

Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, California 94109

APPROVED MINUTES

Air Quality Planning Committee  
9:30 a.m., Thursday, February 7, 2008

1. **Call to Order:** Chairperson Drennen called the meeting to order at 9:35 a.m.

**Roll Call:** Emily Drennen, Chairperson, Ken Blonski, Harold Brazil, Irvin Dawid, and John Holtzclaw, Ph.D.

**Absent:** William Hanna, Robert Huang, Ph.D., Kraig Kurucz, and Kendal Oku.

2. **Public Comment Period.** There were none.

3. **Approval of Minutes of October 10, 2007:** Mr. Blonski commented that the minutes were exceptionally well done. Dr. Holtzclaw moved to approve the minutes, Mr. Dawid seconded. Chair Drennen called for approval and the draft minutes were approved unanimously.

4. **Impact of MTC's Regional Transportation Plan (RTP) on State and Regional Climate Protection Efforts:** the *Committee received presentations by Raymond Kan, MTC Planner and Harold Brazil, MTC Air Quality Planner Analyst on MTC's RTP.*

Mr. Kan provided an overview of the RTP, the 25-year transportation planning document for the Bay Area. It is anticipated this plan will be adopted by the MTC and the Board of Directors' Joint Policy Committee in February 2009.

Mr. Kan presented slides, reflecting the plan's core elements and noted the plan's performance objectives, including:

- CO<sub>2</sub> reduction
- Particulate matter reduction
- Congestion reduction delay
- VMT reduction
- Affordability

The Scenario Analysis exercise concluded that closing the gap will require a combination of:

- Infrastructure
- Pricing
- Land use
- Technology
- Individual behavioral change

The vision-scenario exercise was presented to the public in October, at the fall summit.

Performance objectives were expanded from the targets in the 2005 plan “Transportation 2030” to include Maintenance and Safety. Measures addressing road pavement conditions, highway conditions, transit asset conditions, as well as several measures on collisions and fatalities, involving vehicles, pedestrians and bicycles, were added.

Mr. Kan informed the Committee that no recommendation of a performance objective for Security had been made. It was noted that the target to reduce the percentage of household income spent on transportation and land use by 10% from today’s levels, was mistakenly omitted from the presentation. A new target was added: the number of low-income households within walking distances of enhanced and expanded transit service; walking distance was estimated to be between one quarter and one half mile.

Mr. Kan stated the final set of performance objectives are for Clean Air and Climate Protection goals: a 10% reduction in vehicle miles traveled (VMT) from today’s levels and a reduction of particulate matter (PM). Mr. Hilken elaborated on the background for the PM<sub>10</sub> and the PM<sub>2.5</sub> standards that were suggested to the MTC and discussion regarding reduction standards ensued.

Mr. Kan stated the intention of using the performance objectives to validate projects going to the RTP and to measure future progress toward the MTC’s goals and objectives. With regard to a qualitative track, draft vision policy strategies were to be given to the Commission’s Planning Committee meeting the following morning for initial review.

Discussion ensued regarding stabilized population versus growth and interregional trips, as well as consideration of those and other factors in making projections. Mr. Brazil provided a brief description of travel demand models. Dr. Holtzclaw expanded with a further description of the modeling process with regard to economics, jobs, households, and regional accommodation based on factors from outside of the region.

Mr. Kan stated the timeline for the Vision Policy Strategies (VPS) as follows: after review February 8 by the MTC’s Planning Committee, the VPS would then go on to the Board of Directors’ Joint Policy Committee for review the following week. The VPS will then go to the Partnership Board later in February and it is anticipated that the VPS policies will be adopted by the Commission in mid-March. The MTC is looking forward to having a final draft of a financially constrained investment plan by July; per federal regulations the RTP must be financially constrained.

Mr. Kan and Mr. Brazil answered committee members’ questions regarding transportation projects, plan updates and the concept of security coming from the federal definition, in terms of terrorist attacks, rather than accidents.

