Minutes for the 2016 Scientific, Technical & Modeling Peer Review (STMPR) Advisory Group Meeting #5

Thursday, December 10, 2015

1. Welcome

Joe Cassmassi, Planning and Rules Director of SCAQMD's Planning, Rule Development and Area Sources Division, called the meeting to order at 9:30 am and asked for self-introductions of the Advisory Group members and SCAQMD staff. Mr. Cassmassi stated that the purpose of this meeting is to brief STMPR members on the work of two contractors. The first presentation will be from Henry Roman, Principal with IEc regarding recommendations for epidemiological concentration response (C-R) functions and the health effects valuation functions to be used for the 2016 AQMP health benefits analysis. The second presentation will be made by Erdal Tekin, Professor at American University who completed a study on the health effects of unemployment in the Basin. After these presentations, the preliminary outline for the 2016 AQMP Socioeconomic Assessment will be presented for discussion.

(The complete set of memos, presentations, and papers for this meeting can be downloaded at: http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=STMPR_Socio_121015)

2. Approval of July 30, 2015 Minutes

Mr. Cassmassi requested members to provide their comments on the minutes of the last STMPR meeting (July 30, 2015) within two weeks.

3. Recommendation for Health Effects C-R and Valuation Functions

Dr. Elaine Shen, Program Supervisor of SCAQMD's Socioeconomic Analysis Unit, explained that during the last STMPR meeting on July 30, 2015, Mr. Roman called in from Boston to present the criteria that would be used during the selection process of epidemiological studies. During today's presentation, Mr. Roman will provide recommendations for which health endpoints and economic valuation functions to use in the estimation of health benefits for the 2016 AQMP.

Mr. Roman began the presentation by thanking outside collaborators George Thurston, Professor at NYU School of Medicine and Lisa Robinson, Senior Research Scientist at Harvard School of Public Health who provided input during the development of IEc's deliverables. Mr. Roman stated that his presentation will focus primarily on mortality endpoints as they drive the monetization of benefits. Morbidity is also important, but will be covered in less detail during the presentation.

Recommendations for PM Mortality Health Endpoint:

1. Recommend a pooling of three LA-specific estimates: Krewski et al., 2009; Jerrett et al., 2005; and Jerrett et al., 2013. Pooling will increase the statistical power of the pooled estimates.

    - All based on well-studied ACS cohort data.
    - Common study area.
    - Each employs a different exposure assessment.
    - Extensive control for confounding.
    - More recent exposure data than other LA studies.
    - All find increased RR locally for all-cause and cause specific, compared to national results.
    - 2013 all-cause RR not statistically significant, but similar magnitude; also cardiovascular RR positive and significant.
    - Use all-cause estimates from each (1.17, 1.17, 1.10).

2. SCAQMD could consider sensitivity analysis with state and national estimates. For state-level estimates a recent study by Dr. Thurston using AARP cohort data could be considered as well as a study by Bart Ostro using data on California teachers. Jerrett 2013 also provides state estimates.

Recommendations for Ozone Mortality Health Endpoint:

1. Recommend including mortality due to short-term (daily) ozone exposure, based on 2008 National Academy of Science recommendation and adoption by U.S. EPA. Focus on a pooled LA-specific estimate from two analyses reported in Bell et al., 2005.

    - LA result from a multi-city NMMAPS analysis and a meta-analysis of multiple LA time-series studies (equal-weight pooling recommended)
    - Conservative estimate as LA-based estimate is lower than those in national studies.

2. Reflects consideration of high quality meta-analyses and single or multi-city studies that included a specific estimate for Southern CA or LA.

    - Bell et al meta-analysis already includes other studies in our list (e.g., Kinney et al., 1995, Moolgavkar 2003)
    - Relatively tight confidence intervals compared to others

3. Do not recommend including mortality associated with long-term exposures due to mixed results and concern about double-counting.

