

# Multiple Air Toxics Exposure Study V (MATES V)

Administrative Committee

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Planning, Rule Development & Area Sources

# MATES Program Overview

**PURPOSE:** To evaluate regional air toxics health risks in the South Coast Air Basin

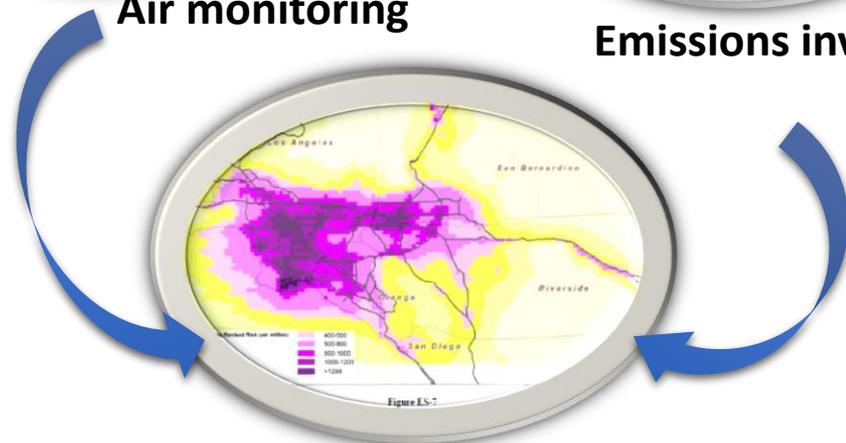
- Governing Board Environmental Justice Initiative
- Carcinogenic risk from exposure to air toxics
- Cumulative impacts approach



**Air monitoring**



**Emissions inventory**



**Estimate air toxics cancer risks**

# Previous MATES studies

## MATES I

- 1986-1987

## MATES II

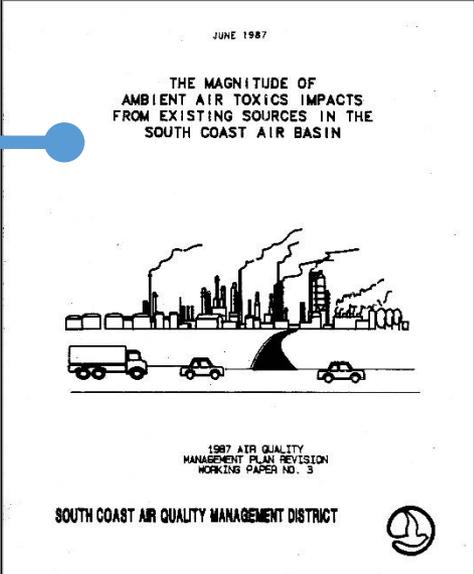
- 1998-1999

## MATES III

- 2004-2006

## MATES IV

- 2012-2013



The image shows the cover of a report titled "THE MAGNITUDE OF AMBIENT AIR TOXICS IMPACTS FROM EXISTING SOURCES IN THE SOUTH COAST AIR BASIN". The cover features a line drawing of an industrial facility with smokestacks and a road with cars. The text on the cover includes "JUNE 1987", "1987 AIR QUALITY MANAGEMENT PLAN REVISION WORKING PAPER NO. 3", and "SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT". A blue line connects the "MATES I" box above to the report cover.

## MATES I

- Limited measurements
- Impacts of benzene and Cr6

# Previous MATES studies

## MATES I

- 1986-1987

## MATES II

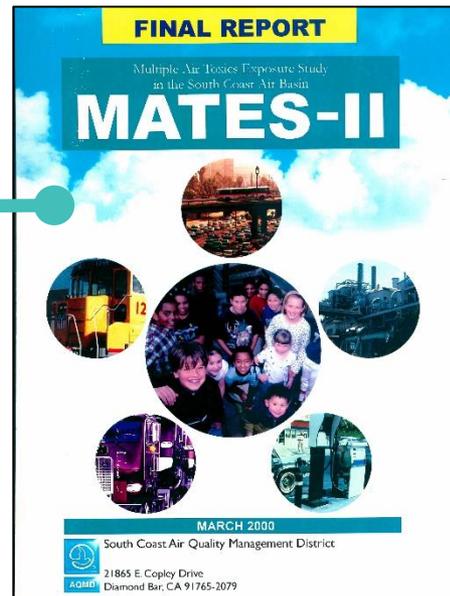
- 1998-1999

## MATES III

- 2004-2006

## MATES IV

- 2012-2013



## MATES II

- Downward trend for certain air toxics
- Diesel exhaust accounted for 71% of cancer risks from air toxics

