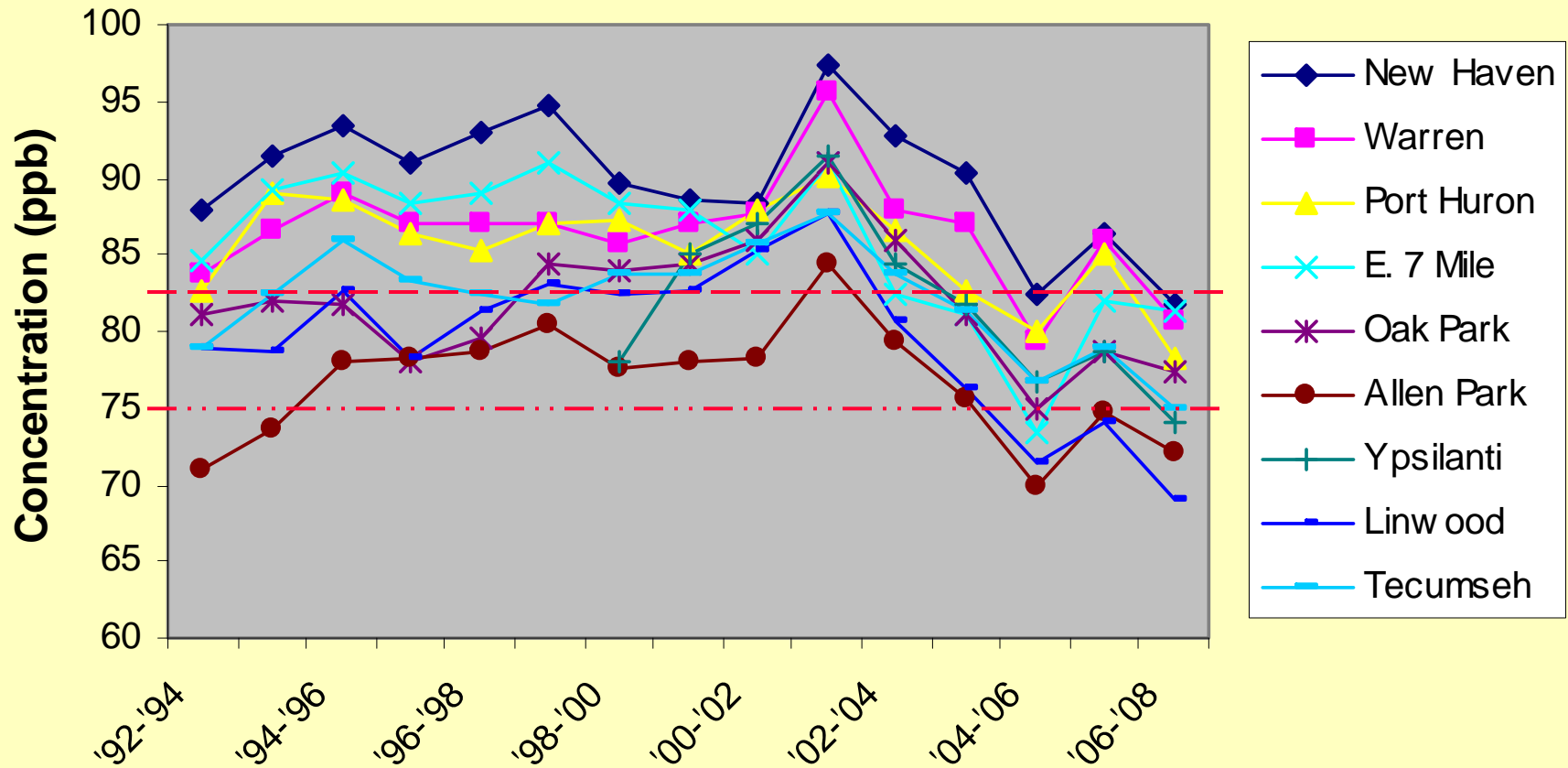
## 3-year average of 4<sup>th</sup> highest value



