



**No One Wants To
Carry Grocery Bags
on the Bus**

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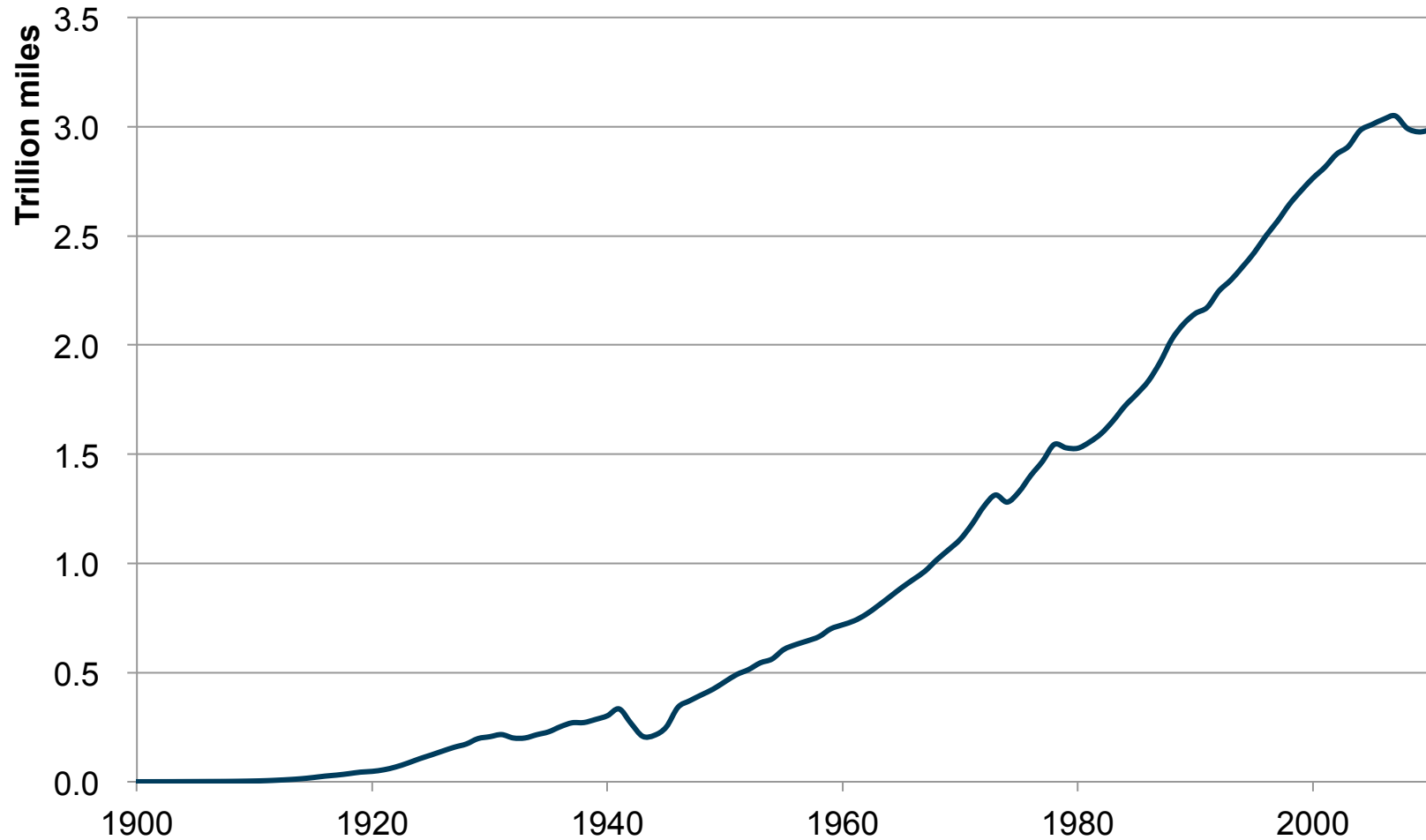
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Overview



- **Motivation:**
Differentiating VMT by trip purpose
- **Past:** Change in driving for shopping since 1969
- **Future:** Implications for private, public, and individual policy

VMT reduction: Critical but elusive energybehavior change in the US



Question: Is driving a mile to go shopping the same as driving a commute mile?