# Previous MATES studies

## MATES I

- 1986-1987

## MATES II

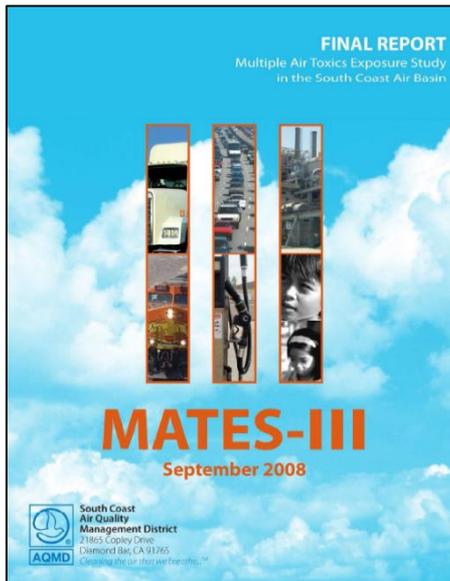
- 1998-1999

## MATES III

- 2004-2006

## MATES IV

- 2012-2013



## MATES III

- Continuing downward trends, other than Diesel PM
- Higher Diesel PM risk near ports
- Enhanced Diesel PM quantification methods
- Cr6 traced to cement plant emissions

# Previous MATES studies

## MATES I

- 1986-1987

## MATES II

- 1998-1999

## MATES III

- 2004-2006

## MATES IV

- 2012-2013

## MATES IV

- >50% decrease in cancer risk from air toxics since MATES III
- Diesel emissions declined by 70% since MATES III
- Diesel PM accounted for 2/3 of air toxics cancer risk
- Continuous UFP and black carbon measurements
- Implemented 2015 OEHHA risk assessment guidelines

**FINAL REPORT**  
Multiple Air Toxics Exposure Study  
in the South Coast Air Basin

**MATES-IV**



**SOUTH COAST  
AIR QUALITY MANAGEMENT DISTRICT**  
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# MATES IV Air Toxics Cancer Risk Map

