University Campuses as Leaders in the Shift Away From Driving

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U.S. Public Interest Research Group

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U.S. Public Interest Research Group

• Non-profit, non-partisan consumer advocacy group for 40 years
• Membership-based citizen organization.
• State affiliate organizations in 27 states, plus a DC federal office.
• Funded mostly by small contributions from hundreds of thousands of citizens.
• Most research presented here supported by the Rockefeller Foundation.
• This research mostly collaboration with Tony Dutzik at Frontier Group, a non-partisan policy think tank.
Working Backwards

- Shift from driving
- Led by younger Americans
- Why the shift?
- Broader implications
- Role of universities (why, how and why it matters)

The Driving Boom

1946-2004
Forces Behind the Driving Boom

- Rising workforce participation
- Baby Boom – temporary spike in share of population in “peak driving” age groups
- Creation of suburbs and population shift out of cities
- Cheap gasoline
- Increasing vehicle ownership (enabled by rising household incomes)
- Drivers’ licensing becoming near-universal

All of these trends have peaked and some have reversed.

Per-Capita VMT shows depth of trend:

- 9 years in a row decline
- 7.5% decline
- Currently at 1995 levels

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Break from the Past

12-Month Moving Average of total Vehicle Miles Travelled, in billions miles as of February 2014

Source: Federal Highway Administration

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Percent Change in Vehicle Miles Traveled, 2005-2011

Florida down 11.1%
Florida

Annual total VMT down 15 billion miles since 2007

Source: Florida Highway Data Sourcebook

Florida Vehicle Miles Traveled

<table>
<thead>
<tr>
<th>Year</th>
<th>Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>100</td>
</tr>
<tr>
<td>1995</td>
<td>130</td>
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<tr>
<td>2000</td>
<td>200</td>
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<tr>
<td>2005</td>
<td>220</td>
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<tr>
<td>2010</td>
<td>230</td>
</tr>
<tr>
<td>2015</td>
<td>210</td>
</tr>
<tr>
<td>2020</td>
<td>200</td>
</tr>
</tbody>
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Largest 100 Urbanized Areas Shift Away from Driving

<table>
<thead>
<tr>
<th>Change</th>
<th>Percent of Large Urbanized Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in the proportion of workers working at home</td>
<td>100/100</td>
</tr>
<tr>
<td>Decrease in the proportion of workers commuting by private vehicle</td>
<td>99/100</td>
</tr>
<tr>
<td>Decrease in percent of households with 2+ cars</td>
<td>86/100</td>
</tr>
<tr>
<td>Increase in the proportion of workers commuting by bicycle</td>
<td>85/100</td>
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<tr>
<td>Increase in percent of car-less households</td>
<td>84/100</td>
</tr>
<tr>
<td>Decrease in vehicle-miles traveled per capita</td>
<td>54/74</td>
</tr>
<tr>
<td>Increase in transit passenger-miles traveled per capita</td>
<td>60/98</td>
</tr>
</tbody>
</table>

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Percent Increase or Decrease VMT per capita for 100 Largest Urbanized Areas, 2006-2011

- Jacksonville: -10.6%
- Pensacola: -10.3%
- Palm Bay: -9.3%
- Miami: -8.6%
- Tampa-St.Pete: -7.2%
- Orlando: -6.0%
- Cape Coral: -5.0%
- Sarasota: -4.4%

Share of Walking, Biking or Public Transit Trips on Typical Day

- 2000: 11%
- 2012: 23%
Millennials Lead the Shift


The share of 14 to 34 year olds without a drivers license increased from 21% to 26% from 2000 to 2010 (FHWA).

Millennials: More transit, biking, walking

16-34 year olds 2009 compared to 2001:
- 40% more transit miles
- 24% more bike trips
- Walked 16% more often

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Youth more likely not to get a drivers’ license.

#1 reason: “Too busy or not enough time.”

![Bar chart showing percentage of licensed drivers by age group and year.](image)

Source: Sivak and Schoettle 2011 and 2013

Younger people want to drive less

![Bar chart showing percent of age group that said they strongly or somewhat agreed.](image)

In the survey by KRC Research and Zipcar, participants were asked to what extent they agreed with the statement, “In the past year, I have consciously made an effort to reduce how much I drive, and instead take public transportation, bike, walk or carpool when possible.” The percent of the age group that said they strongly or somewhat agreed is displayed below.

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"The large generation-Y demographic cohort orients away from the suburbs to more urban lifestyles, and these young adults willingly rent shoebox-sized apartment units as long as neighborhoods have enticing amenities with access to mass transit."

-Urban Land Institute/PricewaterhouseCoopers, *Emerging Trends in Real Estate*, 2013
The Future?

DOTs have been slow to learn

Source: SSTI (2014)
VMT predictions from USDOT's Conditions & Performance reports, compared with actual VMT from FHWA's Travel Volume Trends reports. All the C&P reports include estimates from the HPMS; the 2013 report also includes an estimate based on a 35-year trend.
Scenarios for the Future

Depends crucially on Millennial generation – 80 million

“Public transportation investment strategies will need to transform if trends toward increased multifamily housing, declines in driving, and increasing public transportation usage continue over the long run. ...In our view, the transportation needs of the next 50 years will be markedly different from those of the past 50 years. U.S. policymakers must begin adapting their current decisions to these future needs.”

March 2014
Why the Shift

• Culture/Attitudes?
• Economy?
• Technology?

Culture and Attitudes?

