

MEETING THE FUTURE

A Research Agenda for Sustainability

Urban Sustainability Panel

The Region 5 Great Cities Partnerships

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Director

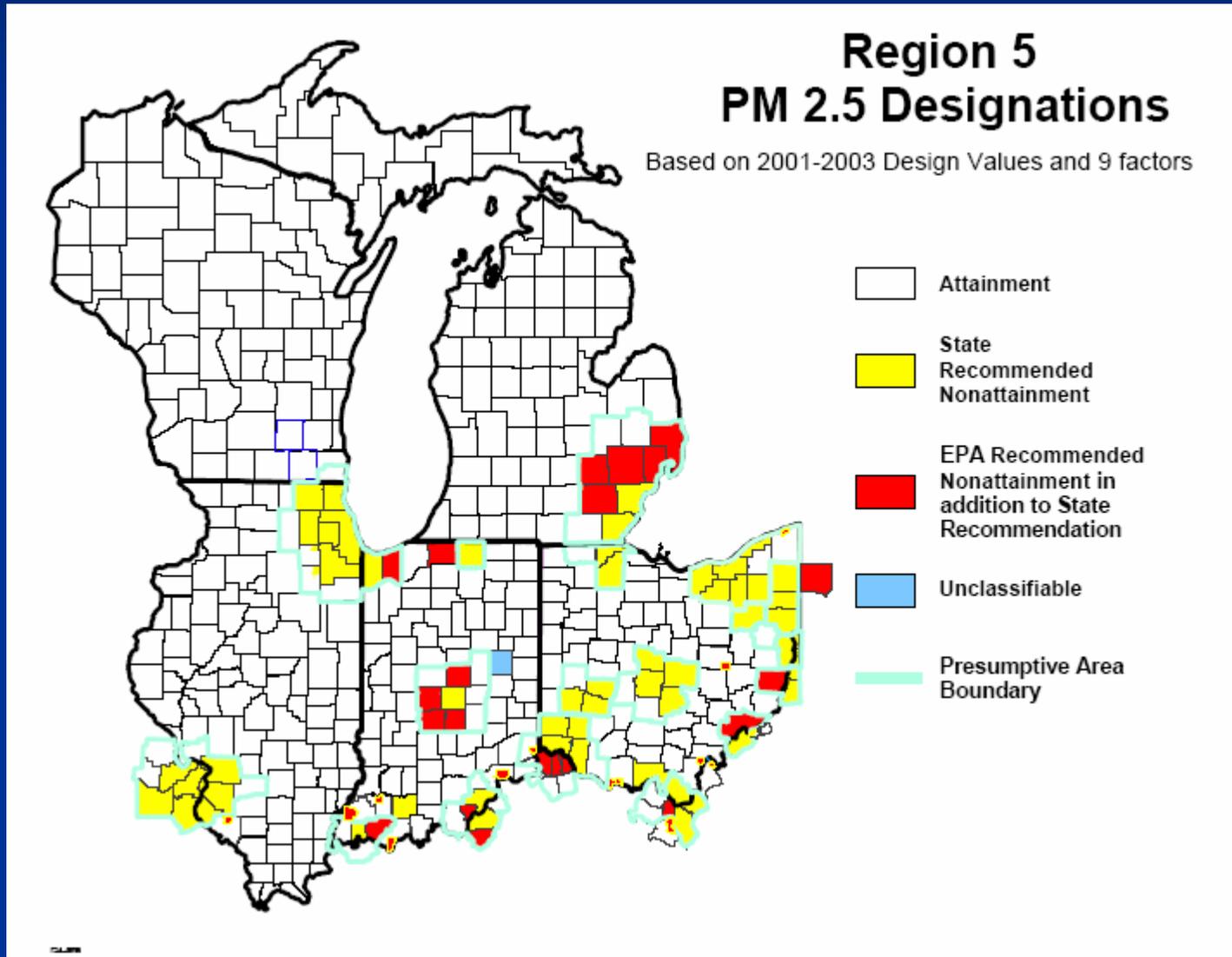
Office of Science, Ecosystems & Communities

