



Bay Area Air Quality Management District

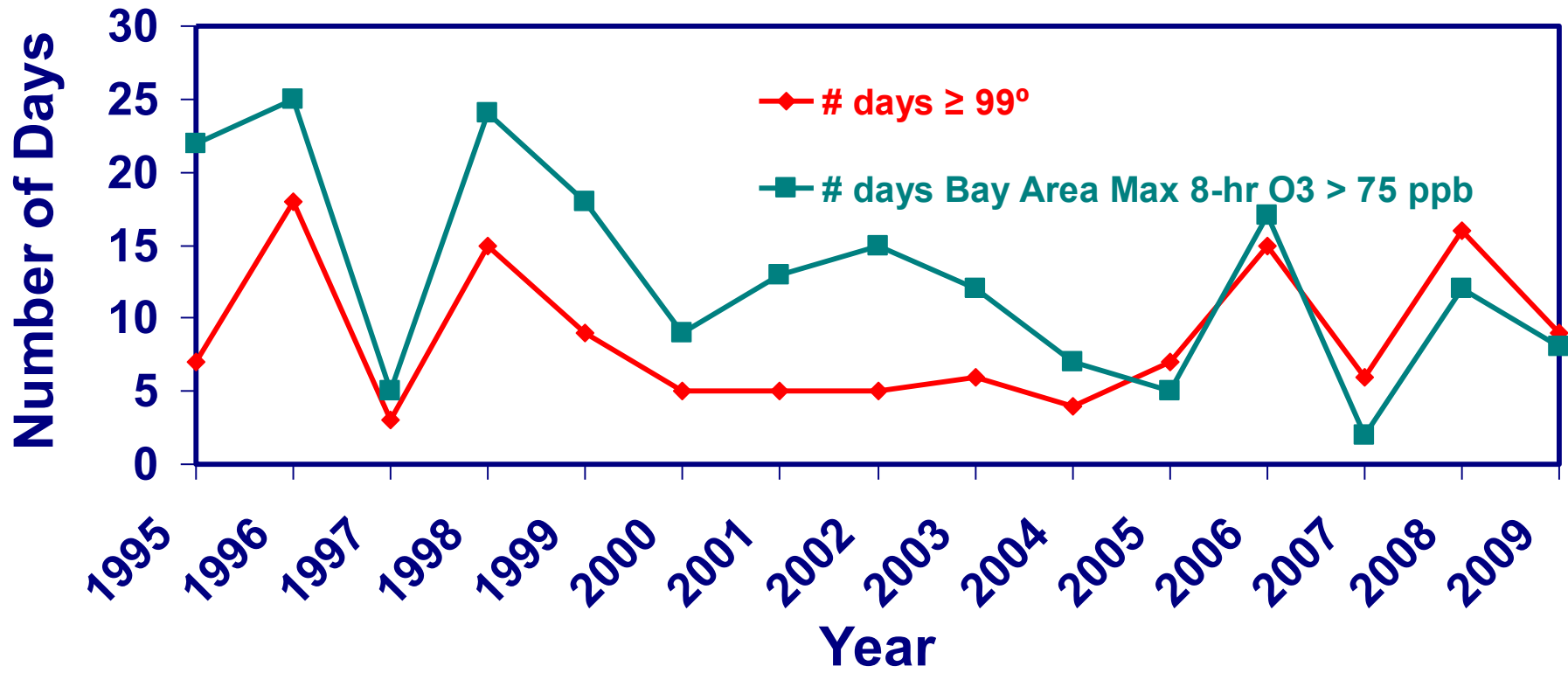
Land Use, Transportation, and Air Quality: Making Healthier Decisions

April 6, 2011

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Bay Area Air Quality Management District