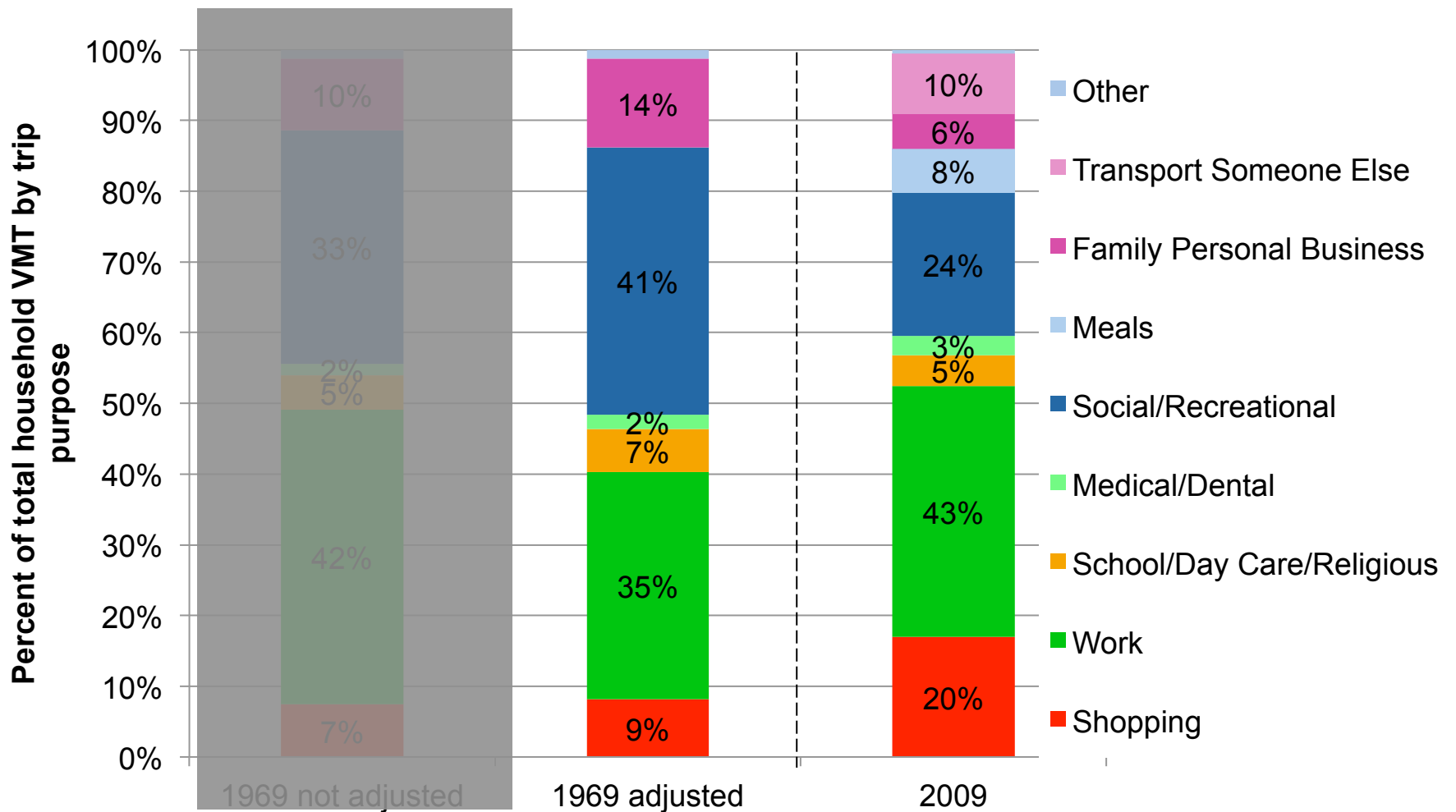
Going to work



Going to shop



Policy: Commute focus does not reflect full range of trip purposes

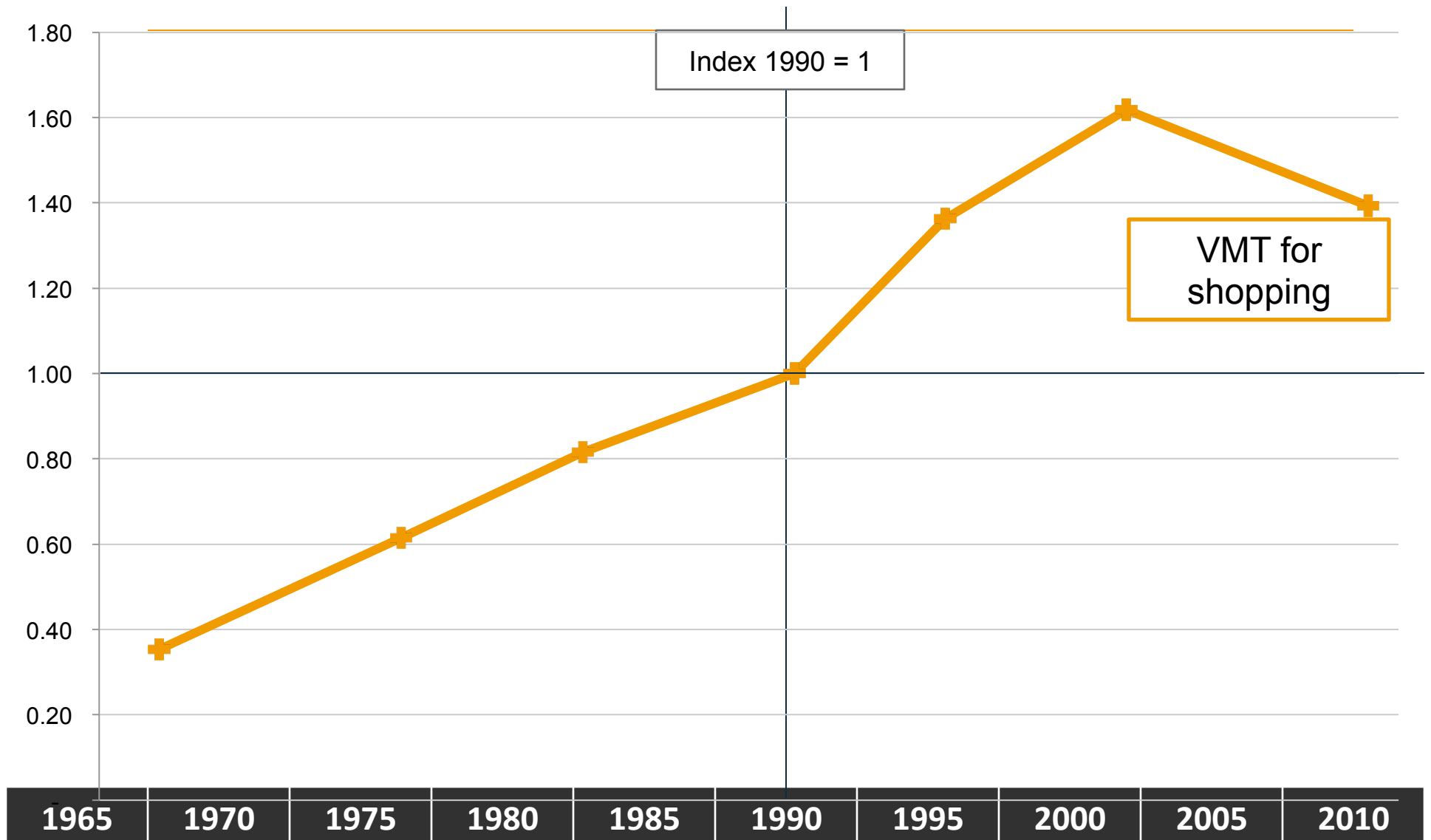


Sources: NHTS (Oak Ridge Nat'l Lab)

