



South Coast Air Quality Management District

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SCIENTIFIC, TECHNICAL & MODELING PEER REVIEW MEETING MINUTES

Thursday, November 4, 2021
2:30 pm

1. Welcome and Introduction

Ian MacMillan, Assistant Deputy Executive Officer, welcomed attendees and introduced the topics of the meeting. The meeting was conducted virtually via zoom.

2. Spatial and Temporal Allocation of Emissions from On-Road Mobile, Ocean Going Vessels and Aircraft

Eric Praske presented new approaches to spatially and temporally distribute emissions from on-road mobile sources, ocean going vessels, and aircraft.

Pablo Saide wondered whether the OGV spatial surrogates were based on average values or whether they were based on day-specific data.

Eric Praske responded that day-specific AIS-based allocation factors were explored, but the approach was abandoned due to noisy and incomplete AIS data. An annual average profile was used instead.

Pablo Saide wondered whether the on-road mobile temporal surrogates are specific to each day or if they also follow an annual average weekday profile.

Eric Praske responded that on-road mobile surrogates account for daily variation, which is especially important when holidays fall on different days of the week. Sang-Mi Lee clarified that there are 8,740 different weighting factors for the on-road mobile temporal allocation.

David Pettit asked if the OGV emission plot can be interpreted to mean that there is no emission over land.

Eric Praske responded that OGV emissions are exclusively allocated over the ocean and ports. Sang-Mi Lee clarified that emission categories such as recreational boats and harbor craft, which have emissions adjacent to the ports and inland rivers, have emissions quantified in the SIP inventory, but those are separate to the OGV emissions shown here.

3. Ozone Isopleths and Preliminary Carrying Capacity Estimates

Sang-Mi Lee presented ozone isopleths and preliminary carrying capacity estimates for attainment of the 2015 70 ppb ozone NAAQS.

Kelley Barsanti asked if the ozone sensitivity toward temperature was explored.

Sang-Mi Lee responded that meteorology is critical, especially for evaporative and biogenic emissions. However, staff are required to follow EPA's official modeling guidance for attainment demonstrations. The current demonstration will employ 2018 meteorology, but staff have independently investigated the role of meteorology using reanalysis data and climate projections. The findings from this study will be discussed as weight of evidence in the attainment demonstration.

Ralph Morris asked if staff have developed revised carrying capacities for attainment milestone years, including 2023 and 2031.

Sang-Mi Lee responded that staff have not had the opportunity to assess 2023 or 2031 carrying capacities, as all efforts have been focused on the 70 ppb ozone National Ambient Air Quality Standard (NAAQS).

Ralph Morris noted that the ozone isopleths are not consistent with previous AQMPs. For example, the 2022 AQMP baseline is 224 tons per day (tpd) NO_x while the projected emissions to attain standards for 2023 and 2031 in the 2016 AQMP were less than 150 tpd.

Sang-Mi Lee acknowledged this point and discussed the importance of boundary values as adjacent counties do not have as aggressive controls as compared to counties within South Coast AQMD's jurisdiction. Also, carrying capacity is derived from category-specific controls, which require more time to develop.

Ian MacMillan acknowledged that the baseline emissions will not achieve the standard and this is a topic of concern that has garnered attention from the South Coast AQMD Governing Board and CARB. Nevertheless, the 2022 AQMP is focused on 2037 in the context of attaining the 2015 ozone NAAQS.

Ralph Morris maintains that there should be greater confidence in near-term projections compared to those for an attainment year that is nearly 20 years away. The carrying capacities will likely change due to climate change.

Mark Abramowitz inquired regarding the NO_x disbenefit near downtown Los Angeles. The disbenefit was mentioned in the 2016 AQMP and he wondered whether this continues to be the case. He also asked about carrying capacity estimates for the 1-hour ozone NAAQS and state standards.

Sang-Mi Lee confirmed that the NO_x disbenefit will continue to be the case in Los Angeles until sufficient NO_x reductions are achieved to overcome the disbenefit zone. The District is focused on the 2015 NAAQS with a 2037 attainment year and is not considering the 1-hour ozone NAAQS. Further analysis is required to confirm whether attaining the federal standard will also result in attaining the state standard, but the state standard is more stringent, so this is uncertain.

Adrian Martinez asked about weight of evidence and how climate change is considered. He did not believe that the District had a plan for state standards and noted that no attainment demonstration exists for the 1-hour ozone NAAQS, which is due in 2022.

