



February 19, 2003

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Mr. Michael Replogle
Environmental Defense
1875 Connecticut Avenue, NW
Suite 600
Washington, DC 20009

Dear Mr. Replogle:

At the TPB Travel Forecasting Subcommittee meeting of January 24, 2003 you distributed and discussed at length a letter dated January 22, 2003, in which you responded to my letter of November 20, 2002 concerning the performance of the TPB Version 2 Model. Since the COG/TPB staff had not seen your January 22, 2003 letter before it was distributed at the Subcommittee meeting, only general responses and comments were provided at the meeting by staff and subcommittee members. This letter provides more specific staff responses based on a review of the various points raised in your letter.

Traffic Assignment Feedback into Trip Distribution

In your January 22, 2003 letter you note that your earlier assertion that the COG/TPB Version 2 model "includes no feedback for non-work trips" was a "misstatement." You now assert that the Version 2 model "includes only weak distribution feedback for such trips" because such feedback is based on off peak travel times. Since almost two-thirds of non-work vehicle trips occur in the off-peak hours, COG/TPB staff believes that off-peak travel times are more appropriate for this feedback than, for example, the a.m. peak travel times recommended by Smart Mobility, Inc.

It is certainly the case, of course, that all trip purposes are distributed to some degree across the a.m. peak, p.m. peak, and off-peak travel periods represented in the model: not only do many non-work vehicle trips occur during the peak period, but almost one-third of work vehicle trips (for which feedback is based on a.m. peak travel times) occur in the off-peak period. COG/TPB staff will continue to compare the feedback aspect of the Version 2 model structure with proposals from research efforts and with procedures in production models currently in use by other metropolitan areas. As with all other aspects of the Version 2 travel model, if more refined procedures can be identified COG/TPB staff will incorporate them into the Version 2 model as expeditiously as possible.

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Use of Data from the National Personal Transportation Survey (NPTS)

COG/TPB staff members have explained at length why they do not recommend the use of the NPTS data as a means to develop or enhance a regional travel demand model, as appears to have been done by Smart Mobility, Inc. This explanation was provided at the November 15, 2002 Travel Forecasting Subcommittee meeting, included in the highlights of that meeting, and summarized in my letter to you of November 20, 2003. In your recent letter of January 22, 2003, you state that "it is my judgement that SMI's use of NPTS data is appropriate and reasonable in the current application". COG/TPB staff continues to disagree with your judgement on this issue, for the reasons provided earlier.

Model Validation

In your letter of January 22, 2003, you state that "permanent count station data---- as well as the many other sources of hourly traffic count data available across the region provide a statistically robust sample of major facilities across the region", and you imply that the TPB Version 2 model should be evaluated using those data. You note that COG/TPB staff and members of the TPB Travel Forecasting Subcommittee (many of whom are very familiar with these data sources) quickly dismissed this suggestion at the November 15, 2002 Travel Forecasting Subcommittee meeting. For reasons explained at that meeting and in detail in my letter of November 20, 2002, COG/TPB staff continues to disagree with your assertion that the available hourly count data provide a "statistically robust sample" for evaluating the Version 2 model. I indicated in my letter of November 20, 2002, that the COG/TPB model validation effort has focused on optimizing the performance of the Version 2 model across several different measures, many of which have not been reported for the Smart Mobility "enhanced model".

Relationship between Vehicle Travel Demand and Mobile Source Emissions

In response to the request in my November 20, 2002 letter for further explanation of your apparently inconsistent statements that the Version 2 model will "overestimate motor vehicle travel demand", "but lead to serious underestimation of mobile source emissions", you assert in your January 22, 2003 letter that you "stand by these statements and will explain the logic behind them". You then proceed to assert that the Version 2 model is likely to overestimate motor vehicle travel demand.

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COG/TPB staff's response to this assertion is provided in earlier sections of this letter and in my previous letter of November 20, 2002.

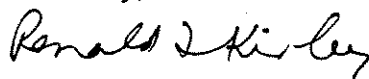
You assert specifically in your January 22, 2003 letter that the Version 2 model "is likely to overestimate the motor vehicle travel demand especially in the peak hour direction on congested highways". As you know the Version 2 model produces travel estimates of three periods of the day: a.m. peak, p.m. peak, and off-peak. The model does not produce travel volumes for the "peak hour direction", which you claim are over-estimated.

You proceed to assert that this "overestimation" by Version 2 "leads to large errors in the speeds of traffic on area highways, which in turn leads to significant errors in estimation of emissions, which are dependent in part on vehicle speeds". Emissions associated with the travel demand estimated by Version 2 are based not on speeds developed within Version 2 but on a mobile emissions post-processor, which distributes daily vehicular volumes on highway links by hour of day and takes into account the effects of travel speeds on VOC and NOx emissions. You make no mention of this post-processor in your January 22, 2003, letter, and consequently provide no explanation of how an overestimation of motor vehicle travel demand could be accompanied by a "serious underestimation of mobile source emissions". From the perspective of COG/TPB staff, these two apparently inconsistent statements remain unreconciled.

Provision of Smart Mobility "Enhanced Model" on CD-ROM

In my letter of November 20, 2002, I indicated that COG/TPB staff was interested in receiving the Smart Mobility "enhanced model" in order to assess the suitability of your recommendations for incorporation in the COG/TPB modeling process. While we recently receiving a set of CD-ROMs from Smart Mobility, Inc, we have been unable to read any of the information on these CD-ROMs. A transmittal memorandum dated January 31, 2003, indicates that the inputs and outputs of different model runs are provided on the CD-ROMs, but not the model code which COG/TPB staff would need to assess the performance of the model. I request that staff of Smart Mobility, Inc. contact Mark Moran of the COG/TPB staff to facilitate the transmittal of the appropriate information on the Smart Mobility "enhanced-model". Mr. Moran may be reached at (202) 962-3392 or at mmoran@mwcog.org.

Sincerely,



Ronald F. Kirby
Director, Department of
Transportation Planning