*Mr. Brazil’s presentation “Long Range Transportation Planning Scenarios to Achieve Greenhouse Gas Emission Targets” began.*

Mr. Brazil provided an overview to his slide presentation along with a legislative background. Major climate change initiatives and recent court cases were noted,

- Assembly Bill 1493 (Pavley, 2002)

- 2005 Governor Schwarzenegger's Executive Order S-3-05
- Global Warming Solutions Act of 2006 (AB32)
- Mass. v. USEPA, US Supreme Court, Apr. 2007
- Chrysler-Jeep v. CARB, US District Court (Fresno), Dec. 2007
- USEPA Denial of California's waiver, Dec. 2007
- California v. USEPA, US Court of Appeals, Jan. 2008 (9<sup>th</sup> District, San Francisco)

Predictions and projections from ABAG for the years 2006-2035 were enumerated:

- 25% increase in population in the region.
- 30% increase in VMT
- 50% growth in jobs.

A discussion of the effects of growth in the Central Valley ensued, and the suggestion to begin providing data on the growth of areas surrounding the region was made.

Mr. Brazil reviewed the three principles introduced in Mr. Kan's presentation: Economy, Environment, and Equity. Principles by which the strategies, as well as the environmental performance targets, were established, Mr. Brazil gave an explanation of how the targets were determined. There was a brief discussion about the difficulty of reaching the targets and about the emission sources, mobile and stationary.

Mr. Hilken clarified, when these targets were suggested to MTC, it was assumed that equivalent reductions from all source categories would be needed, not more or less from transportation, stationary sources or area sources. The targets discussed represented what is needed from transportation; similar reductions from wood smoke, from industry, and across the board would also be needed.

Mr. Brazil added that, although on-road goods movement represents a small percentage of the VMT, they contribute a much larger percent to the emission inventory than passenger fleet. Mr. Dawid noted that the ARB is on the verge of passing two truck rules, one for drayage and one the on-road truck rule. It is anticipated their passage will have a great effect on this number.

Mr. Brazil continued, giving numbers on emission trends and targets. In 2006 it was estimated that, per capita, people would use approximately one and a quarter gallons of gasoline per day in 2006 in the baseline situation. To get to the 2035 target, use would need to decrease to six-tenths of a gallon per person per day. In the baseline 2035 situation, the same amount of gasoline would be used, a little less, than 2006, i.e. approximately 1.1, 1.2 gallons of gas per person, in 2035 in the baseline condition. The baseline is almost twice as much as what the target is for CO<sub>2</sub>. The regional travel demand model was used to put together these figures. Ms. Drennen asked whether the estimation was based on fuel efficiency. Mr. Brazil replied that it is based on the target, and pointed out that the target is set without taking into account what strategy is used to get there.

In response to Dr. Holtzclaw's question regarding the target in gallons per day, Mr. Brazil state, 0.68 gallons per day, per person in the region.

Ms. Drennen asked if 0.68 gallons per day could be achieved, doing nothing else but fuel efficiency. Mr. Brazil explained that, in addition to the travel demand model, EMFAC [California Air Resources Board's latest model for determining motor vehicle emission, EMFAC2007] was also used. EMFAC doesn't currently take into account the Pavley standards for CO<sub>2</sub>, so ARB has a separate off-model spreadsheet that is used to draw from EMFAC, and calculate proposed reductions from Pavley being in place in 2030, 2035. In this case it was 2035, so that calculation had to be made separately.

Mr. Brazil explained further that owing to Pavley not being law yet, in addition to time constraints, the MTC was unable to provide what are likely to become accurate figures.

Mr. Brazil described policy changes: the Land Use Sensitivity Analysis comprised the land use changes, redistribution of employment growth, and residential use, with an attempt to locate it near transit hubs. Pricing Sensitivity Analysis comprises the carbon tax, congestion fee of twenty five cents per mile, and increased parking charges, which effectively double the cost of driving to discourage vehicle use.

Mr. Brazil outlined the following investment scenarios:

- The Freeway Performance Initiative (FPI), a combination of
  - ramp metering on the entire freeway system in the region
  - more signal coordination on the arterial streets
  - improved incident management
- The HOT lane and express bus scenario that increases to 760 total lanes of HOT lanes in the region - an 82% increase in bus-service hours for the local and express buses.
- The Regional Rail adds
  - six water-transit routes
  - an expansion of the existing rail network
  - high-speed rail

Telecommuting was also included later on, and that represented a ten percent reduction in the number of work trips, based on what had been happening in Marin County. Because of time constraints, telecommuting was not run on the base-case scenario, nor was it run on the ferry/regional rail scenario; only HOT lanes were added.