Sang-Mi Lee responded that climate change is challenging to address, but staff are obligated to follow EPA's modeling guidance. Climate change is one source of uncertainty in modeling, but other meteorological parameters (e.g., ventilation and precipitation) also contain uncertainty. It is difficult to account for these natural fluctuations. Additionally, there is uncertainty in background ozone, but recent trends suggest it is decreasing. The weight of evidence discussion will seek to analyze these sources of uncertainty.

Ian MacMillan acknowledged the importance of other NAAQS and state standards and that further deliberation is required to determine how the District will proceed to attain these standards.

4. South Coast AQMD Socioeconomic Impact Assessments and Scope of 2022 AQMP Socioeconomic Report

Dr. Shah Dabirian, Program Supervisor in the Socioeconomic Unit of South Coast AQMD presented a brief summary of the history and evolution of the South Coast AQMD socioeconomic assessment. He stated that the forthcoming socioeconomic report in the 2022 AQMP will quantify the incremental costs/savings of control measures to achieve the 2015 8-hour ozone standard by 2037, as well as subsequent regional benefits from air quality improvements and regional macroeconomic impacts (jobs and competitiveness).

Dr. Dabirian stated that the scope of early socioeconomic assessments were limited to the identification of affected facilities, compliance cost, and cost-effectiveness. Later, the 1989 Board Resolution required health impact assessments. In 1990, Senate Bill (SB) 1928 required an analysis of employment impacts due to proposed regulations and their California Environmental Quality Act (CEQA) alternatives. Since then, job impacts have been a factor in selecting the best alternative among different rule proposals.

Dr. Dabirian noted SB 1928 required an independent evaluation of South Coast AQMD's economic assessment. In 1991, a team from the Massachusetts Institute of Technology (hereafter MIT) was hired to conduct an audit of the assessments and offered a set of recommendations including the following: improve health and visibility assessments; conduct industry case studies; expand REMI model to sub-county areas; conduct cost and benefit analysis at the sub-county level; and establish a technical advisory group to review the analyses and make recommendations to ensure the continued accuracy and reliability of South Coast AQMD's economic assessments. Accordingly, improvements were made in subsequent AQMPs.

Upon the adoption of the 2012 AQMP, the Board passed a resolution calling for another review of the socioeconomic analysis to update and improve current assessments. Abt Associates was contracted to develop a set of recommendations, which were implemented during the development of 2016 AQMP in areas of cost-effectiveness estimates, environmental justice analysis, analysis of health, visibility, and agricultural and material benefits, and the resolution of industry impacts.

Dr. Dabirian finally noted that as part of future improvements in the 2022 AQMP, staff is planning to use a newly developed module in REMI called Socioeconomic Indicators (SEI) to expand job impact analyses by race, gender and income status.

Dr. Ryan Finseth and Dr. Paul Stroik briefly presented the scope of the 2022 AQMP Socioeconomic Report. Dr. Finseth outlined the first three chapters of the Socioeconomic Report: Chapter 1 contains an introductory discussion on the historical air quality trends, regional economic growth, updated baseline for the analysis, and the evolution of the socioeconomic analysis; Chapter 2 covers the compliance cost resulting from control measures and any potential cost savings resulting from proposed requirements; Chapter 3 will discuss public health and other benefits associated with the 2022 AQMP.

Dr. Stroik explained chapters four and five will present macroeconomic impacts of 2022 AQMP implementation, including the racial and gender distribution of job impacts and competitiveness impacts by sector, whereas Chapter 6 will cover an environmental justice (EJ) analysis from a socioeconomic lens and a distributional analysis quantified health benefits and valuation for EJ and non-EJ areas. Dr. Stroik noted that the 2016 AQMP Socioeconomic Report used inequality indices that assessed inter- and intra-area changes in health-risk inequality. There were concerns about the accessibility of this messaging to the public, and staff is seeking STMPR input on whether to retain this analysis for the forthcoming AQMP.

Dr. Stroik noted Chapter 7 of the 2022 AQMP Socioeconomic Report will discuss CEQA alternatives to proposed AQMP provisions and Chapter 8 will conclude. He concluded the presentation with a proposed timeline for the 2022 AQMP and the dates for the availability of drafts leading up to the Final 2022 AQMP.

Comments/Questions from STMPR Advisory Group and Staff Response

- Ken Davidson, U.S. EPA Region 9, commented an updated review of the recent health effects literature would be beneficial and suggested that the spatial data used should be collected at the finest spatial scale feasible.
- Dr. Dabirian responded that staff will work an outside expert consultant to update, where applicable, the parameters pertaining to the health benefits estimates of the 2016 AQMP, including the concentration-response functions, endpoints valuation, and value of statistical life (VSL) and cost-of-illness (COI) estimates adjusted for income growth based on the income elasticity. Mr. MacMillan invited the STMPR to provide any suggestions and literature in line with Mr. Davidson's comment.
- Dr. Peter Evangelakis, REMI, noted that REMI's SEI module encompasses the distributional job impacts broken down by race, gender, income, and by educational attainment, as well as salaries and compensations. He noted the model evaluates labor force participation by race, ethnicity, and gender along with the spatial distribution impacts.