Recommendation for New Endpoints to Consider:

- Mortality (ozone, short-term)
- Ischemic stroke, new incidence (PM)
- Asthma, new incidence (ozone)—complement to current incident rates and hospital admissions data

Endpoints Evaluated but *not* recommended (due to lack of research or inconsistent results):

- Pregnancy outcomes (e.g., low birth weight)
- Autism
- Diabetes
- Neurological disorders (e.g., Parkinson's)

Valuation Functions:

Mr. Roman said that there are key assumptions for the conceptual framework of mortality and morbidity valuation functions: individuals are the best judge of their own welfare and their willingness to pay (values they reveal in a market transaction to avoid outcome) is the best method to ascribe value for a reduction in risk. WTP is an important component of calculating the Value per Statistical Life (VSL) which is important in mortality valuations. VSL is calculated as individual WTP for a small annual risk change divided by the risk change. Mr. Roman noted that the U.S. EPA is currently working on alternate terminology to minimize confusion associated with viewing VSL as the value of saving a specific individuals life with certainty.

Mortality, Results of VSL Review:

- Based largely on Robinson and Hammitt, 2015
    1. Most qualifying estimates based on wage-risk
        a. $5.3 million to $13.7 million range; mid-point of $9.5 million
    2. Three qualifying stated-preference studies (two illness based):
        a. $4.2 million to $11.2 million range; mid-point of $7.7 million
        b. Results from illness studies similar to others
    3. Combined range of $4.2 million to 13.7 million; mid-point of $9.0 million

- Stringent criteria derived from U.S. EPA Science Advisory Board (SAB) recommendations
- Includes illness-based VSLs
- No evidence of CA-specific estimates

- Supplemental review found no newer studies that met criteria

Recommendations for VSL:

- Recommended Value (2013 dollars and income levels)
  1. Central VSL estimate = $9.0 million
  2. Range = $4.2 million to $13.7 million

- Represents increase over VSL in 2012 analysis
  1. Previous VSL $7.1 million to $7.8 million, inflated to 2013 dollars (not income adjusted)
  2. Previous values encompassed in our range; will be reflected in uncertainty analysis
  3. Based on current, highest quality, best practice studies identified by expert endorsed criteria for revealed and stated preference studies

- Adjustment for Inflation to dollar year of study

- Real income growth over time (elasticity=1.1)
  1. Based on central estimate of Viscusi(2015) meta-analysis
  2. Combines results from several studies that attempt to control for publication bias
  3. SCAQMD could consider sensitivity analysis using a range of 0.0 to 1.4 based on other recent studies

- Discount for latency (cessation lag)
  1. Use U.S. EPA SAB's recommended 20 year lag step function for primary estimate
  2. Conduct sensitivity analysis (pick two):
     - Zero-year lag
     - 2012 PM NAAQS model (shift to longer latency risks)
     - 5-year distributed lag (25/25/17/17/17)
     - Exponential smooth function (k=0.45 from PM NAAQS RIA)
     - 18

Morbidity Valuation Results

- Lack of high-quality, relevant WTP studies remains an issue
  1. WTP estimates for respiratory ailments
  2. "Partial" WTP for hospital admissions

3. COI-based estimates for all others

- Updated COI-based estimates where appropriate
  1. Recent CA HCUP data for hospital admissions
  2. Updated estimates of lost time based on CA wage data
  3. Local 2012 asthma study; 4-year stroke cost

- COI estimates likely underestimate true value of health effects. Consider augmenting stroke value for indirect costs, in particular.

- Adjustments for 2016 analysis
  1. Inflate costs to appropriate dollar year
  2. Adjust WTP estimates for income growth
  3. Apply consistent discount rate for multi-year impacts

Mr. Roman concluded that a detail table at the end of his presentation outlines the specific recommendations for which health endpoints to use for morbidity valuation. Mr. Roman noted that the cost estimates associated with stroke are likely to be underestimated, as they do not factor in the cost of lost productivity associated with recovery.

Comments/Questions from STMPR Advisory Group and Staff Response:

- Ron Farber, Consultant asked whether Krewski and Jarret were local to Southern California. Staff responded that Michael Jerrett is on the faculty at UCLA and Mr. Roman replied that Dan Krewski is on the faculty at the University of Ottawa. Mr. Farber also inquired whether these studies consider indoor pollution and its negative effects. Mr. Roman said that these studies only focus on outdoor pollution, but some control for variables like air conditioning use to see if that has an effect on exposure.