Understanding historical behavior: Decomposition of VMT for Shopping

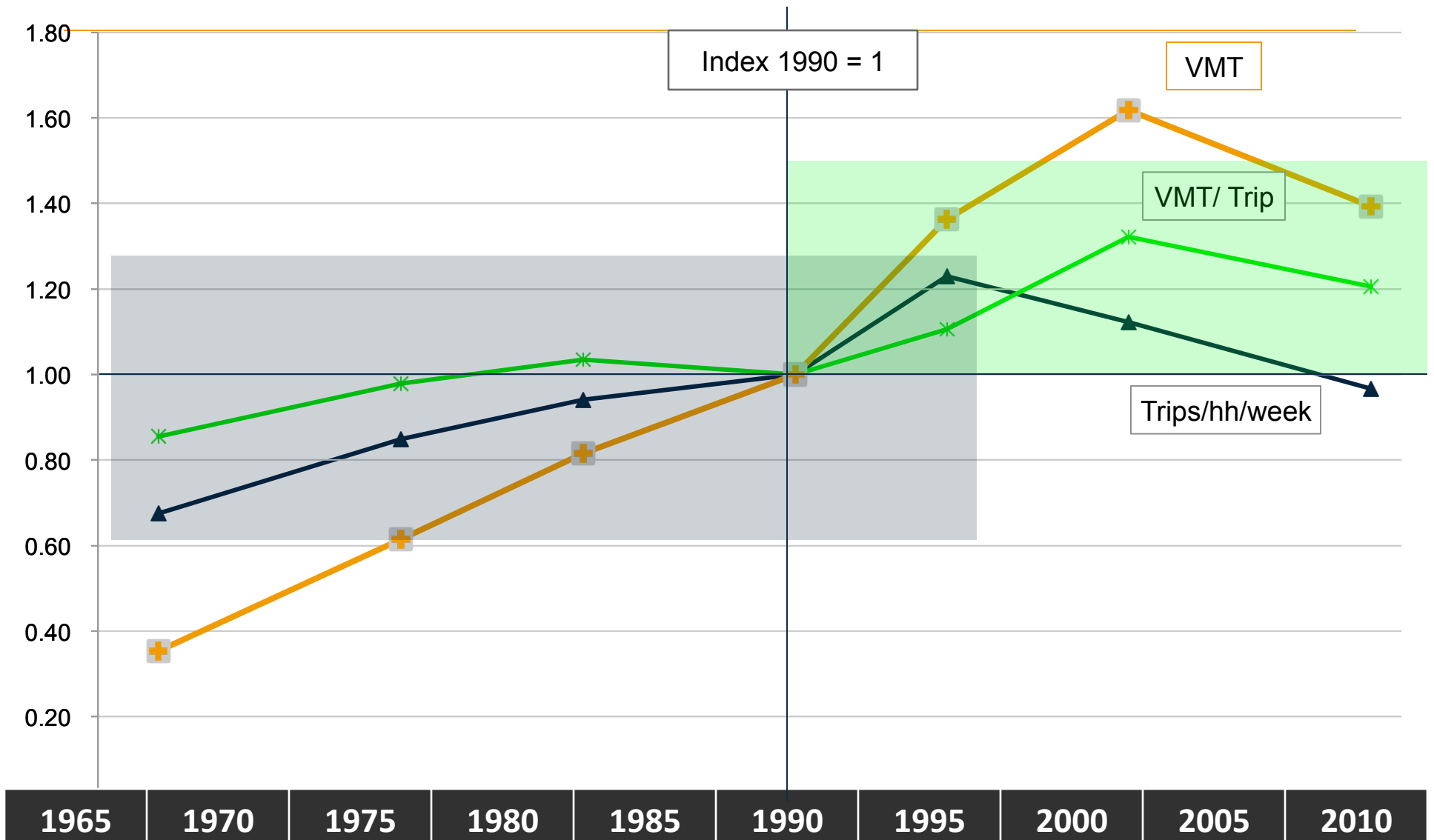
$$\text{VMT}_{\text{shopping}} = \frac{\text{Households}^*}{\text{Capita}} \frac{\text{Shopping trips}^*}{\text{Household}} \frac{\text{Miles}}{\text{Trip}}$$

