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HAS MOTORIZATION IN THE U.S. PEAKED? PART 10: VEHICLE OWNERSHIP AND DISTANCE DRIVEN, 1984 TO 2016

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**SUSTAINABLE WORLDWIDE
TRANSPORTATION**

UNIVERSITY OF MICHIGAN

HAS MOTORIZATION IN THE U.S. PEAKED?
PART 10: VEHICLE OWNERSHIP AND
DISTANCE DRIVEN, 1984 TO 2016

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16. Abstract This study analyzed recent changes in the United States in both the ownership of light-duty vehicles (passenger cars and light trucks) and the corresponding distance driven. Of interest were changes in the rates per person and per household. The period examined was 1984 to 2016. The main findings are as follows: (1) <i>The vehicle-ownership rates</i> per person and per household both reached their maxima in 2006. The two rates for 2016 are down, on average, 3.3% from their maxima, although they have rebounded, on average, 2.6% from the post-maximum minima reached in 2012 and 2013. (2) <i>The distance-driven rates</i> per person and per household both reached their maxima in 2004. The two rates for 2016 are down, on average, 6.2% from their maxima, although they have rebounded, on average, 3.9% from the post-maximum minima reached in 2013.					
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Introduction

This report is the tenth in a series examining recent changes in various aspects of motorization in the United States. For example, Part 8 examined recent changes in travel times (Sivak, 2015), and Part 9 included an analysis of changes in vehicle ownership and distance driven (Sivak, 2017).

The specific focus in Part 9 (Sivak, 2017) was vehicle-ownership and distance-driven rates per person and per household, as opposed to the absolute numbers (which depend, in part, on the continuously increasing size of the U.S. population). The period covered was from 1984 to 2015. The present study extends the data in Sivak (2017) through 2016.

Method

The number of light-duty vehicles (passenger cars and light trucks) was obtained or calculated from the information in FHWA (2018). For 1984 through 2006, this number was the sum of cars and other two-axle, four-tire vehicles. For 2007 through 2016, this number was the sum of short-wheel-base and long-wheel-base, light-duty vehicles.¹

The sources of other relevant data were as follows:

- Distances driven by light-duty vehicles: FHWA (2018)
- Resident population: ProQuest (2018)
- Households: U.S. Census Bureau (2018)

Some of the underlying data were recently revised, and this analysis incorporates those revisions.

Results

Table 1 and Figure 1 present the rates of vehicle ownership per person and per household. Table 2 and Figure 2 present the analogous rates of distance driven.

¹ The number of light-duty vehicles includes those privately owned by individuals as well as those owned by commercial, rental, and governmental entities.

Table 1
Registered light-duty vehicles per person and
per household, 1984-2016. (The maxima are in **red**.)

Year	Vehicles per person	Vehicles per household
1984	0.665	1.835
1985	0.697	1.910
1986	0.709	1.925
1987	0.714	1.934
1988	0.729	1.958
1989	0.733	1.949
1990	0.730	1.953
1991	0.718	1.926
1992	0.716	1.921
1993	0.721	1.943
1994	0.726	1.968
1995	0.729	1.961
1996	0.738	1.996
1997	0.733	1.980
1998	0.737	1.982
1999	0.745	2.000
2000	0.754	2.031
2001	0.778	2.050*
2002	0.768	2.021
2003	0.768	2.003
2004	0.780	2.038
2005	0.785	2.046
2006	0.786	2.050
2007	0.782	2.032
2008	0.778	2.025
2009	0.764	2.001
2010	0.745	1.961
2011	0.750	1.950
2012	0.744	1.931
2013	0.746	1.927
2014	0.754	1.949
2015	0.757	1.950
2016	0.766	1.968

*At the fourth decimal point, the rate for 2001 was less than the rate for 2006.

