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Treatment of Values of Passenger Time in Economic Analysis

This bulletin transmits updated guidance contained in Office of the Secretary of Transportation Memorandum (OST) "Revised Guidance—Valuation of Travel Time in Economic Analysis" dated February 11, 2003. It is applicable to valuing passenger time saved or lost as a result of investments in transportation facilities or regulatory actions that are subject to OST review. The update retains the valuation methodology established in OST Memorandum "Departmental Guidance for the Valuation of Travel Time in Economic Analysis" dated April 9. 1997 while reflecting increases in passenger incomes.[1]

Approach

Time is a valuable economic resource which may be devoted to work or leisure activities. Because traveling consumes time, it imposes an opportunity cost equal to the individual's value of time in the forgone work or leisure activity. Moreover, since travel may take place under undesirable circumstances, including waiting or riding aboard a crowded or uncomfortable vehicle, it can impose an additional cost on travelers. Travel time saved or lost as a result of investments or regulatory actions should be valued in benefit-cost analyses to reflect both the opportunity cost and discomfort, if any, people experience when traveling.

Simple economic theory postulates that individuals will adjust the amount of time they devote to work and leisure such that an additional small increment of either may be valued at the wage rate. More realistic models recognize that constraints on the ability of workers to alter work schedules or the conditions under which time is devoted to either work or leisure can cause the value people place on an incremental gain or loss of time to

[1] The 1997 OST Memorandum replaced guidance contained in *Economic Values for Evaluation of Federal Aviation Administration Investment and Regulatory Programs* (FAA-APO-89-10, October 1989).

deviate, perhaps significantly, from the wage rate. Nonetheless, contemporary practice is to value traveler's time as a proportion of the wage rate.

Recommended Values

Recommended values for passenger time valuation derived from the wage rate are reproduced in Table 1.

Table 1

Recommended Hourly Values of Travel Time Savings (2000 U.S. dollars per person)

Category	Recommendation	Sensitivity Range Low	Sensitivity Range High
Air Carrier:			
Personal	$23.30	$20.00	$30.00
Business	$40.10	$32.10	$48.10
All Purposes[a/]	$28.60	$23.80	$35.60
General Aviation:			
Personal	$31.50	n.r.	n.r.
Business	$45.00	n.r.	n.r.
All Purposes	$37.20	n.r.	n.r.

a/ The all purpose values have increased proportionally less relative to their previous values than the personal and business values because of an increase in the ratio of personal to total travelers.
n.r.: No recommendation.

For air carrier passengers, the time values are derived from the Air Transport Association of America *Air Travel Survey*, last conducted in 1998, escalated by the increase in median annual income for U.S. households from 1998 to 2000 as reported in U.S. Census Bureau, *Income 2000*, Table 1. The value for business travel is 100 percent of the annual income category in the survey for "business" divided by 2000 hours of work per year. The value for personal travel is 70 percent of the annual income category in the survey for "other" divided by an assumed 2000 hours of work per year. When considering general aviation passengers as a separate category, a value of 70 percent of the median hourly income of AOPA members is established for personal travel and 100 percent of median hourly income for business travel.

The fractions of 70 percent and 100 percent were recommended by a panel of transportation economists. High and low values representing a plausible range of values based on variation in panel member opinions are furnished for use in conducting sensitivity analysis.

Application

General Applications: The values in Table 1 for air carrier passengers should be used when considering investments and regulations which impact aviation from an overall perspective. Depending on data availability, either the separate personal and business values can be applied to travel time savings or losses experienced, respectively, by personal and business travelers, composite averages can be developed using weights characteristic of the specific application, or the air carrier value for all purposes may be used.

General Aviation Values: Where the composition of air traffic affected by an FAA action can be shown to include an unusually large share of general aviation, the values for general aviation passengers in Table 1 may be used in appropriately weighted averages. In such cases, the weights should be selected so as to correspond to the proportion of time saved or lost by each user group as a result of the action under consideration. An analytically equivalent procedure would be to calculate time saved or lost separately for air carrier passengers and general aviation passengers and apply the respective hourly values for each.

Value of Small Time Savings or Losses: There has been significant discussion about whether small increments of time should be valued at lower rates than larger increments. Arguments for valuing smaller increments of time less than larger ones emphasize the difficulties of making effective use of smaller increments, particularly when unanticipated. The present state of theoretical and empirical knowledge does not appear to support valuing small increments of time less than larger ones. Therefore, the values in Table 1 should be used for all valuations, irrespective of the size of individual increments of time either saved or lost.

Sensitivity Analysis: Because uncertainty surrounds the recommended values, a range of values is also presented in Table 1. Analysts should test the sensitivity of analyses to the ranges of uncertainty specified. Should the outcome of an analysis change across the range of values, this should be identified and reported.

Updating Values: Updates of the recommended values utilizing newly published source data upon which the recommended values are built will be provided periodically by OST. Pending such updates, analysts should not make interim adjustments using economy-wide measures of general price inflation.

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