Driving for shopping



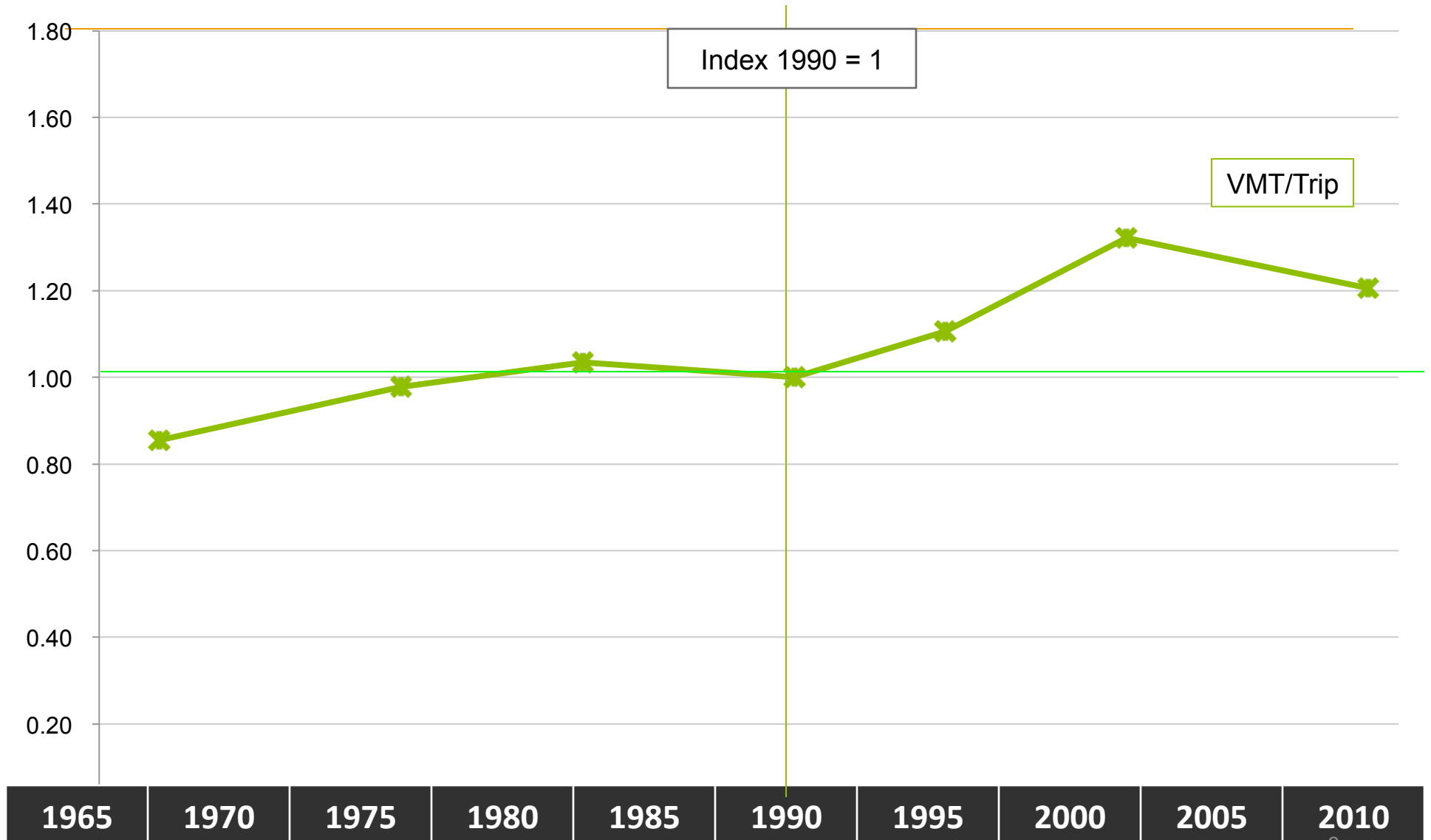
Sources: NHTS, NTS, NPTS (Oak Ridge Nat'l Lab), EIA AER

Driving for shopping



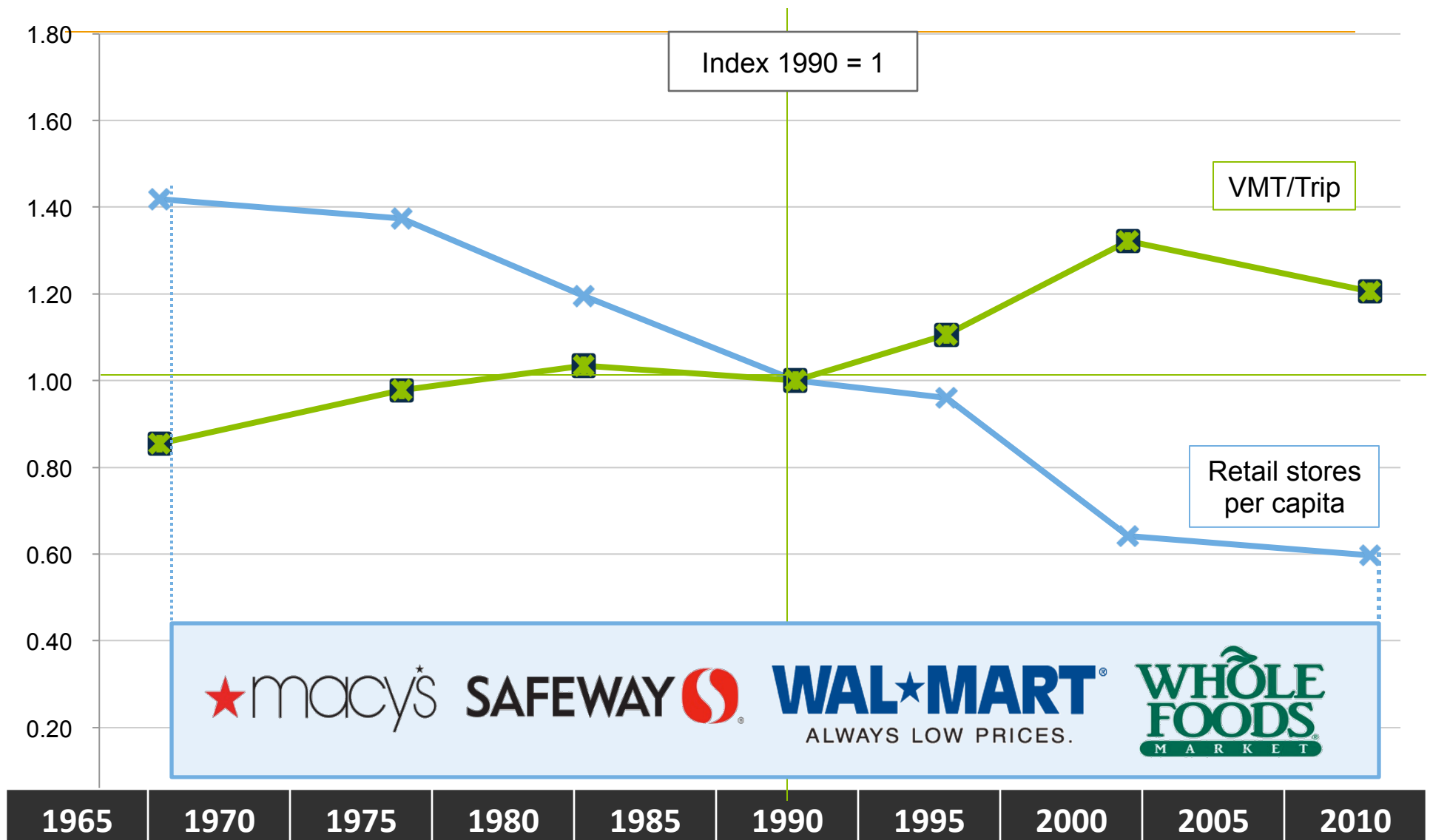
Sources: NHTS, NTS, NPTS (Oak Ridge Nat'l Lab), EIA AER, Census

