



# NextGen NHTS NEWSLETTER

Summer 2024

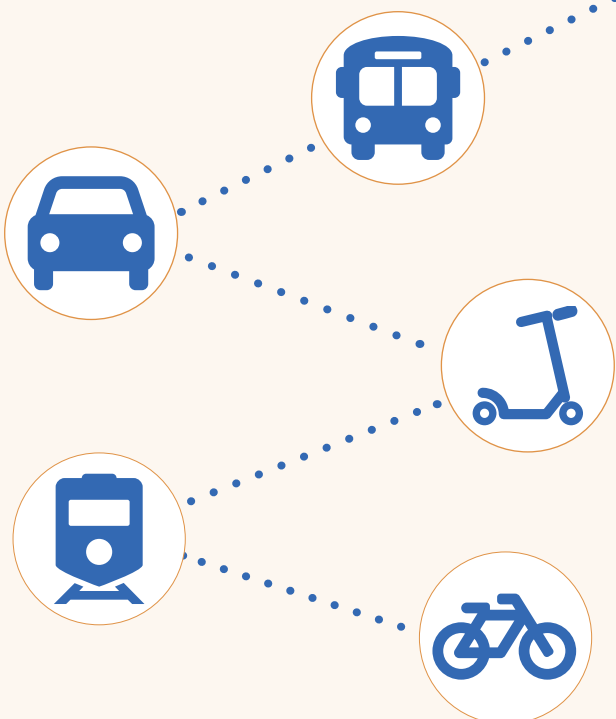
## Issue Highlights

NHTS Program Updates . . . . . 2

NHTS Pooled Fund Program Updates . . . . . 2

Tour of the 2022 NHTS Core Data. . . . . 3

NHTS Data Spotlight: Emerging Travel Behavior Changes Related to Work From Home and Online Shopping Behaviors . . . . . 4



## Want to Advance the Travel Behavior Program Together?

The NHTS Technical Advisory Committee (TAC) welcomes your participation in the NextGen NHTS program by joining the NextGen NHTS pooled fund study. Organizations that join the pooled fund study and purchase add-on data automatically become TAC members. Organizations that do not purchase add-on data can become TAC members by joining the pooled fund study with an annual \$5,000 contribution to participate in ongoing travel behavior method research. TAC activities include guiding travel behavior data collection research and method development and facilitating the exploration of critical travel behavior issues from local, state, and national perspectives. TAC members communicate problems and share knowledge through a semiannual online discussion session and an annual in-person forum with travel expenses covered by the TAC and hosted by one of the TAC member organizations. For more information about joining the pooled fund study, contact FHWA National Travel Behavior Data Program Manager Danny Jenkins at [daniel.jenkins@dot.gov](mailto:daniel.jenkins@dot.gov).

# NHTS Program Updates

The NHTS Program has issued several data products over the past year, continuing its priority to document emerging trends and travel patterns through various data products. The following releases are now publicly available:

- The 2022 NHTS data set, which includes a new data file summarizing long-distance travel, is available at <https://nhts.ornl.gov/downloads>.
- The 2022 Passenger and Truck OD data products are available at <https://nhts.ornl.gov/od/>.
- The *2022 Summary of Travel Trends* (STT) report is available at <https://nhts.ornl.gov/publications>.
- An expanded and updated online Data Explorer tool that provides easy access to the 2001, 2009, 2017, and 2022 datasets can be accessed at <https://nhts.ornl.gov/>.

In addition, two new data efforts are underway. First, FHWA issued a contract for the 2024 NHTS core data collection, and a preliminary design is being reviewed by the Office of Management and Budget (OMB). Once OMB approval is secured, a short pilot test will be conducted, and then the year-long data collection effort will begin. The 2024 NHTS is anticipated to include the core data related to demographics and daily travel characteristics, questions related to working from home, driving household vehicles for commercial purposes, and new “day of travel” questions to help better understand travel day dynamics of trip substitution related to online activities. Second, the 2023 Passenger OD data product is being compiled and is anticipated to be released later this year.

