

**CUTR**  
CENTER for URBAN  
TRANSPORTATION  
RESEARCH

## New Data, New Research Priorities

National Household Travel Survey: Building on 50 years of experience

**Applying Census Data for Transportation Conference**

Wednesday, November 15, 2017 • Steven E. Polzin, PhD.

# Perhaps the Most Transformational Period in Transportation Since the Development of Personal Vehicles



**Demographics**

**Economics**

**Governance**

**Culture/values**

**Technology**



**“More data does not help without more understanding.”**

**Colin Harrison**

## **NHTS Remains the Preeminent Resource for Understanding Travel Behavior**

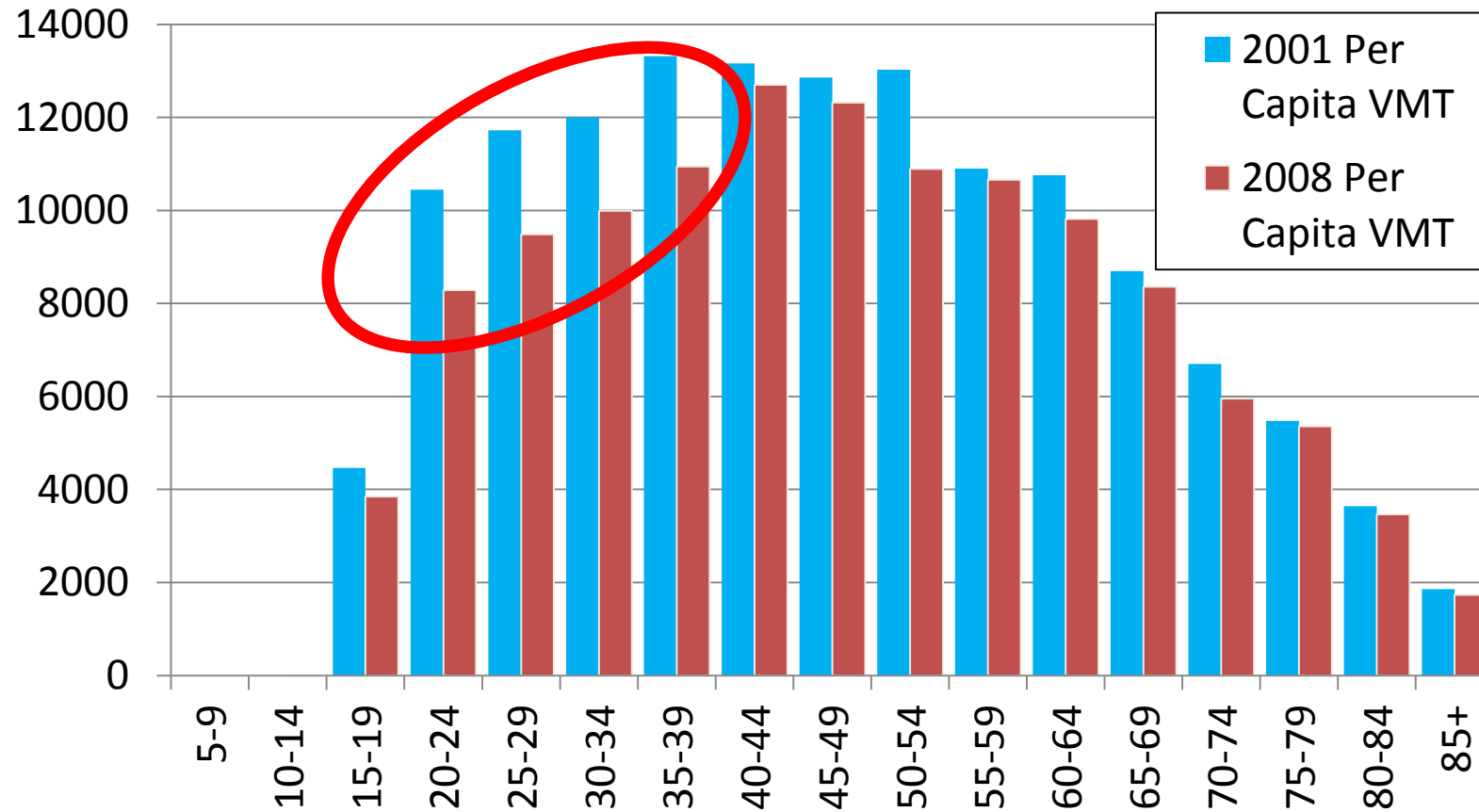
- National sample
- Longitudinal data set
- All (or most) travel
- Rich understanding of household characteristics
- Robust set of historical studies
- Able to be fused with other data