Mr. Brazil then explained the modeling exercise, the process used to run the scenarios on machines at MTC and the time constraining factors determining the type of investment scenarios explored.

Continuing, Mr. Brazil presented the table "Vehicle Miles Traveled (VMT) by Alternative", which measured in thousands of miles per day the potential outcomes of Investment Scenarios combined with Policy Changes. As an example, the Freeway Performance alternative for the baseline investment box or cell, showed an actual increase in VMT. This was due to freeway enhancement and congestion reduction attracting more travel, and putting more cars on the road – in the baseline condition. The next slide showed VMT per capita. There is an increase in VMT in that FPI baseline box due to a large increase in speed. With FPI, as travel speeds increase, travel time decreases, therefore there is more VMT.

Ms. Drennen asked about modeling with transit speeds. Mr. Brazil replied that speed is taken into account using the travel demand process and the mode-split step.

Mr. Kan commented that the really new element in all three scenarios is the express and local bus component. This component was developed with the region's present operators last year. The size of the region's bus fleet was essentially doubled, and by assuming transit priority measures the running speeds on a lot of routes also improved.

Dr. Holtzclaw asked whether an analysis including both the regional rail improvements and the express and local bus had been made, as a decrease in the amount of VMT will end up increasing the bus speeds. Mr. Kan responded, he would have loved to develop a hybrid scenario, but could not, given time constraints. Mr. Blonski asked whether an optimization model exists. Mr. Brazil responded they have to feed the model the alternative itself. It does not take different combinations and recommend you do it in a particular way.

Introducing the CO<sub>2</sub> Emission Results table Mr. Brazil noted that the two alternatives circled at the bottom do the best, but added that those two alternatives are still over fifty percent over the 40% CO<sub>2</sub> reduction target. The target table is in straight numbers, there is no multiplier applied to the targets table. For the CO<sub>2</sub> emissions table, the multiplier is one thousand.

Dr. Holtzclaw observed that the results are just in terms of VMT. There are also café standards or decreasing the emissions per car by making each vehicle more efficient. And there are also fuel changes: changing to less emitting fuels, like plug-in hybrids, et al.

Mr. Brazil stated that it does take into account Pavley. But the other technology changes with cars like plug-in hybrids, and low carbon fuels, that type of thing – that's not included. But Pavley is. It's actually the *old* Pavley now, because ARB has a new Pavley, Phase II, which was not available at the time the analysis was made. The numbers presented reflect *old* Pavley.

In response to Dr. Holtzclaw's question about "old Pavley", Mr. Brazil explained that it is, basically, an eighteen percent reduction in CO<sub>2</sub> or greenhouse gas emissions in 2020, and a possible twenty-seven percent reduction in 2030. The Pavley Phase II is a small increase from that, but was not included in the estimates. It did not become available until the beginning of the year.

Ms. Drennen asked whether the results of the columns were additive. Mr. Brazil replied that the results are not additive, unfortunately.

Mr. Brazil continued, with the PM<sub>2.5</sub> Emission Results table, and noted that the best two alternatives are still over 25% over our target. Then for the PM<sub>10</sub> target, the results are still over 120% over targets, in the *best* two alternatives. The PM<sub>10</sub> targets are very aggressive. To demonstrate what it would take to reach targets, Mr. Brazil presented a table with various combinations of alternatives: gas-powered, electric, plug-in hybrid, and hydrogen fuel cell and the percent fuel economy improvement that would be needed under each scenario.

Mr. Blonski asked whether it is possible to translate the increase in fuel efficiency needed to achieve this improvement into a miles-per-gallon figure for (Pavley-consistent) gasoline-

powered vehicles. Mr. Brazil replied that the fuel economy number was something over 50 miles per gallon for all of the vehicles.

Mr. Brazil explained that the spreadsheet tool from ARB just applies those Pavley reductions for those model years and estimates those reductions for whatever analysis you want to look at. The full effect of Pavley will only be felt near 2035, as more cars will be running under the Pavley standards then.