- Julia Lester, Principal at Ramboll Environ asked for clarification about how to interpret the use all-cause estimates of 1.17 and 1.10. Mr. Roman responded that these numbers represent a 17 or 10 percent increase in risk per 10 microgram per cubic meter ($\mu g/m^3$) change in annual average PM. Dr. Lester also asked for clarification about interpreting numbers for ozone mortality, specifically a +.3 or +.5 estimate. Mr. Roman responded that the metrics used depend on the study, but for the Bell study this would represent the percentage increase in total daily mortality associated with a 10 parts per billion (ppb) increase in daily ozone.

- Bill LaMarr with the California Small Business Alliance asked what the difference is between short-term and long-term exposure. Mr. Roman responded that short-term exposure to ozone is daily exposures, typically 24 hours or less. Long-term exposure is an annual average daily exposure.

- Peter Herzog, Associate Director of Legislative Affairs at NAIOP, Commercial Real Estate Development Association asked what was meant by "mixed results" as a reason for not recommending including mortality associated with long-term exposures for ozone. Mr. Roman responded that studies looking at associations between long-term exposure and ozone vary widely (some find an association while others do not). Shor-term exposure studies consistently find an association.

- Mr. Farber asked whether there are any more recent studies for ozone mortality than 2005. Mr. Roman responded that they found a study from 2008 that was only slightly better than the study for 2005.

- Dr. Lester asked whether new cases of asthma related to ozone are controlled for other factors. Mr. Roman responded that these studies control for other factors like allergies. Fred Lurmann, Manager of Exposure Assessment Studies at Sonoma Technology Inc. added that the study followed two groups of children for 5 years starting in kindergarten. After controlling for all other variables, asthma risk was greater in the group of children with more daytime ozone exposure.

- Dr. Lester asked for clarification on how to interpret the elasticity of 1.1 for the VSL adjustment of real income growth over time. Mr. Roman responded that when elasticity=1.1 it means that for every 100 percent increase in income your WTP for mortality risk reduction would increase by 110 percent.

- Mr. Cassmassi pointed out that the valuation number that will be presented in the 2016 AQMP from this analysis will be different than numbers reported in the 2007 and 2012 AQMP, because cost-of-living adjustments will be made.

- Steve Levy, Director and Senior Economist for the Center for Continuing Study of the California Economy asked for clarification about the VSL range of $7.1 million to $7.8 million. Ms. Robinson responded that this range represents the results from one study. Mr. Levy asked why the range of $4.2 million to $13.7 million (midpoint of $9 million) is larger than range and midpoint used in previous AQMPs. Dr. Shen responded that the bigger range and midpoint is a result of the income adjustment recommended by IEc

- Mr. Cassmassi asked how to present statewide vs. national health analyses in the 2016 AQMP given that Los Angeles has different particle pollutants than those found on the East Coast and given Los Angeles has more monitoring stations than anywhere in the state. Mr. Roman acknowledged that while there is some uncertainty associated with different types of particle matter and toxicity, national and state numbers are not very different from each other. Mr. Roman agreed that Los Angeles' density of monitoring stations and air quality could explain why estimates between the region and state estimates could be different.

- Mr. Farber asked how non-linear responses are incorporated into these functions. Mr. Roman responded that although there may be some non-linear responses at the high or low-end of an estimate, the best practice in epidemiological studies is to assume responses are primarily linear in nature. Mr. Farber asked if allergies are included in response functions and Mr. Roman responded that some studies do take into account a respondent's health status (where allergies might be recorded). Mr. Cassmassi added that capturing an effect like allergies would go into the morbidity function, which is always much lower than the valuation for mortality—any such effect is likely to be small.
- Frank Wen, Manager of Research and Analysis at Southern California Association of Governments asked if VSL by age group will be considered in this analysis. Ms. Robinson replied that there was not enough conclusive research on the effects by age group and Mr. Roman responded that the VSL estimate used in the analysis represents all age groups.

4. Health Effects of Unemployment

Mr. Cassmassi introduced the next speaker, Erdal Tekin, Professor from American University who will be presenting his research on unemployment and health. Dr. Tekin is one of a few authors who study the relationship between unemployment and health outcomes. Mr. Cassmassi noted that Dr. Tekin's high-quality analysis was independently conducted

Dr. Tekin began his presentation by stating that his analysis includes a literature review on the health effects of unemployment and an empirical analysis of this relationship in California and the four county sub-region under SCAQMD's jurisdiction.

