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## Who knows about kids these days? Analyzing the determinants of youth and adult mobility in the U.S. between 1990 and 2009



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### ABSTRACT

The 2000s was a decade of transitions for teens and young adults. In comparison with previous generations of youth, those living in the developed world (i) faced the harshest economic climate in decades, (ii) lived with their parents longer and were more likely to return back home as young adults, (iii) used information and communication technologies (ICTs) extensively, and (iv) in the U.S., were subject to increasingly stringent graduated driver's licensing (GDL) regulations. All were dramatic societal changes to be sure, but how did they affect youth travel behavior? Some argue dramatically and enduringly, but usually with fragmentary evidence. We examine data from the three most recent U.S. national travel surveys and find that, with one exception, after controlling for personal, household, locational, and travel factors, the effects of factors associated with various societal trends on person-kilometers traveled (PKT) are surprisingly muted. The exception is that decreased employment is associated with substantially lower PKT; however, this effect is 32% greater among older (ages 27–61) than younger (ages 20–26) adults, suggesting that economic factors, rather than changes in youth travel preferences, were at the root of declines in personal travel in the U.S. during the 2000s.

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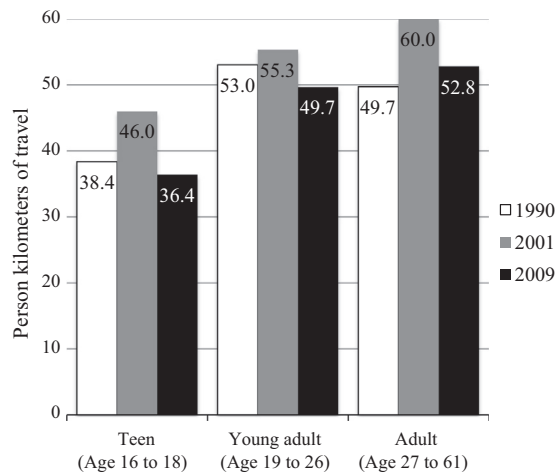
### 1. Introduction

The travel of teens and young adults is in flux. Thirty years ago, 80% of 16 year old Americans had a driver's license, but by 2010, fewer than half were licensed (Sivak and Schoettle, 2011, 2012). Additionally, teens in the late 2000s drove fewer kilometers than teens in the past (Davis et al., 2012; McDonald, 2015). Similar trends are evident elsewhere in the developed world, including Australia (Delbosc and Currie, 2013), the Netherlands (Jorritsma and Berveling, 2014), Germany (Kuhnimhof et al., 2012), and the United Kingdom (Le Vine and Polak, 2014; Noble, 2005).

Fig. 1 shows that average daily person-kilometers of travel (PKT) by all modes in the U.S. increased among all age groups between 1990 and 2001, an increase of four percent for young adults and 20% for teens and adults. However, by the depths of the severe economic downturn in 2009, average daily PKT fell just as remarkably, back to levels similar to those in 1990. While adult travel was still up six percent over that 19-year span, teen travel and young adult travel was actually down five to six percent. It is easy to attribute this rise and fall in personal travel to macro-economic conditions; however, the

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**Fig. 1.** Daily person-kilometers of travel in U.S. metropolitan areas, teens, young adults, and adults (1990, 2001, 2009). *Note:* Excludes people who made a trip over 120 km on the survey day, people who reside outside of metropolitan areas, and people missing information on personal, household, or travel characteristics. *Source:* National Personal Transportation Survey (1990) and National Household Travel Surveys (2001, 2009).

decades-long growth in overall vehicle kilometers of travel per capita (which accounts for the vast majority of U.S. person-kilometers traveled) actually peaked in 2005, three years prior to the onset of the Great Recession.

The decline in travel has many researchers scratching their heads (Davis et al., 2012; McDonald and Trowbridge, 2009; McDonald, 2015; Sivak and Schoettle, 2011, 2012) and has prompted rampant speculation in the popular media as to what is behind it (Eisenstein, 2012; Thompson and Weissmann, 2012). Hypotheses often center on four explanations:

1. *Licensing:* Increasingly stringent license regulations designed to reduce traffic collisions involving young drivers have also reduced overall vehicle travel among teens due to limited travel options.
2. *Recession:* Economic constraints brought on by significant increases in fuel prices in the mid-2000s and the Great Recession in the late 2000s greatly dampened travel, and continue to do so.
3. *Information and Communications Technologies (ICTs):* Widespread adoption of ICTs, particularly among the young, has so enhanced communications and information access that it has reduced the need for travel.
4. *Delayed transitions to adulthood:* Delayed transitions to adulthood—including living with parents as young adults and delayed completion of formal education—is associated with lower employment rates, more limited access to automobiles, and, therefore, less personal travel.

To what extent do these four hypotheses help to explain changes in the travel of teens and young people? To address this question, we draw on nationally-representative U.S. travel diary data from 1990, 2001, and 2009. While there are many possible measures of travel behavior, this analysis centers on person kilometers of travel (PKT) as the most basic measure of personal mobility. We first focus on teenagers (ages 16–18). Multivariate regression models allow us to estimate how the four societal changes discussed above affect teen travel. We then turn our attention to young adults (ages 19–26) to explore the travel implications of the fourth hypothesis regarding the effects of delayed transitions to adulthood. Interaction terms enable us to analyze whether these four effects have changed over time for teens and young adults respectively and whether these factors affected teens differently than young adults and adults.

There are close to 50 million teens and young adults in the U.S. (Howden and Meyer, 2011; Ruggles et al., 2015). Given the substantial size of these two population groups, it is important for transportation planners and policymakers to understand the causes and consequences of their travel patterns in order to consider what these patterns portend for the future. If today's teens and young adults travel substantially different than those of yesteryear, and if those differences are likely to persist, we may need to rethink travel forecasts and adjust transportation plans for the years ahead.

## 2. Literature review

### 2.1. Licensing regulations

Many countries have adopted graduated driver's license (GDL) regulations to improve teen driver safety (Begg and Stephenson, 2003; Scott-Parker et al., 2011; Simpson, 2003; Williams et al., 2012). The regulations typically include a permit phase (where young people must drive under the supervision of an adult), an intermediate phase (with restrictions on driving at night and/or with young passengers), and finally a full permit phase with no restrictions. Such license regulations

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