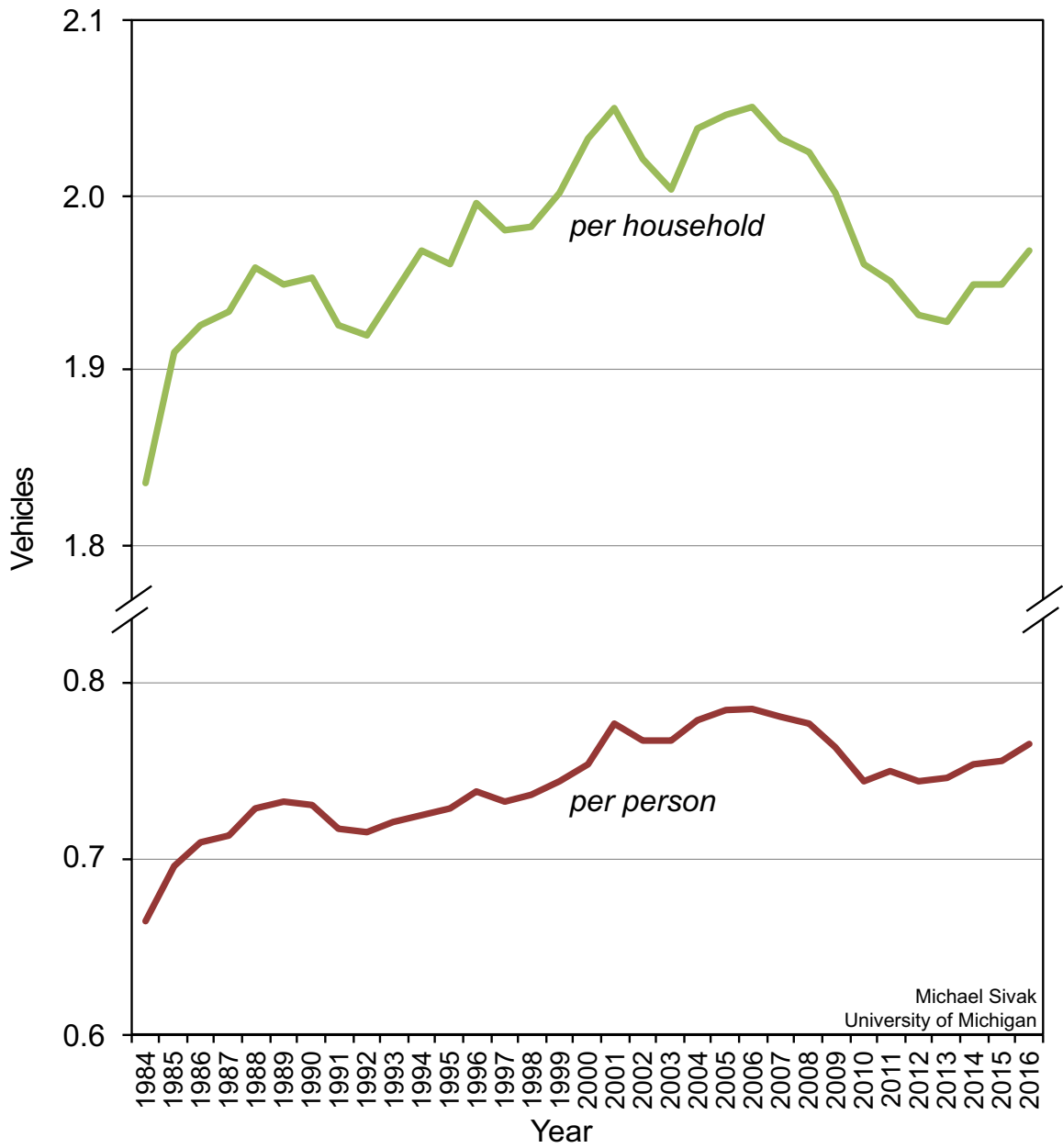


Figure 1. Registered light-duty vehicles per person and per household, 1984-2016.

Table 2
 Distances driven per person and per household, 1984-2016.
 (The maxima are in **red**.)

Year	Miles driven per person	Miles driven per household
1984	6,612	18,256
1985	6,866	18,823
1986	7,039	19,108
1987	7,309	19,790
1988	7,645	20,524
1989	7,828	20,813
1990	7,929	21,203
1991	7,931	21,274
1992	8,105	21,732
1993	8,159	22,002
1994	8,250	22,354
1995	8,368	22,511
1996	8,487	22,950
1997	8,631	23,296
1998	8,765	23,582
1999	8,853	23,783
2000	8,943	24,100
2001	9,018	23,750
2002	9,125	24,013
2003	9,155	23,868
2004	9,314	24,349
2005	9,304	24,258
2006	9,294	24,243
2007	8,933	23,196
2008	8,649	22,522
2009	8,584	22,472
2010	8,561	22,533
2011	8,504	22,101
2012	8,484	22,002
2013	8,468	21,866
2014	8,509	21,996
2015	8,662	22,311
2016	8,819	22,649