U. S. EPA Region 5

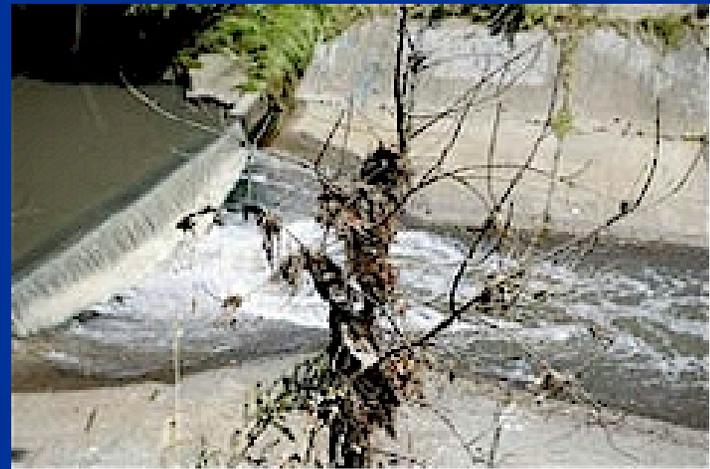
A rich history of industrial and business activity



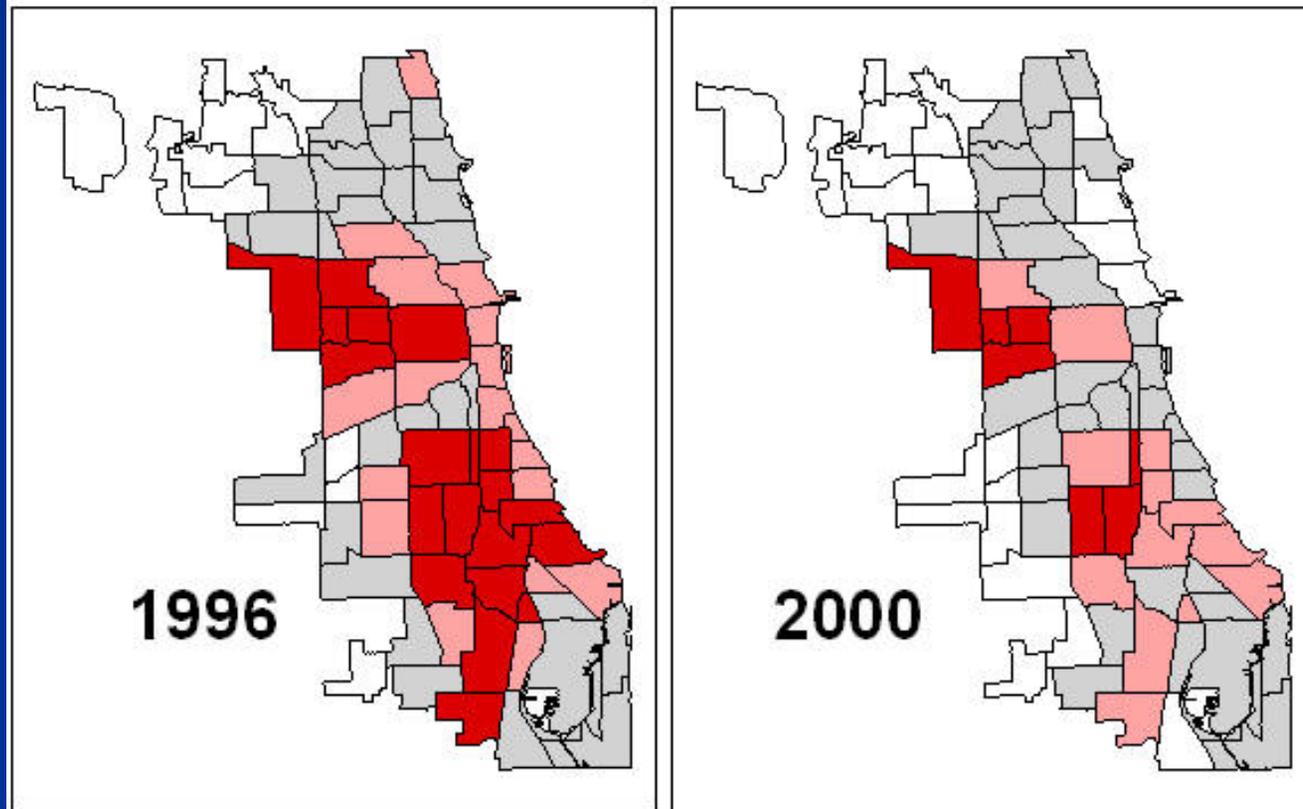
Air quality problems: fine particulates, diesel emissions and ozone