During his literature review, Dr. Tekin found two main types of research with divergent findings:

1. *Aggregate-level* studies (local, county, or state) that use employment measures at the local level typically show that health improves during increased unemployment. Mortality is shown to be *procyclical* or positively correlated with the business cycle.

2. *Individual-level* studies linking one's own experience of unemployment with one's own health have found that those who lose their jobs during recessions experience negative health consequences.

Dr. Tekin also found in the literature that certain aspects of high unemployment periods and the experience of job loss could be health-neutral or health improving (i.e. less air pollution, decrease in harmful behaviors due to reduced income, etc.); whereas, other aspects could be health damaging (i.e. stress, worsening diet, etc.)

For the empirical analysis component of his study, Dr. Tekin utilized data from the Behavioral Risk Factor Surveillance System (BRFSS). BRFSS is a phone survey designed by the CDC that has tracked the health conditions and risk behaviors of respondents in all 50 states since 1984. Dr. Tekin noted that it does not track the same individuals over time, but tracks a cross-section of Americans over time (referred to as panel data). From this dataset, Dr. Tekin targeted about 35,000 observations from California residents who were aged 25 to 54 (prime working age) from 2000 to 2012. Dr. Tekin noted that county identifiers were available in the dataset during this period so that both the state and the four county sub-region could be analyzed.

In order to include both aggregate-level and individual-level measures of unemployment as elucidated in the literature review, Dr. Tekin explained that two different datasets used:

1. Three month moving average of Local Area Unemployment Statistics from the U.S. Bureau of Labor Statistics (aggregate-level)

2. Binary indicators for short-term (less than a year) and long-term (more than a year) unemployment from BRFSS responses (individual-level). Dr. Tekin noted that students or retired persons were excluded from the analysis.

Dr. Tekin stated that individual-level health variables included indicators for being in excellent/good/poor health as well as indicators for mental health. Health behavior indicators were captured by variables like smoking, binge drinking, physical exercise, being obese/overweight. For aggregate-level indicators, the mortality rate from the U.S. Vital Statistics from the National Center for Health Statistics (NCHS) were used for the period between 2000-2012.

Dr. Tekin explained the results of the empirical model using the variables and data outlined above. Dr. Tekin noted that any empirical analysis runs the risk of omitted variable bias, but this can be mitigated with an X variable (vector of control variables like age, race, gender, etc.) which may influence both unemployment and health outcomes. When looking at the descriptive statistics between California and the four county sub-region, Dr. Tekin reported that there is not much difference between the estimates. When broken down by county, Dr. Tekin observed that there are some reasonable differences. For example, Orange County has better health (lower obesity, good mental health) than Riverside County, which has a higher unemployment rate.

Dr. Tekin displayed the results of the model and showed three sets of equations run for all of California with and without time trends (time trend models take into account the change in preferences and behaviors like an awareness of obesity as a public health issue):

1. Panel A: Only county-level unemployment
2. Panel B: County-level unemployment and individual-level unemployment
3. Panel C: Only individual-level unemployment

Panels A, B. and C were also run for SCAQMD counties with and without time trends. Dr. Tekin focused most of his explanation on the time trend models as he believes these are the better models.

The take-away from this analysis is that aggregate-level (county) unemployment is shown to result in better health outcomes. This is consistent with the literature. When looking at individual-level measures of unemployment, the results show that individuals that are unemployed experience poorer health outcomes—again, consistent with the literature. Dr. Tekin pointed out that the poorer health outcomes become lower in magnitude when looking at long-term unemployed individuals. Explanations for this could be that long-term unemployed people enroll in MediCare or make lifestyle changes.

When repeating the same analysis for the four county sub-region, the patterns remained the same even though the observation size was roughly cut in half. Additional models were run at the four county sub-region to control for any differences that might occur in unemployment between the region and the state (some counties might have higher unemployment rates than state average, for example). No major differences in unemployment between the region and the state existed. Lastly, these models were run by each specific county (not an aggregate of all four)—and the outcomes were the same as all previous models.

Dr. Tekin reported the results from the mortality analysis and they were consistent with the literature—as unemployment increases, mortality decreases. These results show that California has the same relationship between mortality and unemployment as the rest of the nation. When allowing unemployment to vary by county, San Bernardino and Riverside County had less mortality as unemployment rose compared with Los Angeles and Orange County.