--- 1997 Standard = 84 ppb

# Ozone in Southeast Michigan

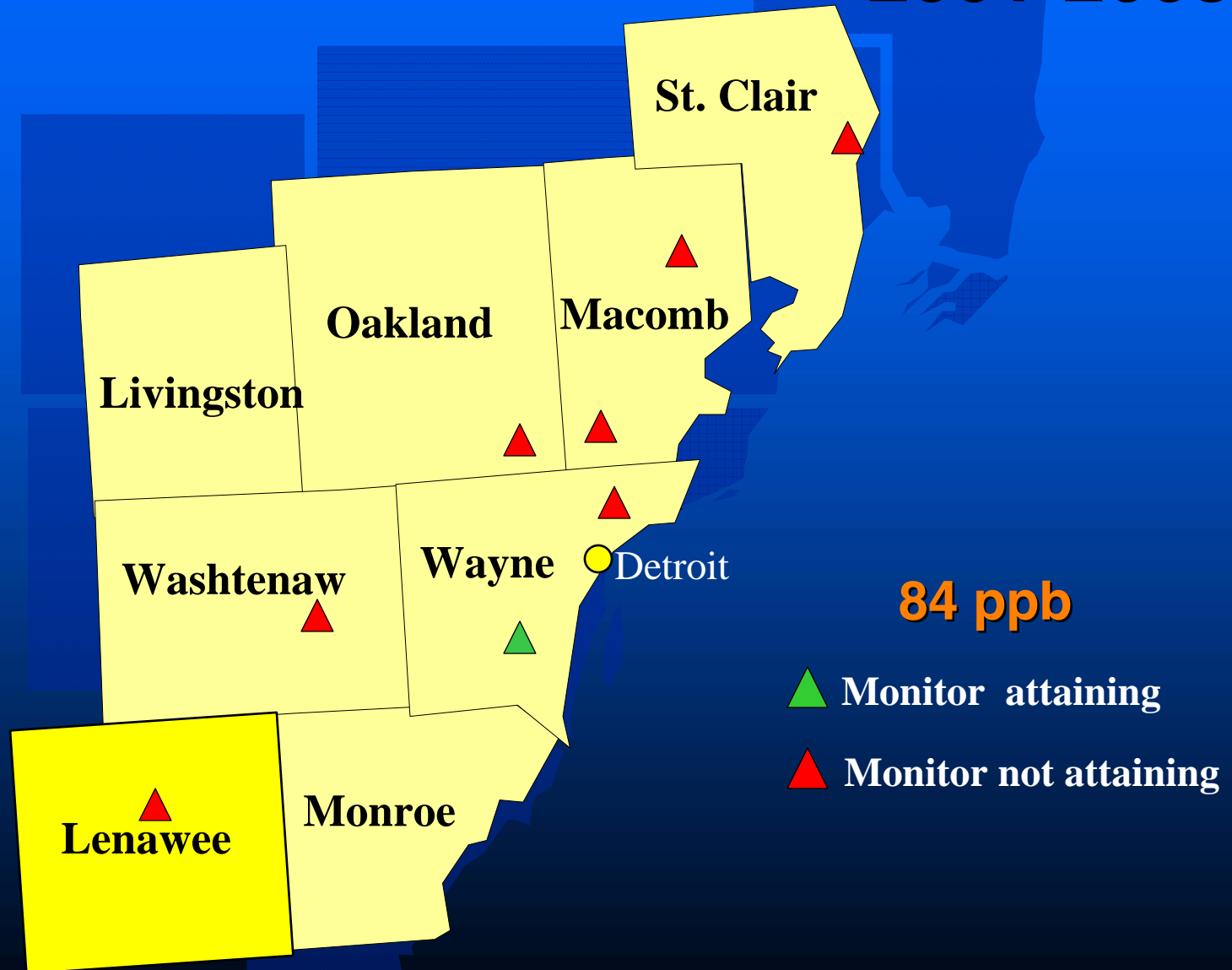
## 3-year average of 4<sup>th</sup> highest value