Why did VMT/trip increase?



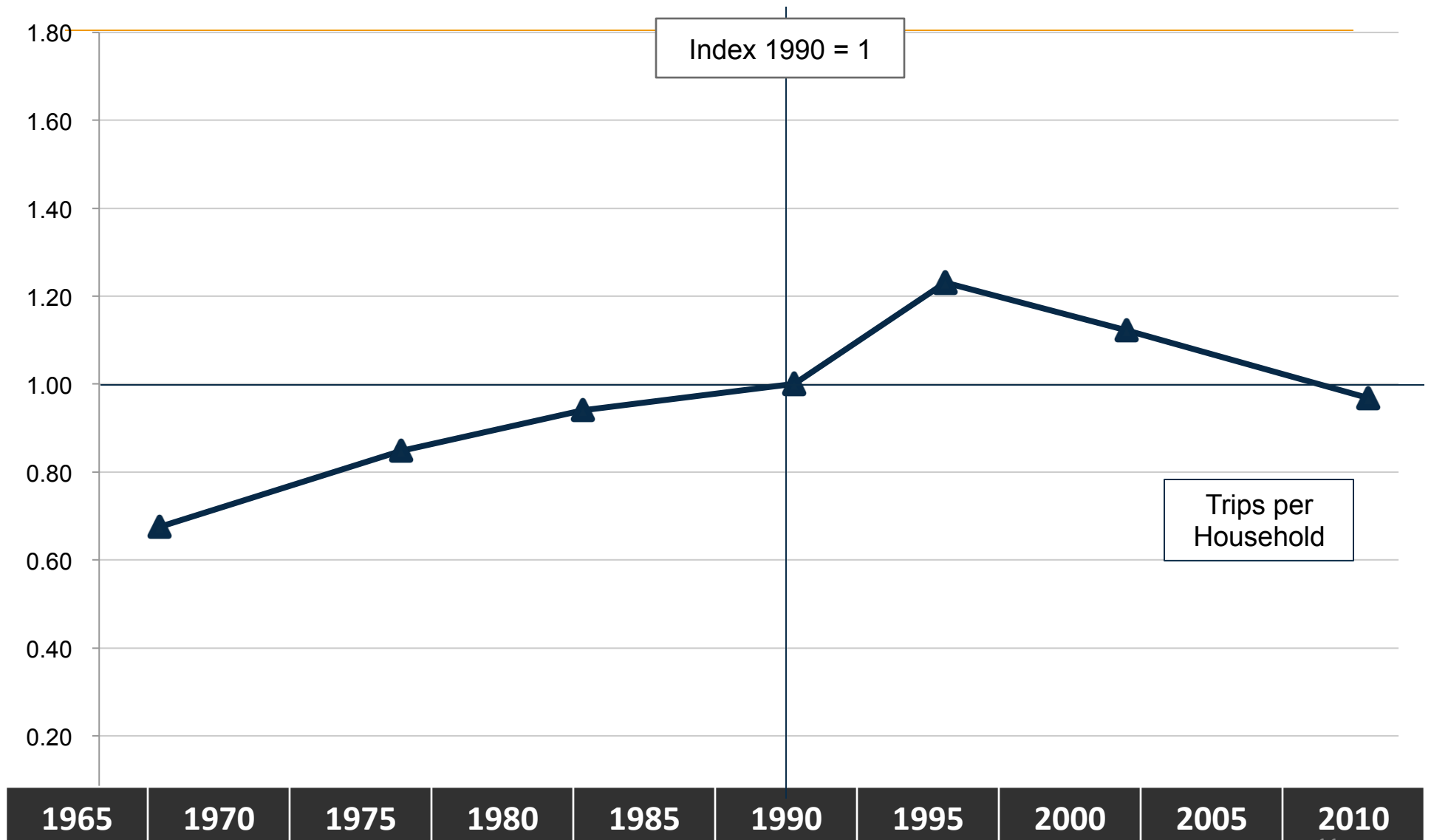
Sources: NHTS, NTS, NPTS (Oak Ridge Nat'l Lab), EIA/AER, Census

Why did VMT/trip increase?



