

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
(415) 749-5000

APPROVED MINUTES

Advisory Council Regular Meeting
9:00 a.m., Wednesday, September 9, 2009

CALL TO ORDER

Opening Comment: Chairperson Brazil called the meeting to order at 9:18 a.m.

Roll Call: Chairperson Harold Brazil; Vice Chairperson Jeffrey Bramlett; Secretary Ken Blonski; Council Members, Jennifer Bard, Benjamin Bolles, Robert Bornstein, Ph.D., Emily Drennen, MPA, Stan Hayes, John Holtzclaw, Ph.D., Robert Huang, Ph.D., Kraig Kurucz, M.S., Rosanna Lerma, Karen Licavoli-Farnkopf, Jane Martin, Dr.Ph.H., Kendal Oku, Neal Osborne, Jonathan Ruel, Dorothy Vura-Weis, M.D., M.P.H.

Absent: Louise Bedsworth, Ph.D. and Sarah Martin-Anderson, M.P.P.

Public Comment Period: There were no public comments.

Consent Calendar:

1. Approval of Minutes of the July 8, 2009 Advisory Council Meeting

Dr. Holtzclaw requested minor amendments to the minutes, as follows:

- Page 5, 6th paragraph, add to last sentence: “...way of doing it, and agreed to draft a report on Mayor Penaosa’s talk to be used as a footnote.”
- Page 7, 3rd paragraph, amend 2nd sentence: “...”educating” to ~~with~~ “informing.”

Advisory Council Action: Member Holtzclaw made a motion to approve the minutes of July 8, 2009, as amended; Member Oku seconded the motion; unanimously carried without objection.

2. Discussion of Revised Draft Report on the Advisory Council’s May 13, 2009 Meeting on California’s 2050 GHG emission reduction target of 80% below 1990 levels – transportation sector.

The Advisory Council Members discussed the process of finalizing the Revised Draft Report. After some discussion, members unanimously agreed to first hold discussion on the Draft Report’s recommendations section. The following additions and deletions were made to the Revised Draft Report (as outlined by underlining/bold (additions) and strike-outs (deletions):

REVISED DRAFT REPORT ON THE MAY 13, 2009 ADVISORY COUNCIL MEETING ON CALIFORNIA'S 2050 GHG EMISSION REDUCTION TARGET – TRANSPORTATION SECTOR FOR DISCUSSION BY THE ADVISORY COUNCIL AT THE SEPTEMBER 9, 2009 MEETING

SUMMARY

The following presentations were made at the May 13, 2009 Advisory Council Meeting on California's 2050 GHG emission reduction target of 80% below 1990 levels - transportation sector:

1. ***Regional Transportation Plan 2035: Change in Motion*** by Steve Heminger, Executive Director, Metropolitan Transportation Commission. Mr. Heminger received his bachelor's degree from Georgetown University and his master's degree from the University of Chicago. He has been appointed by House Speaker Nancy Pelosi to serve on the National Surface Transportation Policy and Revenue Study Commission, which will help chart the future course for the federal transportation program. In addition, Mr. Heminger is a member of the Board of Trustees for the Mineta Transportation Institute and the Board of Directors for the International Bridge, Tunnel and Turnpike Association.
2. ***Vehicle Technology & Travel Reduction*** by Dan Sperling, Professor of Civil Engineering and Environmental Science and Policy, ITS- Davis. Dr. Sperling was honored as a lifetime National Associate of the National Academies, is author or editor of 200 technical articles and 11 books, including *Two Billion Cars* (Oxford University Press, 2009). He has led ITS-Davis to international prominence by building strong partnerships with industry, government, and the environmental community, integrating interdisciplinary research and education programs, and connecting research with public outreach and education. Dr. Sperling is also the Automotive Related Member of the California Air Resources Board.
3. ***Land Use, Public Transit & Trip Reduction*** by Tom Radulovich, Vice Chairperson of BART's Planning, Public Affairs, Access and Legislation Committee. He serves as Vice Chairperson of the Regional Rail Committee and alternate for the Americans with Disabilities Act (ADA) Liaison Committee. He is a member of the Joint Development Liaison and San Francisco Transportation Authority Liaison Committees. Mr. Radulovich is also the Executive Director of Livable City, a non-profit organization whose mission is to create a balanced transportation system and promote complementary land use that supports a safer, healthier and more accessible San Francisco.