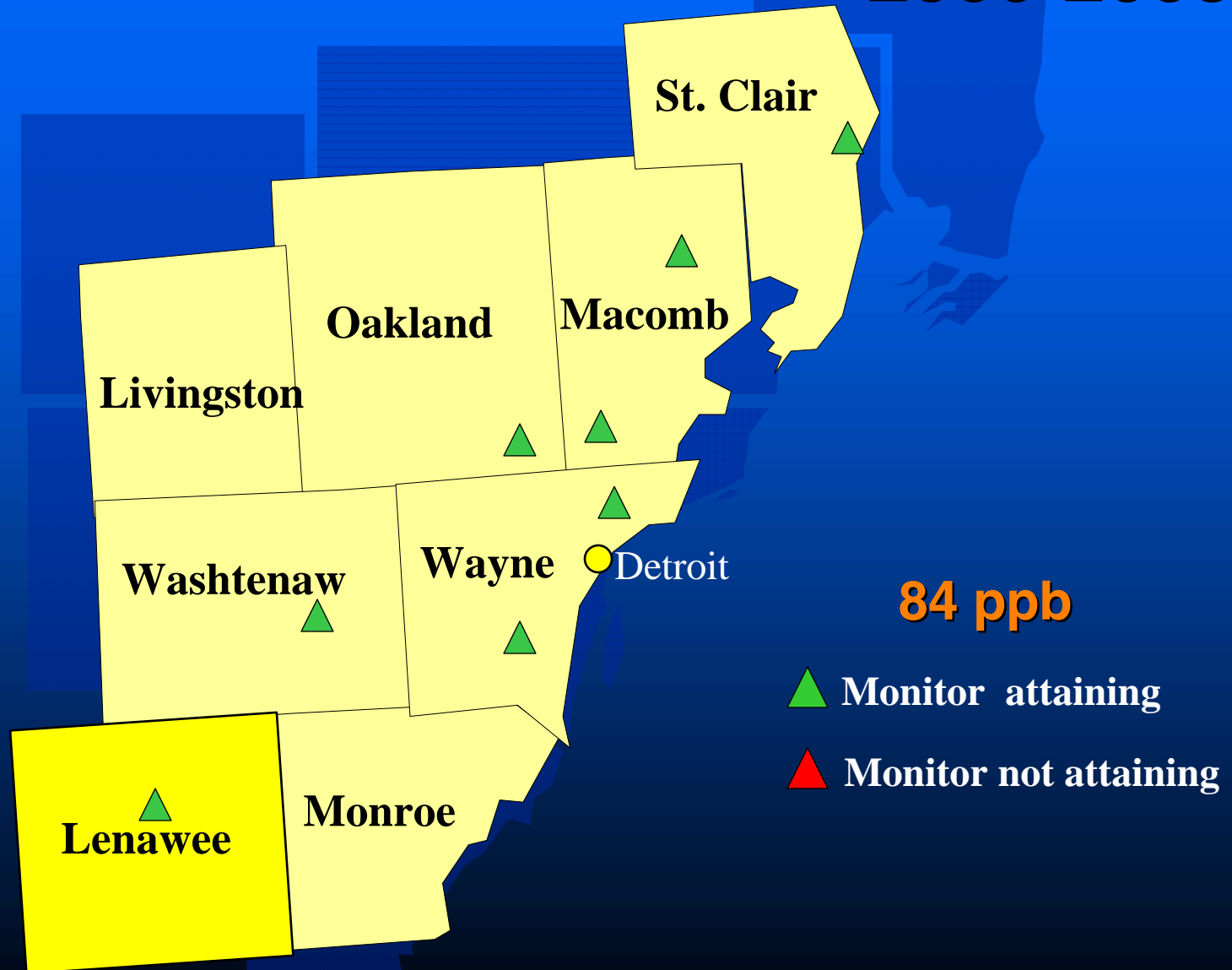
----- 1997 Standard = 84 ppb

- . - 2008 Standard = 75 ppb

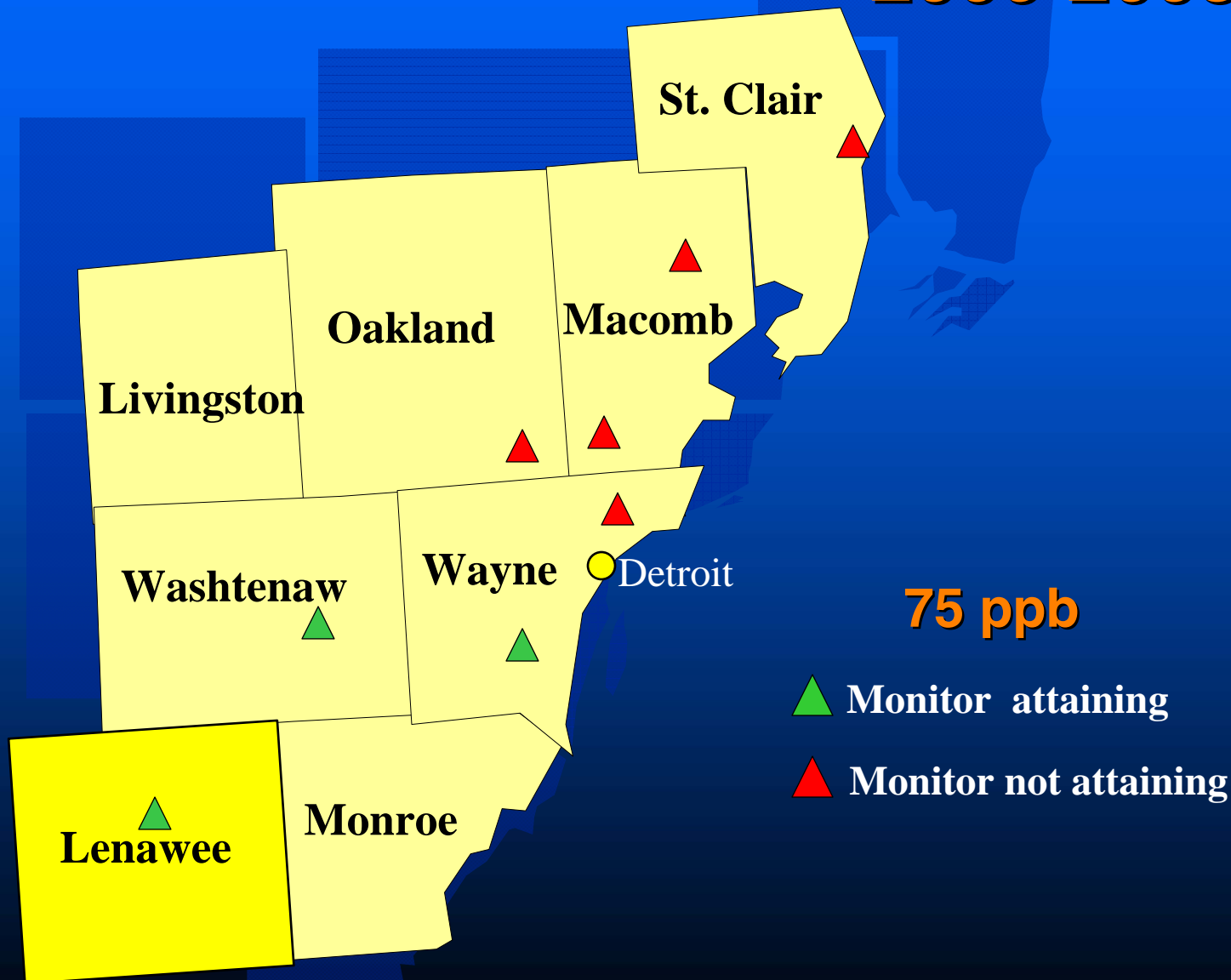