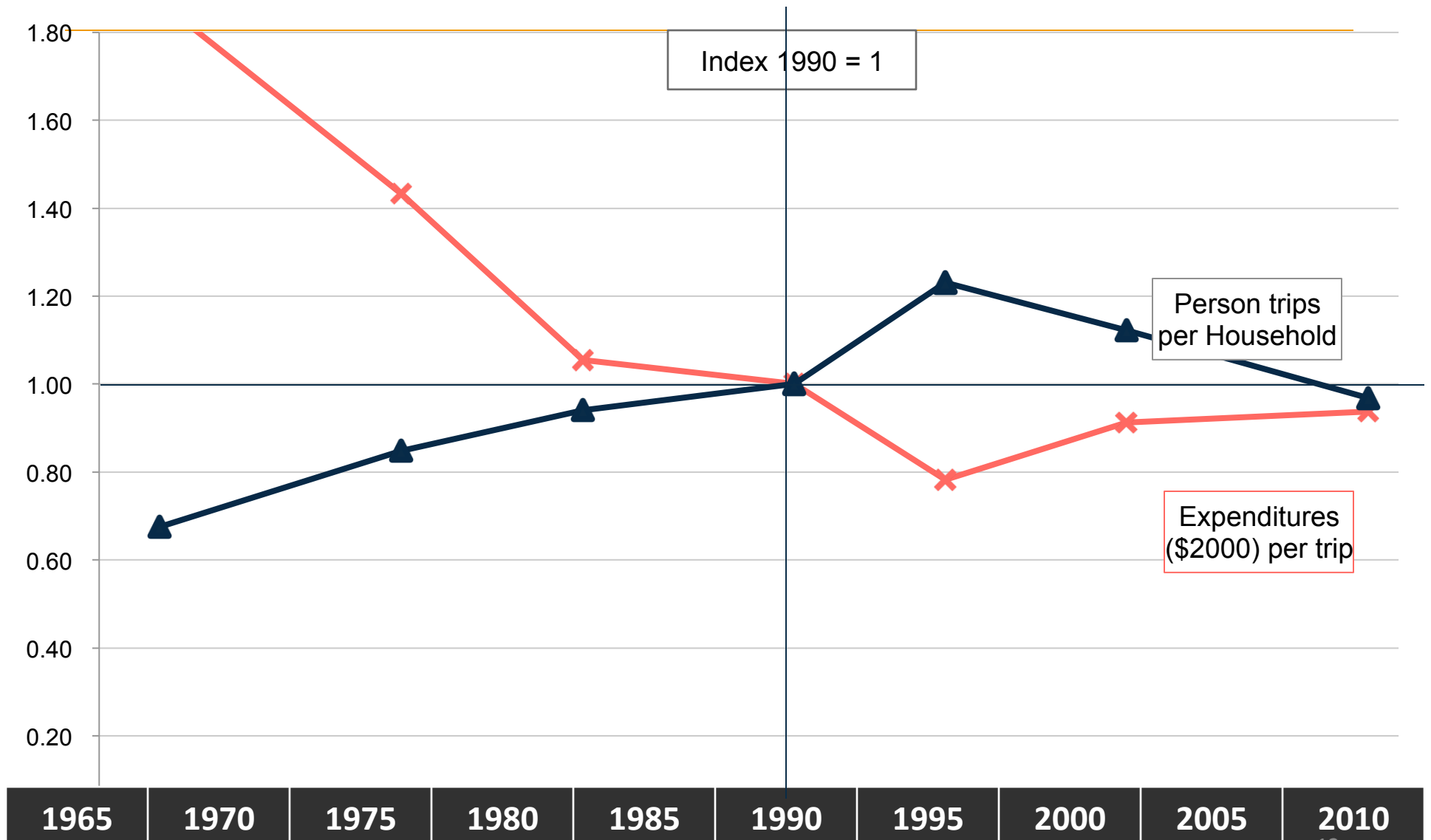
Sources: NHTS, NTS, NPTS (Oak Ridge Nat'l Lab), EIA AER, American Statistical Abstract

Why did trips per household increase?

