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Going Nowhere *Fast*

Dissecting the Remarkable Fall of U.S. Personal Travel in the 21st Century

Brian D. Taylor, Professor of Urban Planning & Public Policy, UCLA Institute of Transportation Studies

In collaboration with

Phoebe Chiu, Research Data Analyst, UCLA Institute of Transportation Studies
Andy Fung, Undergraduate Student, Sustainable LA Grand Challenge, UCLA
Yu Hong Hwang, Urban Planning PhD Student, UCLA Luskin School of Public Affairs
Eric Morris, Professor, College of Architecture, Art, and Construction, Clemson University
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Samuel Speroni, Urban Planning PhD Student, UCLA Institute of Transportation Studies

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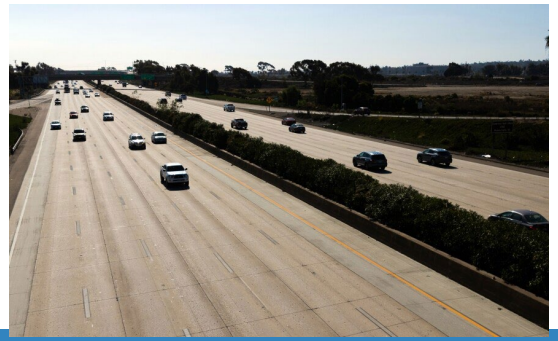
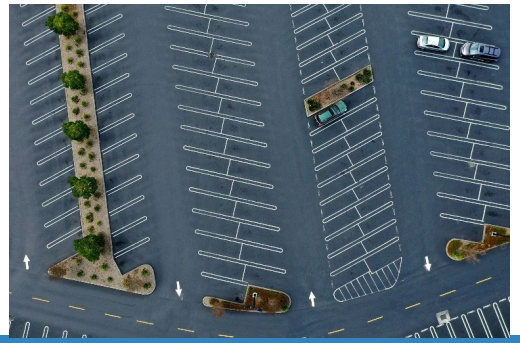
The pandemic and travel

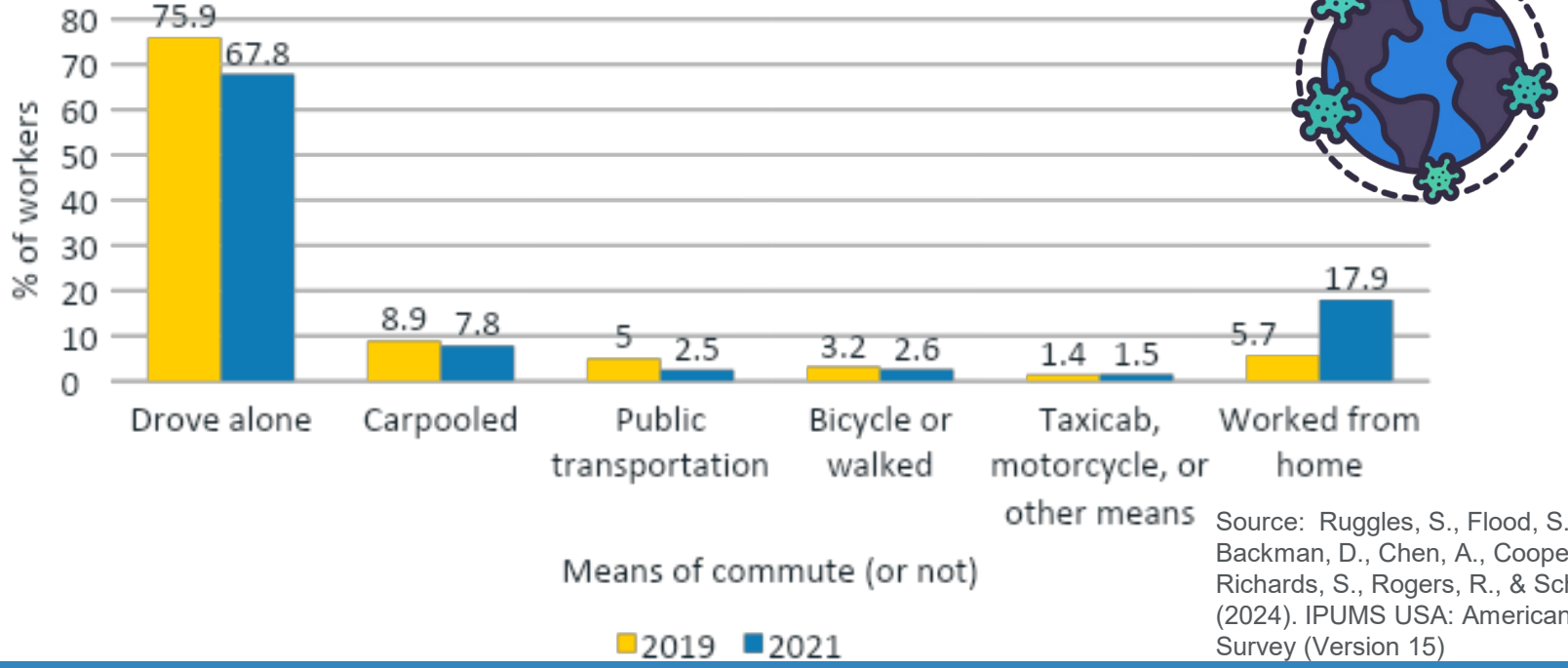
- Early focus on COVID-19 pandemic travel changes
- Recent focus on the pandemic's longer-term effects on cities and travel

The Empty Downtown—A New Normal





The pandemic and the commute to/from work



Source: Ruggles, S., Flood, S., Sobek, M., Backman, D., Chen, A., Cooper, G., Richards, S., Rogers, R., & Schouweiler, M. (2024). IPUMS USA: American Community Survey (Version 15)

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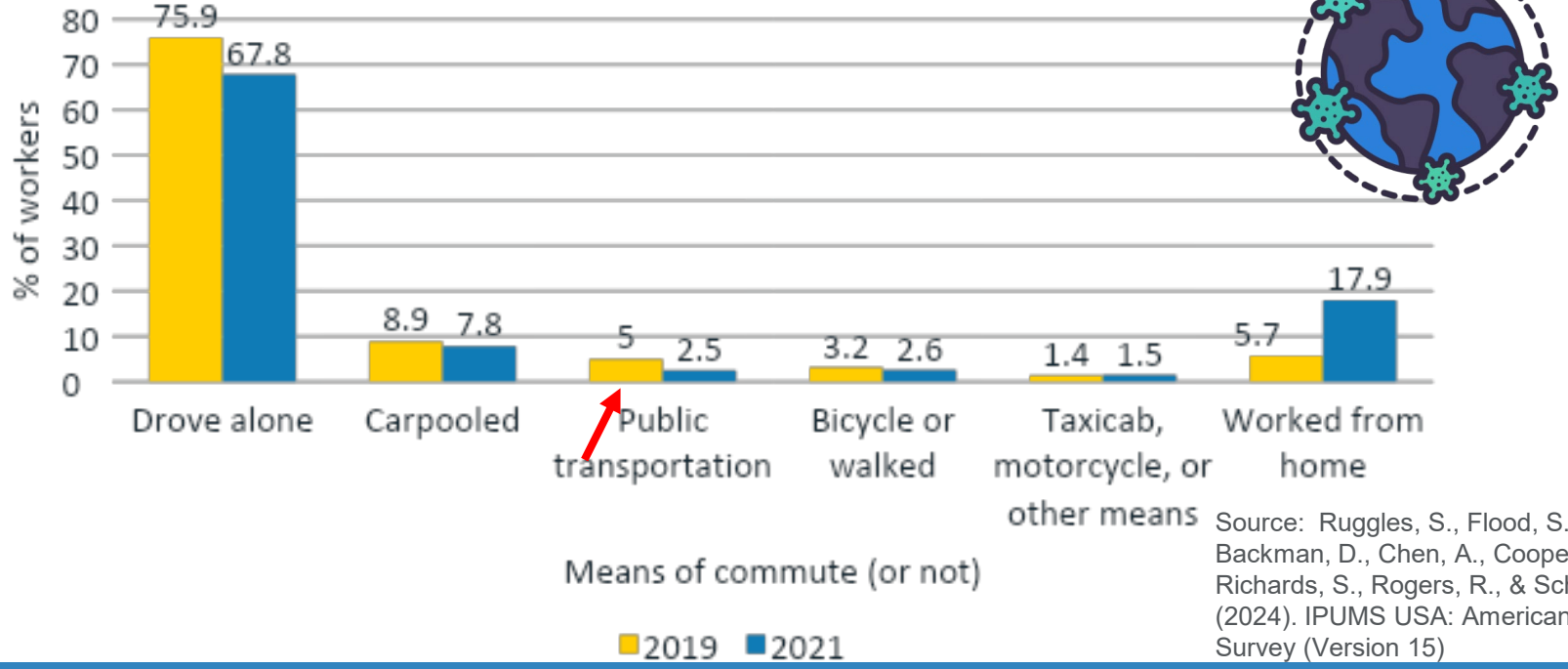

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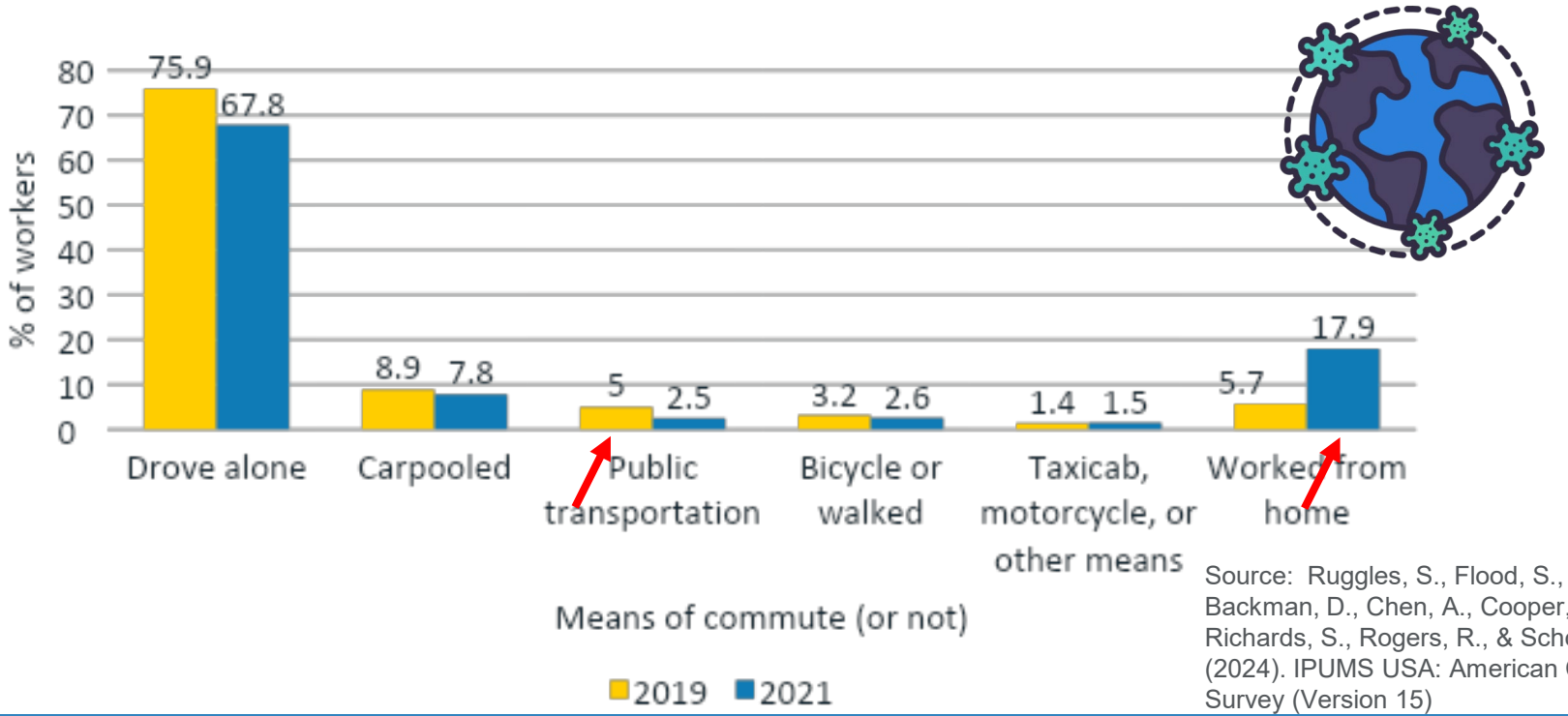

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The pandemic and commuting

Remote Work: The Biggest Legacy Of Covid-19

FORBES > LEADERSHIP > LEADERSHIP STRATEGY

The Surprising Rise Of Hybrid Work

Leaders | The future of work

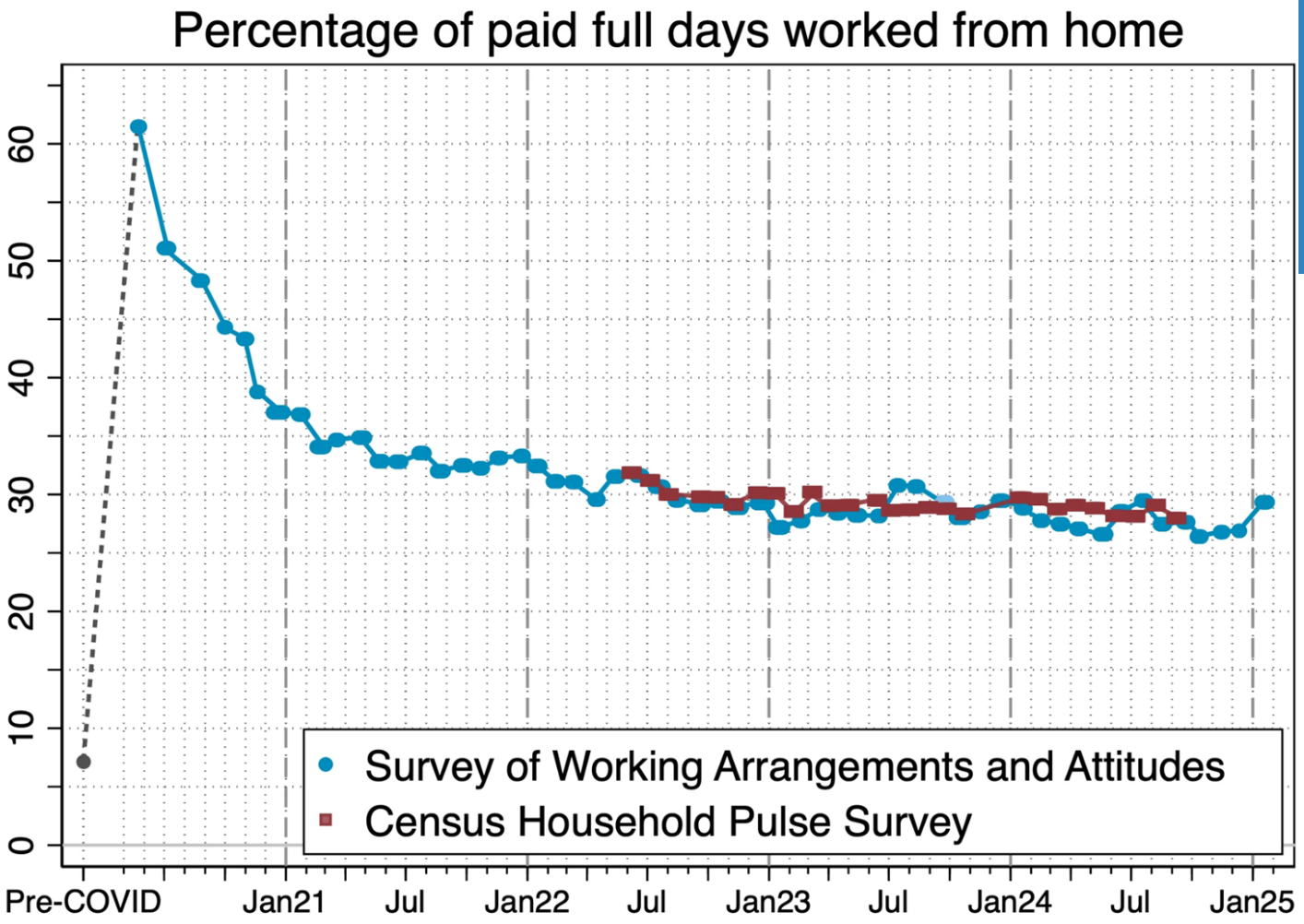
Is the office finished?