Goods Movement by John Boesel, the chief executive for CALSTART. After graduating from the University of California, Davis, in 1982, Mr. Boesel received his MBA from UC Berkeley in 1989. Immediately prior to joining CALSTART in 1993, he worked as an Environmental

Business consultant providing services to natural resource-based businesses and non-profit groups. Mr. Boesel began work as the Vice President of Programs for CALSTART and was promoted to President and the organization's chief executive position in the fall of 2001.

DISCUSSION MEETING

KEY POINTS

Based upon speakers, members of the public and Advisory Council discussion, below is a summary of the key points made by the four speakers.

1. Widespread and major GHG reductions will be required in California. Under AB32 (California’s *Global Warming Solutions Act of 2006*) and the Governor’s Executive Order S-3-05 (establishing greenhouse gas reduction targets for California), widespread and major reductions in statewide emissions of greenhouse gases (GHG) will be required. As shown in the table below, in 2004, California’s GHG emissions totaled 469 million metric tons (MMT), but unless steps are taken, by 2020, that total will rise by 27% to 595 MMT. AB32 requires that California’s GHG emissions be reduced to 1990 levels (425 MMT) by 2020. The Governor’s Executive Order S-3-05 set a further target of 80% below 1990 levels (85 MMT) by 2050. As shown in the table, to achieve those goals, GHG emissions in 2020 will have to be reduced by 170 MMT below 2020 business-as-usual (BAU) levels and by another 340 MMT by 2050. Put another way, achieving AB32’s 2050 goal will require net reductions in statewide emissions (510 MMT) over 2020 BAU that are more than all of the GHG emitted by California in 2004 (469 MMT). This means a 9% reduction from 2004 levels by 2020 and an 82% reduction by 2050.

Year	GHG Emissions (MMT)	GHG Reduction from 2020 BAU (MMT)	% Reduction from 2004
1990	425		
2004	469		
2020 – BAU	595		
2020 - AB32	425	170	-9%
2050 - 80% Below			
1990	85	510	-82%

2. Transportation is the largest and fastest growing contributor to GHG emissions in California. The transportation sector is the largest contributor to GHG emissions in California, accounting for 38% of the states’ GHG emissions in 2004. It is the fastest growing sector, with GHG emissions from transportation rising more rapidly than any other sector – up 120% between 1970 and 2004. At current rates, GHG emissions from transportation will increase by another 26% by 2020.
3. A large GHG “gap” exists between currently identified measures and California’s 2050 target. While hypothetical scenarios have been developed to examine what will be

required to achieve California's target of an 80% GHG reduction below 1990 levels by 2050, currently identified measures are not sufficient to achieve that target. A number of significant, new measures are needed to close the gap. These may include such measures as travel demand management (e.g., pricing incentives, zoning changes, expanded transit, HOV/HOT lanes), vehicle efficiency improvements, and major shifts from oil to lower-carbon fuels (e.g., biofuels, electricity, and hydrogen).

4. Transportation will have to be transformed. There is no clear, simple and obvious path to achieve California's 80% GHG reduction target by 2050. Rather, a major transformation of the entire transportation sector is necessary. Such transformation may be viewed as a "three-legged stool," in which we must transform vehicles ("easiest"), transform fuels (hard), and transform mobility (hardest).
 - a. Transforming fuels will require that we shift from near-total (96%) dependence on oil today to a broad mix of lower-carbon fuels in the future, including biofuels, hydrogen, and electricity. What the best mix of fuels will be is still unclear. All fuels have drawbacks, with some even worse than gasoline. Rather than attempting to pick "winners" in advance, a durable, performance- and market-based policy, such as a Low Carbon Fuel Standard, is needed.
 - b. Transforming vehicles will require that cars of the future be far more efficient and be powered mostly by electric drive. Key policies for such transformation include Pavley (AB1493) GHG standards for vehicles and ARB's Zero Emission Vehicle (ZEV) requirements. Plug-in Electric Vehicles (PHEV) are a promising technology and may succeed, but battery cost must drop sharply and durability increase. Vehicle efficiency (ton-mpg) has increased each year since the late-1980s, but fuel economy (mpg) has remained nearly the same, with fuel efficiency gains used to increase vehicle performance rather than to improve mileage. In the future, fuel efficiency increases must be converted into fuel economy gains.
 - c. Transforming mobility (and thus reducing VMT) will require us to address current land use policies and urban sprawl. Conventional transit currently serves only 2-1/2% of the VMT in the U.S. (although a higher percentage of trips). Expanded traveler choice is critical, with more walkable neighborhoods, expanded conventional transit, and new mobility options that include dynamic ridesharing, smart paratransit, carsharing, and NEVs. Passage of SB375 is a step in the right direction.
5. California's transportation GHG policy addresses all three of the above "stool legs." Vehicles are being addressed through light-duty vehicle GHG standards (Pavley I and II); the ARB's ZEV mandate + ZEV incentives ["ZEV" includes battery electric vehicles (BEV), plug-in hybrid electric vehicles (PHEV), and fuel cell vehicles (FCV)]; "feebates" (mixture of fees and rebates to shift costs and incentivize behavior changes); and truck technology (aerodynamic design of cabs and trailer skirts, hybridization of urban and short-haul trucks). Fuels are being addressed through the Low Carbon Fuel Standard. Mobility (VMT and goods movement) is being addressed by VMT reduction