Dr. Holtzclaw asked questions regarding the Alternative Fuel Scenarios for Attaining CO<sub>2</sub> Target table. Mr. Brazil affirmed that putting the information together concisely was not easy. Other interfaces were attempted; however they did not succeed in taking into account the strategies drawn from the vision scenarios. Because all of scenarios are short of the CO<sub>2</sub> target, all of the attainment measures in the table represent the HOT lane/express bus/telecommuting scenario.

In reference to the Alternative Fuel Scenarios table, Mr. Brazil observed that plug-in hybrids appeared to be the best way to approach the needed reductions. Ms. Drennen asked if electric cars would not be better than a plug-in hybrid. Mr. Brazil responded that, of the two, the technology that can get on the road sooner and touch more households is the plug-in hybrid.

Concluding the presentation, Mr. Brazil noted that there is no single “silver bullet” solution, and that an integrated strategy including the following will be needed:

- Pricing in the near term
- Land use changes in the longer term
- Changes in attitude and behavior for transportation
- Technology help

Regarding future work, Mr. Brazil showed a map of the region and its range of CO<sub>2</sub> emissions, along with a summary of items to be worked on and completed going forward. Included were

- Meeting with ARB for additional guidance on using the spreadsheet tool to estimate the impacts from Pavley.
- Individual project analyses
- All-emissions calculations done for individual projects
- Environmental impact report (EIR) for CEQA
- History of the CO<sub>2</sub> footprint map
- Providing baseline VMT data to assist local communities in developing greenhouse gas inventories
- Using the travel demand model to project VMT into the future

Ms. Drennen inquired whether the most efficient method of spending regional dollars would be additional investment in the dark green area (lowest emissions per household) or additional investment in the red areas (highest emissions per household). Ms. Drennen ventured that, from a San Francisco perspective, one might get more CO<sub>2</sub> reductions if more money was spent in places that already have the infrastructure to do that, and asked if there is an overall answer to that question. Mr. Kan responded, no geographic cost/benefit analysis

had been made, however he felt that the planned project evaluation work might shed some light.

Mrs. Drennen asked Mr. Blonski to lead off with questions for the presenters.

Mr. Blonski asked whether the CO<sub>2</sub> footprint map information solely reflects households. Mr. Brazil responded that it *is* only households, and expanded on the subject of home-based VMT, where one CO<sub>2</sub> emission factor was applied to this VMT number for each zone. Non-home based VMT is not reflected in the map.

Mr. Blonski asked what a stereotypical household in the dark green would look like, versus the dark red, to account for such a difference. Mr. Brazil responded with the example of Antioch in the red area in the east; more affordable housing for families, families who tend to work in the inner urban areas like in Oakland and San Francisco. These are persons commuting every day. Mr. Brazil further noted that the red is always on the outside of the inner urban area, where there is a lot of suburban-type development, and those people are driving in, everyday. Whereas, in the green areas, Mr. Brazil used himself as an example; living in El Cerrito, directly across from San Francisco, and riding BART everyday. Mr. Blonski observed that it reflected lifestyle to some degree. Mr. Brazil pointed out that another driver for that amount of VMT is household income, and autos available, remarking that if people have more income, they have cars – they drive. Ms. Drennen added that in green areas people would also take a lot more non-commute trips by transit, whereas, in Antioch, one might need to drive to the Wal-Mart and back, to school and back, etc. as opposed to walking or taking transit.

Mr. Hilken emphasized that map represents only one part of our CO<sub>2</sub> footprint. Dr. Holtzclaw commented that he liked the map, noting that it shows, for instance, the influence of BART, the influence of Caltrain, as well as the influence of good buses. I think it's really a map that gets you and makes the point.

Mr. Brazil reminded the Committee of the availability of the map and the presentations, and pointed out the website URL:

[http://www.mtc.ca.gov/plannin/2035\\_plan/tech\\_report.htm](http://www.mtc.ca.gov/plannin/2035_plan/tech_report.htm)

located on the last slide, which has links to the first line technical data summary, and all of the excel tables included in the presentation.