# Revisit Prior Issues

- Demographic/economic
- Geographic
- Modal
- Other

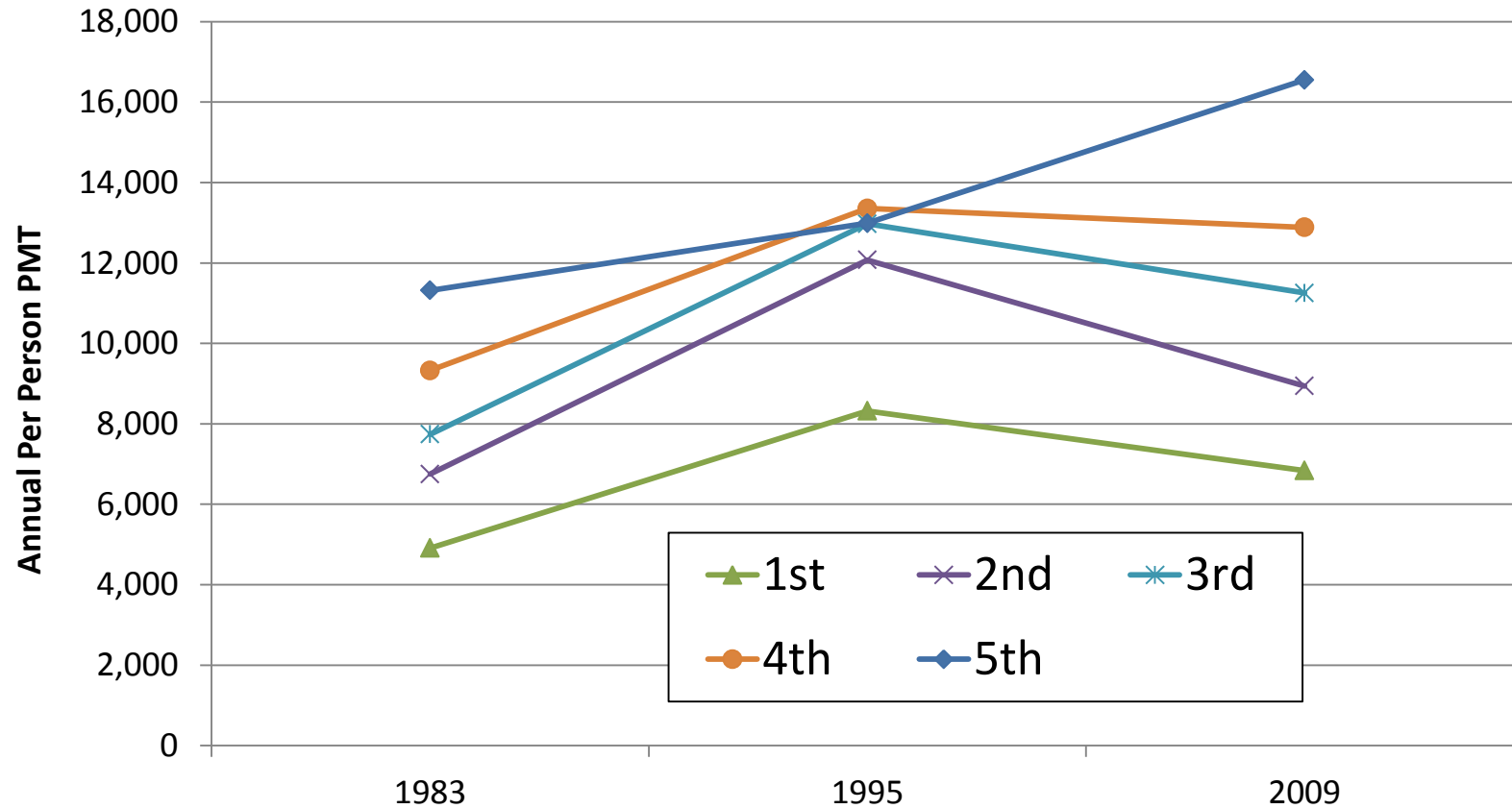
# Millennial Travel

## PMT and VMT per Capita by Age



# Demographic Hot Topics – Real income

## PMT by Income



# Demographic Hot Topics

- Millennial on the basement - are multi adult untraditional households behaving differently?
- Are travel differences across race/ethnic groups changing?
- What is the travel behavior of the growing downtown residential populations?
- How pronounced are the travel differences by cultural geography? ( urban/rural, coastal/interior)
- Differential behavior of low income travelers in different urban locations?

# Modal Issues

- What can we learn about the bounce back in VMT?
- Insights on declining transit use?
