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RECENT DIVERGING TRENDS IN THE AMOUNT OF URBAN AND RURAL DRIVING IN THE UNITED STATES

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16. Abstract

This study examined recent changes in the amount of driving in urban and rural areas of the United States. The raw data consisted of the estimated annual distance driven by locale (urban and rural) and the type of roadway (interstates, other arterials, and other roads). The analysis covered 17 years from 2000 through 2016, and it involved normalizing the data relative to 2000.

There are two main findings. First, the overall distance driven increased by 15% between 2000 and 2016. Second, during this period, urban distance driven *increased* by 33%, while rural distance driven *decreased* by 12%. While the increase in the overall distance driven can be fully accounted for by the increase in the U.S. population during the period examined, the divergent patterns of urban and rural driving are not fully accounted for by the corresponding changes in the amounts of urban and rural populations.

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Introduction

This study examined recent changes in the amount of driving in urban and rural areas of the United States. This topic is of interest because urban and rural driving differ in many fundamental aspects. For example, it is likely that urban driving involves a larger proportion of commuting (as opposed to discretional driving) and that the average urban driver is younger (given the differences in the average age of urban and rural populations). Therefore, changes over time in urban and rural driving do not necessarily need to follow the same pattern.

Method

The raw data consisted of the estimated annual distance driven by locale (urban and rural) and the type of roadway (interstates, other arterials, and other roads) from the U.S. Department of Transportation (FHWA, 2017). The analysis covered 17 years from 2000 through 2016, and all data were normalized relative to 2000.

Results

Figure 1 presents the normalized distances driven for each of the six combinations of locale and type of roadway. Table 1 lists the corresponding percentage changes from 2000 to 2016.

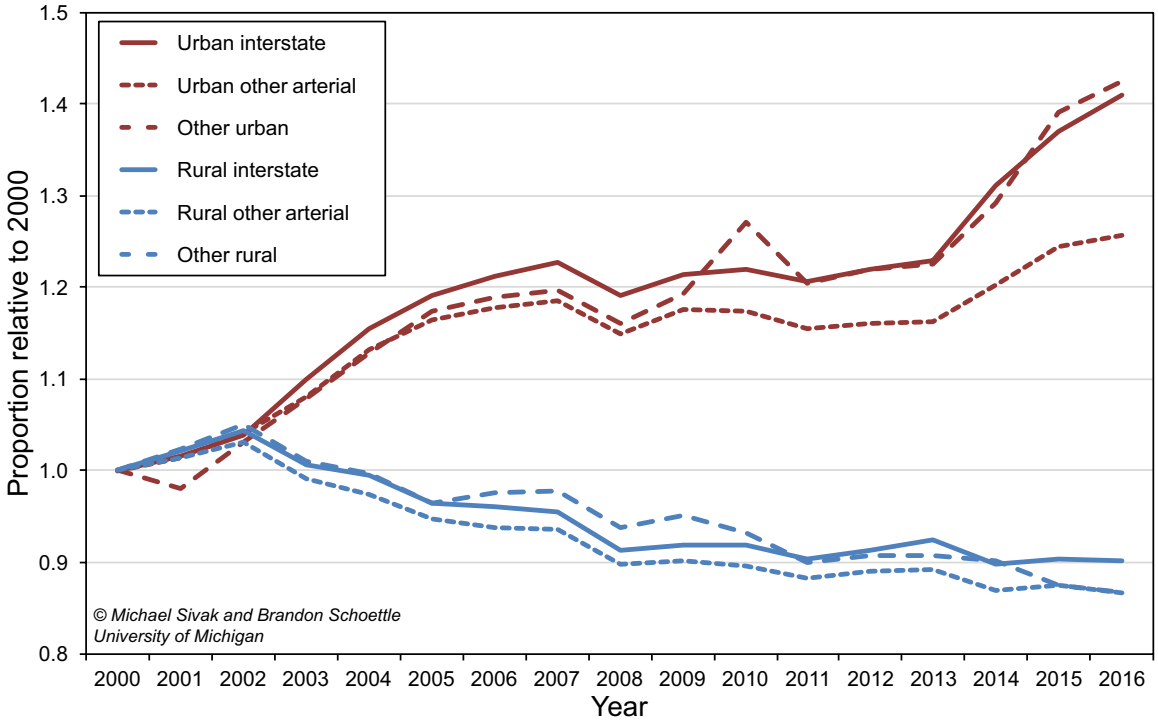

Figure 1. Distances driven by locale and type of roadway from 2000 to 2016, normalized to 2000.

Table 1
Percentage changes from 2000 to 2016 in distance driven, by locale and type of roadway.

Locale/roadway combination	Change from 2000 to 2016
Urban interstate	+41%
Urban other arterial	+26%
Other urban	+43%
Rural interstate	-10%
Rural other arterial	-13%
Other rural	-13%

Figure 2 presents the normalized data for all urban roadways, all rural roadways, and all roadways, respectively. Table 2 lists the corresponding percentage changes from 2000 to 2016.