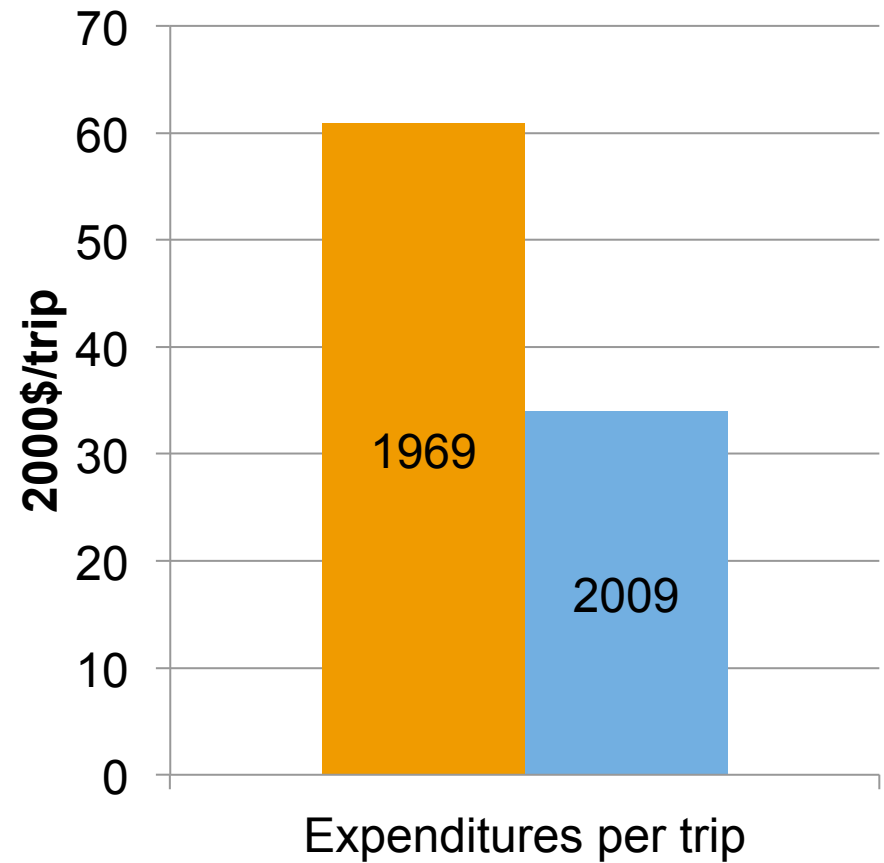
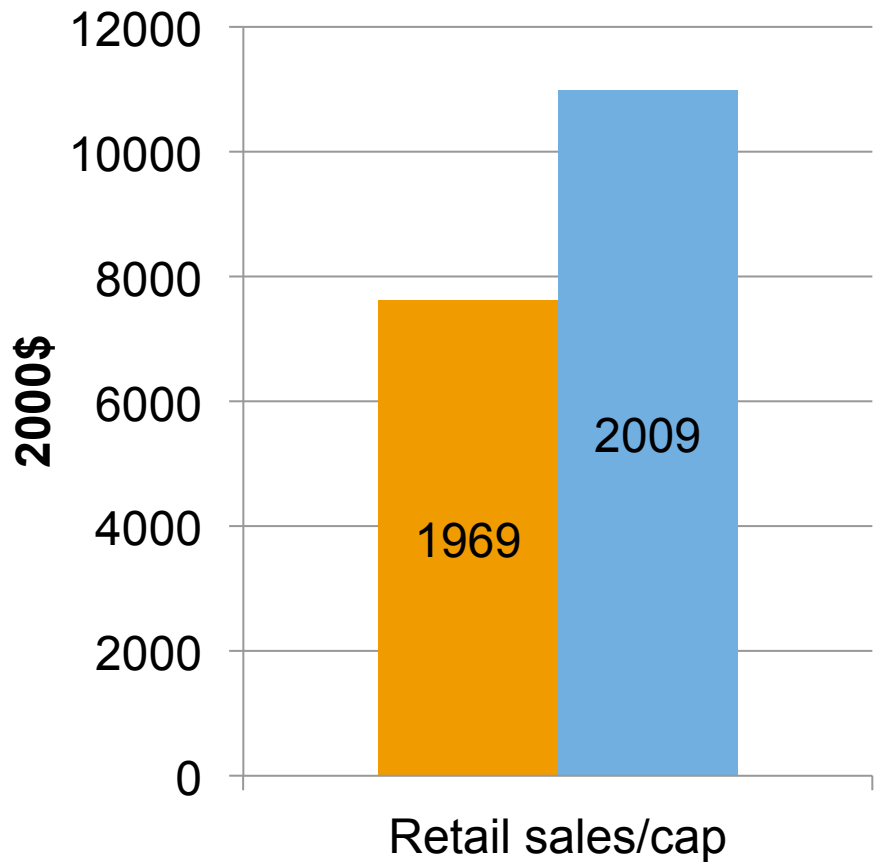


Sources: NHTS, NTS, NPTS (Oak Ridge Nat'l Lab), EIA AER, American Statistical Abstract

Why did trips per household increase?



Trend: Less efficient shopping



Why? What drives this behavior change?

- Fragmentation of household management?
 - Women in the work place, kids with schedules, more time at work for all household adults
- Fresh foods?
- Expansion of the utility of shopping?

What is **NOT** on this list? The “E” Word

	1969	2009
Expenditure on gasoline to drive to go shopping per dollar spent on retail (2000\$)	\$0.006	\$0.008

Implications: What would trip purpose specific VMT-reduction policy look like?

Public

- Data!
- Transit to facilitate shopping? (smaller trips can help!)
- Mail boxes regulations?
- Urban design?

Corporate

- Delivery at work?
- Store location (unintended consequences)?
- Marketing to those already driving by?