via land use, transit and pricing (SB375) and such measures as low-emission requirements at ports, eco-driving, and tire inflation.

6. Mobility (VMT reduction) is the “stool leg” that is most amenable to local control. Important means available to local governments to reduce VMT include:

- a. Land use planning, including general plans and zoning requirements (e.g., where appropriate, consideration of allowing and encouraging the siting of markets and restaurants in residential areas, expansion of sidewalks, expanded use of traffic calming measures, reduction in local planning code parking requirements for new developments, modification of setback requirements, and relaxation of in-law unit prohibitions).
 - b. Implementation of SB375, which requires that ARB set regional targets for the purpose of reducing GHG emissions from automobiles and light-duty trucks by 2020 and 2035 and requires that regional transportation plans adopt a sustainable communities strategy designed to achieve regional GHG reduction targets.
 - c. Incentive pricing, including a carbon tax (viewed by speakers as preferable to a cap-and-trade program because of its greater economic efficiency), parking fees, unbundling of parking, high-occupancy toll (HOT) lanes, and bridge tolls (e.g., time-of-day pricing).
 - d. Grants, including merging of statewide funding pools (e.g., for air quality and GHG reduction) and revising agency grant scoring criteria to combine GHG reduction with other criteria (e.g., air district grant award scoring that combines air quality and GHG criteria).
7. Because the current ability of local transportation planning to effect significant additional reductions is limited, further GHG reductions from the transportation sector sufficient to reach California’s 2050 GHG reduction target will require strong new and innovative policy tools, breakthrough technological advances, major changes in public attitudes and behavior, and large increases in funding. The Metropolitan Transportation Commission’s Transportation 2035 (T2035) Plan includes a number of measures to improve traffic, expand rail, bus, and ferry service, establish new transit hubs, reduce roadway congestion, increase freeway performance through traffic operations systems and ramp metering, improve the efficiency of transit systems, establish a regional high-occupancy toll (HOT) network, and will invest in a Lifeline Transportation Program, a Regional Bicycle Network, and a Transportation for Livable Communities Program.

As shown in the table below, with respect to GHG emissions, MTC projects that ARB actions and implementation of the T2035 Plan will reduce CO₂ emissions from the transportation sector in the Bay Area by 35% over business-as-usual 2035 levels, compared with a 2035 objective of 57%. Almost all of these reductions (34%) are projected to result from measures adopted by ARB.

Year	Transportation CO ₂ (1,000 TPD)	Relative to 2005	Relative to 2035 BAU	Reduction from 2035 ARB
2005	90			
2035 BAU	116	29%		
2035 ARB	77	-14%	-34%	
2035 ARB + T2035	75	-17%	-35%	-3%
2035 ARB + T2035 + Land Use + Pricing	67	-26%	-42%	-13%
2035 Objective	50	-44%	-57%	-35%

Limited additional GHG reductions are projected to result from additional, locally-adopted measures, over a wide range of locally-based infrastructure, land use, and pricing policy options. This is due to a variety of factors that include the following:

- a. The Bay Area’s transportation infrastructure is aging and reaching limits to roadway infrastructure expansion. The T2035 Plan projects expenditures of \$218 billion by 2035. Of this, 81% will be required for maintenance and operations, with just 3% for roadway expansion, 14% for transit expansion, and 2% for bicycle, pedestrian, and other purposes.
- b. MTC projects that, by 2035, the Bay Area will have nearly 2 million more people, 1.8 million new jobs, a need for over 700,000 new homes, and a tripling of freight volumes. Commute distances and traffic congestion are expected by MTC to increase accordingly.
- c. Major shortfalls of as much as \$40 billion exist between highway, transit and local road repair needs and available funding. Moreover, significant transit operating deficits exist and are increasing, with routes and services overlapping among two dozen different transit operators.