Increased impervious surfaces along with water quality and storm water problems



Percent of Children Tested with Elevated Blood Lead Levels By Year in Chicago



Percent Elevated Among Children Tested



Increasing energy uses and urban heat island effects

- Cities are experimenting with innovative ways to conserve energy and reduce heat island effects
- Commercial buildings used 18 percent of all energy in the U.S.
 - Lighting and indoor climate control accounts for 59 percent of energy used by the commercial sector.
 - By 2025 commercial building floor space will reach 105 billion square feet, 46 percent over current levels



Great Cities Partnerships Objectives

- Joint problem solving between EPA and the Cities
- Tangible environmental results
- Demonstrate feasibility and benefits of projects
- Catalyst for future action
- Leverage other funding sources
- Information exchange across jurisdictions

Urban environmental priorities

- Cleveland: lead poisoning, brownfields, asthma
- Indianapolis: storm water management, air quality attainment, brownfields
- Minneapolis: storm water and water quality, air quality and asthma, sustainability

Urban environmental priorities

- Chicago: water quality, combined sewer overflows, energy use, exposure to contamination from old sites.
- Detroit: air quality, asthma, lead poisoning and brownfields
- Milwaukee: air quality, storm water runoff, waste recycling, sustainable development

Great Cities Projects



Chicago-Green Building Project

Minneapolis- Solar Energy



Great Cities Projects



Milwaukee Rain Garden

Chicago, Detroit, Indianapolis-
Diesel Retro Fit

Catalysts for Clean Air!

This truck is equipped
with an

Oxidation Catalyst

to reduce
emissions and
improve air quality.

For information on this and other Clean Air programs in
Chicago, please call 311 or visit: www.cityofchicago.org.



City of Chicago
Richard M. Daley
Mayor



U.S. EPA
Region 5



Research Needs - Systems and Strategies

- Assistance in applying best practices through institutional controls, e.g. local ordinances
- Outreach strategies that reflect a broader range of the affected population's needs and desires
- Better ways to make the links between economic and environmental health understood.

Research Needs - Tools

- GIS and remote sensing applications and forecasting tools at a scale useful to local decision-makers.
- Indicators and tracking assistance to inform local legislators.
- Cost/benefit analyses (including environmental accounting) of mass transit, energy production and distribution, etc.

Research Needs – Improved Technologies

- Improved technologies for municipal solid waste treatment.
- Improved lead-safe work practices, including affordable clearance testing technologies.
- Improved toxics monitoring equipment and techniques useful in a neighborhood setting.

Continue the dialogue between the researcher and urban manager

Cities are demonstration pilots for sustainability

- Speed up development of tools for decision-makers and ground truth them.
- Translate successes elsewhere to realities faced by U.S. cities to increase relevance and support.
- Evaluate outcomes and expand information sharing to reach urban managers who can use it.

What's ahead?