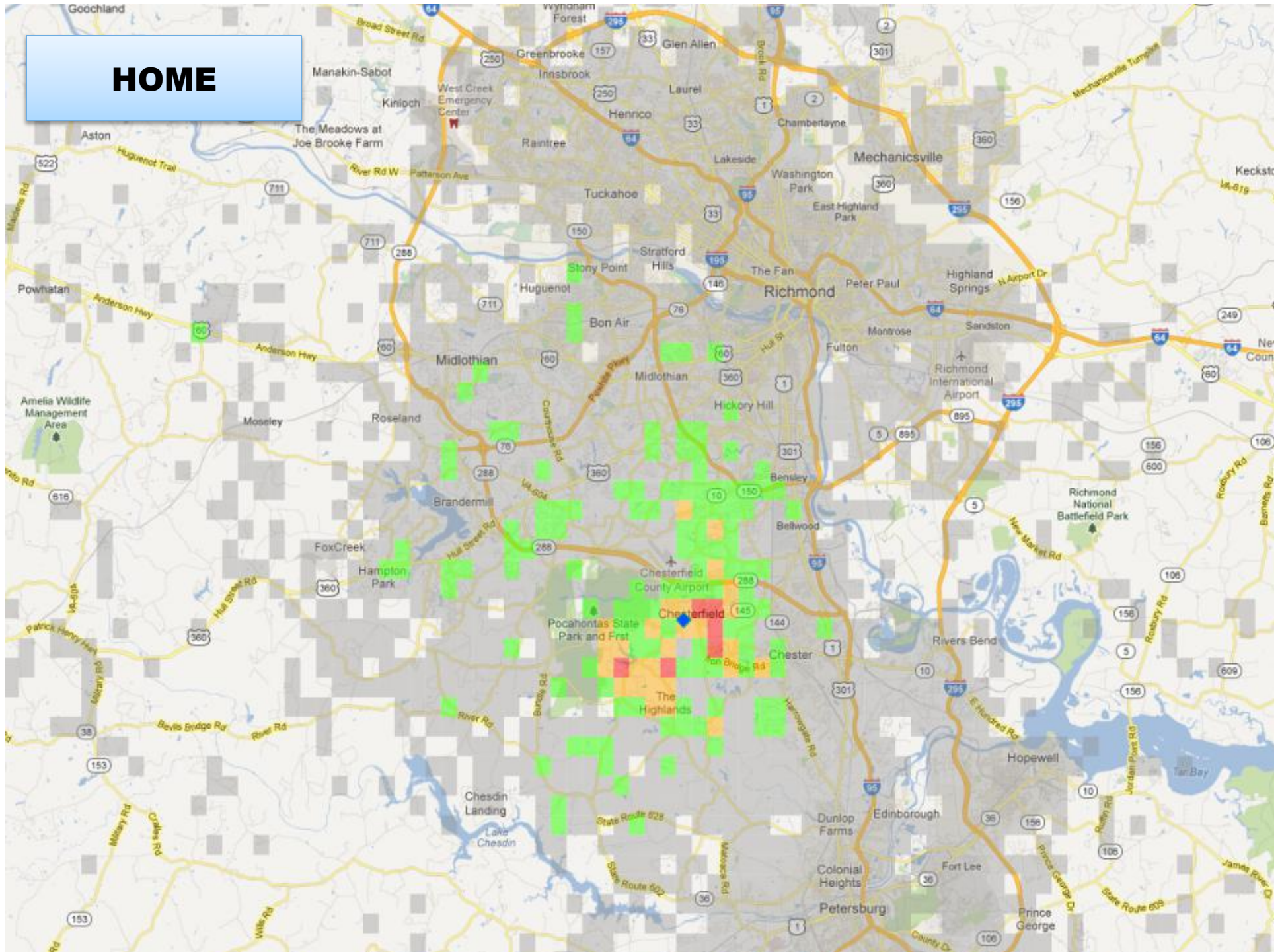
Individual

- Buy less stuff!
- Shop online to displace at driven trips!
- Trip chain!

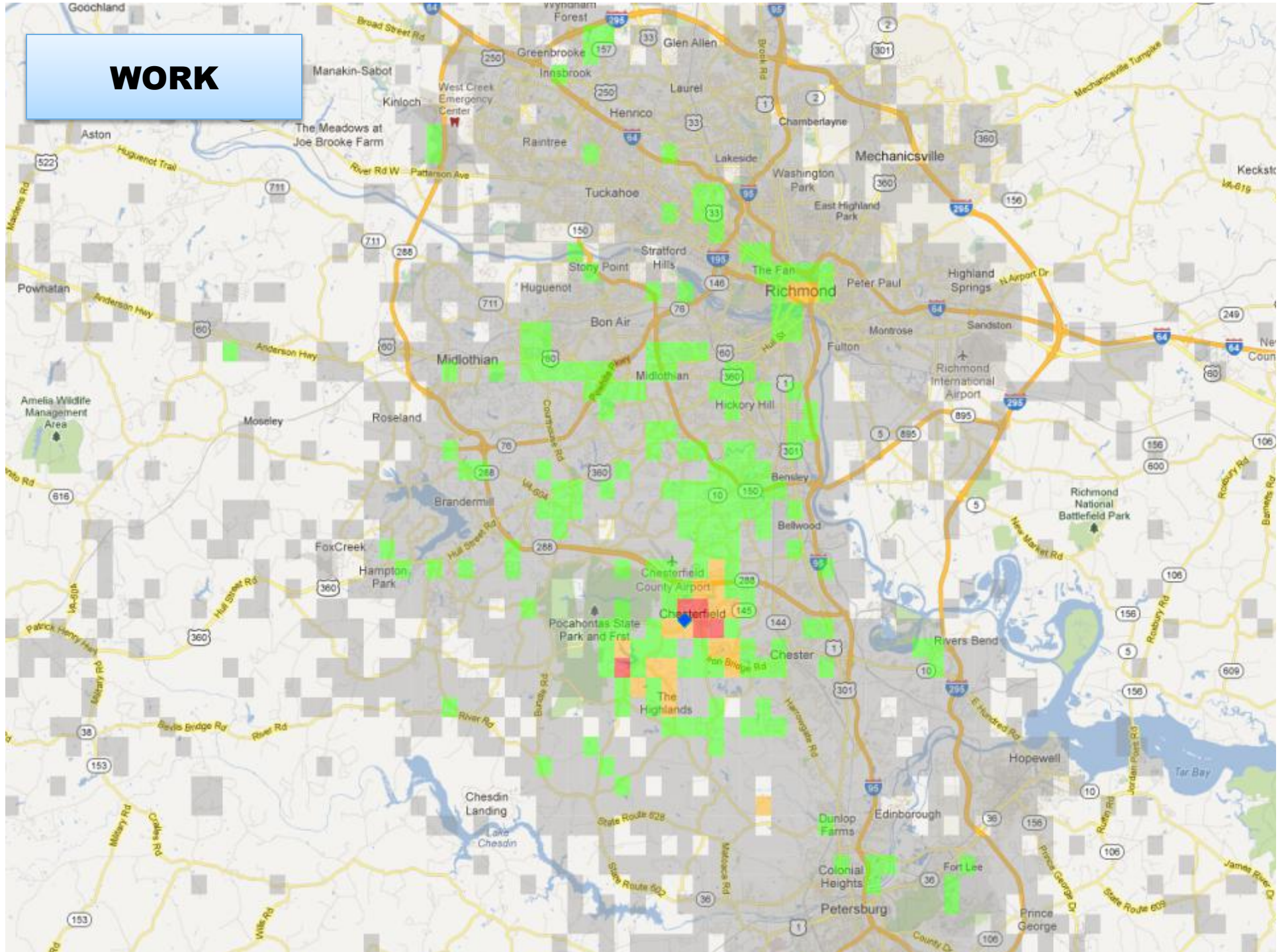
Is Online Shopping our Savior?



HOME



WORK





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