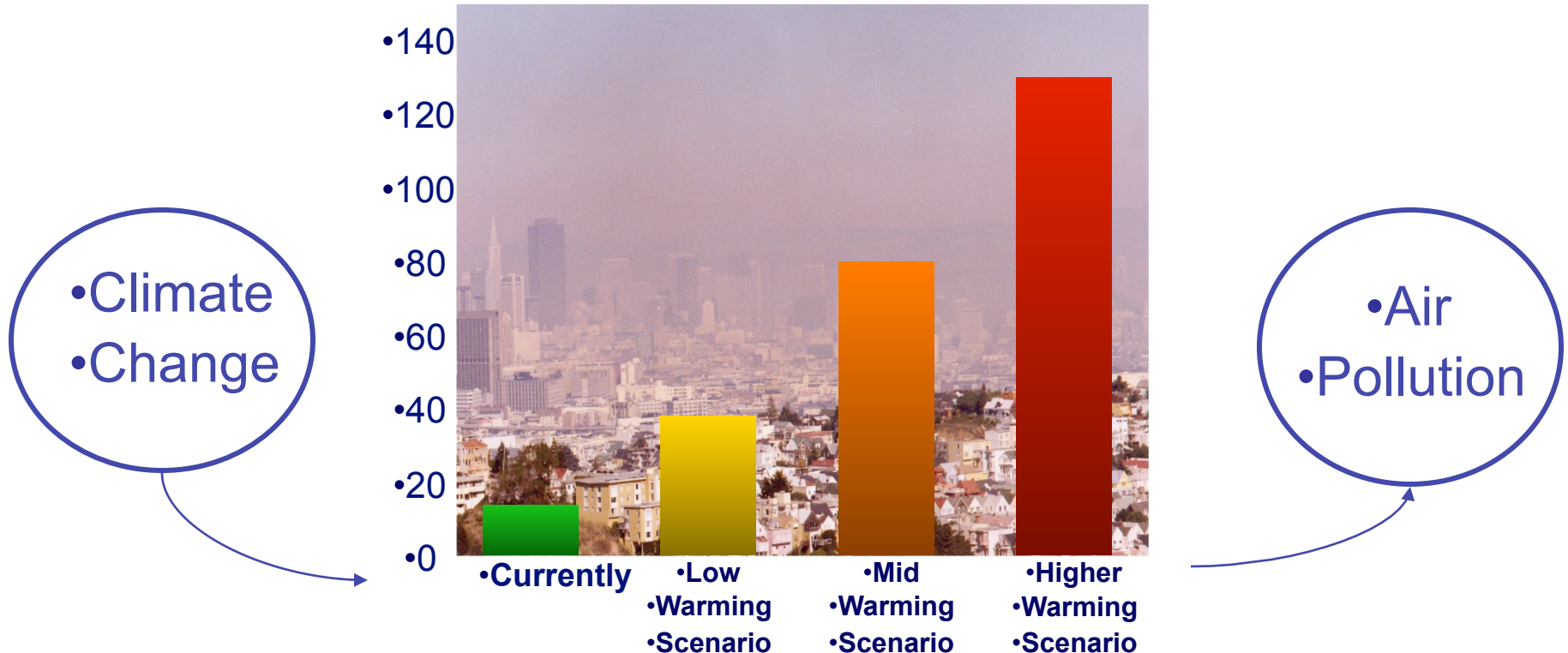
Ozone and Temperature Trends

Days $\geq 99^\circ$ & Days Exceeding the National Ozone Standard



What If We Don't Act?