MTC calculates that measures in the T2035 Plan will achieve a small additional reduction of about 1% in GHG emissions beyond ARB-adopted measures by 2035. Even with the most aggressive combination of additional local land use and pricing policies considered, MTC calculates that an additional reduction of only 10% would be achieved, still short of its 2035 objective.

There are no “silver bullets” available to address this shortfall. Because the current ability of local transportation planning to effect significant additional reductions is limited, further GHG reductions from the transportation sector sufficient to reach California’s 2050 GHG reduction target will require strong new and innovative policy tools, breakthrough technological advances, major changes in public attitudes and behavior, and large increases in funding.

8. Further GHG reductions could be achieved through transit and public planning measures that further reduce VMT. Additional VMT reductions might be accomplished in a

number of ways, including further expanded access to transit, further expansion and improvements in transit systems, further implementation of sustainable urban planning measures (e.g., livable/walkable/mixed-use communities), and closer proximity between residences and jobs. Such improvements might be accomplished through such measures as more transit-oriented development (TOD), more compact development (with its reduced infrastructure costs and savings on embedded energy/GHG costs), and parking reforms.

9. Major needs and opportunities for the Air District exist. Although significant, breakthrough technological advancements are needed, major changes in public attitude and behavior related to mobility and transit are also needed to achieve California's 2050 GHG target. While posing major challenges, this also presents major opportunities for the District:
 - a. There is an ongoing and important role for the District to continue its leadership in educating the public and other agencies about climate change and the co-benefits that exist between GHG reduction and air quality improvement, including the air quality benefits of livable communities, walking, biking and increased use of public transit, thus helping the public better understand the relationship between personal actions and air quality and climate protection, and proactive steps that can be taken to reduce our carbon footprints.
 - b. There is a need for continued District assistance and guidance, particularly in such areas as the development of GHG inventories for cities and others, recognizing and addressing the interactions between air quality and SB375 implementation, identification of GHG mitigation strategies and measures for cities, and integration of GHG and air quality considerations in CEQA guidance.
 - c. The District has an important role to play in working with the ARB in setting Bay Area regional GHG reduction targets under SB375 and in other aspects of its implementation.

EMERGING ISSUES

- Multi-pollutant planning that further integrates consideration of criteria pollutants, air toxics, and GHGs in the development and implementation of air quality plans.
- Large “gap” between currently available measures and what will be needed to meet California's GHG reduction target of 80% below 1990 levels by 2050.
- Need for, and the development of, measures to accomplish a major transformation of the transportation sector, including breakthrough technology advances and policy innovations to reduce the sector's carbon footprint.
- Interactions between air quality and climate protection measures, both synergistic and antagonistic.

- Setting of SB375 regional GHG targets for the Bay Area and the District's role in SB375 implementation.
- District's role in, and best techniques for, increasing public awareness and concern about air quality and climate protection.
- Need for, and possible mechanisms to achieve, significant and long-term increases in transportation funding, recognizing the large technology and funding gap that currently exists.
- Exploration of the role of innovative incentive policies (e.g., pricing) to reduce GHG emissions.

RECOMMENDATIONS

The Advisory Council recommendations are based on the presentations by the four speakers on May 13th and subsequent discussion among the Advisory Council members.

For the Bay Area to reach California's 2050 GHG reduction target, the District, MTC, and other responsible agencies will need to significantly expand multi-agency efforts to accomplish reductions in regional VMT. ~~Reaching California's 2050 GHG reduction target~~ **This** will require additional strong and innovative policy tools, significantly expanded funding, major changes in public attitudes and behavior, and ~~as appropriate,~~ use of a broad range of expanded policy measures (e.g., significant expansion of high-occupancy networks, innovative pricing and toll incentives, and major expansion in and increase in diversity of public transit and related options).