The fight over the future of the workplace

The Five-Day Office Week Is Dead

Oct. 16, 2023

The pandemic and the commute



Source: Bloom 2025 - https://wfhresearch.com/

The pandemic and commuting

The New York Times

Stuck and Stressed: The Health Costs of Traffic

The physical and psychological toll of brutal commutes can be considerable.

The Guardian

Revealed: rise in stress among those working from home

- Lots of attention on post-pandemic working-from-home and commuting, and appropriately so
- But commuting is <u>less than 20% of all person trips</u>, and less than a quarter of all vehicle travel

What about travel more broadly?

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Sidebar: Which of the following is terribly disappointing?

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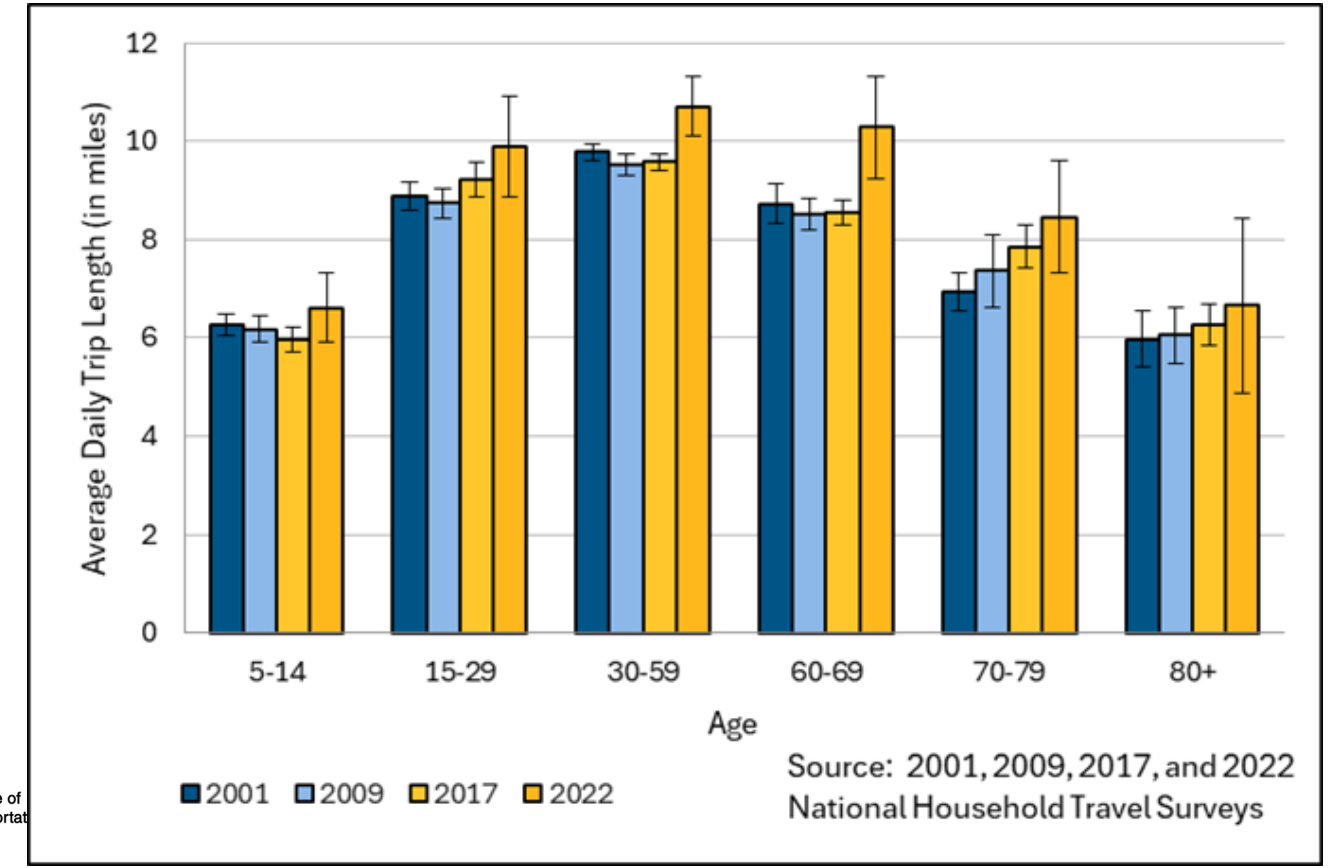
ANSWER: All of the above

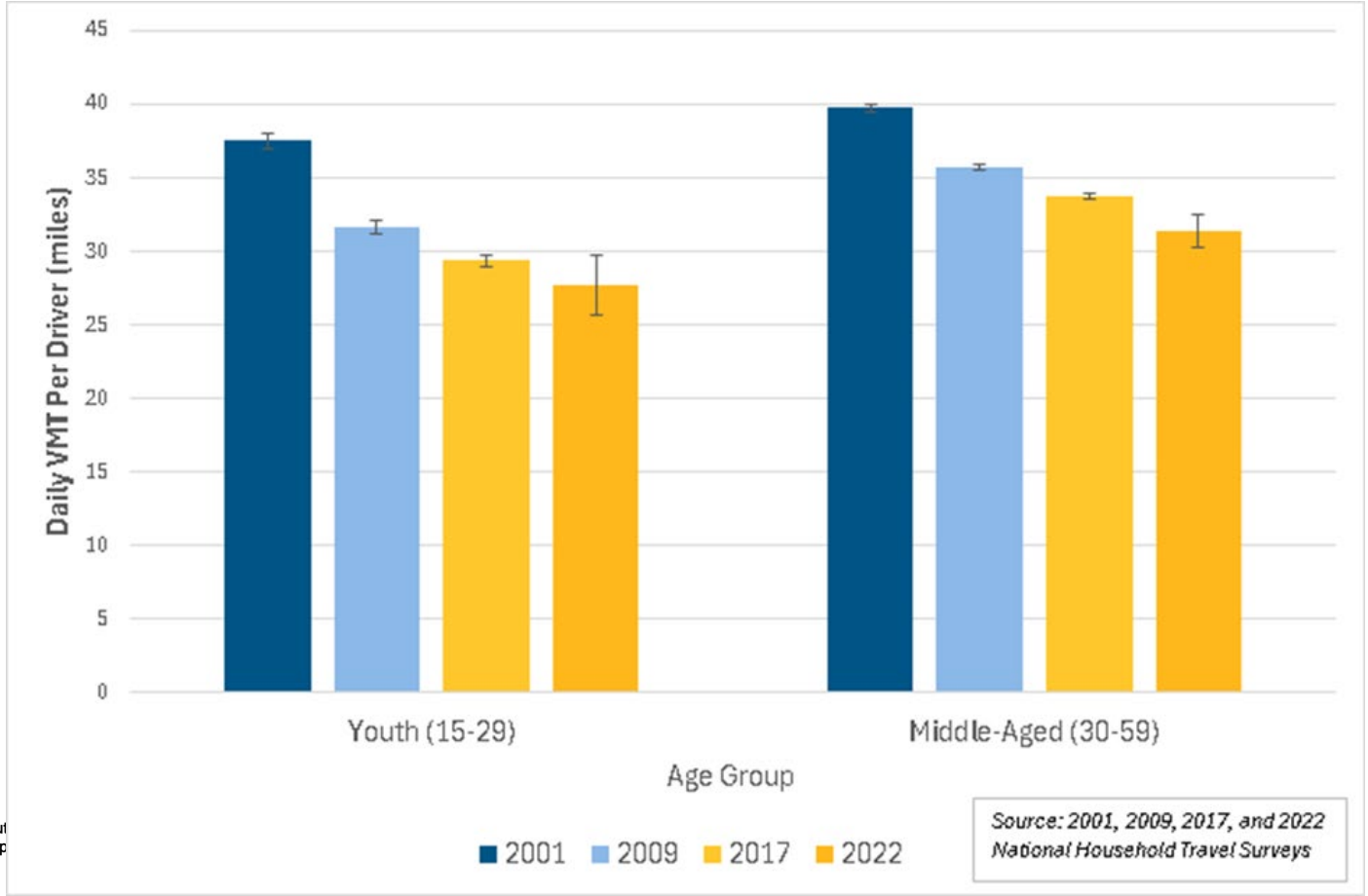
That said…

Let’s look at some NHTS Data

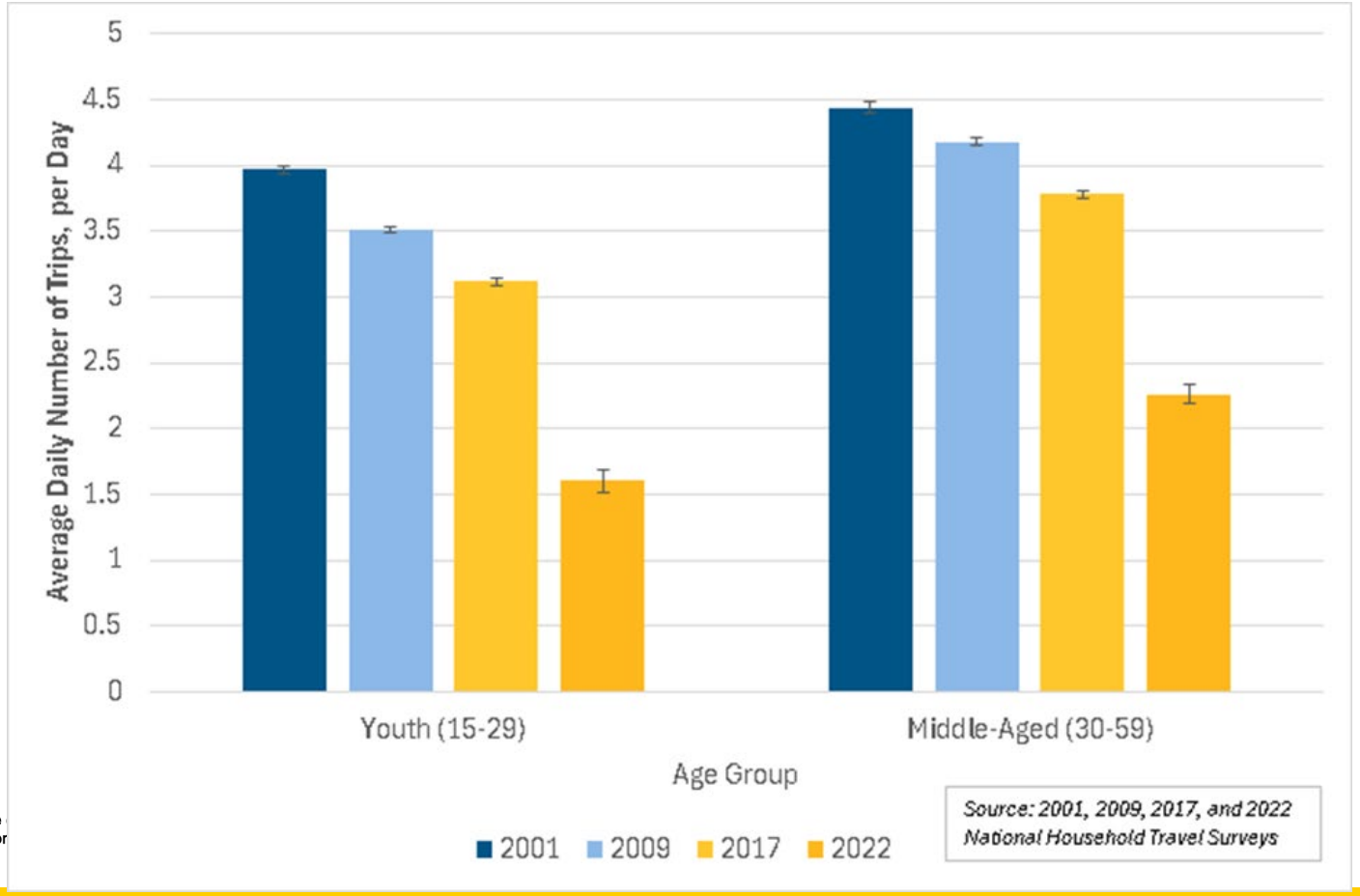
Average Daily Trip Length by Age Group in the U.S. – 2001 to 2022



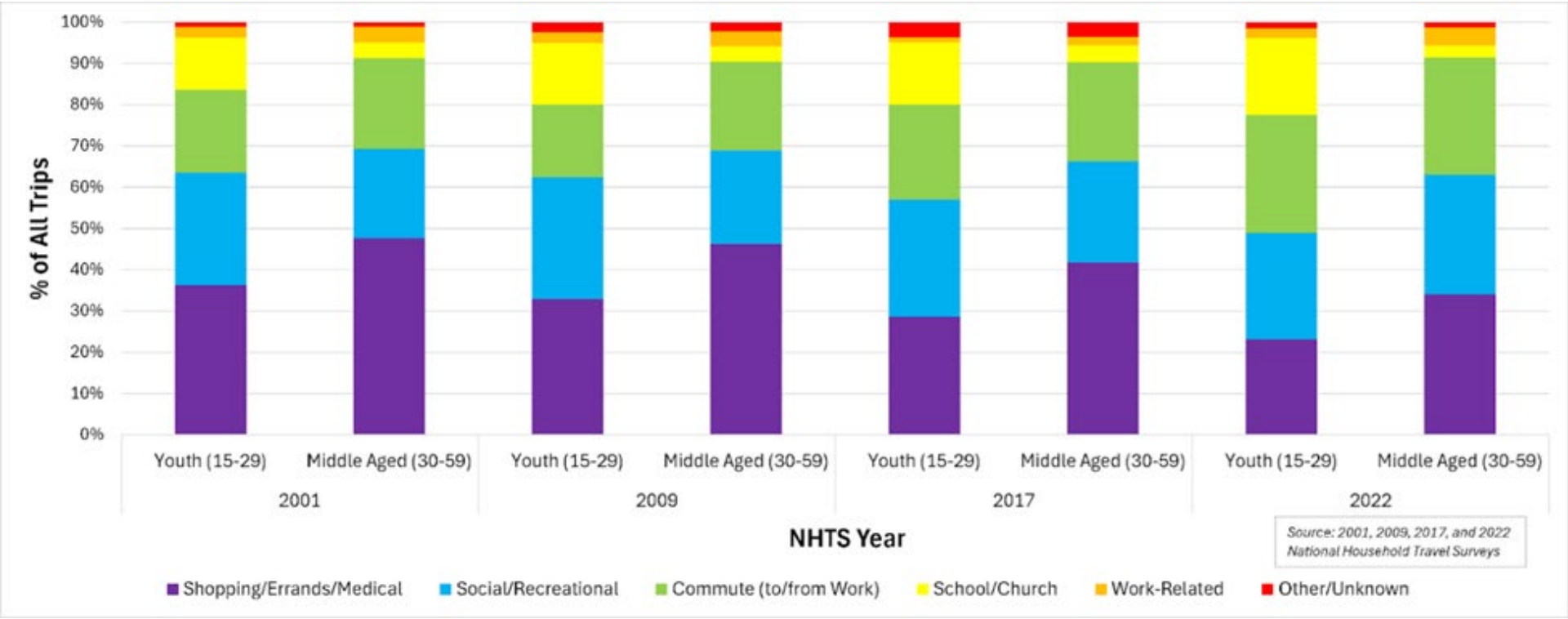
Daily VMT per Driver by Age Group in the U.S., Over Time