Mr. Kan presented the final slide of his presentation, regarding the call for projects. Partners, congestion management agencies, transit operators, and members of the public, were asked to coordinate the project submittals by March 5<sup>th</sup>. One of the ideas would be possibly working with the Air District i.e., Henry Hilken and his staff to develop a Regional Climate Protection Program or Campaign. Potentially this climate protection program or campaign could comprise a Spare-the Air/Free Transit transition program; it might include some form of retrofitting, drayage trucks and replacing them at the ports; and it might also include a public education campaign. These ideas will be refined over the next month with the Air District.

In response to a question from Ms. Drennen about the transition program, Mr. Kan replied that the program would conceivably be a transition of the Spare the Air/Free Transit program, moving the focus on ozone precursors towards a more climate change/CO<sub>2</sub>-oriented program. Mr. Hilken added that the District and MTC have talked for many years about the Spare the Air program, and had this year begun transitioning to “clean air choices 365 days a year.” Mr. Hilken stated there will always be Spare the Air days on the hottest smoggiest summer days, when people will be asked to drive less, and not use lighter fluid, etc. There is good name-recognition for the Spare the Air program, it could be transitioned to lifestyle decisions, and having people think about their personal behavior and how they can improve air quality and reduce greenhouse gas emissions 365 days a year. Mr. Kan concluded by reiterating the call for projects deadline, and stated he and Mr. Brazil would take questions.

Mr. Blonski thanked both Mr. Brazil and Mr. Kan for the interesting presentations. Ms. Drennen concurred, especially thanking Mr. Brazil for double duty as a Council member and as a presenter. In response to a question from Ms. Drennen about transit cost reduction/free transit as part of pricing sensitivity, Mr. Kan replied that although at one point having free transit as part of the vision scenario was considered, it was decided against in favor of increasing the cost of driving five times. Through the Spare the Air a free transit program on a per day basis could be extrapolated to 365 days in a year to determine costs. Ms. Drennen observed that administrative overhead costs would be reduced, as there would be no costs for the collection of transit fares; Mr. Kan concurred.

Ms. Drennen replied that she would be interested in seeing a number from MTC for the cost of free transit. Mr. Kan replied that he would try to forward a number to Ms. Drennen. In response to a question from Mr. Blonski, Mr. Kan was unable to recall why MTC decided against free transit as a scenario, but added that increased driving costs had been focused upon. Mr. Blonski offered a carrot and stick analogy, to which Mr. Kan responded that, in a sense, with the HOT bus and regional Rail & Ferry scenarios, the infrastructure is the carrot, and the pricing on the roadside, the stick.

Dr. Holtzclaw opined that the importance of the map from Mr. Brazil’s presentation is that it shows the difference in density, transit infrastructure, and road infrastructure, on influencing lifestyle changes. Rather than people in Berkeley or San Francisco being more concerned about CO<sub>2</sub> or emissions [than people living in outlying yellow and red zones], the infrastructure in those areas simply makes it easier for them; gives those people more alternatives and actually makes it harder to drive. Dr. Holtzclaw felt that because in those [green] areas driving is more expensive, parking scarce, and congestion maybe worse; lifestyle changes in some respects are encouraged or *required*.

In response to a question from Mr. Dawid, Mr. Kan stated that the RTP is going to be adopted in February 2009. Discussion ensued regarding the model, and Mr. Brazil indicated a new tool would be needed to enter the new Pavley standards, along with guidance from ARB regarding fuel economy assumptions employed in travel demand modeling.

Mr. Hilken emphasized that, with the very aggressive targets for PM and CO<sub>2</sub>, the best investment, of the three different alternatives – rail/ferry, HOT lanes, and freeway performance – the best one only moves so far toward the target. Mr. Hilken agreed the pricing scenarios are speculative, hypothetical; however, because the targets are so aggressive, the MTC is making a case to build public support, or at least putting the



information out there for the public to think about what more might need to be done with pricing and land use, if these targets are going to be achieved.

Ms. Drennen commented, I wanted to take our next step, something new this year, which is “what does this matter to us?” or what impact can this committee have with the information we just got? Mr. Brazil recalled a transportation land use and climate change discussion at the retreat, and suggested perhaps Mr. Dawid could recommend applications for this information. Ms. Drennen proposed as a topic for the Committee’s next meeting, transit funding - both currently and in the RTP - and how the Air District supports it, citing MUNI’s ability to present their recent blue ribbon panel findings on innovative transit funding opportunities. Dr. Holtzclaw suggested the Committee look at the Keogh [?] Plan for New York City, an analysis of funding free transit with increased congestion fees.