# NHTS Pooled Fund Program Updates

The NHTS Pooled Fund Technical Advisory Committee (TAC) met March 26 and 27, 2024, in Columbus, OH. Hosted by the Ohio Department of Transportation, the 2-day meeting agenda included updates from FHWA on various data programs and upcoming events, an overview of FHWA’s

# Travel Behavior Resources

Under the NextGen NHTS program, FHWA funds the following travel behavior resources:

- A biennial core data survey.
- Annual OD data products.
- Online data tools.
- Data-centric publications.



Application of Enterprise GIS for Transportation (AEGIST) pooled fund program, an introduction to FHWA’s VisionEval strategic model, and examples of changes in urban area boundaries.

Other presentations included:

- **An overview of the 2022 STT report:** In addition to providing trend data across multiple NHTS data collection cycles, the 2022 STT summarizes attitudinal data that provides important insights into how the pandemic recovery period was influencing travel patterns during this time of transition. For example, the data suggest respondents traveled less in 2022 compared to 2017 but with trends more in line with 2009. Factors included changes in daily life due to the pandemic, subsequent recovery, and the rise of remote work. Additionally, new opportunities for online errands like shopping, banking, telemedicine, and grocery shopping reduced travel.
- **Results from an evaluation of the parallel sampling frame test:** As part of the 2022 NHTS, FHWA tested the efficacy of using a probability-based panel as a sampling frame. Probability-based panel frame samples (PFS) are thought to be a more cost-effective alternative to the standard address-based sampling frames (ABS), as respondents are pre-recruited and have established a relationship with the company managing the panel. The evaluation tested various aspects of the PFS and ABS results using a Total Survey Error framework. The results showed the PFS sample fit for purpose, with no statistically significant differences from the ABS results.

- **Current travel behavior research by Dr. Andre Carrel of Ohio State University:** Dr. Carrel presented the results of a study that looked at how information and communication technology usage changes the spatial and temporal patterns of travel demand, focusing specifically on online shopping and teleworking. He also discussed research into factors related to battery electric vehicle adoption and the potential demand for microtransit. The results of these studies inform emerging trends and travel modes as well as provide insights into survey techniques and questions best designed to elicit such details.

A good portion of the meeting was dedicated to presenting the preliminary design details of the 2024 NHTS in terms of survey mode, sampling, and data collection technologies. The TAC also identified and prioritized content for the NHTS, indicating a preference for questions related to telework, e-commerce, and industry/occupation data.

The NHTS pooled fund comprises 21 members, including 15 state departments of transportation, 5 metropolitan planning organizations, and 1 research organization. Benefits of participating in the pooled fund program include shared research; the ability to guide the design of the core data and OD data products; and, if add-on products are purchased, low administrative burden through FHWA management of the data contracts.

## Tour of the 2022 NHTS Core Data

Data collection for the 2022 NHTS was conducted from January 2022 to January 2023, resulting in 7,893 completed ABS households. Households were recruited by mail (a mix of letters and postcards to encourage participation), and, once recruited, all participants were directed to a computer-aided web interface (CAWI) or offered a mail survey. The User's Guide (available at [https://nhts.ornl.gov/assets/2022/doc/2022%20NextGen%20NHTS%20User's%20Guide%20V2\\_PubUse.pdf](https://nhts.ornl.gov/assets/2022/doc/2022%20NextGen%20NHTS%20User's%20Guide%20V2_PubUse.pdf)) provides a summary of the methods used and other details about the data collection effort.

The survey content included both core data elements asked in each NHTS across time as well as new questions that focused on emerging trends. The core data elements included questions regarding household composition, vehicle ownership, and demographics of the household members as well as specifics of each trip reported during an assigned 24-hour period (i.e., the travel day). Special focus topics included:

- **Equity:** Reasons why respondents were unable to travel.
- **COVID-19:** Continuing impact of COVID-19 on travel and insights into whether these changes were considered temporary or permanent.
- **Home-based work and education:** Details about how often workers telework and where education takes place (home or physical school location).
- **Online shopping:** Online purchases for home delivery of goods, food, grocery, or services and how returns are made.
- **Use of household vehicles for commercial purposes:** Vehicle details and their use for ridesharing, delivery service, or other business purposes.
- **Emerging travel modes:** Use of emerging travel modes including bikeshare and e-scooters in the past 30 days.
- **Long-distance travel:** Most recent long-distance trip made (defined as a trip 50+ miles from home).

