

Multiple Air Toxics Exposure Study (MATES) IV Draft Final Report

May 1, 2015



Study Components

- Monitoring
- Emissions inventory
- Modeling
- Technical Advisory Group input solicited
- Purpose
 - Assess air toxics exposures and risk
 - Evaluate progress in reducing exposures
 - Inform future air toxics control programs

Summary of MATES IV Findings Compared to MATES III

- Monitoring
 - Average air toxics risk decrease of 65%
- Emissions Inventory – potency weighted emissions
 - Decrease of 65% basin wide
- Modeling – population weighted risk
 - Basin wide decrease of 57%
 - Most significant decrease in area near ports

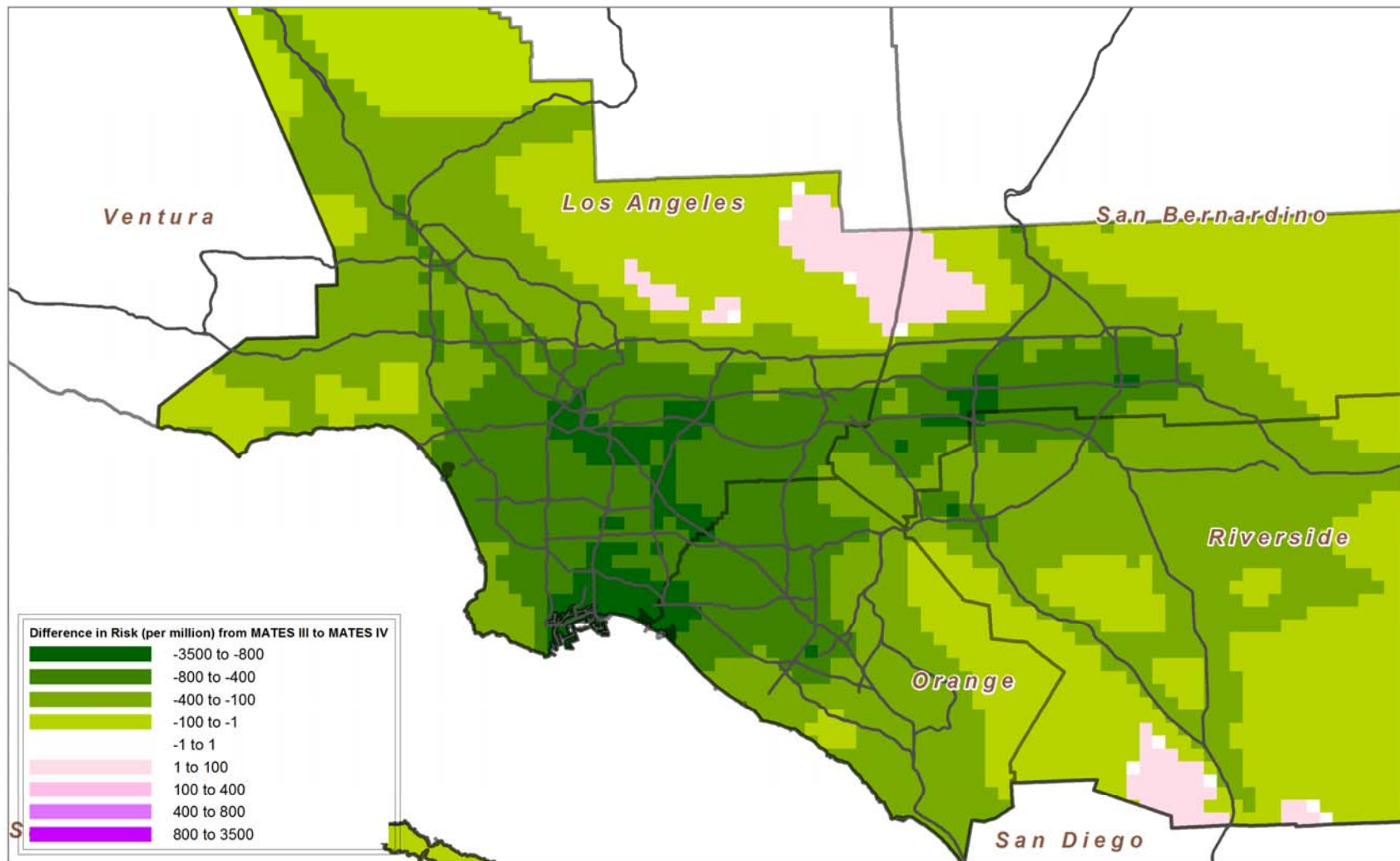
Draft Report Review

- Draft report released October, 2015
- 90 day public review period
- Presented to Technical Advisory Group
- Public comment received
 - Mostly technical
 - Data presentation
 - Errors and edits