# Current Ozone Standard 2001-2003



# Current Ozone Standard 2006-2008



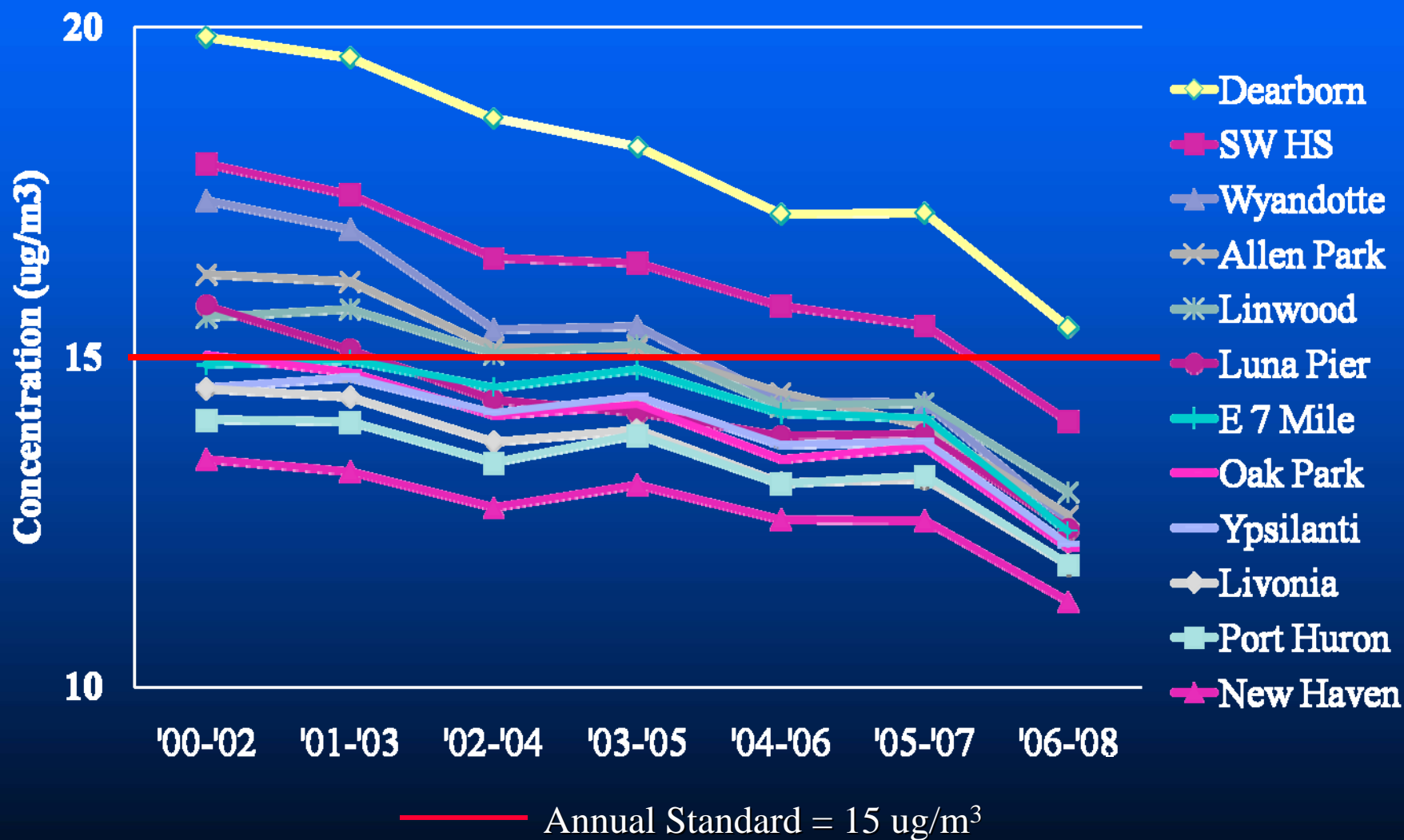
# New Ozone Standard 2006-2008



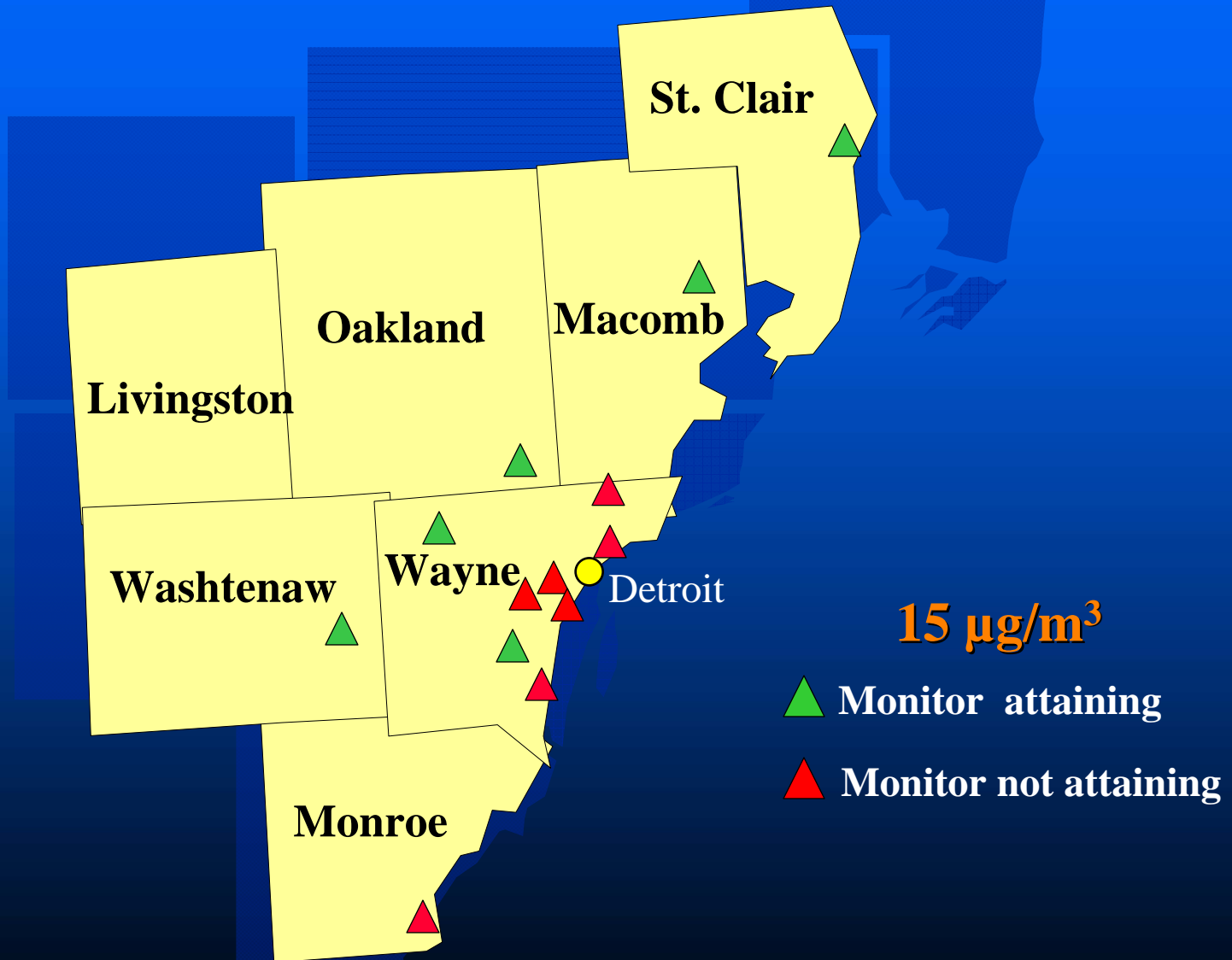


