ESTIMATION OF THE VALUE OF TRAVEL TIME:
MODELS CONSIDERING BINARY AND MULTI-MODE
CHOICE: COMMENTS

Ernie Moesback

Jack Faucett Associates

I applaud every ambition to measure the value of time in travel because it is the key variable in cost/benefit of highway improvement. I also applaud ambition to develop tricks for getting more reliable estimates.

Unfortunately, tricks sometimes get out of hand and the trail-and-error approach in econometric modeling frequently gives superficial confidence in empirical results; both of these features appear to be present in this paper and I question whether the authors have made a contribution to empirical work.

I urge the authors to consider the following points in developing a final draft of the paper.

1. Complete cost and time--the authors correctly point out a weakness in past studies with respect to not including total cost and total time from origin to destination. They do not point out how their study is better in this respect. They should present some data to show how the time and cost variables they use in regression analysis differ with and without the addition of access and egress time and costs.
2. Binary vs. multi-mode choice--I agree that a multi-mode model is more theoretically appealing, but the data requirements are more stringent and, therefore, estimation is more difficult. For example, estimation is more difficult. For example, weighted regression for Equation 30 is more difficult than ordinary regression on simpler models. They should point out that they are experimenting in a tradeoff between theoretical elegance and data needs and we cannot be certain if the net result is positive.
3. Policy flavor or emphasis on practical results--they would probably have avoided a serious mistake if they had outlined at least one policy decision for which their results would be useful. Practical application is a great check on relevance of results. I think they have fallen short of a good theoretical contribution and their empirical results are misleading--the result is the least valuable of all research.

The relevant measure of value of time is the additional consumer surplus from reducing origin-destination time, but their regression coefficients (e.g., see Equation 35) are measures of the contribution of the cost and time variables in determining the ratio of travel on different modes. The variation between city pairs really represents choices of people near the margin in mode selection, not all travelers. Therefore, I doubt the ratio of the regression coefficients on the ratio of travel times and the ratio of costs really represent the estimate of the additional consumer surplus from reductions in time requirements--i.e., their estimate is not the relevant value for highway improvement investment.

4. \$1.33 per hour vs. \$1.29 in previous estimates--this result is striking because the authors' own estimate indicates that this should happen with a probability of less than 5 percent. It is difficult to compute error estimates for ratios of regression coefficients, but using conservation assumptions I feel that the 4¢ difference would occur much less than 5 percent of the time if the errors in coefficient estimates were as large as those shown in Equation 35. Asking the authors to point out this observation is too much in light of customary honesty in publishing econometric results. However, they should indicate if their final model was a result of several modeling attempts or their data were similar to that used in other studies they site in comparison.