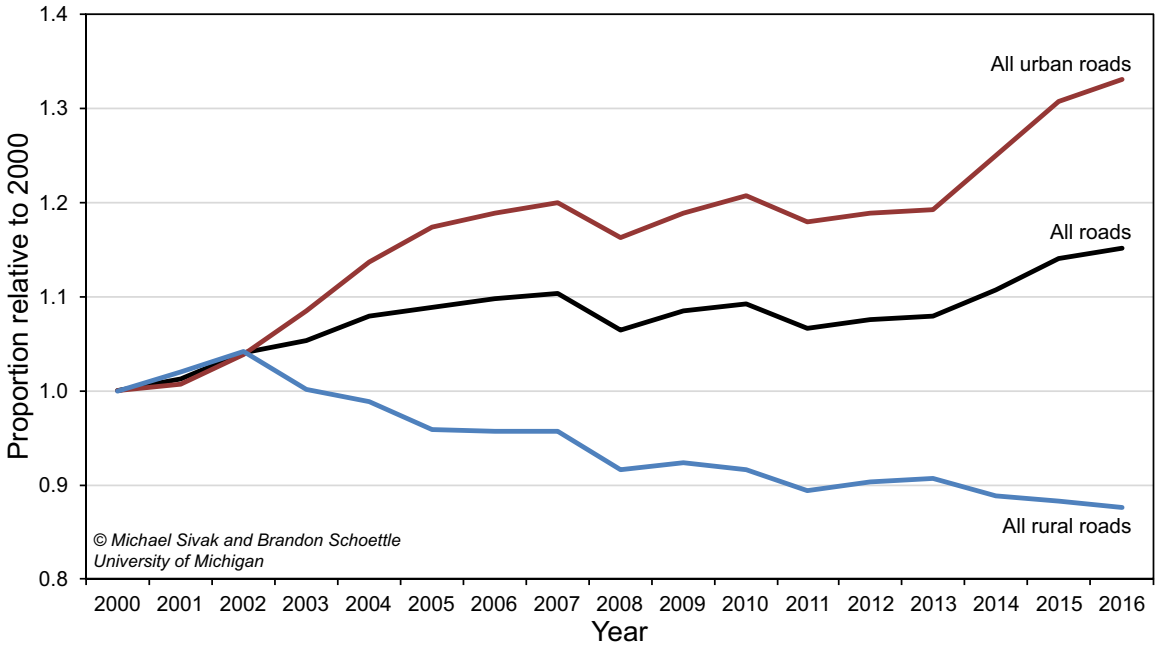

Figure 2. Distances driven on all urban roads, all rural roads, and all roads from 2000 to 2016, normalized to 2000.

Table 2
Percentage changes from 2000 to 2016 in distance driven on all urban roads, all rural roads, and all roads.

Locale	Change from 2000 to 2016
Urban	+33%
Rural	-12%
All	+15%

Discussion

Overall change in distance driven

From 2000 to 2016, the distance driven on all roads (urban and rural) increased by 15%. Because the U.S. resident population increased by 15% during the same period (from 281,421,906 to 322,563,614, as of April 1 of each year) (U.S. Bureau of the Census, 2002; 2017), the overall distance driven per person has not changed from 2000 to 2016.

Changes in urban and rural distances driven

The most important finding of this study is the divergent trend of the changes in the amount of urban and rural driving from 2000 to 2016. Specifically, during this period, urban driving *increased* by 33%, while rural driving *decreased* by 12%.

Between 2000 and 2016, the urban population in the U.S. increased from 79.1% to 81.8% (World Bank, 2017). Applying these percentages to the total populations in 2000 and 2016 yields the urban and rural populations listed in Table 3. As indicated in Table 3, from 2000 to 2016 there was a 19% increase in the urban population and virtually no change in the rural population. This takes into account both the increase in the U.S. population in general and the overall net increase in migration into urban areas.

Table 3
Urban and rural populations, 2000 and 2016.

Locale	2000	2016	Change from 2000 to 2016
Urban	222,604,728	263,857,036	+19%
Rural	58,817,178	58,706,578	no change

Table 4 compares the changes from 2000 to 2016 in distance driven and population for urban and rural locales. The data in Table 4 indicate that (1) the increase in urban population can account for only about 58% of the increase in urban distance driven (19 is 58% of 33), and (2) the rural distance driven decreased despite the fact that the rural population remained virtually unchanged.

Table 4
Changes from 2000 to 2016 in distance driven and population, by locale.

Locale	Change from 2000 to 2016	
	Distance driven	Population
Urban	+33%	+19%
Rural	-12%	no change

Factors of potential importance

The results of the present analysis indicate that the changes in the number of people living in urban and rural areas cannot fully account for the obtained divergent patterns of distance driven on urban and rural roads. The following four topics are worthy of future research in order to better understand the factors that have contributed to the recent driving patterns:

(1) Who are the recent arrivals in urban areas in terms of their age, income, education, and other demographic factors that might influence the amount of urban driving?

(2) What were recent economic changes in urban versus rural areas that might have contributed to the observed driving patterns?

(3) Who drives on urban versus rural roads and for what purposes? (Not all urban driving is done by urban residents, and vice versa.)

(4) What effect has increased internet access and online activity (both personal and business related) had on driving, especially in rural areas?

Summary

This study examined recent changes in the amount of driving in urban and rural areas of the United States. The raw data consisted of the estimated annual distance driven by locale (urban and rural) and the type of roadway (interstates, other arterials, and other roads). The analysis covered 17 years from 2000 through 2016, and it involved normalizing the data relative to 2000.

There are two main findings. First, the overall distance driven increased by 15% between 2000 and 2016. Second, during this period, urban distance driven *increased* by 33%, while rural distance driven *decreased* by 12%. While the increase in the overall distance driven can be fully accounted for by the increase in the U.S. population during the period examined, the divergent patterns of urban and rural driving are not fully accounted for by the corresponding changes in the amounts of urban and rural populations.

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