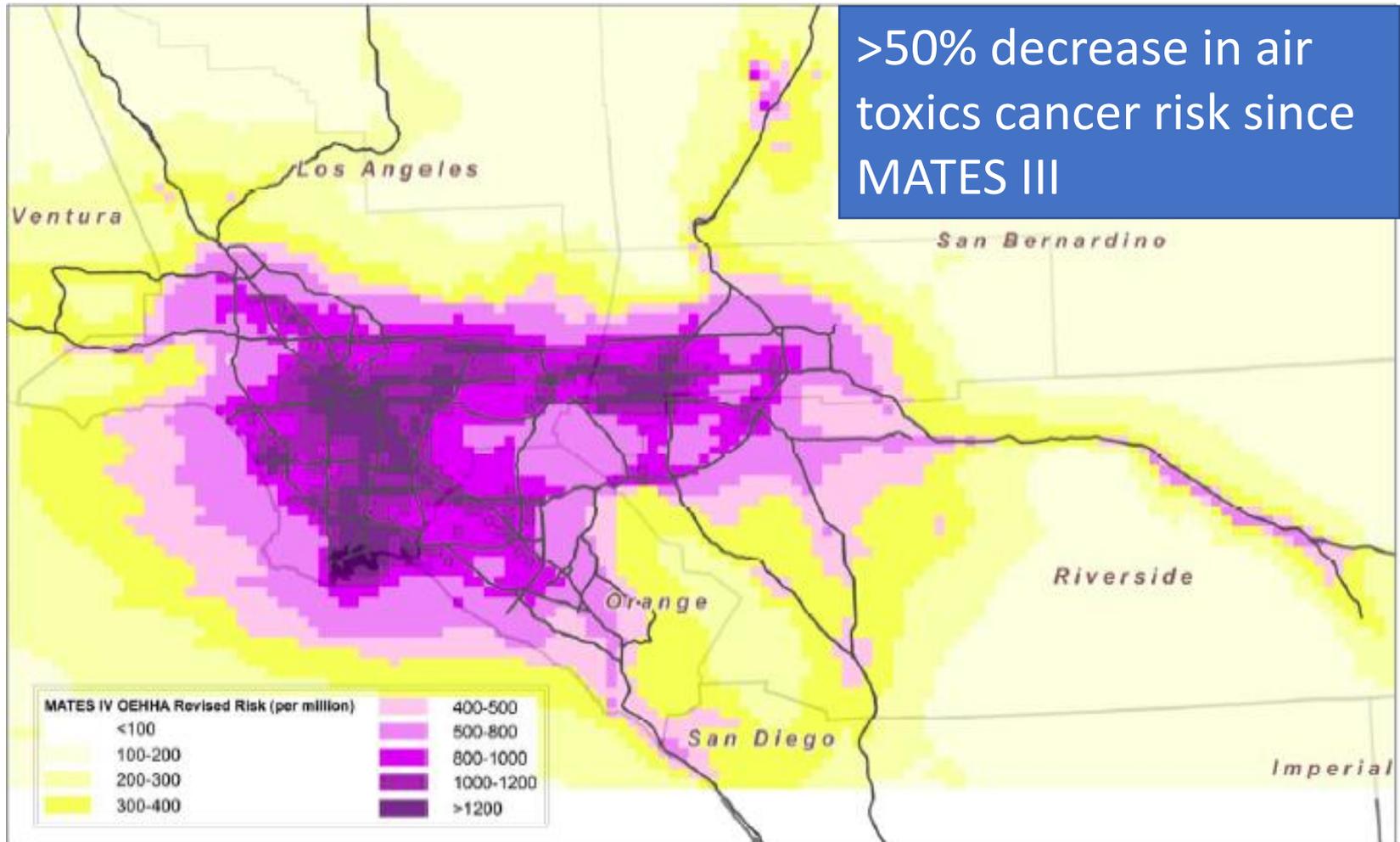


Figure ES-7  
MATES IV Modeled Air Toxics Risks Estimates Using Updated OEHHA Methodology

# Proposed MATES V

- Fixed station monitoring:
  - 10 stations
  - Continuous UFP and Black Carbon measurements
- Emissions inventory update
- Regional modeling
- Risk characterization
- Local Scale Monitoring-  
proposed focus on refineries\*
- Enhanced monitoring projects\*



\*Refinery projects and enhanced monitoring projects not included in this proposed budget. Will be developed in conjunction with Technical Advisory Group.

# How are MATES results used?

- Evaluate progress in reducing regional air toxics exposure
- Focus SCAQMD efforts for toxic risk reduction
- Helps to interpret monitoring data from other special toxics investigations, e.g.
  - Paramount chromium investigations
  - Sunshine Canyon Landfill
  - Rancho Cucamonga gas leak
  - Air Toxics Initiative (separate complementary effort)
- Environmental Justice Definition - prioritize projects for funding (i.e. Carl Moyer)
- Address public inquiries regarding air toxics impacts

# MATES V Budget highlights

- \$1,815,800 budget over 3 FYs includes:
  - Fixed site monitoring
  - Emissions inventory
  - Air toxics modeling
  - Health risk estimation
- Replace/refurbish aging equipment
- Temporary staff
- Previous MATES programs were able to leverage other programs funded by U.S. EPA, which may now be reduced

# Recommended Actions

1. Transfer up to \$1,815,800 from the Clean Fuels Program Fund to the General Fund on an as needed basis over FYs 17-18, 18-19, and 19-20 for the MATES V program
2. Appropriate up to \$1,815,800 to STA and PRDAS budgets, on an as needed basis for the MATES V program
3. Authorize sole source purchase orders for 6 Condensation Particle Counters (TSI, Inc., up to \$168,000) and 11 Aethalometers (Magee Scientific, up to \$211,200)
4. Authorize sole source contract for meteorological upper air station technical support (Sonoma Technology, Inc., up to \$60,000)
5. Release RFQ for purchase of Air Toxics Samplers (up to \$294,400)
6. Release RFQ for purchase of Laboratory Instruments (up to \$297,000)
7. Release RFQ for purchase of Vehicle to help with deployment of instruments (up to \$50,000)