

## The Value of Livable Communities

A community's economy, mobility, and livability are influenced by transportation. But what is it that makes a particular transportation infrastructure more livable than another? Researchers at the Center for Transportation and Livable Systems (CTLS) at the University of Connecticut (UConn), working with economists at Clark University in Worcester, MA, set out to answer this question. During the last 2 years, CTLS has studied what features people most value in environments defined by transportation systems.

The first task for CTLS researchers was to identify a set of well-established elements of the built environment that signify a livable place within a community. These include reduced building setbacks, roadway greenery, good lighting, wide sidewalks, narrower streets, and on-street parking.

The team then developed an effective mechanism for expressing these livability features, using digital images. Modified digital images, depicting the same locale both before and after livability enhancements were added, capture the effect of these treatments. Examples appear in figure 1.

These images were presented to people as part of a "choice experiment" in which they were asked, through a survey, to select between two options for new transit service in a hypothetical bond referendum that would result in a tax increase. For each question, respondents also had the option of choosing neither scenario, thereby producing no tax increase. Included with the images were several attributes of this hypothetical new transit service, including whether it was bus or rail, travel time, fare and comfort.

Critically important to the results of this type of survey is that it present a hypothetical situation in a realistic way, so that when respondents make their choices, the trade-offs they make subconsciously reflect their decision-making process as authentically as possible. The survey, which

was mailed to a randomly selected pool of 600 potential respondents, described a hypothetical rail service linking Springfield, MA and New Haven, CT. This scenario was chosen because a new commuter rail service is being considered for this corridor – making the choice between new commuter transit service options a plausible one for respondents.

The researchers found that people are willing to pay for incorporating these types of enhancements into the community as part of transportation infrastructure investments. All else being equal, people were willing to pay approximately \$180 per year in additional taxes if a new transit service included improvements to the community's built environment. Further analysis revealed that this willingness varied considerably depending on whether respondents owned or rented their property and whether they were inclined to personally use mass transit for their commute. Home owners who would consider riding transit indicated they were willing to pay nearly \$300 *more* per year in additional taxes for these built environment enhancements. At the other extreme, renters who would never consider riding transit indicated they were willing to pay roughly \$275 *less* per year if these treatments were included in a new transit service.

In the second year of this study, the surveys were conducted electronically in person and expanded to include elements such as reliability of service and parking cost (see figure 1). The electronic format allowed the researchers to personalize the survey for each randomly selected respondent, making it more realistic. Results from the second year suggest that household income also plays a role in how people value these livability enhancements, and that if only one or two elements in isolation are included in a design, people view such treatments negatively. Images depicting greater numbers of the livability enhancements received the greatest approval from respondents, who indicated they would support the additional investment of their tax dollars.

The methodology and results of this research have been presented at the annual meeting of the Transportation Research Board and will be published in a forthcoming issue of *Transportation Research Record*. A project description, summary, and research report are available at [www.ctls.uconn.edu](http://www.ctls.uconn.edu). Through this and other complementary

research, CTLS continues to explore new ways of engineering and planning communities that promote livability, sustainability, and security. ♻️

# 2010 TRANSPORTATION SURVEY

QUESTION  
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Project A

Project B

Stop Environment



| Vehicle Type           | Commuter Rail  | Commuter Rail  |
|------------------------|----------------|----------------|
| Parking at Destination | Not Free       | Free           |
| Service Reliability    | 75%            | 85%            |
| Comfort                | High           | Low            |
| Cost to Your Household | \$100 per year | \$145 per year |

If you were able to use either option for **YOUR TRIP**, how would you vote?

- I would vote for **Project A**, and pay \$100 per year
- I would vote for **Project B**, and pay \$145 per year
- I would not vote for either program, with no increase in State/Town taxes and fees

An example of the scenarios presented respondents in an electronic survey conducted in the second year of the study. Respondents could choose “A”, “B”, or “Neither.”

About This Project

Nicholas Lownes, Ph.D., P.E., Assistant Professor of Civil & Environmental Engineering at the University of Connecticut, is the director of CTLS. The project team was led by Dr. Lownes, with Norman Garrick, Ph.D. and Eric Jackson, Ph.D. from UConn and Robert Johnston, Ph.D. of Clark University being integral research team members. Over the course of the project, the research team has also benefitted from the hard work of four graduate researchers and three undergraduate research assistants. For more information on this and other CTLS projects, please visit [www.ctls.uconn.edu](http://www.ctls.uconn.edu).

*This newsletter highlights some recent accomplishments and products from one University Transportation Center (UTC). The views presented are those of the authors and not necessarily the views of the Research and Innovative Technology Administration or the U.S. Department of Transportation, which administers the UTC program.*