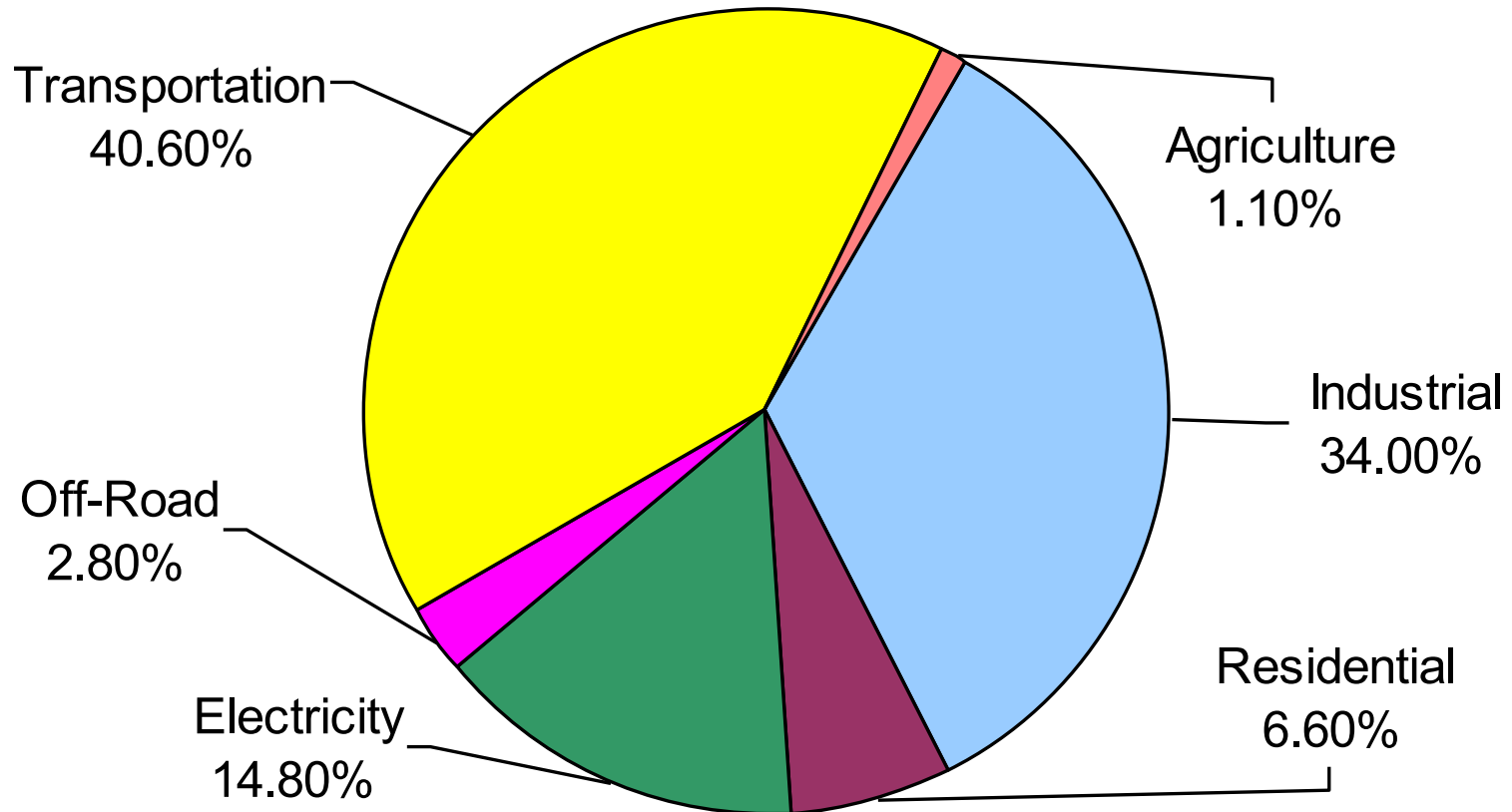
- Higher temperatures will erode air quality improvements, harming public health.



•Graphic represents number of Extreme Heat Days in san Francisco resulting from three distinct global warming scenarios. Source: CEC 2006 Report "Our Changing Climate"

Sources of GHG Emissions

2007 Greenhouse Gas Emissions By Source for SF Bay Area



Total 102.6 Million Metric Tons CO₂e

Air Pollution & Transportation

Mobile Sources
Are Largest
Contributor to
Air Pollution



Pollutant	Emissions Inventory % from Transportation
NO _x	87%
ROG	56%
TAC (86% DPM)	43%
PM _{2.5}	46%
GHG	41%

Modeling of Toxic Risk

High Risk Aligned with Roadways

- Expected cancer incidents per million people—70 year exposure
- Modeled concentrations weighted by health risk of each compound