# **PM2.5 Trends and Attainment Status**

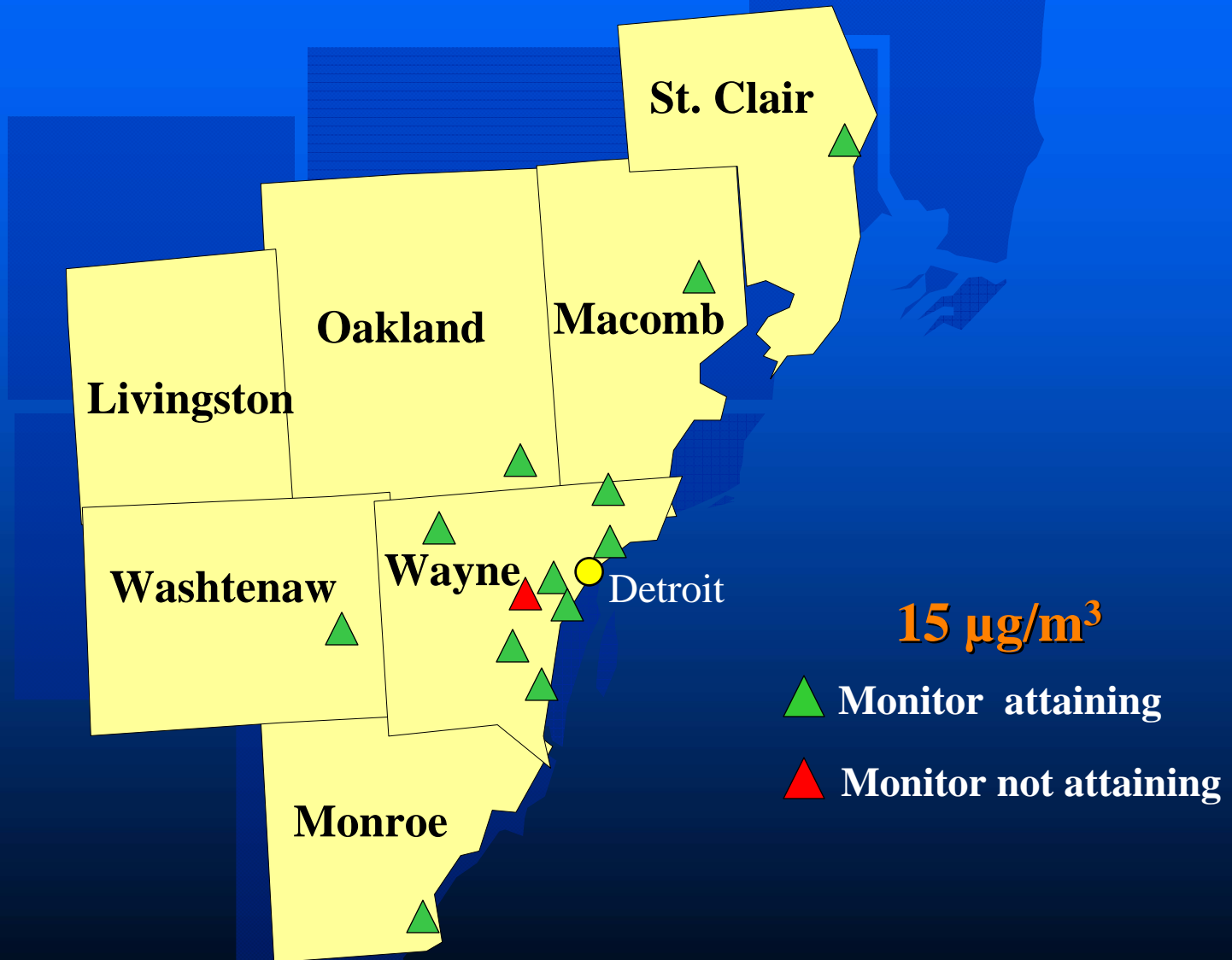
# Southeast Michigan 3-year annual average PM2.5



