

# New England University Transportation Center



NE University Transportation Center  
77 Massachusetts Avenue, E40-279  
Cambridge, MA 02139  
Phone: 617-253-0753  
Fax: 617-258-7570  
web.mit.edu/utc

<b>Principal Investigator:</b>	Brian H. Y. Lee	<b>Co-Principal Investigator:</b>	Meghan Cope
<b>Title:</b>	Assistant Professor	<b>Title:</b>	Professor
<b>University:</b>	University of Vermont	<b>University:</b>	University of Vermont
<b>Email:</b>	bhylee@uvm.edu	<b>Email:</b>	mcope@uvm.edu
<b>Phone:</b>	802-656-1306	<b>Phone:</b>	802-656-8844

## Final Report

*Project Title:*

# Accessibility and Independent Mobility in Rural Built Environments: Challenges and Opportunities for Young People

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**Project Webpage:** <http://www.uvm.edu/~bhylee/youthmobility.html>

### **Project Objectives:**

Much of the research on accessibility and the built environment performed to date have been conducted in urban settings and most have focused on adults. Few studies addressing this topic have concerned areas with low population density and fewer yet have related to youth. The purpose of this research is to help fill this gap in the accessibility and built environment literature by focusing on the impact of transportation and land use policies and practices on youth living in rural and suburban environments. Specifically, this project concerns how high school students (i.e., those in grades 9 through 12, primarily composed of youth ages 14 through 18 years) and their families negotiate transportation constraints and opportunities so that the youth can get to the destinations that they need or want to go. This research contributes to the literature on transportation and land use in low density areas, and helps meet the challenges to sustain or improve the quality of life for young residents in rural and suburban communities.

### **Methodology:**

This project used a mixed methods approach and has two phases. Phase 1 involved a combined parent survey (online and paper forms) and youth survey (online only) completed in the fall of 2011. Phase 2 was conducted in the spring of 2012 and includes the following participatory research methods with a subset of the youth survey respondents from the first phase.

- Individual computer mapping exercise: Google Maps was used to plot route to/from school, places the students have been in the past week, and descriptions of them.
- Group paper mapping exercise: Large paper orthoimagery maps were used in this town-level exercise to find out about places that are common destinations for young people and how towns could do better accommodating their needs.
- Text message reviews: A lot of making arrangements to go places, meet up with people, and so on are made through texting and other communications (e.g., social media apps, emails, calling) on young people's mobile phones. This was a one-on-one interview where the participant was asked by the researcher to scroll back through recent text messages and share any that involved transportation, meeting up somewhere, times when s/he will be home, places where s/he needs to go, etc.

These methods were chosen for this project following the identification of evidentiary needs stemming from preliminary analysis of the parents and youth surveys. The text message review exercise is a new exploratory method that was developed by this team to better understand how technology and communication are integrated in young people's travel behavior.

### **Findings:**

The total student population in the two high schools examined is approximately 2,000. The parent survey had 253 respondents (226 gave permission for their teens) and the youth survey had 147 respondents (65% of those given permission). Almost every household surveyed (98%) have internet access at home and almost every parent (97%) had a cell phone. The age and sex profiles of the teens were almost exactly 50/50 females and males and they were evenly distributed from 9<sup>th</sup> through 12<sup>th</sup> grade.

For the parents, 66% walked/biked to local places (top choices were recreation/parks and to visit friends/family), 11% use buses (primarily for work), and 76% had travel rules/curfews for their

teens. Of the 39% with teens who are drivers, 41% got an additional vehicle, 50% had driving rules beyond state graduated licensing ones, 20% had their teens pay for gas, and 5% got them to pay for insurance. For the teens, 90% walked/biked to local places (top choices were around home/school and to visit friends), 40% used buses (primarily to school, mall), and 46% said that they had travel rules/curfews (compared to 76% of parents!). Of the 32% of teens with a driver's license, the average age when they got it was 16.1yrs. About 38% of the teens surveyed had a learner's permit. Of those with a license or a permit, 94% had access to a vehicle.

The teen survey revealed a number of dominant themes. When asked, "What has changed the most since you got your license?" most responses concerned "freedom" or "independence" (i.e., not dependent on parents or friends for transportation). Depending on the age, there were three main types of travel rules/curfews: come home at specific times (mostly for the youngest respondents), to be determined on a case by case basis (mostly for those in the middle), and need to call or have cell phone with them (mostly for the oldest respondents). With respect to questions on places that teens go, the responses also depended on age but not on gender. Most younger teens were limited to being within their neighborhood or towns and most older teens stated that it was determined on a case by case basis. These results show the great spectrum of independence and mobility within this small age range. It also suggests that the use of mobile phones and other technologies may be allowing boys and girls to be treated more similarly by their parents with respect to where they can and cannot go.

Phase 2 of the project revealed that high school aged teens can have great differences in their travel behaviors and how they make use of technology. While some teens are content to be driven around by their parents (mostly moms), others still consider having access to a vehicle to be an important goal. Some, nevertheless, choose to take public transit, walk, or bicycle, despite having access to vehicles. In the text review exercise, it was revealed that there is a hierarchy of communication methods and interactions. Most teens still considered talking face-to-face in the school hallways and meeting with friends outside of school to be extremely important. The hallway conversations are often starting points for developing plans for the next few days or longer. These are often followed up with emails (especially if the plans included parents, coaches, or teachers) and Facebook chats (a hybrid of email and instant messaging). On the day of the planned activity, text messages are typically exchanged to make confirmations and iron out final details. If necessary, then phone calls are made within the final hours of the plan.

### **Conclusions:**

This work revealed that there are great challenges for rural and suburban youth to navigate the existing transportation and land use systems, especially if they do not have access to vehicles. The level of (in)dependence vary greatly within high school aged teens. Further, teens use a variety of communication tools to arrange transportation and for participating in activities.

### **Dissemination:**

Lee, B. H. Y. and M. Cope (2013). Teens, technology, and transportation. To be presented at *2013 Annual Meeting of the Association of American Geographers*, Los Angeles, CA, 9-13 Apr.

Lee, B. H. Y. and M. Cope (2012). Teens on the move: Implications of land-use & transportation practices for youth mobility in Northern Vermont, USA. Presented at *2012 Annual Meeting of the Association of American Geographers*, New York City, NY, 24-28 Feb.