Legend

— Major Highways

Cancer Risk

Expected number per million

<100

100 - 200

200 - 300

300 - 400

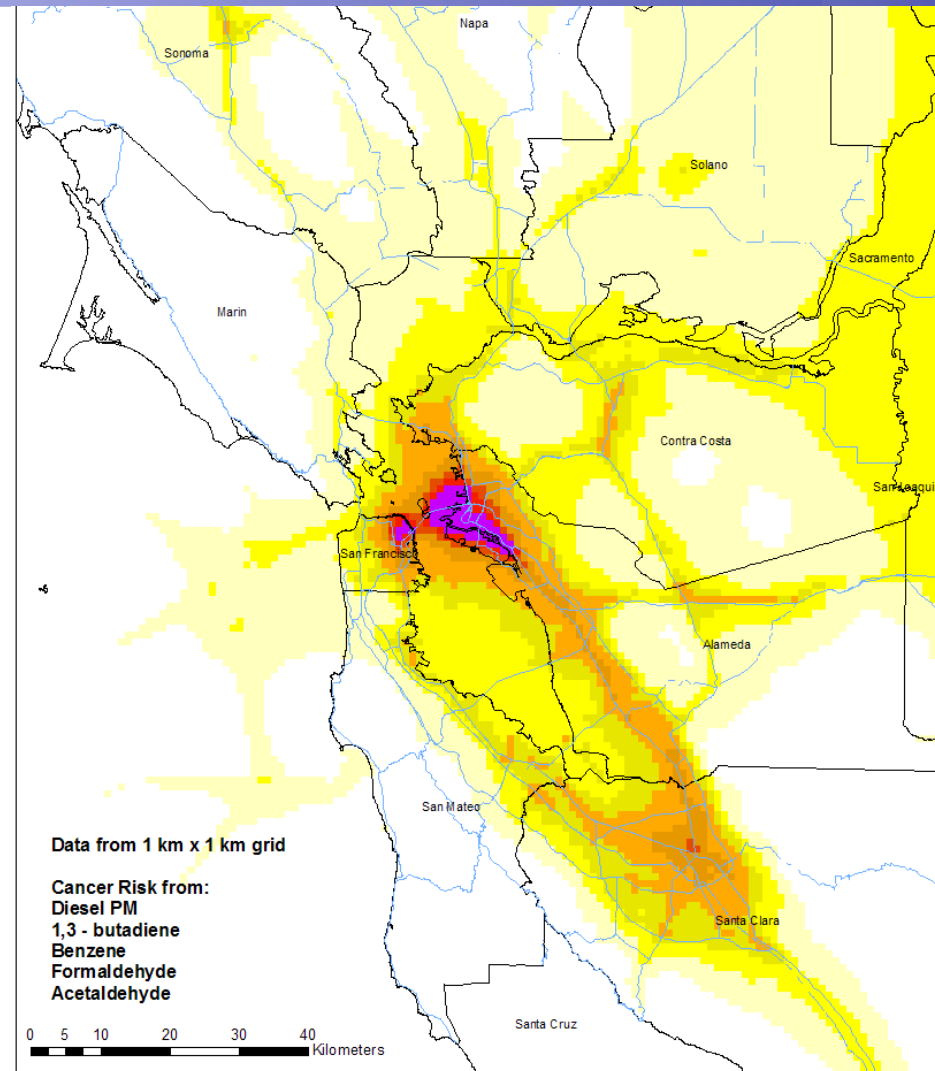
400 - 600

600 - 800

800 - 1000

1000 - 1200

> 1200



Public Health Impacts of Vehicle Emissions

- Health studies have consistently shown that living near highways and busy roadways has serious health consequences
 - Children who live near a busy highway are more likely to develop asthma and wheezing.
 - Exposures to traffic-related pollution, especially fine PM, significantly increases the risk of heart attacks and premature death.
 - Pregnant women exposed to high levels of pollution from cars and trucks are more likely to experience problems with their baby's development, such as low birth weight.
- Pre-term and early childhood exposures to carcinogens are ten times more important than previously estimated
- Local land use decisions play an important role in determining exposure to air pollutants