• Growing desire to live in cities
• End of the love affair with the car
• Do cars still represent freedom?
• Technology supplanting autos for connectivity and status?
Aspirations shifting from auto-centric lifestyle:

The American Planning Association 2014 survey found strong attitudes among Millennials (21-34 years of age) supporting alternatives to driving when considering where they want to live:

- 81% say affordable and convenient transportation alternatives to the car are at least somewhat important when deciding where to live and work.
- Only 8% would prefer to live if they can afford it in “a suburb where most people drive to most places.” 41% of believe they live in such a suburb now.
- Looking to the future, 31% of said they want some combination of trains, light rail, buses, carpooling, car sharing, ride sharing, bicycling, bike sharing or walking to be their primary way of getting around.
- 59% feel there are not enough non-car transportation options in their area.

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Economy?

Slower economy relevant

- More commerce spurs more travel
- Unemployed people drive half as many miles as employed
- Gas prices high compared to pre-2000 levels
- If the economy heated up, would driving too?

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Strong reasons to think trends more than temporary outgrowth of recession

- Timing of recession doesn’t match (Dec 2007- June 2009)
- Affluent and employed youth drive less too
- VMT and GDP unlinked
- Gas prices don’t track VMT closely
- States and urbanized areas hit harder by economic downturn didn’t see bigger drops in VMT
- Even if it was “just the economy,” has it become more?

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VMT and Economic Growth No Longer Track Each Other

Source: BEA, Bureau of Economic Analysis, Census Bureau. Values for 1956 are converted to 1.
Gas Prices?
No consistent pattern
Correlation becoming weaker

More Unemployment Doesn’t Correspond with Lower VMT

Variations in VMT decline by state and urban area have not tracked with changes in employment or income.

Among 23 states with above average declines in VMT/capita, only 6 saw above average unemployment hikes.

Similarly, urbanized areas with bigger increases in unemployment and poverty did not see larger reductions in VMT/capita.
When does “just the economy” become something more?

Can we assume slower growth, high student debt, elevated gas prices aren’t normal?

Habits and expectations become established over time – especially for those coming into adulthood accustomed to those norms.

Technological change

>100 million Americans now have access to mobile, internet-connected, location-aware devices that they carry with them 24/7.

Young Americans have adopted new technologies and technology-enabled tools more quickly than older generations.

Pew Center for Internet & American Life, U.S. Department of Commerce
Technology-enabled services

- Carsharing (multiple models)
- Ridesharing
- Bikesharing
- Transportation network services (e.g. Uber, Lyft)

Round-trip carsharing reduces vehicle ownership ... (Susan Shaheen and Adam Cohen, Transportation Sustainability Research Center, Innovative Mobility Carsharing Outlook, June 2013.)

... as does bikesharing. (Shaheen, et al., 2012)

Implications of other models more complex and only now beginning to be understood.

Mobile tech enhances transit experience

Apps:
  - Routing & scheduling
  - Real-time
  - Ticketing

Ability to remain safely connected while in travel is a market advantage vis-à-vis driving.

- Users of real-time information report reductions in perceived wait times. Some surveys (Chicago, Seattle) find increases in ridership.
- Providing on-board wi-fi may increase ridership.

(Mokhtarian, et al., 2013 study of Amtrak Capital Corridor)
Combination of many services may enable access to 24/7 mobility with more choices and lower cost – supporting car-free and car-light lifestyles.

University and Colleges
Actively encouraging students, faculty and staff not to use personal vehicles
Why it Matters

- Campuses are like cities unto themselves
- Establish lasting transportation norms among Millennials
- Example to local government for transportation, land-use and economic development policy
- Jumpstart and trailblaze new practices

Why Universities Do It

- Parking consumes precious land, prevents vibrant walkable spaces
- Parking is expensive, especially multi-level and underground
- Cars and traffic aggravate town-gown relations
- Young people want transportation options, walkability
- Extraordinary planning capacity (long-term master plans)
- Seek to be environmental leaders

- Innovative programs are showing success....
Fewer Cars Saves Space

Provide access to free or discount transit services

• Offer free shuttle service (over 100 universities) – Free service is also faster
• Provide resources for local transit agency service
• Provide universal transit pass (U-Pass), sometimes with student ID

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Programs to Promote Bicycle Use

- Subsidize membership in local bike share program
- Provide own bikeshare service
- Free or at-cost bicycles
- Discount bike repair
- Bike parking

*University of Wisconsin-Madison* – 22% of students bike to campus in good weather, up from 14% in 2006.

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Bike and pedestrians paths, underpasses and bridges

Separate right of way increases safety, ease, experience

*The University of Colorado Boulder* has supported the build-out of bicycle and pedestrian paths in Boulder, including the city’s 58 miles of paved pathways and 78 underpasses. By 2012, roughly 60 percent of all trips made by students at CU-Boulder were by bike or foot, nearly nine percentage points more than in 1990.
Ridesharing

Encourage carpooling with incentive programs and partnerships with online ridesharing services that connect drivers with others. Some provide a guaranteed ride home, whereby universities pick up the tab for a taxi should an emergency require the student or employee to leave campus suddenly.

- *The University of California, Davis* – Among graduate students (more likely than undergraduates to live at a driving distance), carpooling to campus rose from 3.4 percent in the 2007-2008 academic year to 6.9 percent in 2011-2012.

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Carsharing programs

Allows access to nearby cars located without burden of owning. Universities offer discounted memberships in carsharing programs.
Universities Can Show the Way...

• Concerted planning around clear goals
• Reducing long-term costs
• Meeting demand for car-light or car-free lifestyles
• Model for cities pursuing economic development by drawing young talent

To Read the Research Reports

Available at: uspirg.org/page/usp/changing-transportation
Thank you!

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Questions...Comments...?