- Who is carpooling?
- Who is working at home?
- Bike, pedestrian trends?
- Communication substitution (trip purpose trends)?

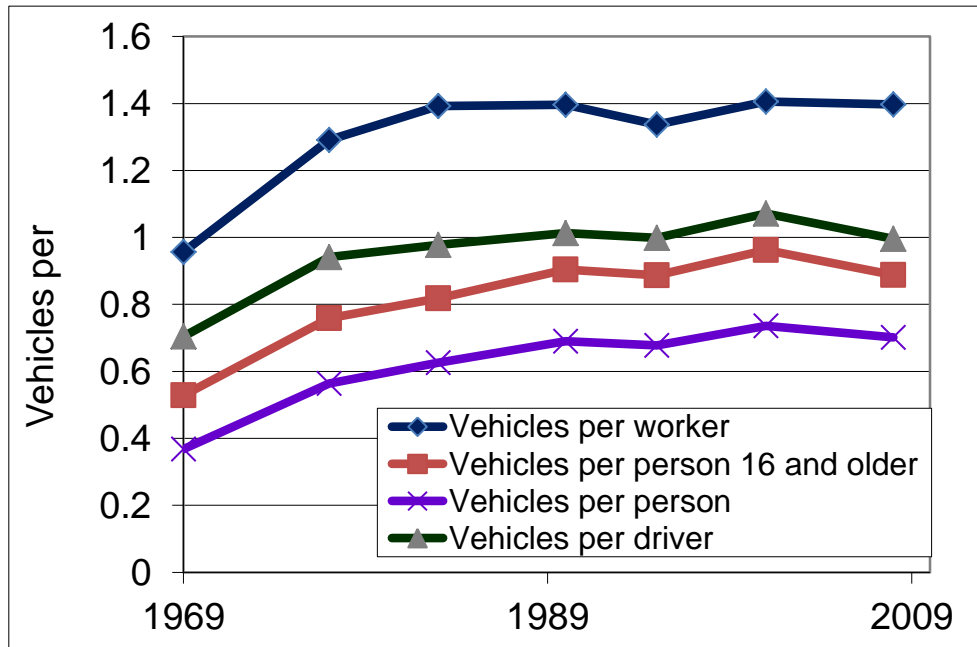


# Explore Emerging Issues

- TNC, Bikeshare, emerging modes
- Electric vehicle use
- Propensity to use MaaS or automated vehicles

# Technology Related Hot Topics

## Vehicle Availability



HH Vehicles	National Household Vehicle Ownership Distribution, 2009					
	Number of Adults in HH					All
	1	2	3	4	5+	
0	3.49%	1.12%	0.15%	0.04%	0.01%	4.80%
1	17.29%	8.94%	0.62%	0.12%	0.02%	26.99%
2	3.72%	34.89%	2.10%	0.34%	0.05%	41.10%
3	0.77%	12.56%	3.75%	0.59%	0.07%	17.75%
4	0.20%	3.63%	1.50%	0.73%	0.10%	6.17%
5+	0.12%	1.72%	0.75%	0.44%	0.17%	3.20%
All	25.59%	62.84%	8.86%	2.27%	0.43%	100.00%