Members Present (12)

Anthony Oliver, Senior Economist, California Air Resources Board
Greg Osterman, Jet Propulsion Laboratories
Gabrielle Pfister, Atmospheric Chemistry Observations & Modeling Lab/National Center for Atmospheric Research in Boulder, CO
Jeremy Avis, Chief of Modeling & Meteorology, California Air Resources Board
Ken Davidson, U.S. Environmental Protection Agency
Peter Evangelakis, Vice President, REMI, Inc.
Ralph Morris, Principal, Ramboll
Pablo Saide, Faculty, UC Los Angeles, Dept. of Atmospheric Sciences
Gloria Gonzales, Professor of Economics, UC Riverside
Rynda Kay, U. S. Environmental Protection Agency, Region IX
Steve Levy, Center for Continuing Study of the California Economy (CCSCE)
Kelly C. Barsanti, University of California Riverside

Public Attendees and Interested Parties (42)

Abas Goodarzi, US Hybrid
Adrian Martinez, Earthjustice
Ali Ghasemi, Ventura County Air Pollution Control District (VCAPCD)
Annaleigh Ekman, Southern California Associate of Government (SCAG)
Ariel Fideldy, California Air Resource Board (CARB)
Austin Hicks, California Air Resource Board (CARB)
Ben Ellenberger, Ashworth Leininger Group (ALG)
Benjamin Leers, Environmental Protection Agency (EPA)
Bertrand Gasott, Mojave Desert AQMD
Bridget McCann, Chevron
Carol Kaufman, Metropolitan Water District (MWD)
Carrie Brown, Household & Commercial Products Association (HCPA)
David Pettit, Natural Resources Defense Council, Inc. (NRDC)
Duane Baker, San Bernardino County Transportation Authority (SBCTA)
Dylan Ramey, Niagara Water
Erin Berger, Southern California Gas (SoCal Gas)
Giles Pettifor, Port of Hueneme
Janet Whittick, California Council for Environmental and Economic Balance (CCEEB)
Jin Lu, California Air Resource Board (CARB)
Joe Gagliano, Air Production
John Henkelman, Ventura County Air Pollution Control District (VCAPCD)
John Ungvarsky, Environmental Protection Agency (EPA)
Karen Bishop, Kellen Company
Lakshmi Jayaram, Ramboll
Leonardo Ramirez, California Air Resource Board (CARB)
Mana Sangkapichai, Southern California Associate of Government (SCAG)
Mark Abramowitz, Community Environmental Services, Inc. (CES)
Marshall Waller, Phillips 66
Meenakshi Rao, Oregon Department of Environmental Quality (ODEQ)
Michael Yee, Southern California Gas (SoCalGas)
Naveen Berry

Phil Allen, Oregon Department of Environmental Quality (ODEQ)
Julia Lester, Ramboll
Ramine Cromartie, Western States Petroleum Association
Scott King, California Air Resource Board (CARB)
Scott Weaver, Ramboll
Thomas Jelenić, Pacific Merchant Shipping Association (PMSA)
Timothy French, Truck & Engine Manufacturers Association (EMA)
Tim Pohle, Airlines for America
Zorik Pirveysian

South Coast AQMD Staff Present (23)

Barbara Baird, Chief Deputy Counsel
Brian Vlasich, Air Quality Specialist
Cui Ge, Air Quality Specialist
Daphne Hsu, Principal Deputy District Counsel
Elaine Shen, Working-Out-of-Class Planning and Rules Manager
Elham Baranizadeh, Air Quality Specialist
Eric Praske, Air Quality Specialist
Ian MacMillan, Assistant Deputy Executive Officer
Josephine Lee, Sr. Deputy District Counsel
Kathryn Roberts, Deputy District Counsel
Marc Carreras Sospedra, Air Quality Specialist
Paul Stroik, Air Quality Specialist
Paul Wright, Information Technology Specialist
Rachel Ballon, Secretary
Ricky Lai, Air Quality Specialist
Rui Zhang, Air Quality Specialist
Ryan Finseth, Air Quality Specialist
Sang-Mi Lee, Program Supervisor
Scott Epstein, Program Supervisor
Shah Dabirian, Program Supervisor
Wei Li, Air Quality Specialist
Veera Tyagi, Principal Deputy District Counsel
Xinqiu Zhang, Sr. Staff Specialist