Mr. Dawid distributed a draft resolution; all individuals present received a copy. Mr. Dawid commented that he felt that Ms. Drennen’s proposed step of asking, “What do we do with this?” was crucial, and further opined that the purpose of the Advisory Council is to provide some professional advice to the Board, using the Council members’ backgrounds and presentations, the best example of which would be, most recently, the Wood Smoke resolution, which came from the Public Health Committee. Mr. Dawid suggested that what the Health Committee did to Wood Smoke, the Air Quality Planning Committee had the opportunity to do with the generic subject of this pricing new user fees that would go toward public transit.

Ms. Drennen requested from Mr. Kan and Mr. Brazil that the HOT Lane proposal in the RTP be given to all of the committee members, and declared a positive need for the Committee to know what is in the RTP for the HOT Lane issue.

Mr. Blonski recommended that the Committee synthesize out the “carrot and stick” approach, rather than take one particular stance, suggesting the best way to achieve this would be to examine that approach within the context of different programs studied by the Committee, and then bring some of the strategies to the Advisory Council in a synthesized manner, and to then encourage the District to embark on these strategies.

Mr. Hilken replied that in the Ozone Strategy, there are approximately twenty transportation control measures, each one of those having many sub-components, and there is one on pricing; there are a number of different pricing policy ideas. Congestion pricing is one of them. Congestion pricing has long been supported, in addition to other pricing strategies. It is difficult politically, but certainly something that the agency has worked with the MTC on and it is part of the long-range strategy to attain air quality standards. Another thing to be considered is the equity impacts of these pricing strategies. Mr. Hilken stated that analysis shows that that pricing will be an important part of reducing VMT and achieving air quality standards and greenhouse gas reductions; but asked, how do those pricing strategies affect low-income households?

Ms. Drennen asked Mr. Brazil if he had any thoughts, as a councilmember?

Mr. Brazil offered, as an example, the Committee could come up with a specific idea of how to use pricing scenario funds, and suggested that the Committee find ways to augment that,

and then develop a resolution or a position to take to the full Advisory Council, and to then have it advanced to the Board.

Ms. Drennen remarked on a lack of good policy with regards to congestion and the HOT Lane issue, as with the equity issue, and suggested that the Committee could play a significant role in developing policy around it, because of its relative newness as a concept.

Dr. Holtzclaw commented that committee members look at the issue from a technical point of view, then evaluate the equity and look at the models; if the models appear to be working right, a certain level of comfort can be extended from the Committee to the Board.

Mr. Dawid asked the Chair whether it would be permissible, prior to the Committee taking this action, to ask the Board of Directors if this is something worthwhile for the Committee to pursue. Ms. Drennen responded that she could ask the Advisory Council Chair to ask the Chair of the Board to find that out in advance.

**5. Committee Member Comments/Other Business.** *Chairperson Drennen asked the members if they have any comments or questions of staff or other business.*

Mr. Dawid commented that he saw “The Green Guzzler”, a Yahoo! employee shuttle, burning bio-diesel, and enjoyed seeing that.

In response to a question from Mr. Dawid regarding wood smoke refunds, Mr. Brazil replied that those funds were all gone. Mr. Dawid cited a February 4<sup>th</sup> newspaper item that reported on a \$325 rebate and permit fund being offered to residents in unincorporated Marin County if they replace old and polluting wood burning heaters, and commented that Marin County appeared to have leaped in front, in the Bay Area, in terms of wood smoke. To bring to the committee members’ attention that, while what the Air District is doing is great, individual counties can go far further, Mr. Dawid remarked on a new Marin County ordinance in which the use of wood burning appliances not certified by the U.S. EPA will be prohibited by July 1<sup>st</sup> of this year.

Dr. Holtzclaw thanked Harold and Raymond for excellent presentations and for their help and guidance in moving forward.

**6. Time and Place of Next Meeting.** 9:00 a.m., Thursday, April 3, 2008 – 939 Ellis Street, San Francisco, CA 94109.

**7. Adjournment.** 11:58 a.m.

*/s/ Jean Marie Mink*  
Temporary Executive Secretary