2009 NHTS

# Behaviors Related to Propensity to Adapt New Modes/Business Models

- Dynamics of vehicle use in household
- Temporal pattern of household travel
- Pattern of vehicle use over vehicle lifecycle
- Travel group size
- Trip chaining/tours

# Behaviors Related to Propensity to Adapt New Modes/Business Models

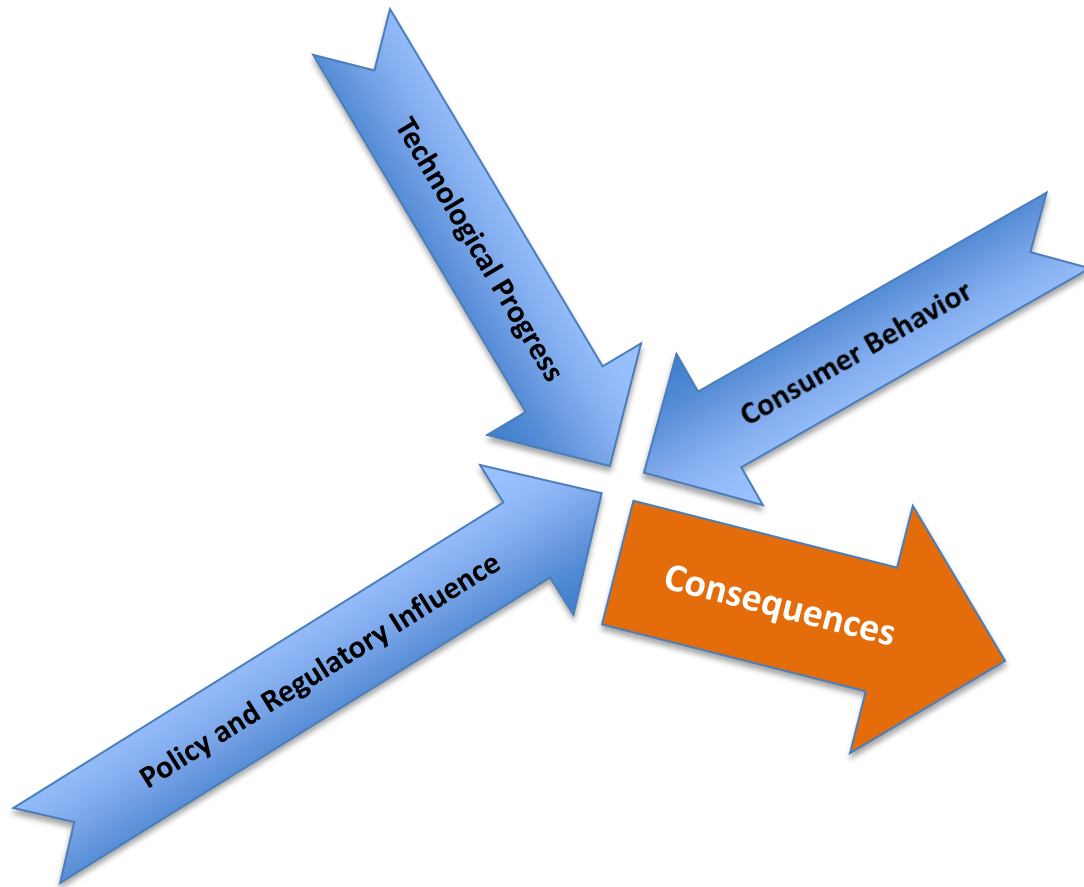
- Mobility aids/child seats
- Products, tools, materials, attachments/trailers
- Temporal trip distribution of all travel

# Other Applications

- Transportation and Energy/Environment
- Transportation and Health
- Transportation and Land Use/Built Environment
- Transportation Funding
- Etc.

# New Opportunities

- Better geocode data
- More data to fuse/merge, integrate with NHTS



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