Dear Mr. Slater:

Thank you for your recent communication regarding travel forecasting issues in Honolulu. First, please note that Honolulu is currently in the midst of a planning alternatives analysis, the first phase in the project development process for a transit major capital investment. A planning alternatives analysis is primarily a local activity, with limited Federal Transit Administration oversight. If a proposed project moves forward in the project development process the level of FTA oversight will increase. The first detailed FTA review will occur if and when Honolulu submits a request to enter preliminary engineering. However, it is FTA's desire to work closely with New Starts project sponsors during the planning alternatives analysis to ensure that it results in the development of reliable information to support both the local decision on selection of a preferred alternative *and* FTA's decision to admit the preferred alternative into preliminary engineering. FTA therefore strongly encourages that the project sponsor submit the following study products as they are developed during the alternatives analysis study to facilitate FTA review of a subsequent request to enter into preliminary engineering:

- Scope of Work
- Problem Statement, Goals, and Objectives
- Definition of Alternatives
- Documentation of Study Assumptions and Methodologies
- Documentation of Study Results, particularly in terms of the estimated costs and benefits of the preferred alternative

Honolulu has submitted these study products. Further I have met, in Washington, with City and County of Honolulu Department of Transportation Services staff and consultants on three occasions, June 2005, April 2006 and October 2006 and have also had other conversations with Honolulu staff and consultants.

One focus of our discussions has been on the suitability of the OMPO travel forecasting models for use in a planning alternatives analysis and subsequent project development phases. At our meeting in June 2005 we discussed several investigations into the model set that would provide a better understanding of its capabilities. In particular we agreed that Honolulu would undertake a new on-board transit rider survey to provide information on current transit travel behavior and to serve as a benchmark to check the travel forecasting models. This survey was undertaken in December 2005 and January 2006. At our meeting in April 2006 we reviewed the results of the several investigations outlined in 2005.

The specific criticisms attached to your December 4 email address four issues which I will discuss in turn: the evaluation of the Honolulu Rapid Transit Development Project's Alternatives Analysis and Draft Environmental Impact Statement prepared by the Hawai'i Office of State Planning and the University of Hawai'i in May 1990; the reasonableness of the current AA's 2030 No Build transit forecast in comparison to current transit ridership; growth in transit ridership in other metropolitan areas; and the suggestion for a backcast using the current Honolulu travel forecasting models.

With respect to the comments quoted from members of the 1990 review panel, please be aware that the travel forecasting procedures used for the 1990 AA/DEIS, the 1992 SDEIS and the 1992 FEIS were substantially different from those of the current OMPO model set. The forecasts in the early 1990s used an incremental or "pivot-point" method for estimating transit ridership. This method starts with actual transit travel patterns (the 1985 On-Board Transit

Survey was used for the AA/DEIS, the 1991 On-Board Transit Survey was used for the SDEIS and FEIS) then considers the incremental changes for all key variables that influence transit ridership, including changes in population, households and employment, as well as changes in accessibility as reflected in the provision of transit service (bus routes and coverage, fares, headways, walk time, etc.). The incremental approach offers an advantage compared to "synthetic" estimates produced by conventional "4-step" travel forecasting models in that it has a firmer grounding in reality (with its tie to an on-board survey) and introduces potential error only in the projected marginal change in ridership. However it does rely on the use of growth factors to rescale current trip tables to reflect future levels of population and employment, as noted by Dr. Rutherford. The current OMPO models are a set of "best-practice" synthetic" models and do not rely on the growth factoring approach that was criticized previously.

With respect to forecast changes in transit ridership between current conditions and the 2030 No Build alternative, one suggestion that I made in the June 2005 meeting with Honolulu representatives was that they prepare a step-wise build-up of the 2030 No Build forecast, that is to separately look at the various factors that change between 2005 and 2030, including changes in transit service, changes in highway travel conditions, and changes in population, households and employment. I have not had an opportunity to review these results in detail, but a brief review of the "bottom line" numbers show that of the total growth in transit trips forecast between 2005 and 2030 about 6 percent of the growth is attributable to improvements in transit service, about 4 percent is attributable to changes (declines) in highway travel conditions, and about 90 percent is attributable to changes in population, households and employment. {Jim see stepwise.xls}

The growth attributable to changes in population, households and employment is nearly identical (very slightly less) than the change in estimated total person trips (summed across all modes) so it is correct to say that, in the aggregate, the forecast growth in transit trips tracks with overall growth in travel-making on the island. Whether this is reasonable requires investigation. An examination of the locational distribution of projected growth in resident transit trips {Jim see stepwise transit trips.xls} , excluding the effects of service changes, show some patterns that seem reasonable. For instance, about 35 percent of the growth in transit trips are for those trips with one or both ends in the central core of Honolulu, from Nu'uanu Stream to Waikīkī makai of H-1 {districts 1-4} . On the other hand, about 22 percent of the growth in transit trips occurs for those trips with both ends within the 'Ewa Development Plan Area {districts 11-13} which may be excessive.

Also, as a point of comparison, the recently completed on-board transit survey estimated average weekday unlinked trips at 236,600. Compared to 1995's 225,700 average weekday unlinked trips this represents 4.8% growth (from NTD, average of 1-Jul-1994 to 30-Jun-1995 NTD and 1-Jul-1995 to 30-Jun-1996 NTD), while Honolulu County population grew 2.7% in the same period (July 1, 1995 census estimate to July 1, 2005 census estimate).

With respect to your comments on growth in transit in other metropolitan areas, I believe that focusing at the regional level misses many of the benefits of transit. The recently released *Commuting in America III* report (NCHRP Report 550, TCRP Report 110) provides considerable discussion on the important role that transit plays in carrying trips within specific corridors and to Downtown areas. Corridor-specific effects are the appropriate focus of a planning alternatives analysis.

With respect to your suggestion for backcasting using the Honolulu model, such an exercise has occurred. The OMPO model was originally calibrated primarily using data from a Household

Interview Survey conducted in 1995. This year the model choice model constants were adjusted to provide consistency with the recent (December 2005–January 2006) on-board transit survey. This adjusted model was then applied for year 1995 conditions. Estimated transit boardings (unlinked transit trips) were 223,400. As noted above, estimated unlinked transit trips for calendar year 2005 from the National Transit Database were 225,700, a difference of only 1 percent.