Paul Chinn / The Chronicle



Local Community Risks and Hazards

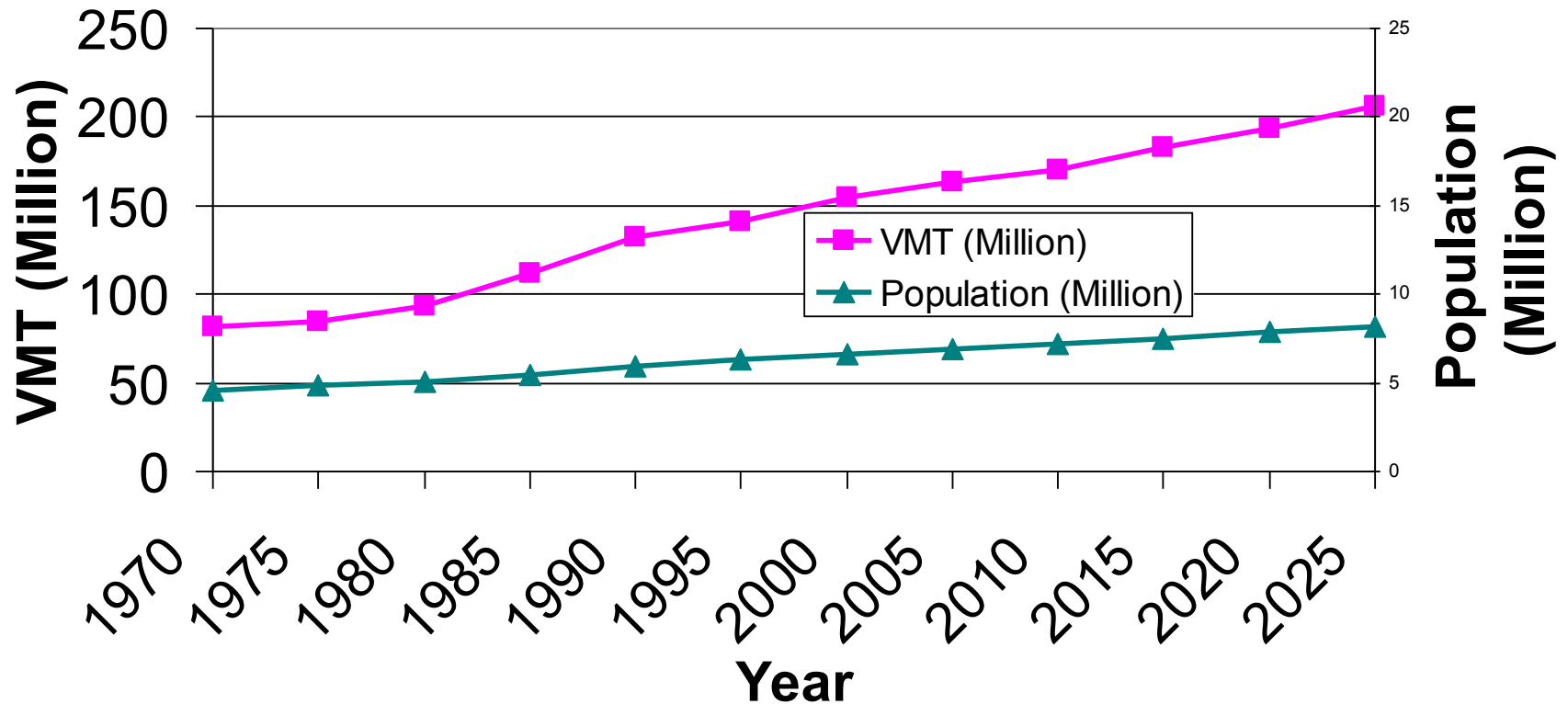
High emissions, concentrations of toxics, PM disproportionately impact vulnerable populations

The challenge:

- Reduce impacts from land use, transportation decisions
- Promote infill, while protecting residents
- Address impacts of locating new “receptors” near existing sources (eg, freeways)
- Think about:
 - cancer risk
 - fine particulate concentrations
 - cumulative impacts

VMT Challenge

Bay Area VMT and Population Trend



The General Plan: An Opportunity for Change

- Address air quality throughout the Plan:

- Housing – Circulation – Land Use
 - Sustainability? Air Quality? Climate and Energy?



- Move toward mandatory measures

- “Will adopt,” “shall require” instead of “will encourage,” “will continue to support,” “may consider adopting”



- Emission reductions from new AND existing development



The General Plan: An Opportunity for Change

Link the General Plan to:

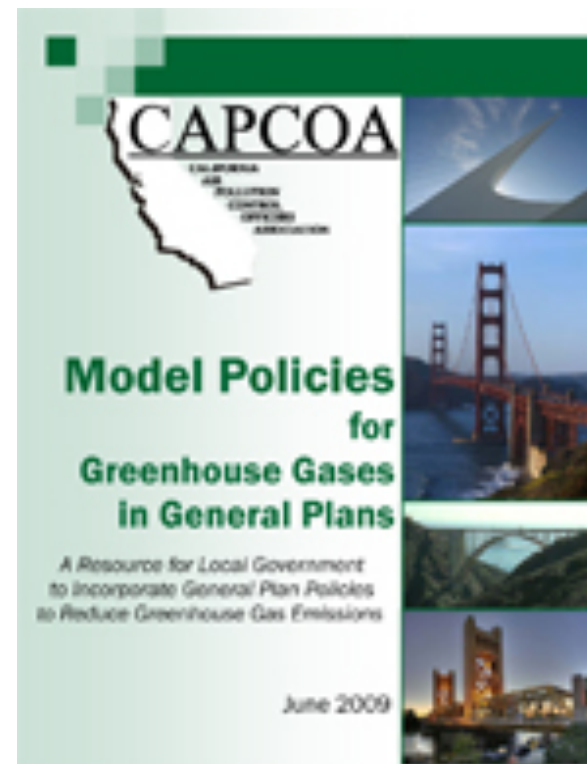
- Community Risk Reduction Plan
- Climate Action Plan



Resources for GHG Mitigation

California Air Districts Provide Resources

- *CEQA & Climate Change*
- *Model Policies for GHGs in General Plans*
- *Quantifying GHG Mitigation Measures*
 - 96 quantified measures
 - equations, assumptions, sources





Contact

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