Daily Trips per Capita in the U.S. by Age Group, Over Time



Trip Purpose Distribution by Age in the U.S., 2001-2022



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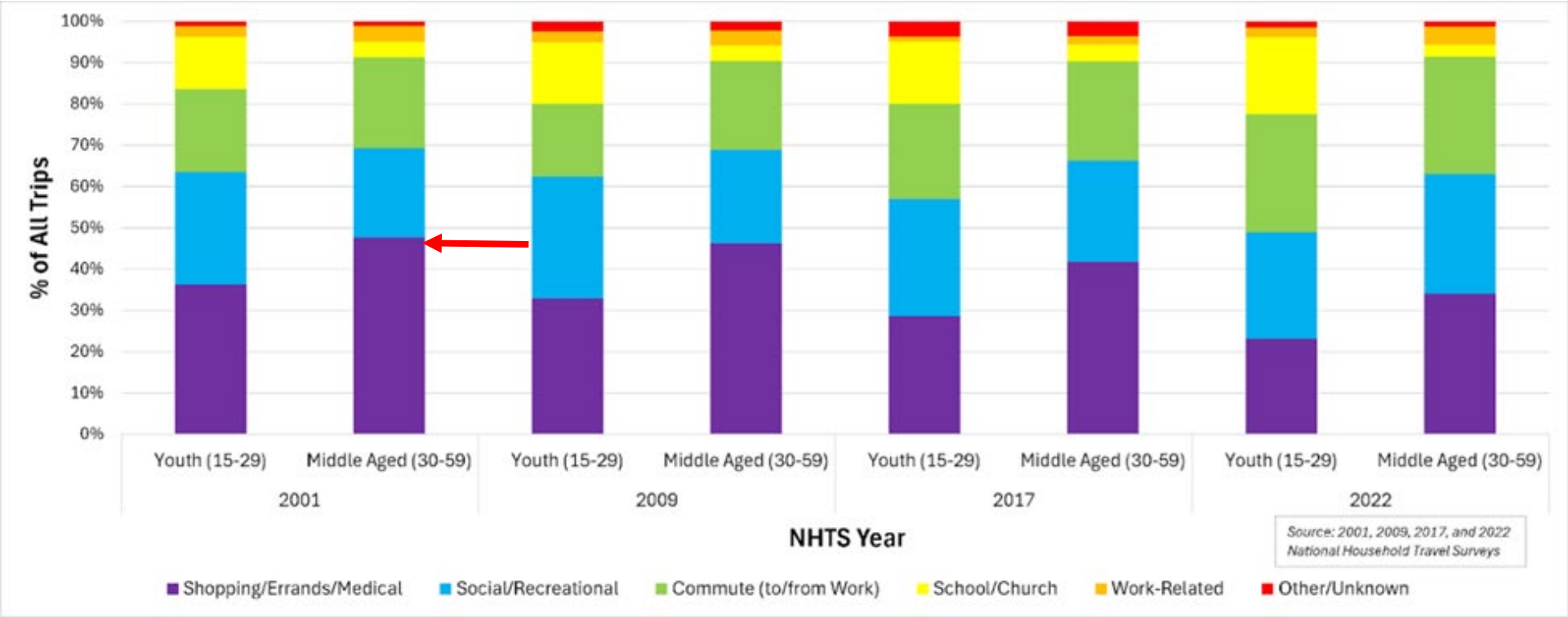

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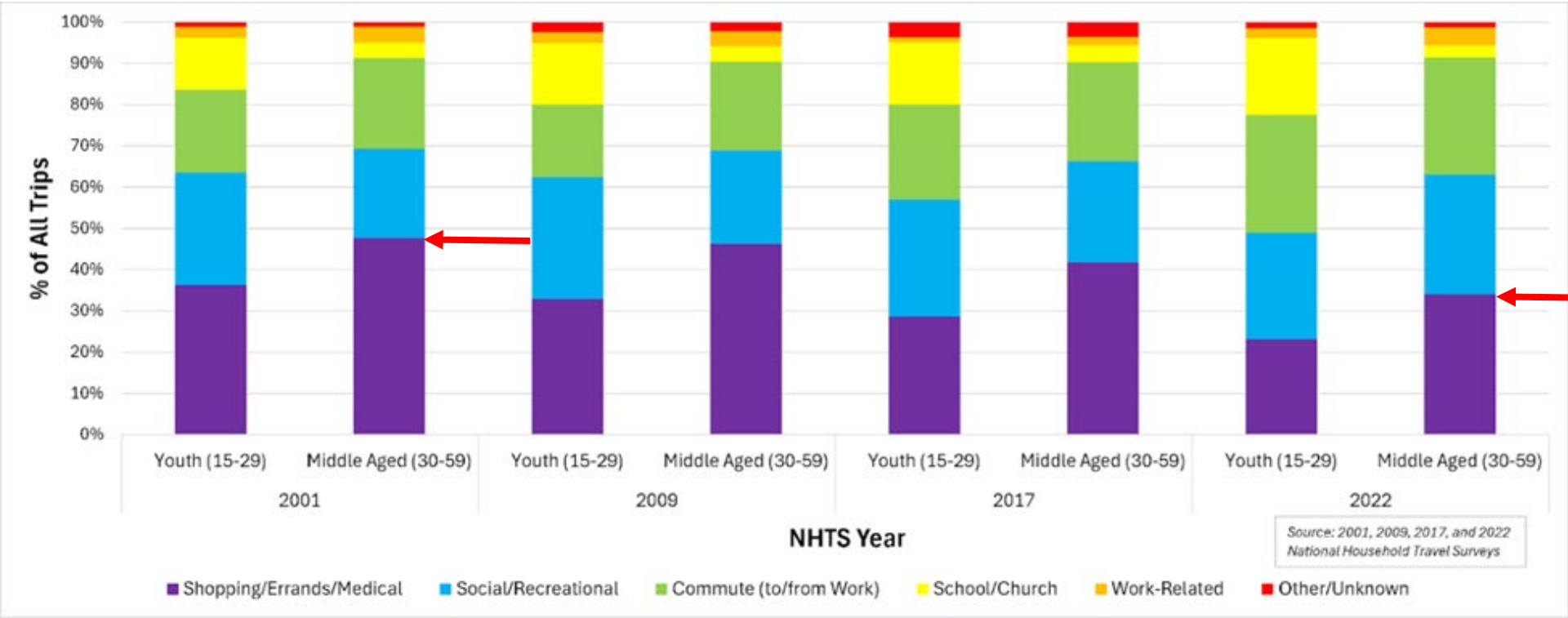

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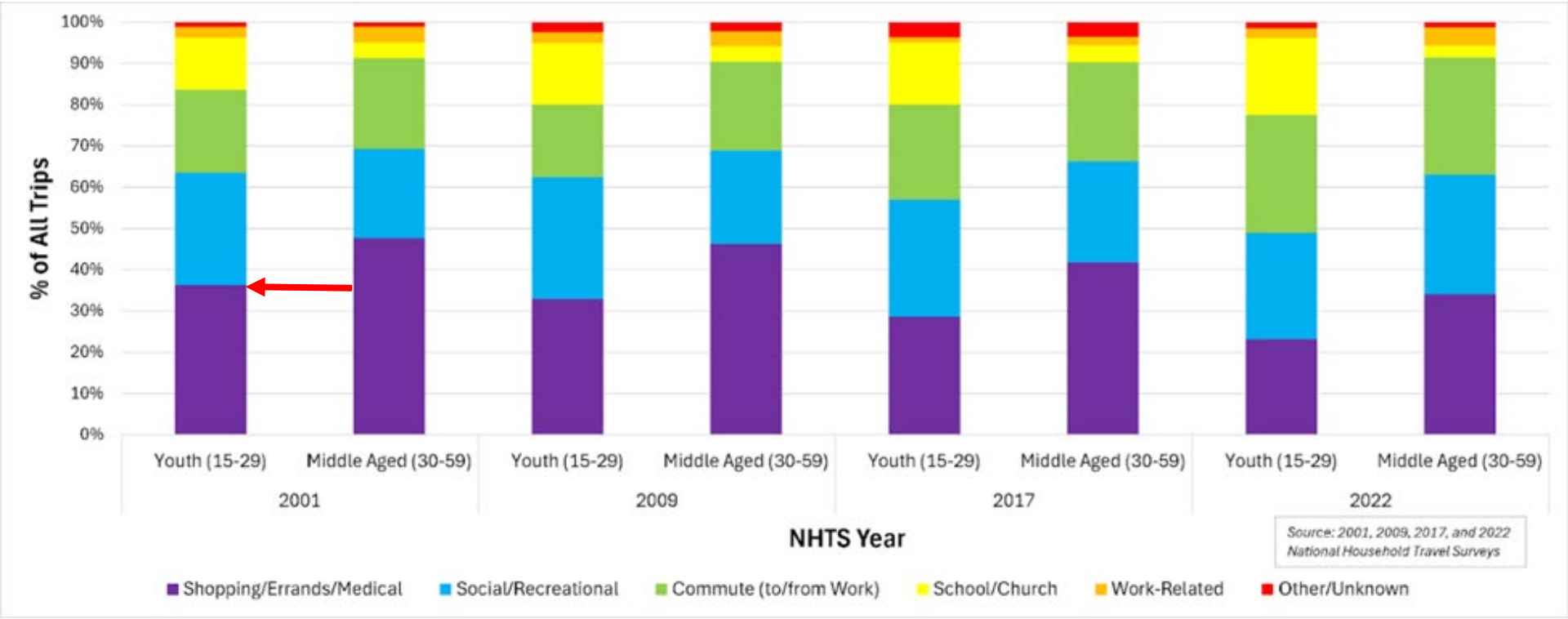
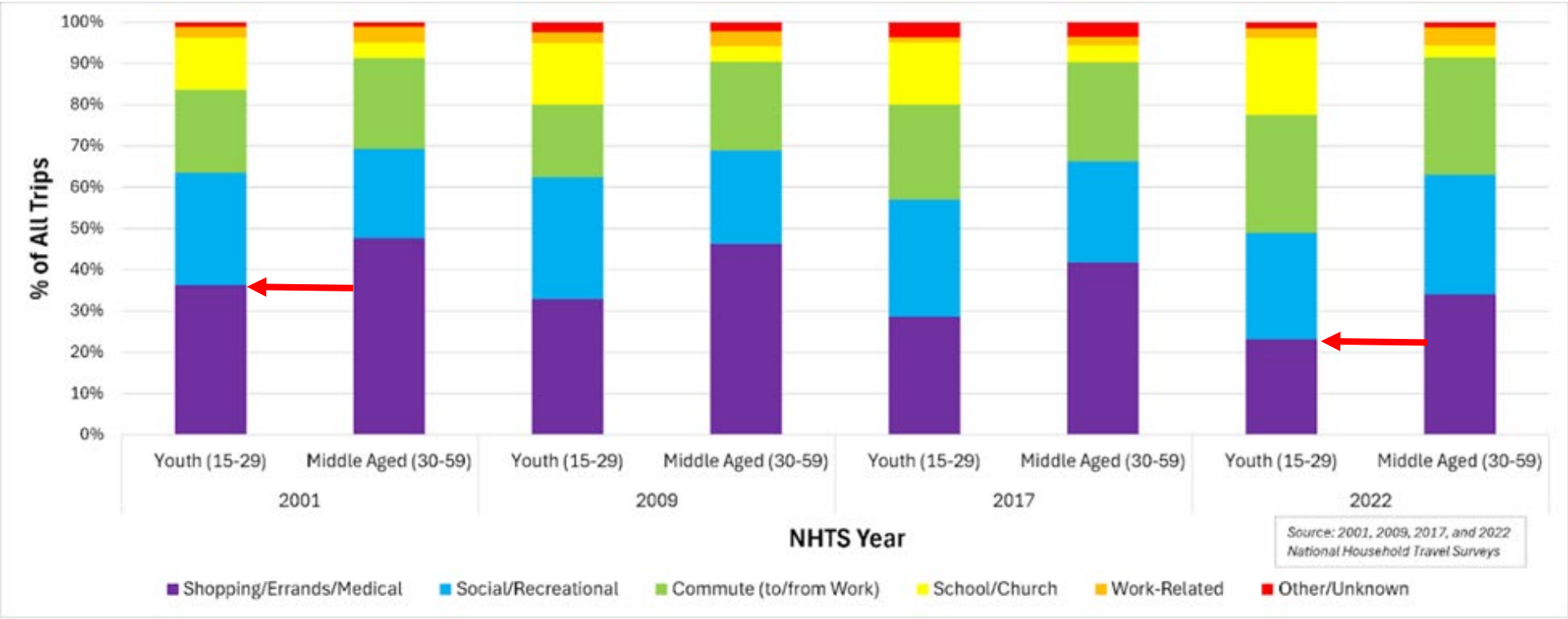
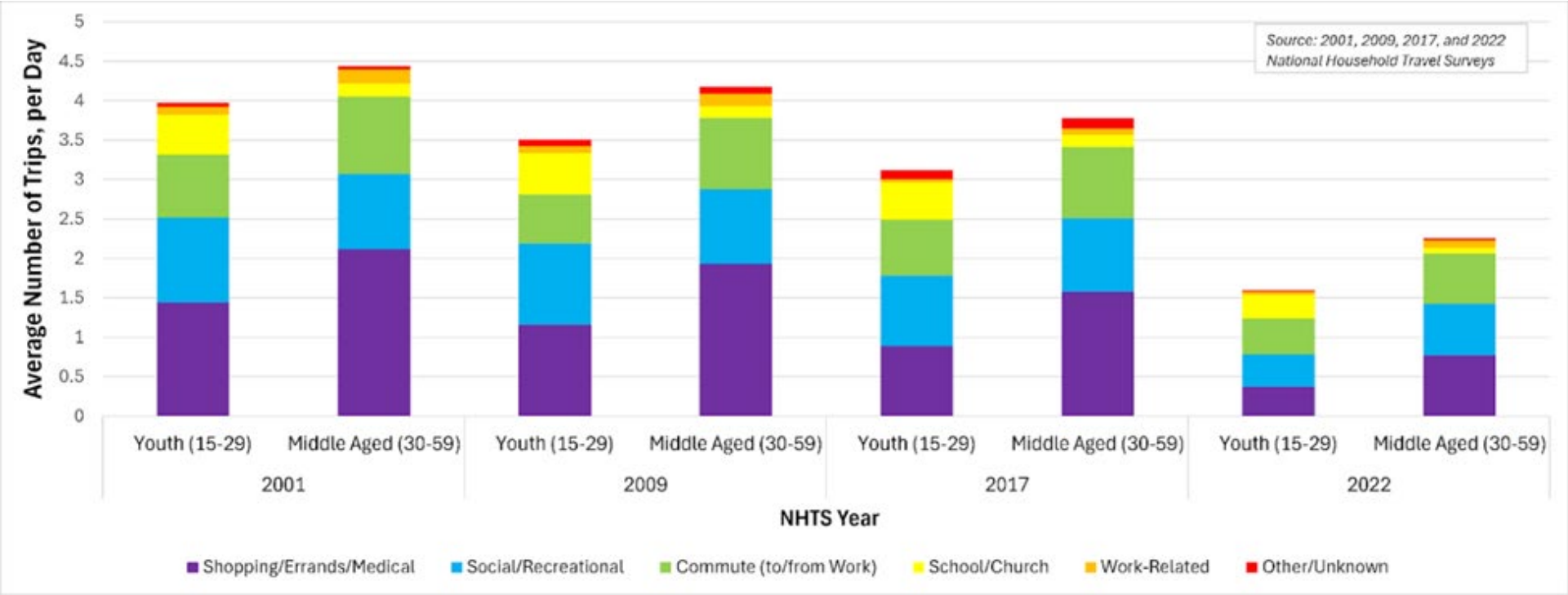


Trip Purpose Distribution by Age in the U.S., 2001-2022



Daily Trips per Capita by Purpose in the U.S., 2001-2022



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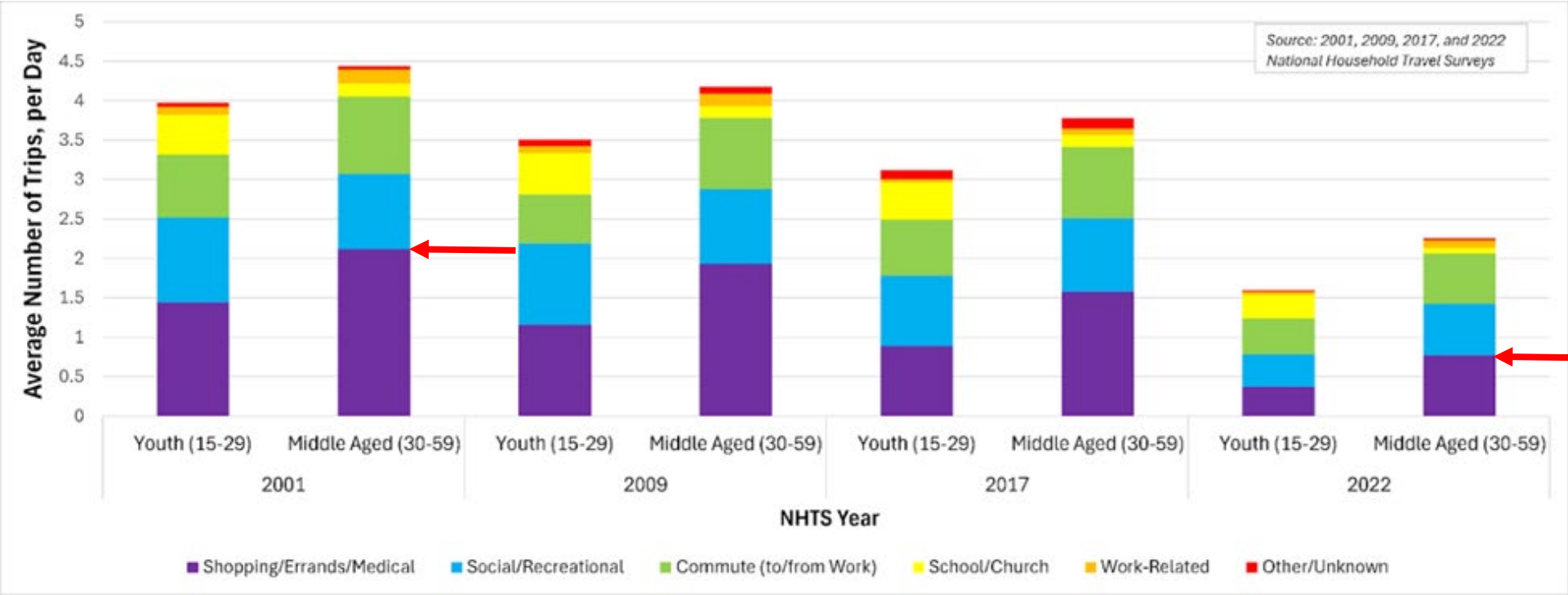

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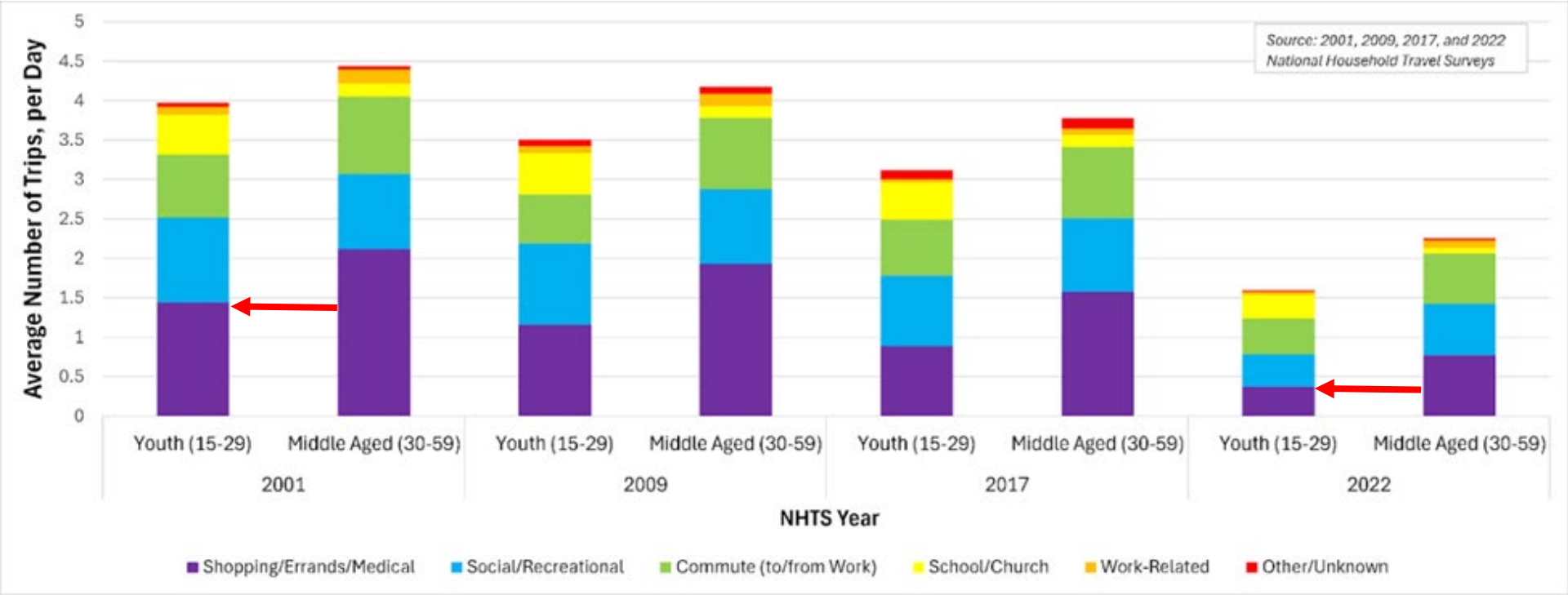

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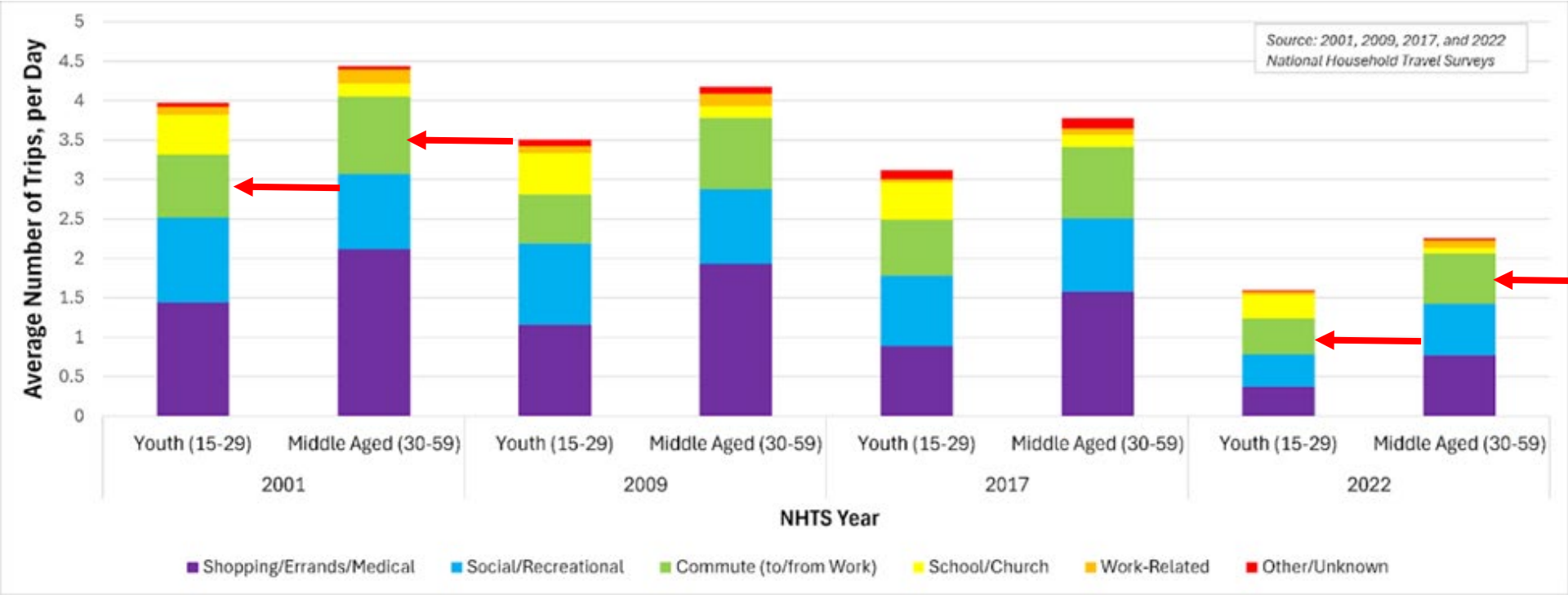
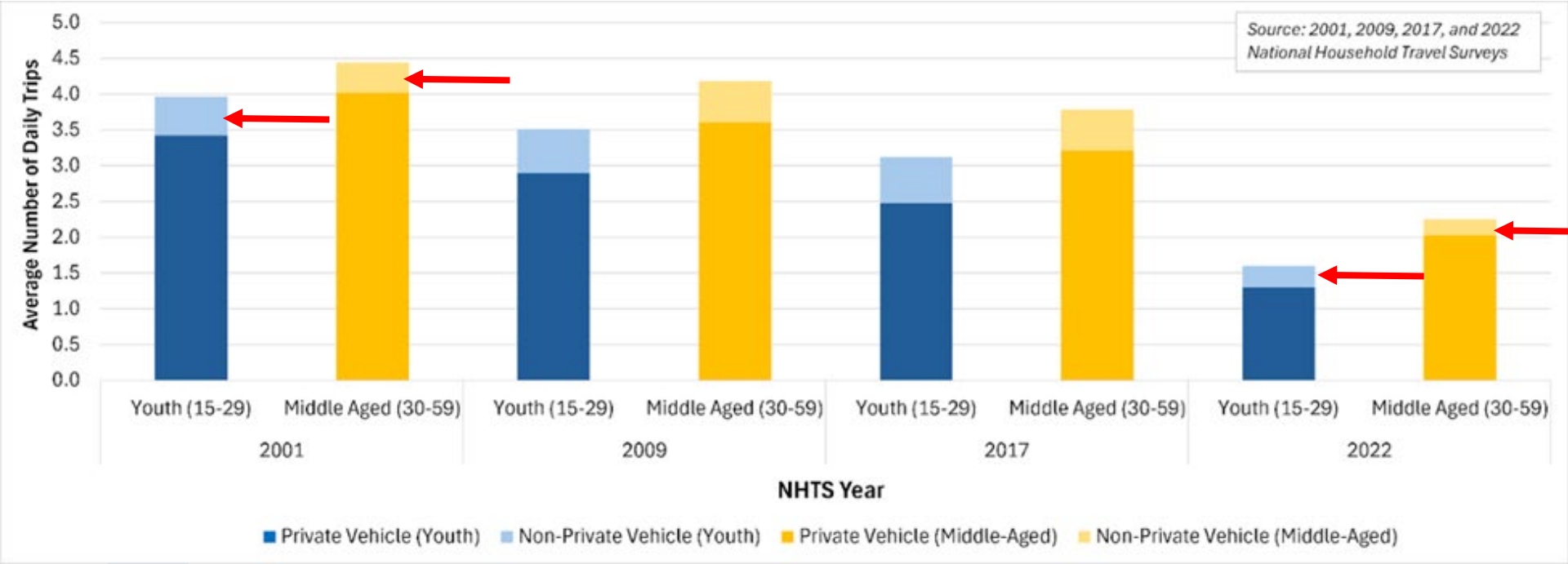


Average Daily Trips by Mode, 2001 to 2022



What's behind all of these changes?

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What's behind all of these changes?

Perhaps the dramatic changes observed for 2022 are due more to a problematic NHTS sample than anything else

What's behind all of these changes?

So let's look at another data source

Are We Going Nowhere *FAST?*

Morris, Eric A., Samuel Speroni, and Brian D. Taylor. 2023. "Going Nowhere Fast: Are Changing Activity Patterns Behind Falling Personal Travel?" *Journal of Transport Geography*, 110, June, 103620.

Shifting from travel (NHTS) data to time use (ATUS) data

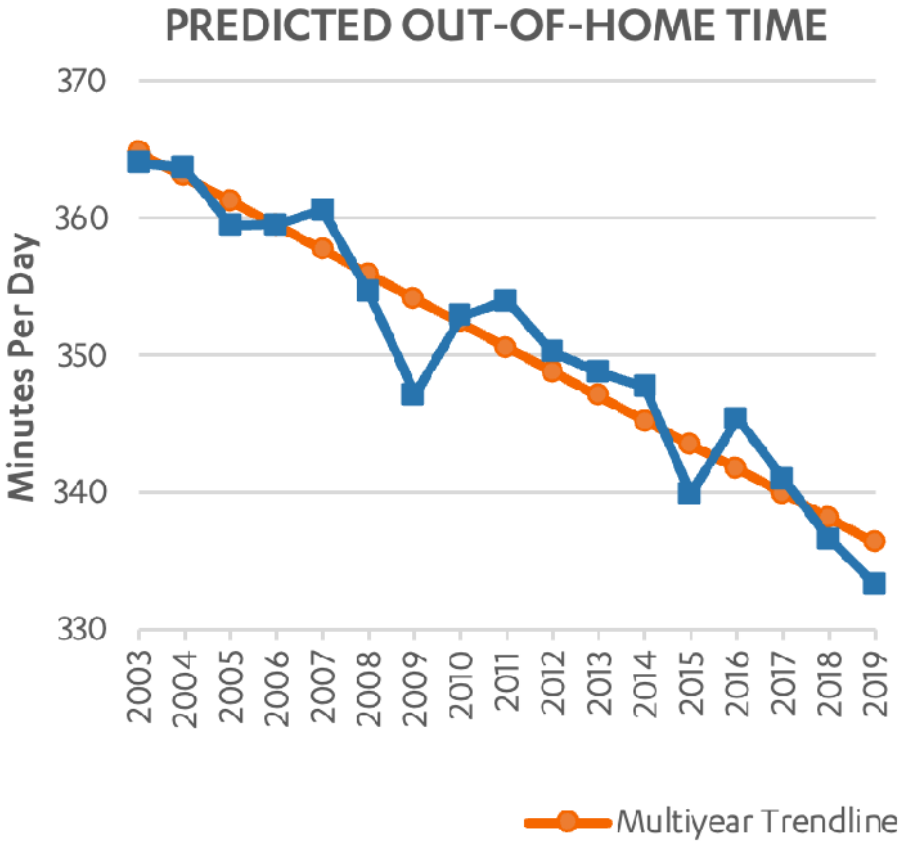
(from 2003 through 2023)

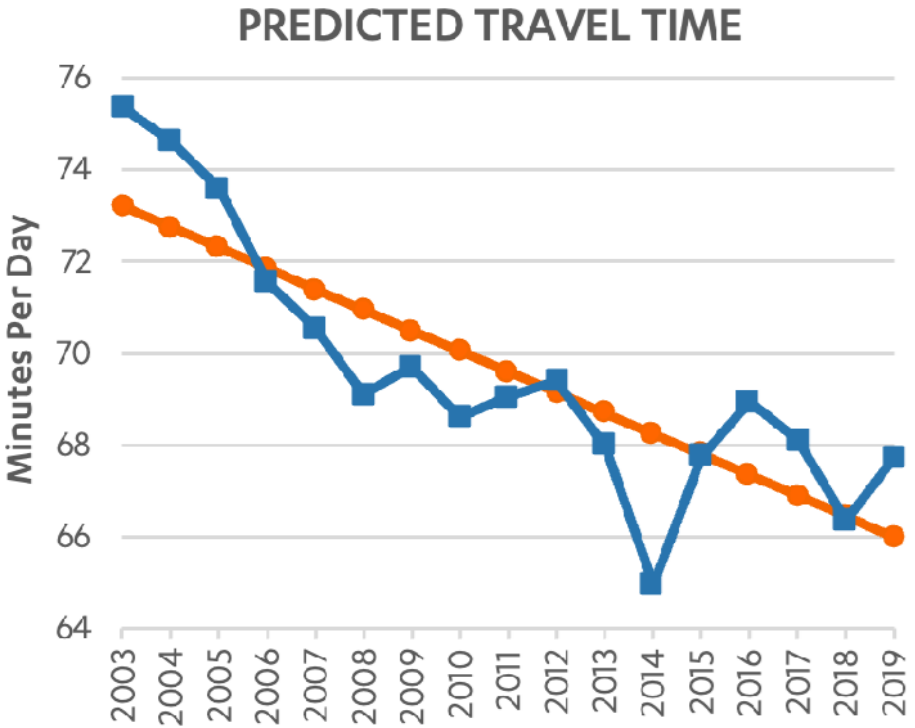
Morris, Eric A., Samuel Speroni, and Brian D. Taylor. 2023. "Going Nowhere Fast: Are Changing Activity Patterns Behind Falling Personal Travel?" *Journal of Transport Geography*, 110, June, 103620.

American Time Use Survey: 2003-2023

- Annual survey of 9,000 to 14,000 Americans over age 14 on how they spent their time during the prior day
  - All respondents complete the Current Population Survey (CPS) as well
- We focus on adults and their out-of-home/yard activities (excluding travel) and daily (non-air) travel
- Modeled:
  - 12 out-of-home activities that cover about 97% mean out-of-home time
  - 3 travel modes that cover 99.2% of daily travel time, and
  - 16 in-home categories cover 98.4% of in-home time
- Separately estimated OLS models for each time use
- Used a suite of demographic and geographic control variables in our models
- Independent variables of interest were survey year dummy variables

Year over year, Americans spent less time away from home and traveling from 2003 – 2019





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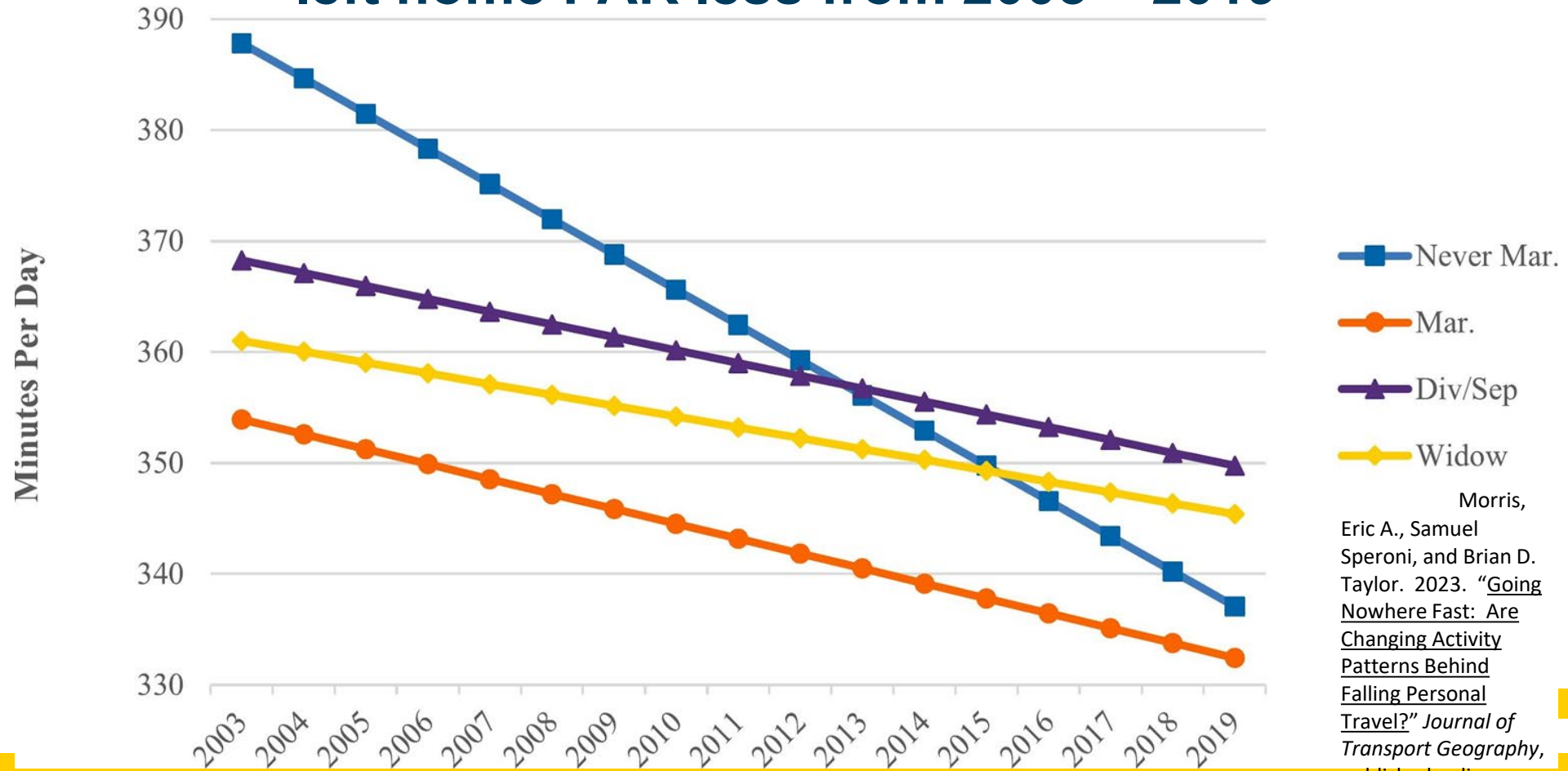
Going Nowhere Fast from 2001-2019

- Out-of-home activity time, excluding travel, dropped by an average of 38 daily minutes between 2003 and 2019
  - Daily time spent traveling fell 7 minutes across the same period

- Increasing time spent at home is likely the result of better computing and communications technology

- While nearly all demographic groups reduced their out-of-home activities leading up to the pandemic, young, single, and childless people saw the sharpest drops

Going Nowhere Fast: People who have never married left home FAR less from 2003 – 2019



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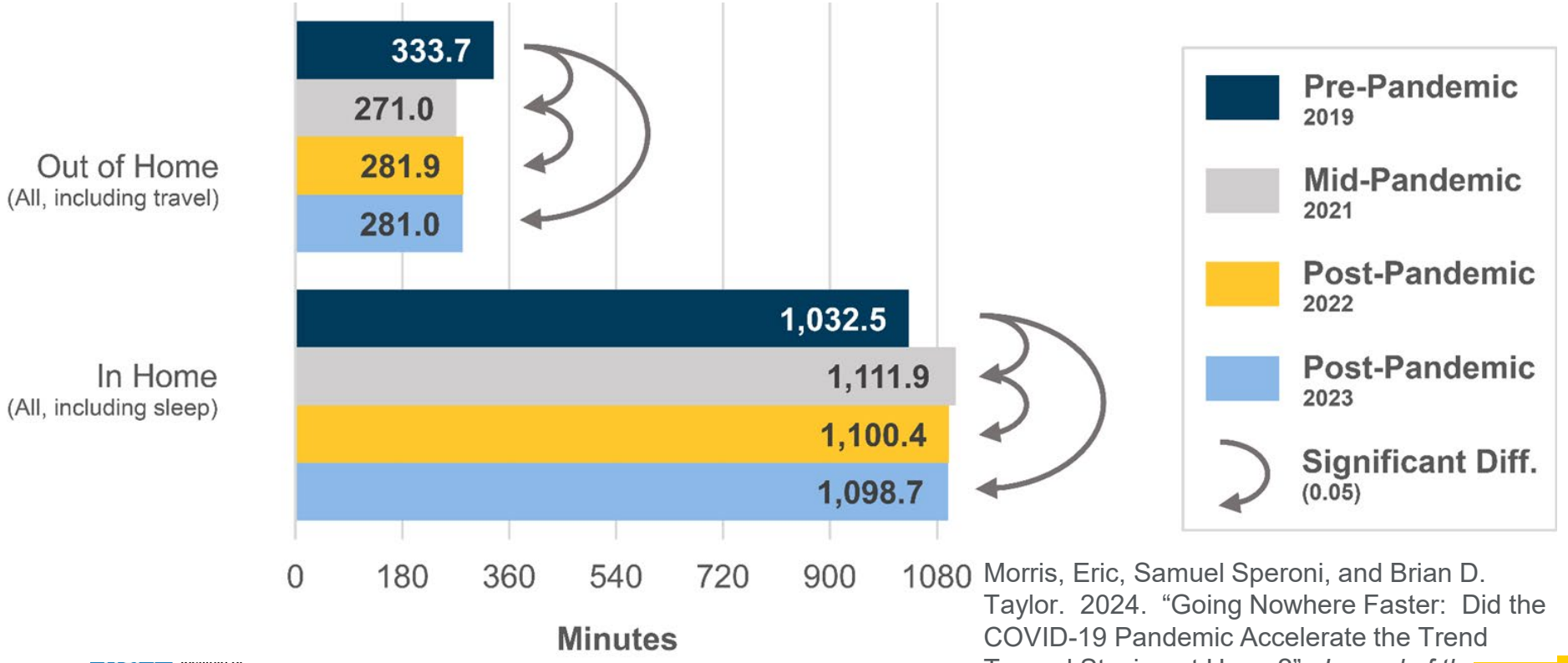
That was before the pandemic; what's happened since?

Going Nowhere *FASTER*

Out-of-home and in-home time use: 2019 and 2021–2023



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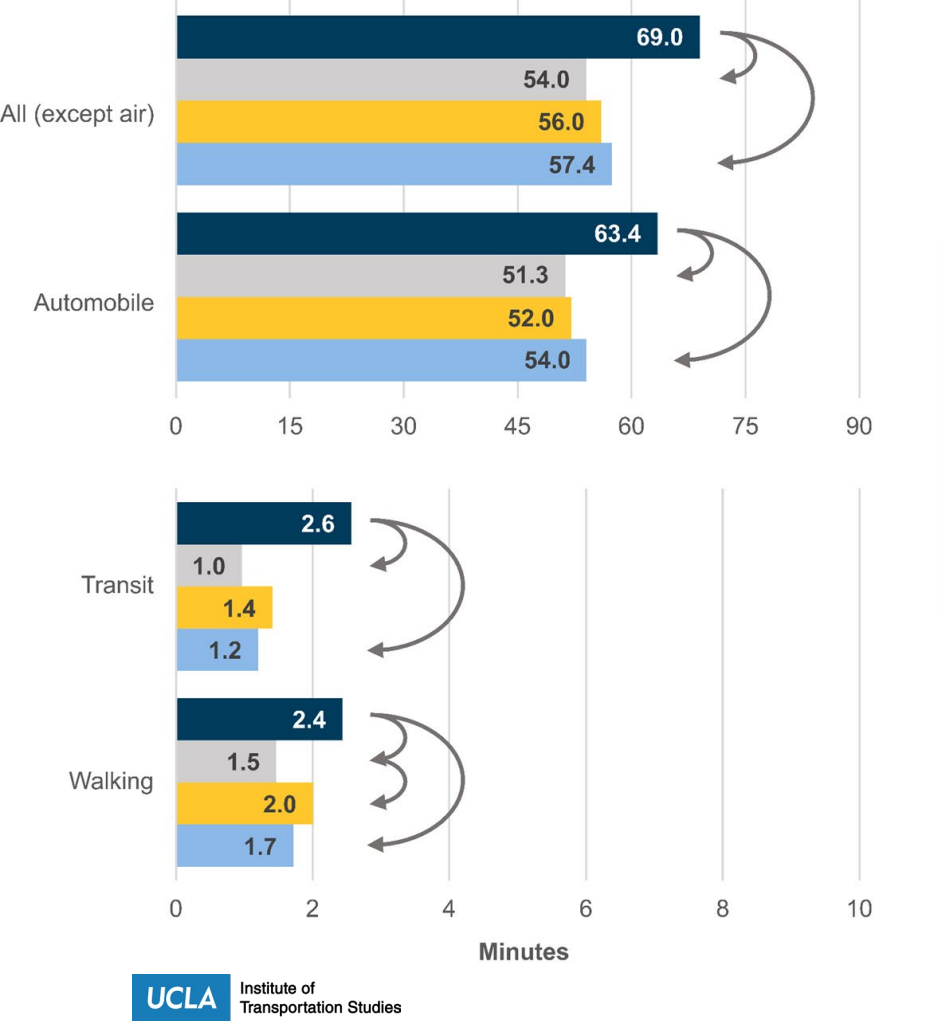
Travel time by mode: 2019 and 2021–2023

Note changing scales of minutes



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Disaggregated large- and medium-sized time uses: 2019 and 2021–2023

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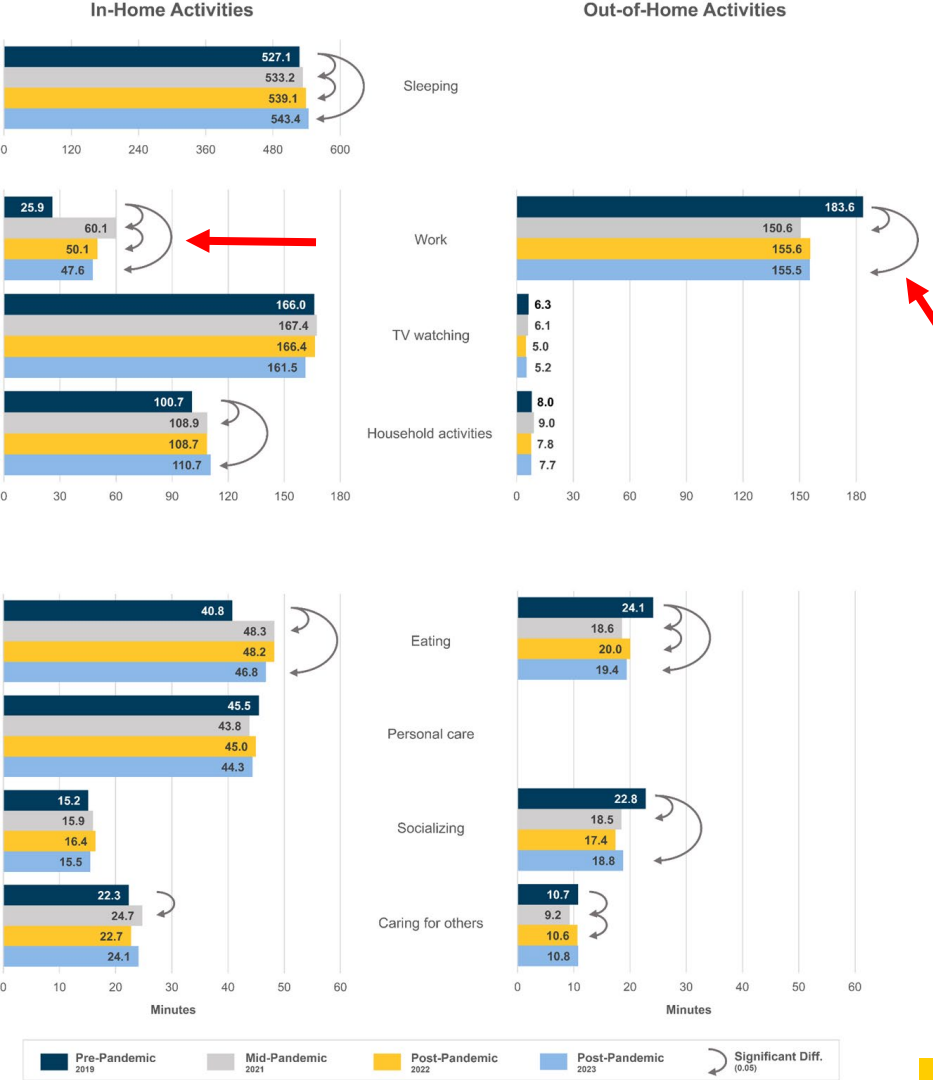

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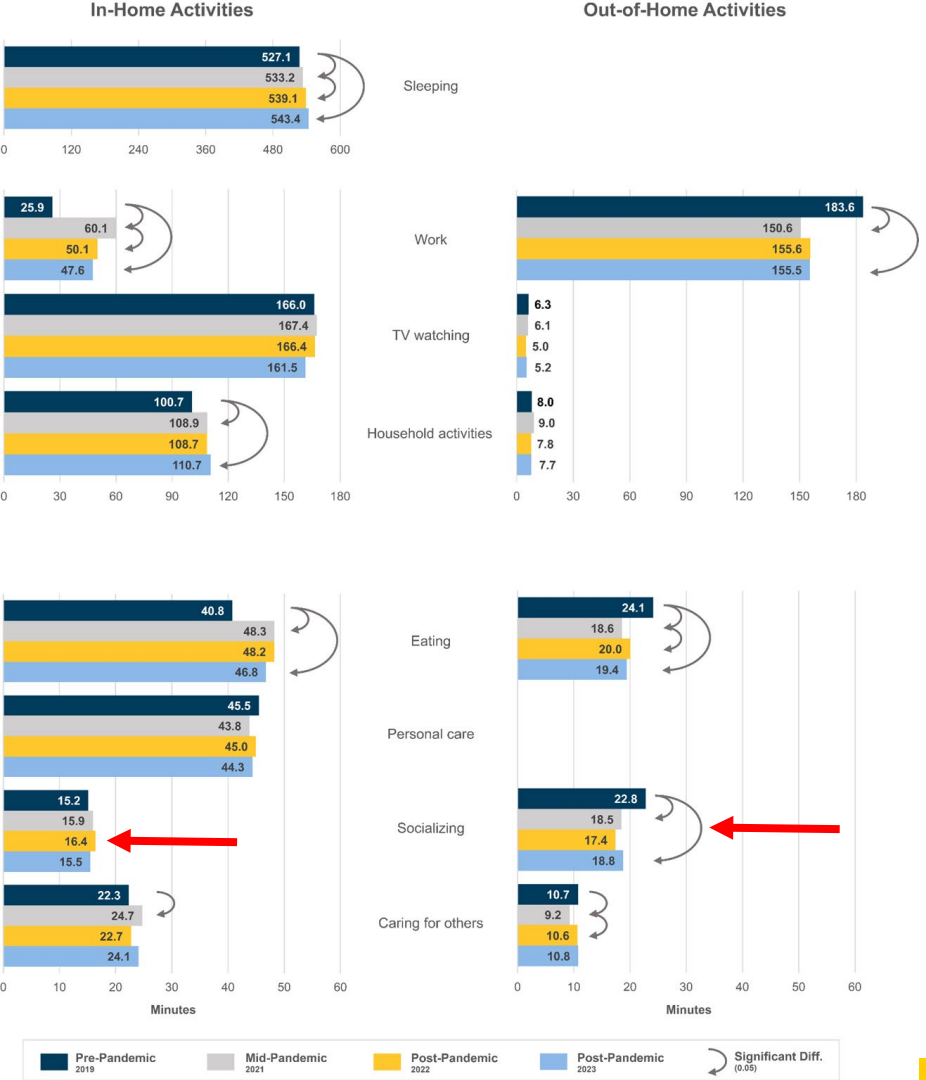
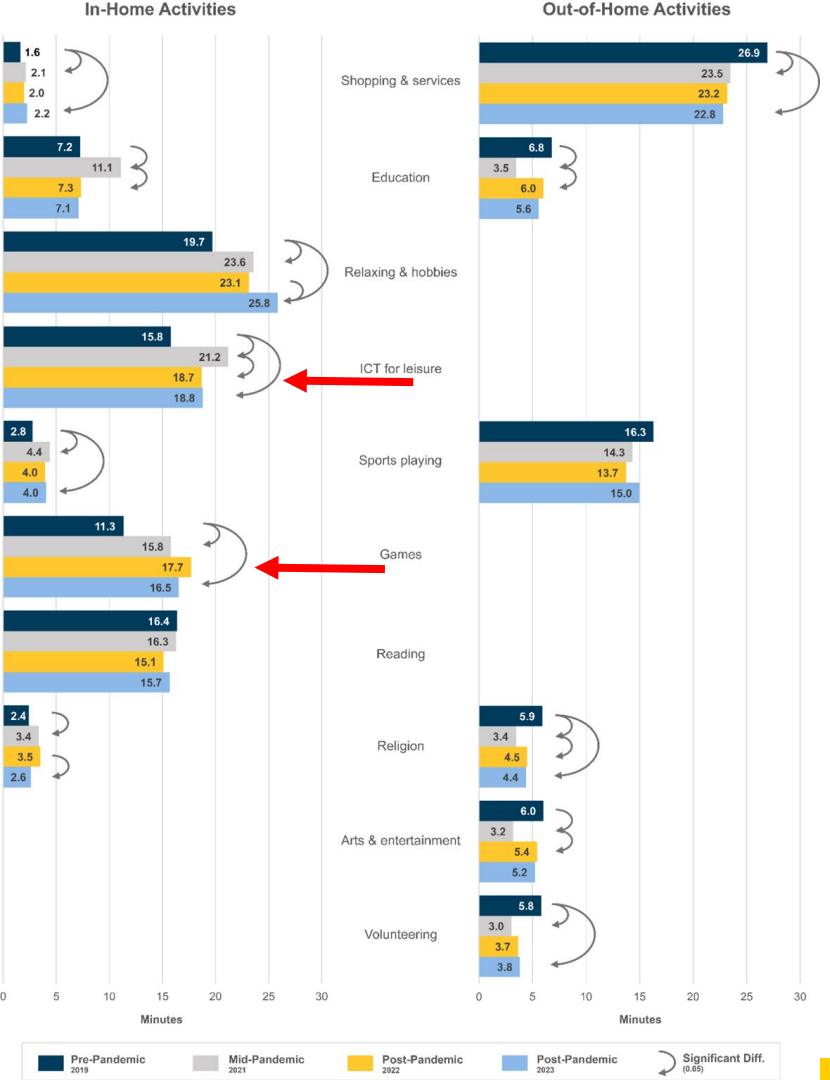


Morris, Eric, Samuel Speroni, and Brian D. Taylor. 2024. "Going Nowhere Faster: Did the COVID-19 Pandemic Accelerate the Trend Toward Staying at Home?" *Journal of the American Planning Association*, published online.

Disaggregated small-sized time uses: 2019 and 2021–2023



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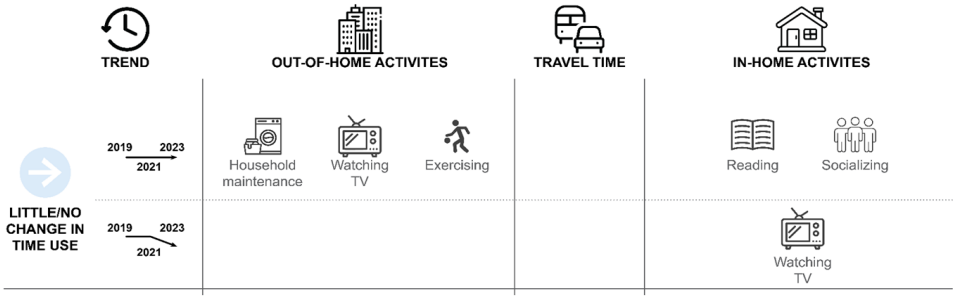

Model Results: Trends in time use changes by activity location, 2019 and 2021–2023

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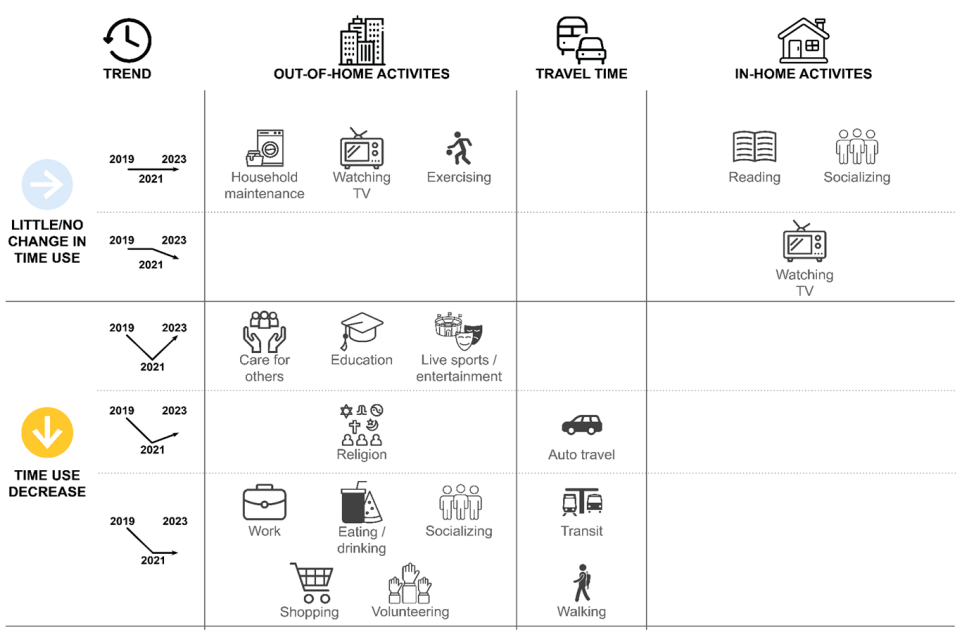

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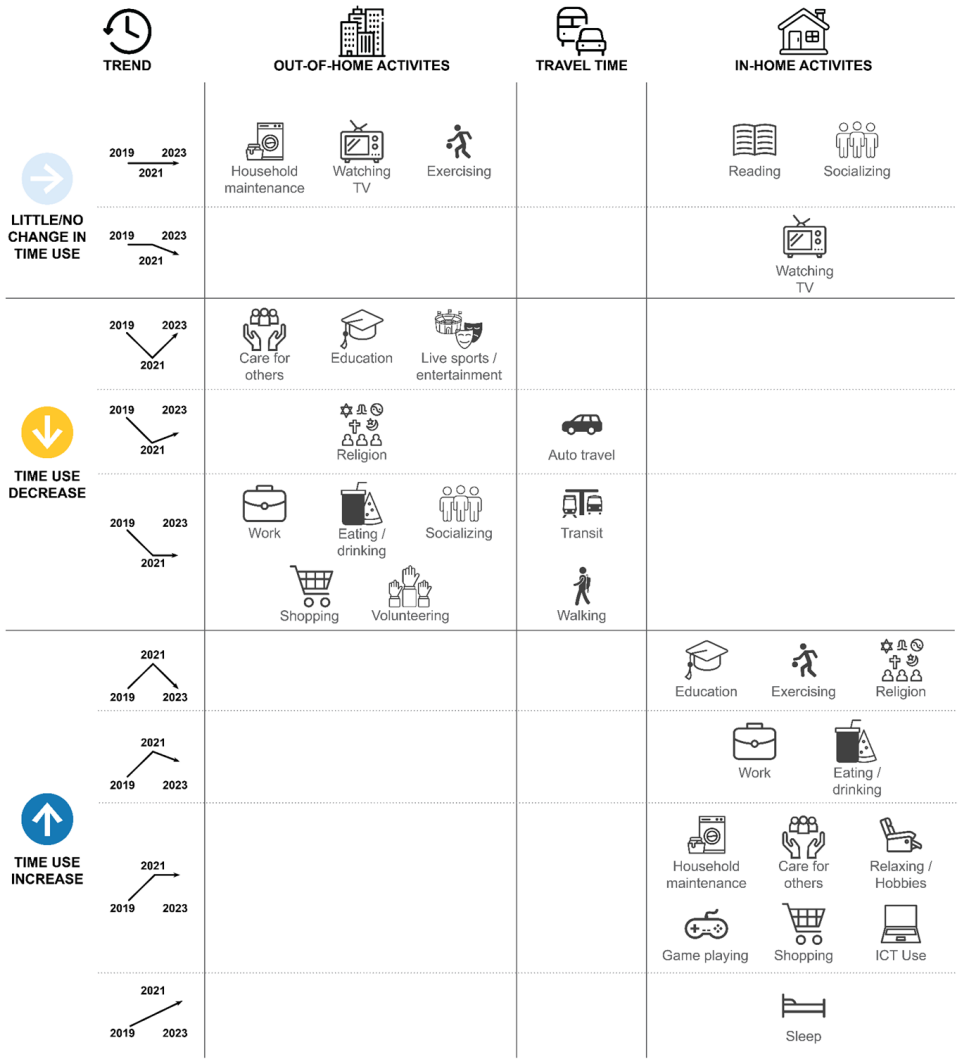

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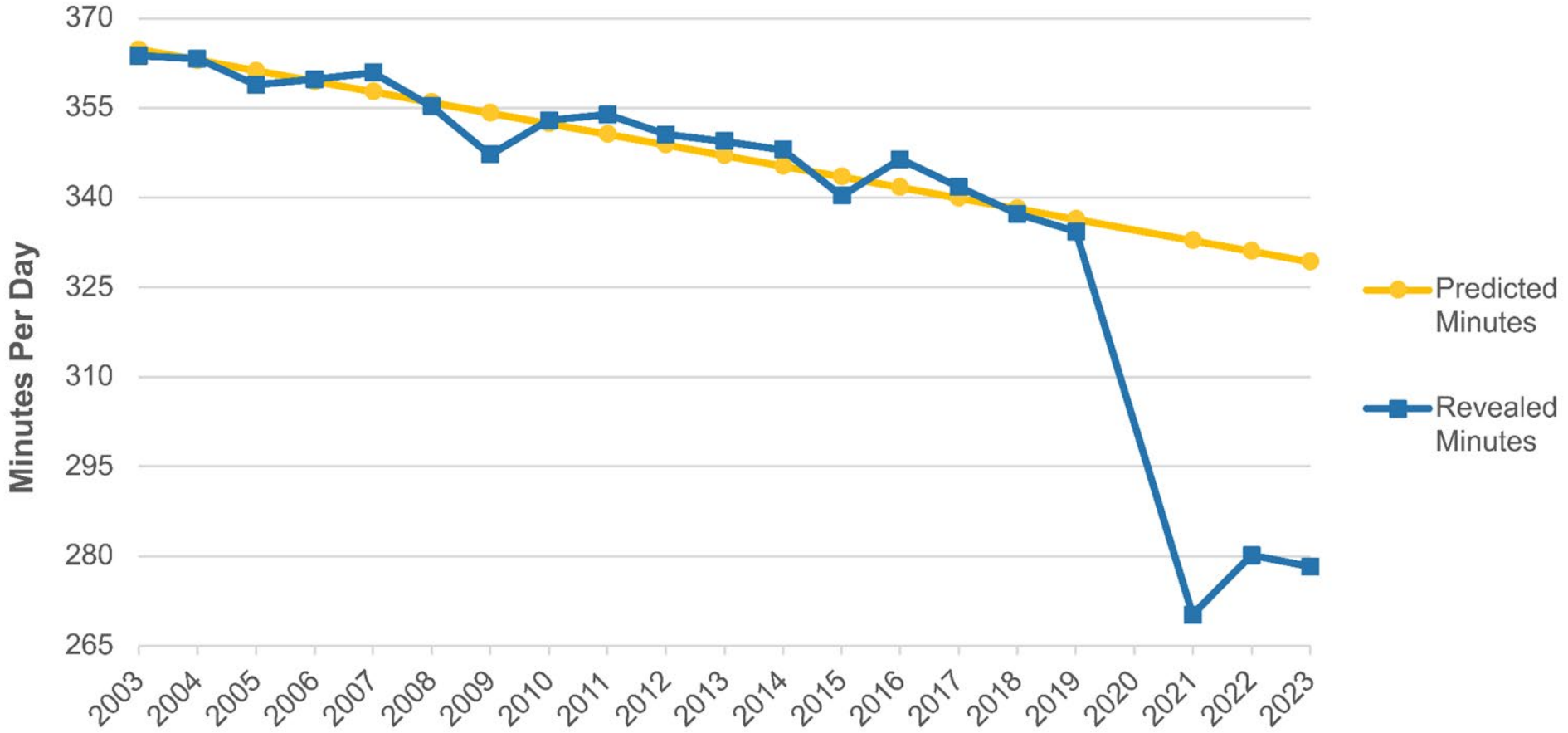
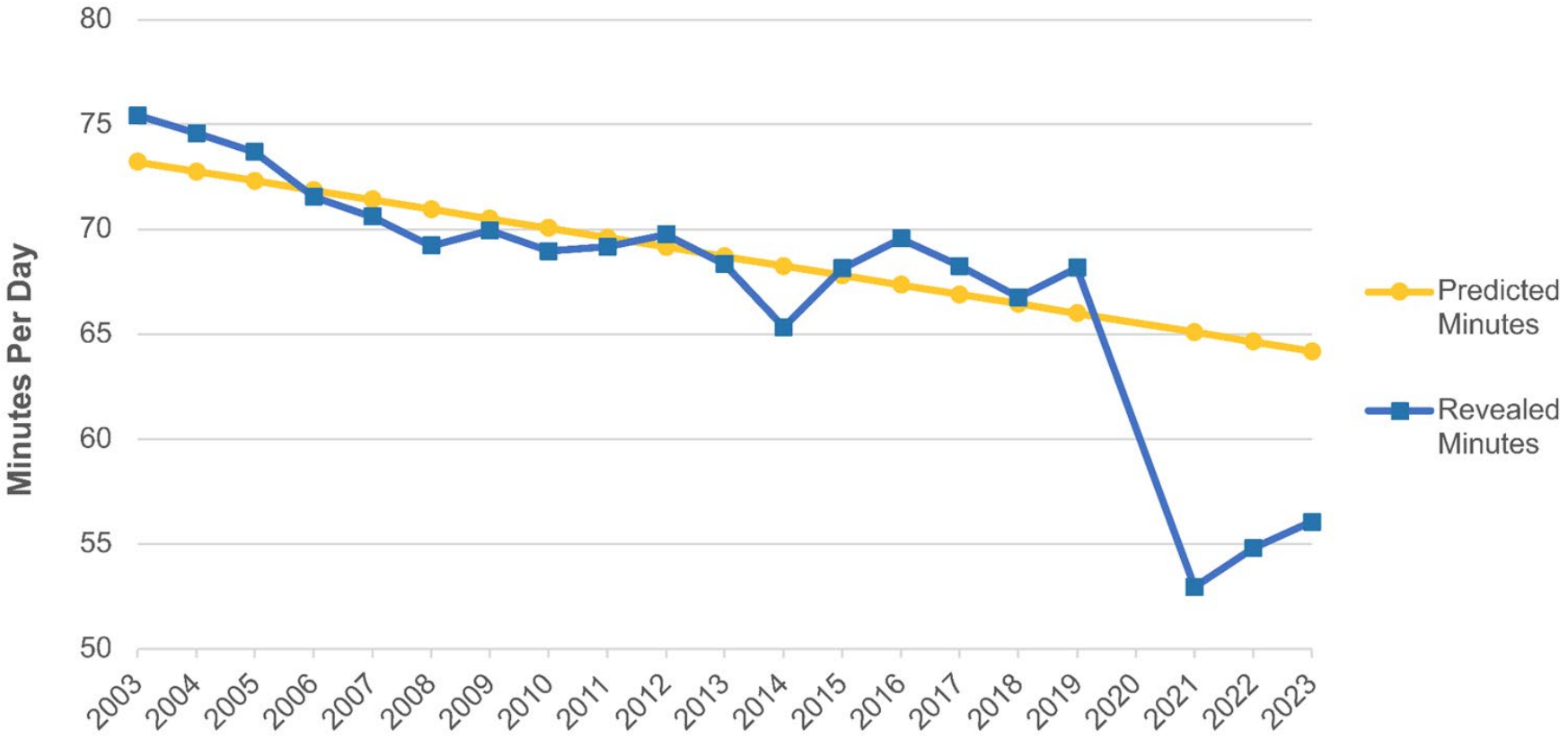
Predicted and revealed out-of-home time, 2003–2023



Predicted and revealed time spent traveling, 2003–2023



Going nowhere faster…

- So, what if all of this staying home and making fewer trips is good for the environment?
  - Less traffic, fewer pollutant emissions, less respiratory illness, fewer GHG emissions
- ***Yeah!***

- Though longer person trips, and more commercial trips undermine this
- And if trips are a *raison d'être* of transportation, and vehicle travel is simply the means to this end…
- Then we may be occasioning more environmental costs for fewer travel benefits over time

Less personal travel, but at what cost?

- Less socialization, less outdoor activity, less exposure to sunlight, more loneliness and depression, and more hostility toward people with different politics and preferences with whom we now rarely interact?
- ***Yikes!***

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Questions? Comments?

In collaboration with

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Eric Morris, Professor, College of Architecture, Art, and Construction, Clemson University
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Annotation for

Going Nowhere Fast: Dissecting the Remarkable Fall of U.S. Personal Travel in the 21st Century

2/28/25

By Hanyang Tang

Part I. Literature

Travel Demand

Bento, A. M., Cropper, M. L., Mobarak, A. M., & Vinha, K. (2005). The effects of urban spatial structure on travel demand in the United States. *Review of Economics and Statistics*, *87*(3), 466-478.

Ben-Akiva, M. E., & Lerman, S. R. (1985). *Discrete choice analysis: theory and application to travel demand* (Vol. 9). MIT press.

Chatterjee, A., & Venigalla, M. M. (2004). Travel demand forecasting for urban transportation planning. *Handbook of transportation engineering*, *1*.

Frey, W. H., & Alden Jr, S. (1988). Regional and Metropolitan Growth and Decline in the US. Russell Sage Foundation.

Millard-Ball, A., & Schipper, L. (2011). Are we reaching peak travel? Trends in passenger transport in eight industrialized countries. *Transport reviews*, *31*(3), 357-378.

Mondschein, A., Blumenberg, E., & Taylor, B. (2010). Accessibility and cognition: The effect of transport mode on spatial knowledge. *Urban Studies*, *47*(4), 845-866.

Painter, G., Chakrabarti, S., Valdez, A., Kantz, G., & Center, M. T. (2017). *The Decline in Mobility and Its Impact on Passenger Travel* (No. CA17-2941; METRANS Project 15-15). California. Dept. of Transportation.

Saberi, M., Mahmassani, H. S., Brockmann, D., & Hosseini, A. (2017). A complex network perspective for characterizing urban travel demand patterns: graph theoretical analysis of large-scale origin–destination demand networks. *Transportation*, *44*(6), 1383-1402.

Souche, S. (2010). Measuring the structural determinants of urban travel demand. *Transport policy*, *17*(3), 127-134.

Xu, Z., Lv, Z., Li, J., Sun, H., & Sheng, Z. (2022). A novel perspective on travel demand prediction considering natural environmental and socioeconomic factors. *IEEE Intelligent Transportation Systems Magazine*, *15*(1), 136-159.

Decline of Transit Ridership

Erhardt, G. D., Hoque, J. M., Goyal, V., Berrebi, S., Brakewood, C., & Watkins, K. E. (2022). Why has public transit ridership declined in the United States?. *Transportation research part A: policy and practice*, *161*, 68-87.

Graehler, M., Mucci, R. A., & Erhardt, G. D. (2019). Understanding the recent transit ridership decline in major US cities: Service cuts or emerging modes. In *98th Annual Meeting of the Transportation Research Board, Washington, DC*.

Lee, Y., & Lee, B. (2022). What's eating public transit in the United States? Reasons for declining transit ridership in the 2010s. *Transportation Research Part A: Policy and Practice*, *157*, 126-143.

Malalgoda, N., & Lim, S. H. (2019). Do transportation network companies reduce public transit use in the US?. *Transportation Research Part A: Policy and Practice*, *130*, 351-372.

Shaheen, S., & Cohen, A. (2018). Is it time for a public transit renaissance?. *Journal of Public Transportation*, *21*(1), 67-81.
Taylor, B. D., Miller, D., Iseki, H., & Fink, C. (2009). Nature and/or nurture? Analyzing the determinants of transit ridership across US urbanized areas. *Transportation Research Part A: Policy and Practice*, *43*(1), 60-77.
Yu, C., Dong, W., Liu, Y., Yang, C., & Yuan, Q. (2024). Rethinking bus ridership dynamics: Examining nonlinear effects of determinants on bus ridership changes using city-level panel data from 2010 to 2019. *Transport Policy*, *151*, 85-100.
Ziedan, A., Brakewood, C., & Watkins, K. (2023). Will transit recover? A retrospective study of nationwide ridership in the United States during the COVID-19 pandemic. *Journal of public transportation*, *25*, 100046.

COVID-19 and Travel

Borkowski, P., Jażdżewska-Gutta, M., & Szmelter-Jarosz, A. (2021). Lockdowned: Everyday mobility changes in response to COVID-19. *Journal of Transport Geography*, *90*, 102906.
Cheng, L., Ning, Z., Lei, D., Cai, X., & Chen, X. (2024). Assessing the influence of the COVID-19 pandemic on passengers' reliance on public transport. *Journal of Transport Geography*, *119*, 103951.
Fatmi, M. R. (2020). COVID-19 impact on urban mobility. *Journal of Urban Management*, *9*(3), 270-275.
Jiao, J., & Azimian, A. (2021). Exploring the factors affecting travel behaviors during the second phase of the COVID-19 pandemic in the United States. *Transportation Letters*, *13*(5-6), 331-343.
Liu, J., Gross, J., & Ha, J. (2021). Is travel behaviour an equity issue? Using GPS location data to assess the effects of income and supermarket availability on travel reduction during the COVID-19 pandemic. *International Journal of Urban Sciences*, *25*(3), 366-385.
Nian, G., Peng, B., Sun, D., Ma, W., Peng, B., & Huang, T. (2020). Impact of COVID-19 on urban mobility during post-epidemic period in megacities: From the perspectives of taxi travel and social vitality. *Sustainability*, *12*(19), 7954.
Wang, K., Liu, Y., Mashrur, S. M., Loa, P., & Habib, K. N. (2021). COVid-19 influenced households' Interrupted Travel Schedules (COVHITS) survey: Lessons from the fall 2020 cycle. *Transport Policy*, *112*, 43-62.
Yang, C., Wan, Z., Yuan, Q., Zhou, Y., & Sun, M. (2023). Travel before, during and after the COVID-19 pandemic: exploring factors in essential travel using empirical data. *Journal of Transport Geography*, *110*, 103640.

Urban Travel Mode Share

Adler, T. J., & Ben-Akiva, M. (1976). Joint-choice model for frequency, destination, and travel mode for shopping trips. *Transportation Research Record*, (569).
Barff, R., Mackay, D., & Olshavsky, R. W. (1982). A selective review of travel-mode choice models. *Journal of Consumer Research*, *8*(4), 370-380.
Berrill, P., Nachtigall, F., Javaid, A., Milojevic-Dupont, N., Wagner, F., & Creutzig, F. (2024). Comparing urban form influences on travel distance, car ownership, and mode choice. *Transportation research part D: transport and environment*, *128*, 104087.
Bhat, C. R. (1998). Analysis of travel mode and departure time choice for urban shopping

trips. *Transportation Research Part B: Methodological*, *32*(6), 361-371.
Bhat, C. R. (2000). Incorporating observed and unobserved heterogeneity in urban work travel mode choice modeling. *Transportation science*, *34*(2), 228-238.
Jonnalagadda, N., Freedman, J., Davidson, W. A., & Hunt, J. D. (2001). Development of microsimulation activity-based model for San Francisco: destination and mode choice models. *Transportation research record*, *1777*(1), 25-35.

Travel Survey Results

Burd, C., Burrows, M., & McKenzie, B. (2021). Travel time to work in the united states: 2019. *American Community Survey Reports, United States Census Bureau*, *2*, 2021.
McGuckin, N., & Fucci, A. (2018). *Summary of travel trends: 2017 national household travel survey* (No. FHWA-PL-18-019). United States. Department of Transportation. Federal Highway Administration.
Pucher, J., & Renne, J. L. (2003). Socioeconomics of urban travel: evidence from the 2001 NHTS. *Transportation quarterly*, *57*(3), 49-77.
Santos, A., McGuckin, N., Nakamoto, H. Y., Gray, D., & Liss, S. (2011). *Summary of travel trends: 2009 national household travel survey* (No. FHWA-PL-11-022). United States. Federal Highway Administration.
Zhang, M., & Li, Y. (2022). Generational travel patterns in the United States: New insights from eight national travel surveys. *Transportation research part A: policy and practice*, *156*, 1-13.

Part II. Recent News

Cheema, R. (2024, June 2). *The Fastest Declining Large City In The US*. Yahoo! Finance. https://finance.yahoo.com/news/fastest-declining-large-city-us-235841961.html
Chernikoff, S. (2024, May 28). *Most Americans are in support of public transit, but 3% use it to commute*. USA Today. https://www.usatoday.com/story/news/nation/2024/05/28/public-transportation-usage-united-states-after-covid/73802157007/
Gibbs, A. (2024, January 18). *How delivery companies can help cities reduce congestion and emissions*. World Economic Forum. https://www.weforum.org/stories/2024/01/deliveries-cities-reduce-congestion-emissions/
Laidley, C. (2024, August 7). *Is the Post-Pandemic Travel Boom Finally Ending?*. Investopia. https://www.investopedia.com/is-post-pandemic-travel-boom-finally-ending-disney-airbnb-tripadvisor-cite-softer-demand-8691955
Lee, J. (2023, July 25). *Here's why public transit keeps running out of money*. CNBC. https://www.cnbc.com/2023/07/25/heres-why-public-transit-keeps-running-out-of-money.html
Silk, R. (2025, March 11). *With demand decreasing, U.S. airlines revise forecasts*. Travel Weekly. https://www.travelweekly.com/Travel-News/Airline-News/US-airlines-revise-forecasts-with-demand-softening
Taylor & Francis. (2024, October 31). *Research shows decline in out-of-home activities since pandemic*. PHYS. https://phys.org/news/2024-10-decline-home-pandemic.html
Zukowski, D. (2025, January 17). *Transit ridership is growing but still down from a decade ago: FTA report*. Smart Cities Dive. https://www.smartcitiesdive.com/news/fta-transit-ridership-per-capita-report/737603/

Part III.

Discussion between Brian, John, and Shashi (Director of Strategy and CTO, TFL)

John:

Brian, thank you so much for that. It's super interesting. I want to start by looking at mobility and comparing your observations on surface mobility in the United States to air travel. I don't know if your team has looked at this at all, but the data from IATA and the UN World Tourism Organization indicate that air travel, for the most part, has recovered post-COVID. So, the numbers show an interesting distinction. But have you done any work comparing the data we see in the United States to other countries? Europe, Japan, China, wherever?

Brian:

We have not, but I know I'm seeing interesting stuff about that. I've reviewed a few similar papers. Of course, the level of auto use is much higher, but it is changing just in terms of participation in the activity and the location. I haven't done any sort of comparative work on that. I don't know whether anyone in the audience has, but I have seen anecdotal evidence that we're seeing similar patterns. Other than seeing a few papers from different places, I did see one paper come out, and I don't remember the authors in Japan who found something similar.

Shashi:

I had seen your paper before today, so I was very fascinated with your paper. I haven't seen research of this kind of depth from other places. We do quite a lot of work of a similar kind in the UK, looking at travel patterns. And I can tell you a little about what we have found; there are similar patterns in the UK. However, we get data from UITP on public transportation worldwide, and there's an apparent divide between North America and the UK. It's at one end; Europe is closer to the North American and UK, but if you look at East Asia and South Asia, none of these dynamics are true. Transport demand has been recovering. They're on a completely different recovery path.

Regarding comparative data from other places in the world, that's been our observation, looking at not as detailed but more summarized data than what Brian has presented here. I've been responsible for our revenue for the last 20 years. I look after our demand. The kind of analysis you've done is absolute gravy for us because this is what we always do. In my view, you've provided an excellent descriptive analysis of what happened. The question is, why has it happened? For us, that really matters. So, we probe that question very hard because projecting our future demand is very important to us.

The one thing we found in the UK is that if you look at the income distribution patterns. There is a real dislocation, especially after 2008. Anyone joining the workforce after 2008 has joined at a lower income level. The salary progression has been lower. Many things done to help the economy have ended up hurting them. The result is that it's challenging to get good distributional data on household spending power. You get that sort of economy-wide, by income deciles and all that. But you don't get age profiles and age cohort profiles in those not easily.

Some people in the UK have been doing very interesting work on that. And what we have found is that it's the removal of spending power. Especially from younger people, but not necessarily only from younger people. That is resulting in the most significant change. It's not the only deciding factor. I'm not trying to make that point. That is the only determining factor. But it looks

to me from everything that we have seen that that is the causative factor that's leading to this change in transport behavior. What it tells us about what might happen in the future is dire. That was my statement to you.

Shashi:

Have you looked at the economic factors behind this change in behavior? That wasn't in your paper.

Brian:

Well, we do control for income. I would point out that we did some work years ago, looking at millennials and travel. Dramatic changes and much more sensitivity of younger travelers happen due to changes in economic circumstances between 2008 and 12, something like that during the Great Recession. But, if you notice my trend lines, they were consistent with the economic circumstances. They didn't follow natural changes in economic activity. We've had significant growth and reductions in poverty right through the pandemic. The distribution of income has grown more unequal: the number of people living in poverty, at least up through the economic booms of the post-Great Recession in the US, and the significant income transfers during the pandemic reduced the number of very lower-income folks. We just tried to control for that in the analysis. That's the best I can say.

Shashi:

If I'm interpreting your data correctly, there were many pointers. If you look, all the lines are in the same direction. I get that. They have similar slopes, but some slopes are higher. If you look at the slopes for younger people in your data, that's higher. Suppose you look at the never married, which correlates highly with being younger. That was the steepest slope that I noticed in there. So, we could have this debate. I don't know how to have all the time here, but everything that we have seen suggests that there is a behavior change. We are trying to separate from this claim of the Netflix generation versus other things. And the other things it looks to us, at least from the analysis we're doing, are the economic factors, which are the dominant factors behind people's change in behavior.

John:

Yeah, you mentioned spending, the decline of spending power, which is a function of income. But it's also a function of prices and inflation. So, the inflationary environment that we're living in in many countries has contributed to the decline.

Shashi:

But it's not just the recent inflation. Suppose you look at inflation in house prices, which has been a real problem since 2008 when the sort of economies diverged between house prices and everything else. It takes away spending power from people who don't have houses, typically younger people.

Audience Questions

Q: About the methodology behind the NHTS. Do you have any high-level comments on your confidence in the NHTS data?

A: I have so little confidence in the 2022 version of the NHS on its own that I wouldn't have presented it without another data source showing something similar.

Q: Okay, fair enough. You have the second survey, the ATUS, to corroborate those results. We're confident now this is a thing. This is what's happening. People are staying home or traveling less.

Q: One question from Professor Patricia Mokhtarian: On the role of non-response bias in these trends, It's been harder to sample people out of their homes often. The interaction with the overall decline in the survey response rates may account for some apparent decline in out-of-home time. So, I'm just wondering.

A: That's interesting. Non-responsive bias is in our field. The idea that people who were, well, because I've certainly thought about non-response bias among uh single parents and other people who are time press. But the idea is that they would grow just in. That's an interesting point. I would ask Patricia, do you think the trend over time is enough to erode what we would observe or to account for it completely?

Q: Yeah, I think it's only part of the explanation and might be interacting with the declining interest in responding to surveys. If people out of home don't respond to surveys more, that's always been our concern. So, something has to have been happening to make it worse. I don't know if that is something else; there's only a decline in survey responses. Again, it's not the whole story, but I always wonder how much of it is.

A: That's an interesting observation. Yeah, I got to think about that.

Q: The next question is from Stephanie Pollard. The overall trip duration and length have been increasing. So, is this a function of people moving their homes to lower-density places with worse access from where they're making these trips? This could be driven by that whole discussion on affordability issues, where house prices are going up much, much higher than income levels. Do you have any views on this?

A: I would say yes. One of the things that we missed in a lot of the last century was that we saw a very consistent trend of declining incomes among Central City residents, the White Flight Movement into the suburbs. All the housing growth was in the suburbs, and the inner-ring suburbs and central cities were struggling economically to retain the population. That began to turn around in the 1990s when there was a lot of revival and popularity among those living in central city areas. I got confused at the idea that somehow that meant that suburbs weren't continuing to grow; they were. The share of the population in suburban areas and the suburbanization of lower-income households continued even amid a revival of urban areas in many places. Over time, the share of people who live in places where most of the trips need to be made practically by automobile has continued to march on in the US. Despite some encouraging urban regeneration (I think that's at play), the other thing that we're doing now, and that we've got a paper about to come out on this, is that the age at which people give up their license is getting later and later over time.

Another research suggests that older adults are living longer and healthier. Still, the costs of giving up driving are greater when you live in an outlying area, encouraging older adults to continue driving, even if they must limit their driving in other ways, such as avoiding bad weather and traveling at night.

Q: Another question on street light data. We have a lot of other sources, private data sources such as replicas, streetlights, and other Google GPS data sources that track the movement of people. The other thing is a personal health tracker that tells how much people have been biking or walking. How much of your results did you validate using these other privately available data sources? There was one question: Are you seeing an increase or decrease in biking or walking or actual movement of people in the cities based on GPS or vehicle counts from streetlights or replicas?

A: We have been using Streetlight data. I have not used other data sources like Enrix and others that are out there as much. We find them very useful for certain kinds of analyses but unreliable for others. I don't want to launch this late date into a description of where their virtues and their vices lie. Still, I would say that they're a mixed blessing, but for the type of analysis that we did that we've published so far, we feel confident and comfortable with that because we were able to validate it a little bit. In terms of the question, we used these data to validate what we did. This was a national sample. We did not use any traffic data because our focus was really on trip-making and behavior, not so much on what that meant for the total travel on the transportation systems. So that's the best I can offer.

Q: Could you give us some metrics on how large an effect the drop in out-of-home shopping had versus a decline in out-of-home socializing? Never-married people might be more likely to shop online unless the steep drop is still there after age is controlled. Any thoughts on that?

A: I have a thought on that. I'm unsure if this answers the question, but we observed that online shopping involves less travel and less time. I finally gave up that inkjet printer and stopped ordering printer cartridges constantly. But when I go, instead of going to an office supply store and walking them down the aisle, I look for the printer cartridge and get it. I just repeated my previous order. It takes me under a minute to do the order, so there's evidence to suggest that it involves less time traveling and less time overall. It's certain kinds of things that involve less time. So that then frees up time for other activities. There is an age component to that, but you can see that younger folks were doing less shopping before, so part of that is where they are in this life cycle, but that's changing over time.

Q: We didn't see any stats on biking. So, wasn't there enough data to consider biking?

A: Is that by someone from outside the United States?

Q: No. I am also a biker, so I would like to know about this question.

A: Utilitarian biking is very small in the US. We did not include that because it was small when we accounted for a huge share of overall trips.

Part IV. Summary of Memos.

Themes from Other Memos (these are ones I made up just as a template)

1. **Travel behavior has changed significantly, especially with a decline in personal vehicle miles travelled (VMT) among young people.** An increased use of the internet and digital devices is associated with this decline and supported by data. This suggests a fundamental shift in how young people travel.

2. **The composition of personal travel purposes has also changed significantly, especially for young people.** Travel patterns have shifted from the dominating shopping and social activities to a more even distribution, including commuting and school purposes. This shift reflects the increasing convenience of online shopping and digital social interactions, which reduces the need for in-person travel for these activities.
3. **The changing travel behavior raises concerns about social cohesion and the vitality of urban spaces.** The decline in outdoor activities could have implications for social well-being. Reduced engagement with public spaces could pose challenges to the sustainability of vibrant, interactive urban environments.
4. **Economic factors are increasingly being recognized as a determinant of travel choices, especially for younger generations.** Falling real incomes among young people could limit their travel options. Rising housing costs, stagnant wages and inflationary pressures could lead to less travel, due to economic constraints.
5. **There is a paradox in that the decline in personal travel is offset by an increase in commercial vehicle mileage.** The surge in e-commerce and food delivery services has led to an increase in freight and delivery trips. While private car use may decline, total vehicle mileage may increase due to increased commercial activity, still leading to congestion and environmental impacts.

My Reflection:

This week's Mobility Forum showcases an important the significant shift in transportation demand and emerging travel patterns after the COVID-19 Pandemic, with decreased out-of-home activities and out-of-home duration. There's a mode shift towards private vehicles, longer trip distances, and changes in trip purposes, such as fewer shopping trips. Public transit recovery is uneven, with a notable decline in walking. Working from home might be a reason for the declining travel demand – companies save money, but commuting demand shrinks, and CBD offices get abandoned.

Given this, we can further understand the reasonings for unsatisfactory ridership recovery performance in US transit systems, a heated topic for US transit agencies. In my opinion, one major issue with U.S. transit agencies' recovery is their heavy reliance on commuting—primarily between home, work, school, or hospitals. Unlike Asia, where transit is integrated into daily life (e.g., TOD and lifestyle-oriented network design), or Europe, where people routinely use trams for short trips like groceries or dining, U.S. systems like BART and CTA remain commute-focused. They are dull, peak-hour focused, and have large between-station distances. This narrow purpose makes them vulnerable to shifts like remote work and reduced travel demand.

Another critical issue is the deteriorating perception of safety and comfort. Many view transit as unsafe, perceiving transit systems as a dangerous environment with homelessness, drug use, and poor maintenance. This has led to transit being seen as a last resort rather than a preferred mode of travel. To recover, agencies must address these concerns by improving safety, modernizing stations, and making transit a more appealing choice for all types of trips, not just commutes. Still, given the US's sprawling urban design, we must acknowledge that it is a challenging task.