Dr. Tekin concluded that his study has shown:

1. County unemployment appears to have no discernible impact on health.
2. Regardless of the county unemployment rate, unemployed individuals have worse health than those employed.
3. The unemployment rate appears to be negatively associated with the county mortality rate (number of deaths decrease as unemployment increases)
4. Fluctuations in local unemployment are unlikely to be associated with health outcomes and health behaviors in any meaningful way, at least for the state of California.

Comments/Questions from STMPR Advisory Group and Staff Response:

- Mr. Farber asked how part-time workers were analyzed. Dr. Tekin responded that there was no distinction in the available data between full-time or part-time workers. Dr. Lester asked for clarification of who was included in the dataset. Dr. Tekin responded that students and retired persons were excluded from the dataset, but that the data set included

prime working age people who had a job, were unemployed for less than a year, or unemployed for more than a year.

- Mr. LaMarr asked whether Dr. Tekin directly observed the health outcomes of the respondents for the four county sub-region analysis. Dr. Tekin responded that these were self-reported measures from a telephone survey. Mr. LaMarr asked whether the poor mental health indicator included depression and/or feeling dejected from the labor market. Dr. Tekin responded that there is no way to determine the specific cause of poor mental health reported—it is simply a question of whether a person feels their mental health is poor or good in the last 20 or 30 days.

- Dr. Lester commented that she was not surprised there was no association between unemployment and health outcomes at the county-level given that those unemployment estimates do not include people who have quit looking for work. Dr. Lester recommended that staff look at the numbers of jobs foregone in declining or vulnerable industries like petroleum, goods movement, and manufacturing and the health impacts of people who might lose jobs in these industries. Dr. Lester also asked for clarification on slide 22 of Dr. Tekin's presentation. Dr. Lester asked whether the last bullet point should read "likely" instead of "unlikely". Dr. Tekin said that he meant "unlikely" instead of "not unlikely". Dr. Lester thanked staff for reaching out to Dr. Tekin to conduct this analysis.

- Dr. Shen asked Dr. Tekin to elaborate on why the outcomes from the aggregate-level models are so different from the individual-level models. Dr. Tekin replied that individual-level data is not very refined. As a result, it is likely that the effect between unemployment and health outcomes is overestimated at the individual-level. For aggregate-level analysis, any effect depends on different factors. For example, during recessions there is less industrial activity, higher unemployment, but lower air pollution, which may contribute to better health outcomes. During expansions, nursing homes face a labor shortage, which may explain an increase in mortality among seniors.

- Mr. Farber asked whether people with health insurance were considered in this analysis. Dr. Tekin responded that there was no good measure of health insurance in the BRFSS dataset.

- Mr. Herzog asked how staff will incorporate these findings in the 2016 AQMP and future socioeconomic analyses. Mr. Cassmassi responded that this report is a good start and that discussions will continue about how to incorporate these findings with other studies (MATES, Environmental Justice research, etc.) into future analyses. Mr. Cassmassi also noted that given the upcoming timeframe for the AQMP staff will continue to use the tools it has in place.

- Mr. Levy commented that he does not believe AQMP measures have a major impact on employment; therefore, SCAQMD should not look at the link between unemployment and health outcomes. Dr. Huang commented that during Abt's independent review, stakeholders expressed concerns regarding health outcomes and unemployment, but ultimately Abt did not recommend further study as this relationship is beyond the scope of the SCAQMD. Dr. Huang did commend staff for looking into the issue regardless, but still believes that health and unemployment is a problem that must be addressed by multiple agencies, not just the SCAQMD. Scott Nystrom, Economist at REMI added that the REMI model allows for migration of workers (people will move to another county if they cannot find work); therefore, other factors besides unemployment may affect health outcomes in a county.

- Dr. Shen commented that U.S. EPA's Scientific Advisory Board is looking into the issue of health and unemployment and will evaluate whether and how to consider any potential effect in the economic analysis.

- In the interest of time, Mr. Cassmassi closed the discussion in order to move on to the next agenda item. Participants still wishing to give comments could submit their responses later. Additional feedback received after the meeting is in item 6.

