From: Scheibe, Mark
To: Ronald.Fisher@dot.gov
CC: Hamayasu, Toru
Sent: 10/24/2007 1:30:32 PM
Subject: RE: Questions on AA results

Ron,

Responses noted below. Please let me know if you have any other questions.

Mark

Mark H. Scheibe

Senior Professional Associate

PB
American Savings Bank Tower
1001 Bishop Street, Suite 2400
Honolulu, HI 96813
Direct: 808-566-2227
Mobile: 808-221-1547
Fax: 808-528-2368
scheibe@pbworld.com

www.pbworld.com

From: Ronald.Fisher@dot.gov [mailto:Ronald.Fisher@dot.gov]
Sent: Monday, October 22, 2007 11:15 AM
To: Scheibe, Mark
Cc: thamayasu@honolulu.gov
Subject: Questions on AA results

Mark,
I finally read the AA and had a few questions. If you could answer these, it would give me a better understanding of some of the technical aspects of the study. They are:

- What is the utilization of each p&r lot in each alternative, i.e. have they been sized consistently to accommodate demand?

  The park-and-ride lots in each alternative have been sized to accommodate demand. The sizing methodology is based on a methodology used by Utah Transit Authority. It assumes auto occupancy of park-and-ride vehicles (1.05 persons per vehicle), turnover rates for spaces (1.875 vehicles per space per day), and adds a 20% contingency.

- While the increase of buses in the TSM alternative is about 25% versus the no build, the ridership goes up only about 5%. This suggests that the TSM buses are not as full as the no build alternative buses on average – something that equilibration of service levels to demand would mitigate.

  One of the design objectives for the TSM alternative was, as much as possible, to provide the

user with the same level of service at his doorstep (or at his local bus stop) as in the fixed guideway alternatives. The TSM alternative expands upon the hub-and-spoke bus service philosophy that has been implemented on parts of Oahu. Most areas outside of the urban core would be served by feeder buses to either bus "hubs" or fixed guideway stations. The frequency of service on many of these feeder routes was set at 15 minutes in the peak period. In addition the frequency of service on the trunk routes along the corridor was increased to provide service comparable to that of the fixed guideway. In equilibration, for the TSM alternative as well as for the fixed guideway alternatives, service levels were improved, where necessary, to meet demand, but service levels were not degraded even if the services were underutilized. Further, if service was improved on a feeder bus line for a fixed guideway alternative, a similar change was made if there was a comparable TSM bus line. As a result there is no doubt some "fat" in service plans for the TSM alternative and the fixed guideway alternative but the service levels are reasonably consistent between the alternatives (e.g. the percentage of user benefits that is coverage related, for the MOS alternative, is only 7%). And while the TSM alternative does provide more unused capacity than the No Build, it still has decent cost-effectiveness as compared to the No Build (see below) and the capacity provided does result in a reduction in crowded conditions for bus passengers. For the 2030 forecasts the average daily systemwide passengers per bus (measured as total passenger miles divided by total revenue vehicle miles) for the TSM alternative is 20.0, a decrease from 22.9 for the No Build.

For the no build the buses are increased by about 25% and ridership increases 30%. Can you explain this?

The fleet size, of course, is just a reflection of the bus needs for the peak pull-out. Only about 1/3 of transit travel in Honolulu occurs in the two-hour peaks in the a.m. and the p.m. A comparison of annual (or daily) revenue vehicle miles shows a 36% increase between 2005 and 2030 No Build.

The performance of the TSM is best determined by its cost effectiveness compared to the no build alternative – what is that figure?

As shown in Table 6-1 in the AA, the cost per hour of user benefit of the TSM alternative compared to the No Build alternative is $13.54 (2006 $).

- Page 3-13: The following statement is counterintuitive because it implies that adding capacity leads to more congestion: “In general the two Managed Lane options would increase traffic on the overall road system and create more delay for buses”. The explanation provided later states: “”Much of the time saved on the managed lane itself would be negated by the time spent in congestion leading up to the managed lane as well as exiting the lanes at their downtown terminus”. The first quote states that more congestion occurs implying slower travel times while the second implies the travel times are faster. Can you clarify?

The point that is trying to be made is that the level of service (and thus travel speed) in the Managed Lane facility itself will be at LOS B to D in the a.m. and LOS A in the p.m. (see Table 3-12 and write-up on top of page 3-27). But, particularly in the a.m., bottleneck conditions getting onto and off the facility will cause queues and eliminate some or all of the travel time savings gained along the free-flowing portion of the Managed Lane facility (see Table 3-6 for point-to-point travel time comparisons; also see Table 3-10 for comparisons of systemwide daily vehicle hours of delay).

Ron

Ron Fisher
Office of Planning and Environment
Federal Transit Administration
1200 New Jersey Ave. S.E.
4th Floor - East Building
Washington, DC 20590
202 366-0257

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