The District has taken an important and widely recognized leadership role in climate protection, **and we** strongly ~~endorse and~~ support those efforts, and we encourage the District to continue **and expand** them, **as follows:**

1. The District is commended for, and should continue, its efforts to provide assistance and guidance in the following areas:
 - a. Development of GHG emission inventories for the Bay Area and for communities requesting such assistance
 - b. **Encourage development and implementation of** ~~Consider requiring climate action plans by~~ **from cities and counties that include emission inventories and provide needed assistance**
 - c. Development and implementation of climate protection provisions in CEQA guidance
 - d. Development and distribution of a model climate protection element for community general plans

- e. Development and distribution of model provisions for community climate action plans
 - f. Development and distribution of educational materials regarding such topics as climate protection, the benefits of livable and sustainable communities, and the relationship between personal actions and GHG reduction
 - g. ~~Possible~~—Establishment of a climate-related Spare-the-Air-Everyday outreach program.
2. The District should implement an integrated multi-pollutant planning strategy that ~~includes and~~ considers criteria pollutants, air toxics, and GHGs in the development of all **air quality management non-attainment** plans. (NAPs).
3. The District should play a major role in the implementation of SB375, including the following:
- a. Working closely with ARB in the setting of Bay Area GHG reduction targets
 - b. **Supporting ambitious regional GHG reduction targets through the Joint Policy Committee to ensure a departure from “business as usual” approach to planning**
 - c. Identification and description of key interactions among measures taken to improve air quality and climate protection, particularly the relationship of regional GHG reduction targets to the District’s clean air plans
 - d. **Providing** technical support in the apportionment of regional GHG reduction targets among cities and other entities
 - e. Identification and relative comparison of alternative GHG mitigation strategies and measures for attaining SB375 targets
 - f. **Exploration and development of policies and programs, including securing any necessary legislative authority, to expeditiously achieve significant reduction in employer-related vehicle miles traveled, including employers developing transportation demand management plans**
 - g. Creation of evaluation or accountability standards once GHG targets are adopted.
4. **The District has focused attention and resources on the differential impact of air pollution on vulnerable populations and the most heavily impacted communities. In addressing GHG reductions, the District should continue this focus by evaluating the financial and quality of life impact of its policies and activities on these vulnerable populations.**

5. **The District should support such measures as pay as you go insurance, establishment of a VMT fee or a gasoline tax in the Bay Area to achieve GHG and criteria pollutant and air toxics reductions goals.**
6. The District should continue its efforts to integrate air quality and climate protection into its evaluation and funding of grant applications. ~~If needed,~~ The District should also support the statewide merging of funding pools for air quality and climate protection grant programs.
7. The District should continue to work closely and actively with other agencies such as MTC and ABAG in the joint development and implementation of climate protection programs, including the future regional transportation plan's Sustainable Communities provisions **and also continue working with CARB, Caltrans, California Energy Commission, and other state agencies in the development of GHG and criteria pollutant reduction strategies.**
8. **The District should** encourage the Joint Policy Committee and MTC to develop specific and empirically justified HOT lane policies regarding induced VMT, air quality impacts, construction and operating costs, use of toll monies for system expansion versus transit, and equity issues.
9. The District should **prepare a annual or biennial report** ~~evaluation and ranking~~ of Bay Area cities and counties on the basis of criteria, such ~~metrics~~ as:
 - a. Improvements in residential per capita GHG emissions **and commercial/industrial per employee GHG emissions, and**
 - ~~b. Commercial/industrial per employee GHG emissions, and~~
 - b. Enactment and implementation of planning policies and measures to reduce GHG emissions.

Advisory Council Action: Member Vura-Weis made a motion to approve the Draft Revised Report, as amended; Member Holtzclaw seconded the motion; unanimously approved.

Chair Brazil and members thanked the subcommittee group for meeting and working on finalizing the Revised Draft Report.

3. Change Date for the November, 2009 Meeting of the Advisory Council

Advisory Council Action: Member Licavoli-Farnkopf made a motion to schedule the November Advisory Council meeting on November 10, 2009; Dr. Vura-Weis seconded the motion, which carried unanimously.

OTHER BUSINESS

4. Council Member Comments/Other Business

Member Bard asked that Advisory Council Members submit letters to MTC's decision regarding reallocation of some funds in the T2035 Plan to front-load the Freeway Performance Initiative, stating monies would be taken away from transportation, climate action plans and others which are contained in the Air District's Clean Air Plan.

Member Bolles suggested District staff invite speakers both pro and con on symposium topics. Director of Technical Services, Gary Kendall, noted the presence of such diversity at the prior transportation symposium, as well as diverse speakers at the upcoming industry sector symposium.

Deputy APCO, Jean Roggenkamp, announced that the Board of Directors would be considering Administrative Code changes affecting the Advisory Council regarding the number of topic and discussion meetings per year.

5. Time and Place of Next Meeting: 9:00 a.m. Wednesday, November 10, 2009, 939 Ellis Street, San Francisco, CA 94109

6. Adjournment: The meeting adjourned at 12:02 a.m.

/s/ Lisa Harper
Clerk of the Boards