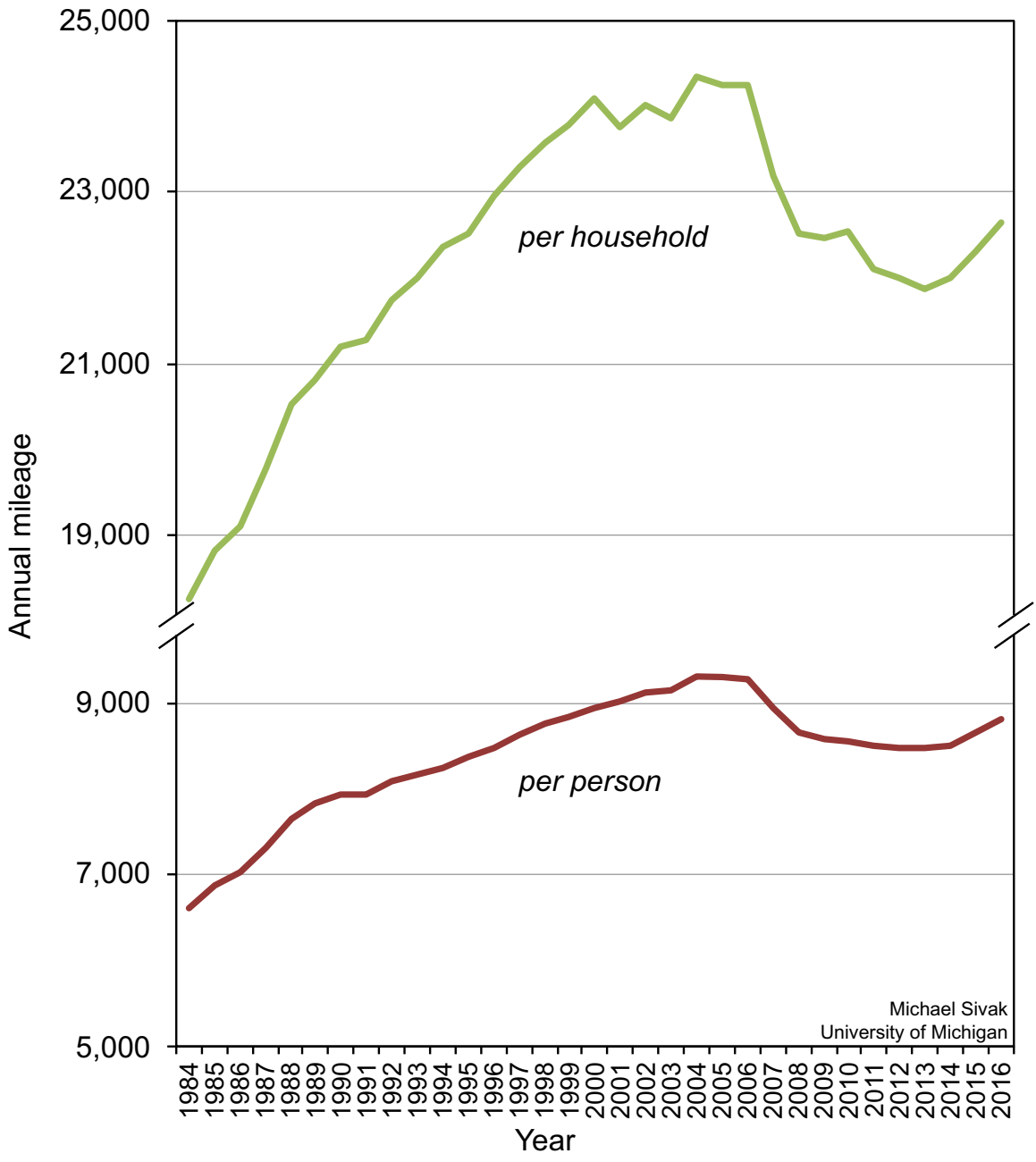


Figure 2. Distances driven per person and per household, 1984-2016.

The main aspects of the data in Tables 1 and 2 (and Figures 1 and 2) are summarized in Table 3.

Table 3
The main aspects of the data in Tables 1 and 2 (and Figures 1 and 2).

Measure	Maximum year	Change from the maximum to 2016	Post-maximum minimum year	Change from the post-maximum minimum to 2016
<i>Vehicles</i>				
per person	2006	-2.5%	2012	+3.0%
per household	2006	-4.0%	2013	+2.1%
<i>Distance driven</i>				
per person	2004	-5.3%	2013	+4.1%
per household	2004	-7.0%	2013	+3.6%

Key findings

Vehicle ownership

- The rates per person and per household both reached their maxima in 2006.
- The rate per person decreased from 2006 to 2012, and the rate per household decreased from 2006 to 2013.
- The two rates for 2016 are down from their maxima by 2.5% and 4.0%, respectively, although they have rebounded from the post-maximum minima reached in 2012 and 2013 by 3.0% and 2.1%, respectively.
- The rate per person for 2016 is at about the same level as the rate for 2002 and 2003, while the rate per household for 2016 is at the same level as the rate for 1994.

Distance driven

- The rates per person and per household both reached their maxima in 2004.
- The rates decreased from 2004 to 2013.
- The two rates for 2016 are down from their maxima by 5.3% and 7.0%, respectively, although they have rebounded from the post-maximum minima reached in 2013 by 4.1% and 3.6%, respectively.
- The rate per person for 2016 is at about the same level as the rate for 1999, while the rate per household for 2016 is at about the same level as the rate for 1995.

Vehicle ownership vs. distance driven

- The decreases in the distance-driven rates from their respective maxima to 2016 (averaging 6.2%) were greater than the corresponding decreases in the vehicle-ownership rates (averaging 3.3%).
- The rebounds in the distance-driven rates from their post-maximum minima to 2016 (averaging 3.9%) were greater than the corresponding rebounds in the vehicle-ownership rates (averaging 2.6%).

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