5. Preliminary Outline for 2016 AQMP Socioeconomic Assessment

Dr. Shen prefaced this discussion with the fact that this is a preliminary draft outline subject to change. Changes in structure or content may arise due to the results of contracts, feedback from today's meeting as well as feedback from meetings in the future.

Dr. Shen stated that the 2016 AQMP Socioeconomic Assessment is hoping to be more user-friendly and geared towards a general audience. The Socioeconomic Assessment will have a stand-alone executive summary where readers can quickly grasp what the SCAQMD is trying to achieve in the 2016 AQMP. Dr. Shen also stated that about 70-80 percent of the elements contained in past AQMPs will be included in the 2016 AQMP. Reorganization and clearly explaining technical aspects of the analysis will be the major changes made to the 2016 document. These changes will promote transparency while telling a clearer story. Dr. Shen went over the outline in detail.

Comments/Questions from STMPR Advisory Group and Staff Response:

- Mr. Farber asked what "larger compliance investments" means. Mr. Cassmassi replied that the Board's Ad Hoc Committee was recently formed by Supervisor Shawn Nelson to analyze policies that could be implemented to reduce the economic impact of stranded assets resulting from rule compliance. Dr. Shen said that at this point the Committee is looking at legal issues regarding regulatory uncertainty.

- Mr. LaMarr reminded staff that during Abt's assessment, he recommended staff use trade or industry association data for small business where possible.
- Mr. Levy raised concerns about how costs and benefits will be quantified in the new AQMP as compared with the 2012 AQMP. Dr. Shen replied that only the emission reduction benefits will be included in the document (per Abt's recommendation of a consistent baseline definition), because mobility benefits are analyzed in SCAG's RTP/SCS. Dr. Wen added that SCAG is already in the process of getting benefits and cost data to staff for their baseline adjustments.
- Mr. Levy asked how amenity benefits will be addressed in the analysis. Dr. Shen replied that while we know these benefits exist, there is no best method to quantify them. Per Abt's recommendations, the same policy variable in REMI will be used, but a range of values will be presented to capture sensitivity. Mr. Cassmassi added that REMI consultants and a researcher from Rutgers discussed the issue. It is agreed that an amenity benefit exists, but the quantification of magnitude is debatable. Therefore, a range of values will be presented.
- Mr. Farber asked whether the high cost of housing is taken into account in the REMI model. Mr. Nystrom responded that the model looks at real income, which takes into account housing costs, meaning that it knows that the purchasing power of $90,000 is less in Boston than in Houston.
- Dr. Lester raised concerns over CARB's incentive strategy for mobile sources being put into the REMI model. Having worked on five AQMPs, she believes the job impacts will be negative and massive when these costs are accounted for in the model. Dr. Shen said that staff is working directly with CARB's economic team to find the best strategy for this component of the analysis.
- Scott Weaver, Partner at ERM asked whether all benefits (health, job, etc.) from SCAG's RTP will be included in the baseline. Dr. Shen confirmed Mr. Weaver's statement and added that these baseline numbers will be summarized separately. Mr. Weaver also asked whether there will be any discussion about how the 2016 RTP/SCS differs from past RTP/SCSs. Mr. Cassmassi responded that this will be discussed in Appendix 4-C.

Mr. Cassmassi ended the meeting and added that the Socioeconomic team will be adding a new member in January. Anthony Oliver recently received his PhD from the University of Illinois at Urbana-Champaign and staff is looking forward to working with him.

MEMBERS PRESENT
Rob Farber, Consultant
Jin Huang, Abt Associates
Steve Levy, Center for Continuing Study of the California Economy
Frank Wen, Southern California Association of Governments

O**n the phone:**
Fred Lurmann, Sonoma Technology, Inc.
Scott Nystrom, REMI
Emily Wimberger, California Air Resources Board

CONTRACTOR
Henry Roman, Industrial Economics, Inc.
Erdal Tekin, American University

O**n the phone:**
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Elaine Shen, Program Supervisor
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INTERESTED PARTIES
Sue Gornick, Western States Petroleum Association
Peter Herzog, NAOIP, Commercial Real Estate Development Association
Bill LaMarr, California Small Business Alliance
Julia Lester, Ramboll Environ
Scott Weaver, Environmental Resources Management (ERM)

APPENDIX A: Comments Submitted after the Meeting

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DATE: December 11, 2015

TO: Socioeconomic Assessment Team and Jin

FROM: Stephen Levy

SUBJECT: Notes on the December 10, 2015 Meeting

1. Thanks for encouraging me to come down. I could get a feel for the room and what is going on that is much harder to grasp on the phone.