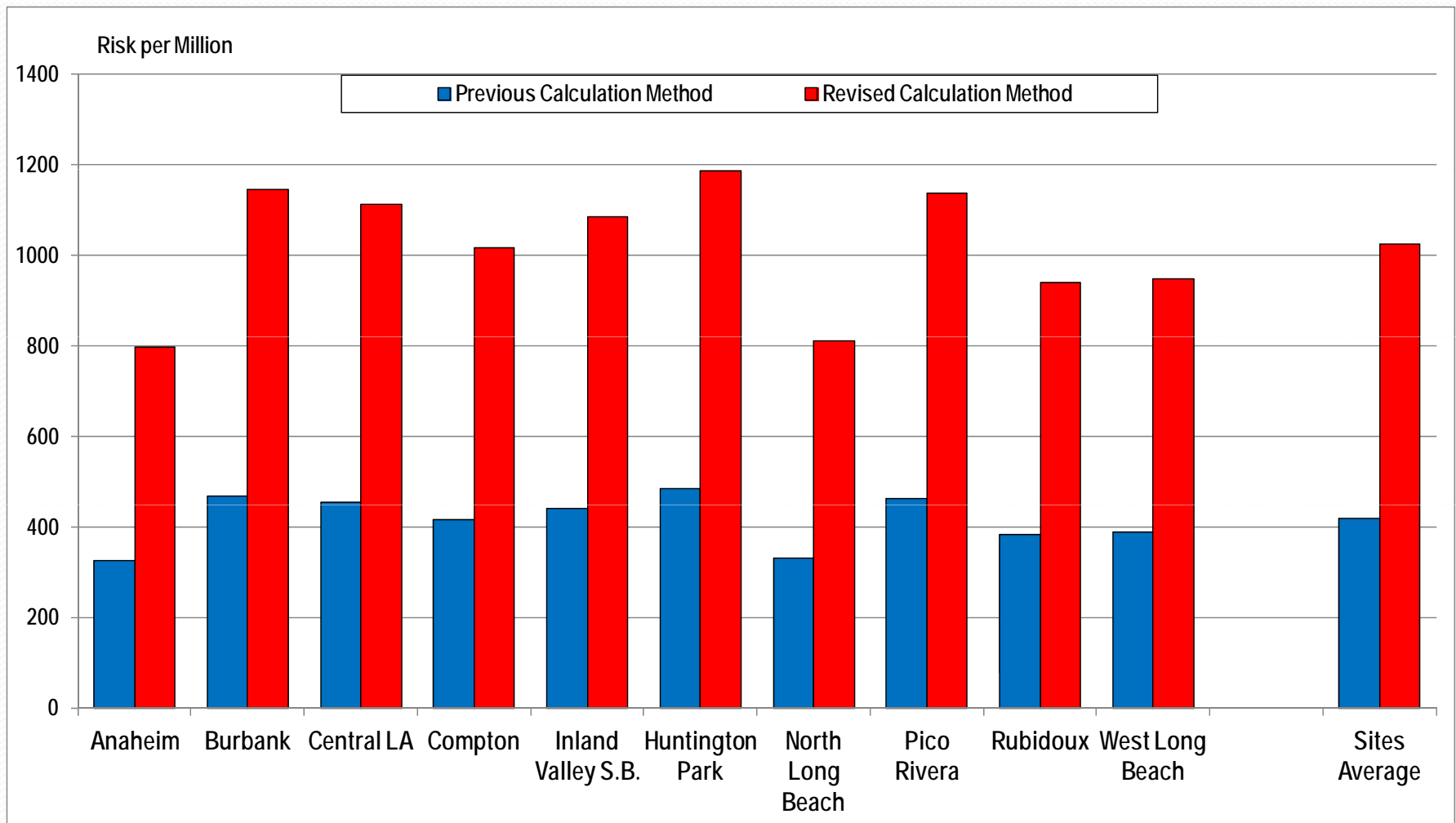
Key Revisions to Draft

- Discussion of OEHHA risk calculation method update influence on risk estimates
 - OEHHA released new methodology in March, 2015
 - Used 80th percentile from distribution of breathing rates for age > 2 years in anticipation of CARB guidance
 - Calculated risks up by factor of 2.5 compared to previous method
 - Added language that this does not reflect a change in exposure levels, and that relative decrease in risk from MATES III does not change.
- Added discussion on CalEnviroScreen limitations
 - A ranking method for environmental variables, not a risk assessment method
- Enhanced description of diesel PM estimation method
 - Added detail to Appendix IX on using emissions inventory ratio of Black Carbon to Diesel PM emissions
- Added Appendix VII describing ultrafine particle monitoring at fixed sites
- Added appendices of comments received (Appendix XII) and staff responses (Appendix XIII)

