

DESIGN ELEMENTS OF EFFECTIVE TRANSIT INFORMATION MATERIALS

PROBLEM STATEMENT

Research conducted in 2001 identified transit information and marketing as a major operational barrier to transit use (cf. BD137-11, *Assessment of Operational Barriers and Impediments to Transit Use*). The study found that public comprehension of how to use transit information materials to plan transit trips was low, particularly on complex trips featuring multiple routes and transfers. Further research was needed to isolate the impact of individual information material design elements on public transit trip planning ability, so that the most effective information material designs could be identified.

OBJECTIVES

Seven design elements were isolated and subjected to further field testing to determine, under scientific conditions, which had a significant impact on public trip planning ability. The “between subject” experimental design was selected as it allowed study participants to undertake multiple trip planning assignments without their learning experience introducing order effect bias into the experiment. One hundred and eighty participants were recruited at three shopping mall sites in the Tampa Bay area in August 2004. Each was asked to undertake two complex trip planning assignments requiring travel from a specified origin to a specified destination and requiring arrival before a specified time. This format meant that each trip required the use of a transit system map, two individual route maps, and two individual bus schedules. Research staff observed participants work on the trip planning assignments and interviewed them after each assignment. This approach provided both quantitative and qualitative data for material evaluation. The study also assessed the characteristics of transit trip planning among transit users and investigated the extent to which transit information materials are a barrier to transit use among people who do not use transit.

FINDINGS AND CONCLUSIONS

Analysis of the transit trip planning task was separated into 5 discrete stages. Each stage was assessed individually in terms of user ability to complete the stage successfully, problems encountered, and potential solutions. The first stage, identifying the trip origin and destination on the transit system map, was straightforward for most participants. Some minor problems, such as small font size, were identified and noted in the report. The second stage, identifying the bus routes required for the trip using the system map, was also a straightforward task for most participants, and over 90 percent successfully identified the two required bus routes. Again, some minor design problems, such as poor color contrasting on adjacent routes, were identified and potential solutions proposed. The third stage, using the route maps to identify which bus stops to use, was found to be slightly more difficult. However, around three quarters of the sample was able to successfully complete this task. Main problems at this stage centered around locating the bus stops relative to the origin and destination points, which could be addressed by including the major points of interest on the route maps.

The final two stages involved using the bus schedule to determine boarding and alighting times on the different buses. These stages were found to be the most difficult part of the trip planning task—just over half the participants were able to successfully identify the four bus times required for the trip. Results from National Center for Education Statistics research suggest that this is a common problem across the

country, e.g., findings showed that only 38 percent of young adults were able to use a bus schedule correctly. Possible solutions to this problem include improving schedule design, developing user education or instructions for using the schedules, or developing an alternative way of presenting the bus time information.

Of the seven design elements isolated for further testing, only the “Days of Operation” element produced consistently significant results. This finding suggested that separating weekend schedule information into a separate table resulted in significant improvements in the general public’s ability to identify the correct information. The non-significant results returned on the other six design elements suggested that while improvements could be made to these elements to improve the ease of transit trip planning, such improvements may not significantly increase transit trip planning ability.

Researchers found that many transit users do not use transit information materials to plan their trips. Although printed information materials were the most popular method of trip planning for transit users overall, other alternative methods included calling a helpline or asking the driver, a friend, or another transit user for help. It is not known whether these people used these methods because of the difficulties they had using printed information materials, or whether they simply preferred these other methods. It was found that information material usage was more common among regular transit users.

Overall, most participants (around two-thirds) stated that their participation in the study had increased their level of confidence in using transit information materials. When asked how this would affect their transit use, the majority (77.8 percent) stated that their frequency of use would not change. However, 17.8 percent of the total sample stated that their frequency of transit use would increase, with 21 percent of non-transit users stating that they would now use transit in future. These figures suggest that familiarity and confidence with transit information materials could lead to greater transit usage, and that some instruction or education on how to use the materials may be a way to increase ridership levels.

BENEFITS

Since the preliminary presentation of the study results at local conferences, transit agencies have been anxiously awaiting the publication of the full report. Although some work remains to be done, the present study can be used to recommend improvements to transit maps and schedules. A brochure summarizing the main findings of the report has been produced to market the full report. This research project begins to address the time worn problem of “needing a graduate degree to read a bus schedule.”

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