2. The socioeconomic assessment deals with two different kinds of impacts—1) aggregate/regionwide impacts and 2) distributional impacts. The first set is covered in your outline points II, III and IV a and b. The second set is covered in points IV c and d, V and VI.

In my opinion it is very important that readers understand the differences, why each set of impacts is studied and the actionable results from each set of analyses. I would make this a major topic in the Executive Summary and offer to help draft language.

My sense of the room and the ongoing concerns of stakeholders is that they are virtually all about distribution—my industry, my neighborhood, my ethnic group. And they are all basically complaints about the impact of the AQMO on them.

I have a couple of thoughts here. One, I wonder how many of these issues are about specific rules rather than the AQMP and are better handled in that context. Two, my understanding is that the District studies these issues to design mitigation policies or, perhaps, to adjust specific rules, not to undermine or weaken the AQMP.

The outline, which I like a lot, does emphasize the primacy of aggregate impacts by placing these first in order of the chapter.

While negative neighborhood impacts are not the intent of the AQMP, industry changes (relative to pollutants and GHG) are intentional.

3. The baseline forecast remains a tricky issue. In point of fact, I developed the framework well in advance of knowing anything about the 2016 RTP/SCS or AQMP. So it could be argued that I/SCAG staff assumed reasonable progress on all of these plans (we did) or that all of them are new. But I think it is a stretch to say that the RTP/SCS are in the baseline but the AQMP is not.

At this point I am the only one who knows what I assumed.

Frank and I have been in general agreement on this point for this and previous rounds and it also affects the job analysis SCAG conducts on the RTP—are these additional impacts or included in the baseline (our usual position).

To put this in understandable terms, I assume that the region will retain existing competitiveness or increase it as that is what past plans assume. We need to work hard to achieve the job gains forecast by SCAG—all SCAG documents assert that.

I understand Jin and your point about the legal definition of the baseline but there are nuances we still should be discussing so there is no confusion.

4. I am not a health expert but as a lay member on this issue, I was very impressed by Henry Roman's teams work.

5. The unemployment/health analysis does not make sense to me in the AQMP context. Whatever the results, the REMI model assumptions assure that the AQMP does not change the unemployment rate. So both in theory/Tekin's result and by virtue of the REMO methodology there is no connection between air quality impacts of the AQMP and unemployment. I would do three things—1) put this either nowhere or in an appendix and 2) explain why you did this since it was not an ABT recommendation and 3) be very sympathetic to the plight of people who experience involuntary unemployment. I welcome Jin's comments/

6. I am very interested in outline point I d about historical trends. I think you have found a way to describe the progress without broaching the trickier issue of cumulative benefits.

I am really interested in whether there is historical data in air quality measures in EJ neighborhoods.

There is also fertile ground in outline point VIII a to bring in the history.

7. It looks to me like improvements in the small business analyses are for the next round—outline point VIII c. This may be worth discussing and making a pledge in the report.
8. I need to better understand the point made in the meeting that meeting CARB requirements that raise costs is somehow different from the RTP in whether it is external to the AQMP or part of the 2016 AQMP. I did not understand/accept the answer given in the meeting. I also need to be briefed on whether there are/will be substantially higher compliance costs in the 2016 AQMP and why.

9. You have and will have a number of analyses that include ranges. This is tricky to handle as Henry mentioned and can provide a range so large as to be unhelpful. We all will have to think about how to handle the multiple ranges and areas of uncertainty.

10. The two points I made from the last socioeconomic analysis—

--show a consistent and complete set of years and year ranges

--show percent changes as well as absolute changes

The implication is that it is good to have an explanation of how to interpret % changes that are less than 1%--some approximation to statistical significance.

11. I need to better understand the amenity issue since it also appears in a SCAG analysis of the economic impacts of the RTP. One issue that is true but is nearly impossible to handle and is rarely discussed is that amenities, the RTP/SCS and AQMP must be measured relative to other areas. It is simply wrong to assume that no other area is working on air quality or transportation or sustainable communities and any analysis of competitiveness that does not address what others are doing is not credible in my opinion.