

PANEL 3: IMPACTS ON SOCIAL AND ENVIRONMENTAL CHARACTERISTICS

Donald Foley, chairman

One of the first questions discussed by panel 3 was whether research on BART should be designed mainly to aid in improving BART (including possible future extensions) or to aid designers of other metropolitan transit systems. It was decided that although the San Francisco Bay Area had peculiar characteristics, such as topography, research findings should be transferable as much as possible. The unique features of the Bay Area deserve some research and must be considered in the transfer of information to other regions. The panel considered the problem of identifying the social and environmental goals that a transit system such as BART might be expected to satisfy. It was pointed out that goals differed according to different interests in the Bay Area and that behind the BART system was a complex network of complementary and conflicting social, economic, and ecological goals and values that resulted in the construction of BART. Contributing further to the difficulty of research in this area is the continual changing of priorities attached to various goals over time. For example, at its inception the BART system was directed primarily at relieving the traffic congestion problem in the Bay Area. Because of the social and environmental considerations, which are now receiving increased public attention, these factors may be expected to play a considerably greater role in future evaluation of the impact of BART than they did when the decision was made to construct the system.

The panel spent considerable time considering whether, in designing impact studies, transit and automobile usage should be considered as competitive or as potentially complementary modes. Although diversion from automobile to transit might have been a primary consideration in creating the BART system, BART may offer a potential transit facility for persons who do not have ready access to automobiles. Also, transit may be able to penetrate high-density areas that are already in existence by means of tunneling, which does not require large amounts of land or displace substantial numbers of people. Therefore, the panel felt that both the competitive and complementary aspects between automobile usage and public transit should be considered in designing impact studies of the BART system. There was general agreement that the most urgent need was for feed-back information that could be used to improve the operation of the BART system.

TABLE 1
SUGGESTED RESEARCH ON THE SOCIAL AND ENVIRONMENTAL IMPACTS OF BART

Research Topic	Votes by Panel Members	Research Topic	Votes by Panel Members
Changing employment opportunities	9	Study of information system employed by BART to inform users and potential users	3
Low income	6	Study of the feeder systems and their ties to BART	2
Reverse commuting	4	Reliability and waiting time in use of BART and feeder systems	1
Latent demand for transit service	7	Impact on economic activity and commodity flow	2
Low income (also listed above)	6	Study of the attitudes and expectations of the original BART designers	2
Environmental impacts of the transit route	7	Study of BART goals and their fulfillment	1
Changes in character of neighborhoods affected by BART	4	Study of impact on highways in relief of congestion	2
Effectiveness of joint land uses of space adjacent to or under BART tracks and stations	2	Impact on car pool practices	1
Aesthetic impact	2	Leisure trips and miscellaneous trips by BART	1
Relocation impacts, renewal undertaken	1	Recreational opportunities	1
Measures of accessibility	4	Unpredictable impacts of BART	1
Analysis over time of election results on topics dealing with transit decisions	4	Study of BART stations	0
Studies over time of public attitudes toward transit	3	Special service features	0
Impact on political structure (or on power structure)	3	External connections with other transportation terminals	0
Institutional impacts	2	Safety features	0
Ecological impacts	4	Impacts on segregation-desegregation patterns	0
Pollution impacts, including air and noise pollution	1	Adaptability of BART over time	0

Because of the breadth of the topic, it was extremely difficult to systematically identify and attach priorities to needed social and environmental impact research. The panel therefore developed a list of possible research topics, and panel members were then asked to vote according to order of importance for the 6 most important topics. The topics and number of votes received are given in Table 1.

One interesting observation on study design is the possible comparison of the 3 portions of BART: one-third is above ground, one-third is at ground level, and one-third is below ground.

PANEL 4: IMPACTS ON ECONOMICS OF THE REGION AND TRANSPORTATION SYSTEMS

Harmer Davis, chairman

The panel thought that current economic impact techniques need to be reassessed. There was considerable discussion on how to evaluate the consequences of BART. There was general agreement that an analysis of BART must include the overall economic costs and benefits of the system, the effects on the other transportation investments, and the indirect effects on the economics of the region. The panel rejected the "shopping list" approach to evaluating the economic consequences. It discussed the potential clients for the research and their overlapping and conflicting nature. A suggestion was made that the economic consequences should be evaluated in terms of resources that are used up.

The use of cost-benefit analysis for determining the economic consequences of the BART system has many shortcomings. Not only economic but social and environmental consequences, which may use cost-benefit or other techniques, must also be considered. Even so, no immediate alternative is in the offing to replace the broad approach that may be categorized under cost-benefit analysis. The fact that costs and benefits are currently undergoing a substantial redefinition does not automatically nullify the value of the approach. The panel affirmed that in any analysis the total region should be used as the unit for analysis.

The question of subsidy was consistently interjected into the discussions. Some subsidies are real, and some are intergovernmental accounting transfers that are used to meet other objectives and are therefore bookkeeping activities and should be ignored in cost-benefit analysis.

Costs were discussed by the panel under the general categories of capital costs, operating costs, and indirect costs. Some of the factors to be considered in defining capital costs are the impacts of inflation and technology, governmental requirements, forced changes on the system, and extensions of the system regardless of their profitability. Operating costs, which include the maintenance and operation of the equipment and facilities, were thought to require new consideration for the comparison that will be needed. The indirect costs include the effects on other transportation systems, short- and long-term effects on the economy itself, and costs attributable to business, environmental, social, and institutional changes or disruption caused by the construction and operation of the system, including changes in traffic flow and police protection requirements.

The basic benefits to be anticipated are the change in time for commuting, i. e., the time costs saved by the system users. One of the primary concerns should be a study of the problems of estimating demand and predicting modal split under different policies and conditions. The relationship between the pricing of the services and a demand should be considered.

The redistribution effects of the BART system should be studied including its effect on the accessibility to jobs, on urban structure, and on the region's tax base. One research strategy might be to compare the alternatives of freeways, other BART systems, other transit systems, or making no decision for transit improvement.

The panel was concerned with the data base needed for such impact studies and felt that an overall strategy for data collection was warranted. As other panels pointed out, some data would be required on a continuing basis, other data could be obtained on a sampling basis. Planning and census agencies that collect data on a recurring basis