# Annual PM2.5 Standard 2001-2003

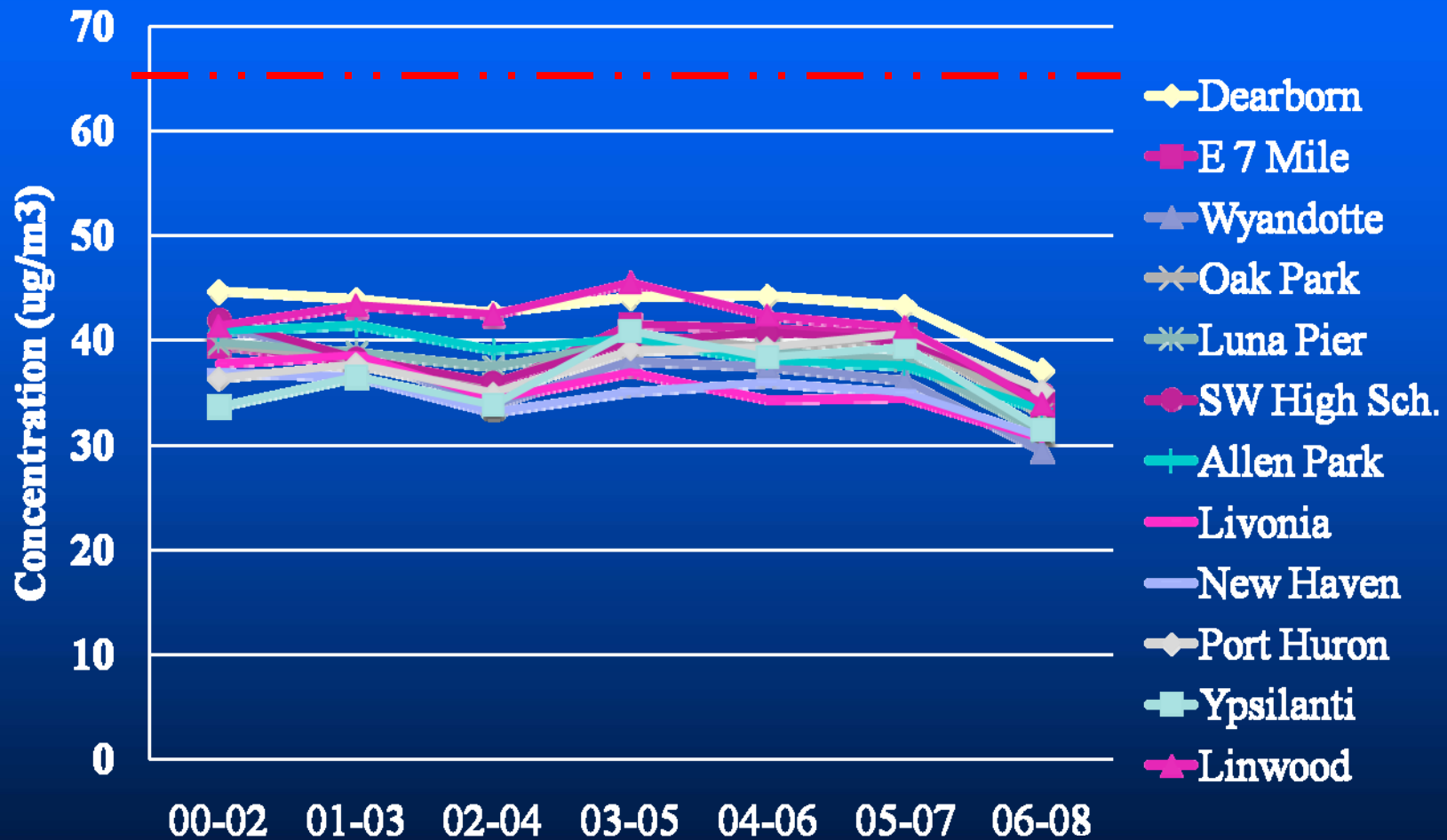


# Annual PM2.5 Standard 2006-2008



# Daily PM2.5 in Southeast Michigan

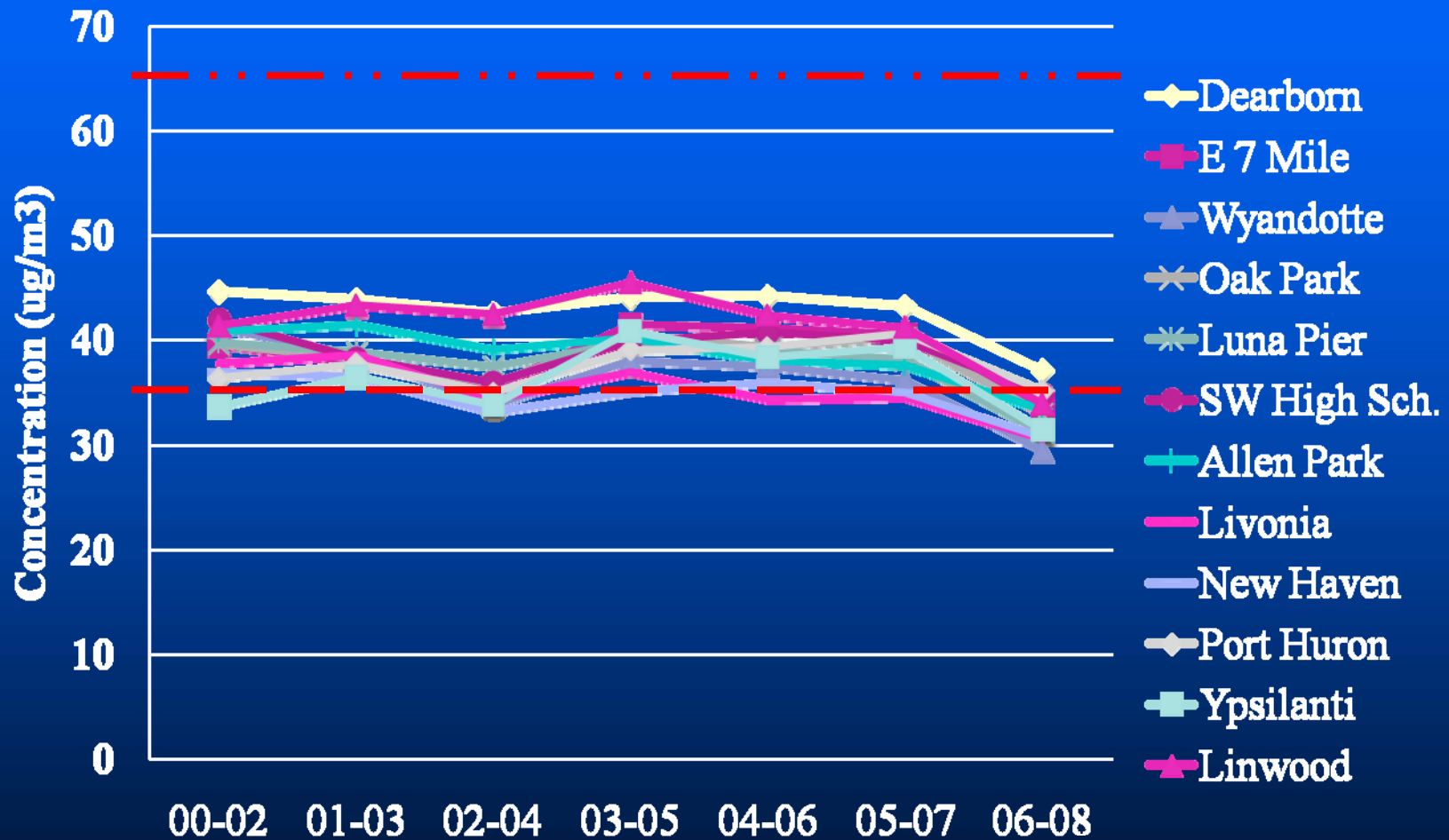
## 3-year average of 98<sup>th</sup> percentile