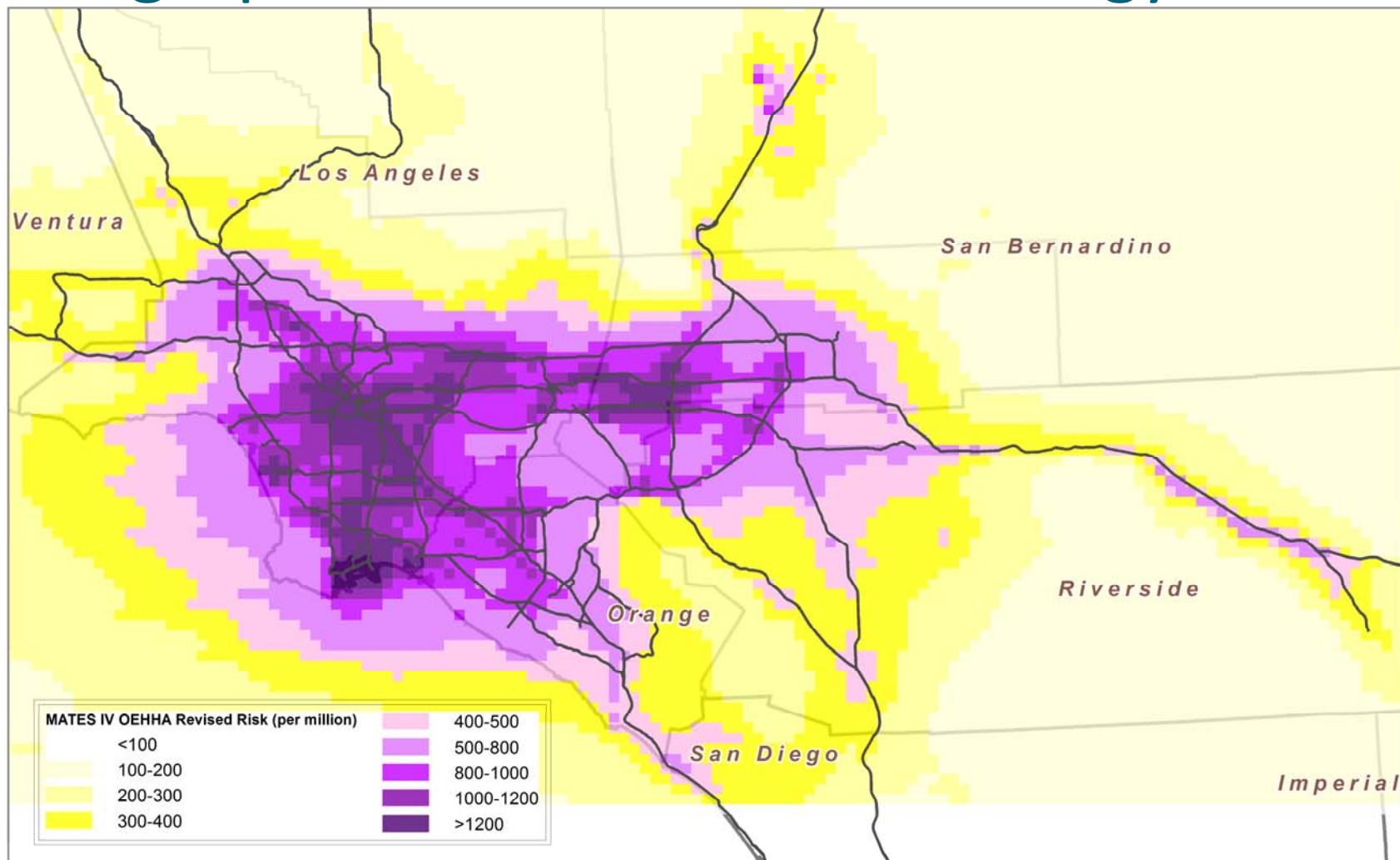
Modeled Air Toxics Risk Difference Between 2005 & 2012



Effect of OEHHA Revised Calculation Method for Estimated Risk at Monitoring Sites



MATES IV Modeled Air Toxics Risks Estimates Using Updated OEHHA Methodology



Key Comments: Final Draft Report

- Should use only revised OEHHA methodology to calculate and compare risks
 - Staff chose to use the methodology employed in the draft report for consistency and to provide a comparison with previous MATES reports
 - Staff also points out the magnitude of difference with the revised OEHHA methodology, and provides updated risks as well
 - Basis to compare to future MATES risk estimates
 - Relative risks compared to previous studies do not change



Key Comments: Final Draft Report (2)

- Several comments requesting additional detail on method used to estimate diesel PM
 - Provided an enhanced discussion in Appendix XI – Estimating Diesel Particulate Matter
- Suggested fewer sites for future toxics measurement studies, but with continuous measurement at one representative site
 - Staff will consider this suggestion regarding future studies



Key Comments: Final Draft Report (3)

- The latest EPA potency factors were not used
 - Staff acknowledges some differences in OEHHA and EPA potency factors. However, the OEHHA factors are used in the report, consistent with previous MATES studies.
- Additional description of CalEnviroScreen and differences compared to risk assessment
 - Staff included additional discussion
- Clarify relationship between BC and UFP and traditional toxic air contaminants
 - Text has been modified for clarity and consistency



Recommendation

- Receive and file MATES IV Final Report

MATES IV Report available at:

<http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv>