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TRAVEL MODES OFFER BENEFITS BEYOND THE DESTINATION

A dissertation explores the concept of the positive utility of travel, or PUT, as it relates to mode choice and modeling.

The Issue

Normally we assume that travel is a means to an end, but the latest NITC report examines other benefits of travel, aspects that aren't about reaching a destination. One such benefit is travel-based multitasking. A good example of this is using time on a commuter train to listen to music, relax or get some work done. The simple enjoyment of a walk in the fresh air relates to another benefit, known as subjective well-being, in which the act of travel itself makes a person feel better. These intrinsic benefits can impact travel behavior and mode choice, but our current models don't have any way to reflect this.

NITC fellow Patrick Singleton investigated the policy and planning implications of this in his dissertation, *Exploring The Positive Utility Of Travel And Mode Choice*. The idea that travel can provide benefits beyond reaching destinations is known in the travel behavior field as "the positive utility of travel" (PUT) concept. Singleton's dissertation makes some important contributions to this field. By documenting reliable and meaningful ways to measure subjective well-being from travel, the report represents an advancement in how these concepts can be investigated. The paper also contributes novel and original data on PUT attributes with respect to mode choice for nearly 700 commuters in the Portland, Oregon area.

The Research

Existing literature on the topic, reviewed in Singleton's dissertation, has examined and critiqued various ways to measure the PUT concept, including the "teleportation test," which asks whether people would be willing to instantaneously teleport to their desired destination (usually work) if the

THE ISSUE

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THE RESEARCH

Commuters in Portland, OR were surveyed about:

- Their personal and transportation characteristics;
- Their home, job, and typical commute;
- Their most recent commute trip.

IMPLICATIONS

There are planning and policy implications. Travel demand models could be improved by considering PUT, and travelers could be incentivized to choose modes based on PUT-related attributes.

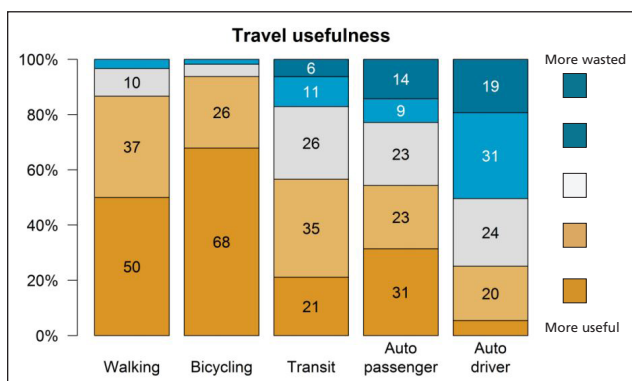
Photo: Passengers on the Max Orange Line in Portland, Oregon make use of travel time by reading, listening to music or using their smartphones.

technology existed. Singleton’s online questionnaire included the teleportation test, with two significant traveler perceptions emerging: people who preferred not to teleport were more likely to exercise while commuting, and were more likely to report that their commute time was useful. So how does the PUT concept affect travel behavior? Singleton found that measures of travel-based multitasking were significantly associated with mode choice. Users of riding modes, like transit or being an auto passenger, reported more useful commutes than auto drivers, in part because they could and did engage in more activities while traveling.

Overall, the evidence suggests that walking and bicycling commuters enjoy gaining physical activity and value their use of travel time for exercise. Active modes like walking and bicycling had higher ratings on questions about enjoyment, confidence, and health, and people reported more useful commutes via these modes. Social aspects of travel also play a part in mode choice, as does safety. People walking, bicycling, and riding transit were more likely to talk with strangers, and cyclists had higher ratings of “Fear” and lower ratings of “Security.”

Implications

This work makes major contributions to the travel behavior field, centered on the PUT concept but in the broad areas of theory, data collection, measurement, and evidence of potential determinants and effects on mode choice. Notably, it offers one of the first empirical analyses of both travel activity and travel experience aspects in the context of mode choice. These findings have several implications for travel behavior research. Accounting for PUT-related factors in travel behavior models could help to produce more accurate estimates and behavioral sensitivities. If researchers can measure, predict, and translate the PUT concept into a forecasting model, planning tools



Travel usefulness by commute mode

This graph displays responses to the travel usefulness question, by commute mode. Overwhelmingly, most people walking (87%) and bicycling (94%) reported at least somewhat useful commutes.

could evaluate a much wider array of transportation projects, programs, and policies. These efforts could have the greatest benefits in terms of improving the understanding of walking and bicycling demand.

There are also policy implications. Engineering interventions to make walking and bicycling safer and more comfortable, such as protected bike lanes, could improve the travel experience enough to make nonmotorized modes more attractive. For transit modes, agency managers might leverage travelers’ desires to multitask by adding on-board productivity amenities like tray tables, charging stations, or WiFi. Evidence suggests that people may consider these PUT-related aspects when making mode choices and could potentially shift between modes if sufficiently enticed.

PROJECT INFORMATION

TITLE: Exploring the positive utility of travel and mode choice

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