— · · — 1997 Daily Standard = 65 ug/m<sup>3</sup>

# Daily PM2.5 in Southeast Michigan

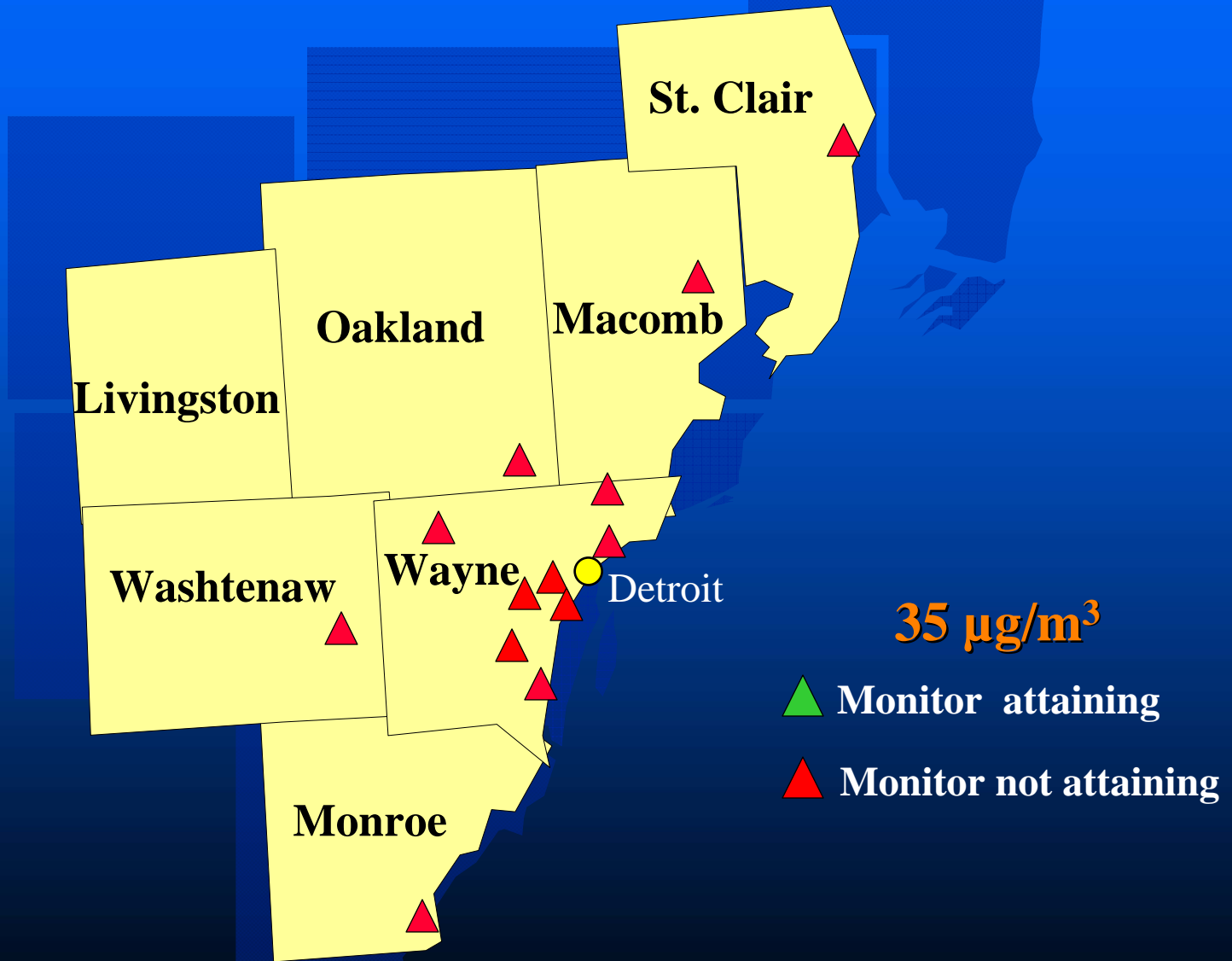
## 3-year average of 98<sup>th</sup> percentile



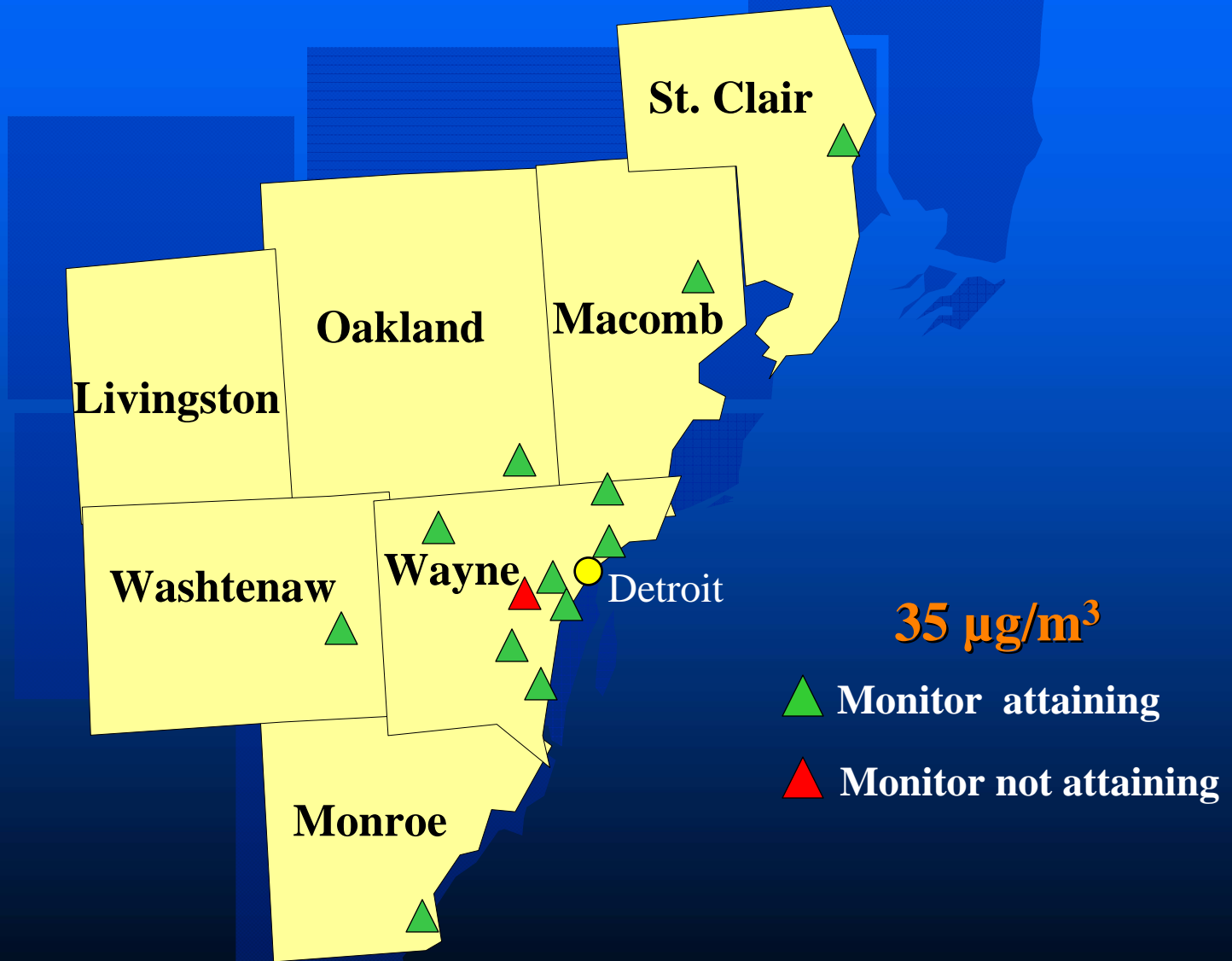
— · — 1997 Daily Standard = 65  $\mu\text{g}/\text{m}^3$

— — — 2006 Daily Standard = 35  $\mu\text{g}/\text{m}^3$

# Daily PM2.5 Standard 2001-2003



# Daily PM<sub>2.5</sub> Standard 2006-2008



# Air Quality Summary

- Consistent improvement in ozone and PM
- But standards increasingly tougher
- No more low-hanging fruit
- Additional reductions harder and more costly to achieve

A silhouette of a person's head and shoulders in profile, facing right. The person appears to be looking at a computer screen. The screen area is filled with a grid pattern, suggesting data or a presentation. The background is a solid blue color.

# Climate Change

# Climate Change Policy Actions

- National
  - Recovery & Reinvestment Act
  - GHG endangerment finding
  - New vehicle fuel economy standards
  - Proposed legislation
    - » National cap & trade program
    - » Increase energy efficiency
    - » Increase renewable energy

# Climate Change Policy Actions

- Michigan
  - 2009 climate action plan
  - Increase building efficiency
  - Promote renewable energy
- Local government actions
  - Energy Efficiency & Conservation
  - Renewable energy

A stylized map of Michigan is shown in the background, with county boundaries highlighted in a lighter shade of blue. The map is centered and occupies most of the frame.

# **SEMCOG**

Southeast Michigan Council of Governments

**SEMCOG**