The results are packaged into a dataset that includes five files: household, person, vehicle, trip, and long distance. Data documentation can be viewed here: <https://nhts.ornl.gov/documentation>. Read on for an example of the 2022 data in action, as summarized in the next article.

# NHTS DATA SPOTLIGHT:

## Emerging Travel Behavior Changes Related to Work From Home and Online Shopping Behaviors

The COVID-19 pandemic brought about rapid changes to people’s travel habits, forced technology adoptions, and altered where and how people work. The 2022 NHTS offers unique insight into how travel patterns continue to evolve as the United States recovers from the pandemic. This data spotlight explores how Americans’ adoption of technology has evolved between the 2017 and 2022 NHTS surveys and the resulting effects on daily travel.

The 2022 NHTS showed that nearly 20% of Americans work from home (WFH) in some capacity, an increase of 257% from the 2017 NHTS.<sup>1</sup> Of these workers, over 59% say they currently WFH more than before the pandemic, with more than 71% of these workers anticipating this to be a permanent

change.<sup>2</sup> This change in work location has translated into statistically significant differences in travel across all trip purposes. The table breaks down trip rates by each group, WFH and no WFH (note: all differences are statistically significant).

While commuting trips were significantly lower for those that WFH, this group had on average higher instances of other nonwork trip types such as shopping and social/recreational trips. Those that WFH also had a higher instance of personal errand and other trips, but about the same instance of school/church trips. These findings illustrate potential shifts in when, where, and why Americans are traveling and how WFH may be contributing to this change.

Americans are also doing more online activities than ever before. While these activities include social media, streaming services, and browsing, they also include potential trip-replacement activities such as online banking, telemedicine, or postal activities. These changes have been reflected in other data as well, with bank branch closures consistent since 2009<sup>3</sup> and post office visitations steadily declining since at least 2014.<sup>4</sup> However, online shopping may have seen the greatest increase in popularity and contributed to possible higher trip replacement activities. In fact, the United States Postal Service has seen a 16% increase in package volume since 2019,<sup>4</sup> while Amazon has seen a 140% increase in package volume over that same time frame.<sup>5</sup>

### Mean Number of Travel Day Trips by General Trip Purpose and by WFH Status.

WFH Status	To/From Work	Work-Related Business	Shopping	Other Family/ Personal Errands	School/ Church	Social and Recreational	Other	All Trips
WFH	0.32	0.11	0.46	0.47	0.10	0.87	0.27	2.37
No WFH	0.97	0.13	0.28	0.32	0.10	0.54	0.22	2.38

<sup>1</sup> American Community Survey (ACS) 5-Year Estimates Table B08006 shows similar proportions at 5% for the 2017 workforce and 12% for the 2022 workforce. Note differences in the definition of WFH between this analysis and the ACS.

<sup>2</sup> Note that the 2022 survey responses predate many “return to office” orders issued beginning in late 2022 and continuing into 2023 and 2024.

<sup>3</sup> Refer to <https://www.spglobal.com/marketintelligence/en/news-insights/trending/e2m8qqa1qygrqy3jwityqq2>.

<sup>4</sup> Refer to <https://facts.usps.com/table-facts/>.

<sup>5</sup> Refer to <https://capitaloneshopping.com/research/amazon-logistics-statistics/>.

The NHTS data show similar increases in online purchases that resulted in home deliveries. From 2017 to 2022, the mean number of online-purchased home deliveries over the past 30 days increased 117% from 2.5 deliveries per person to 5.4 deliveries per person. This increase was seen across all levels of household income, with the greatest increases seen in households with incomes less than \$50,000.

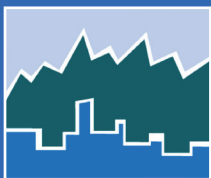
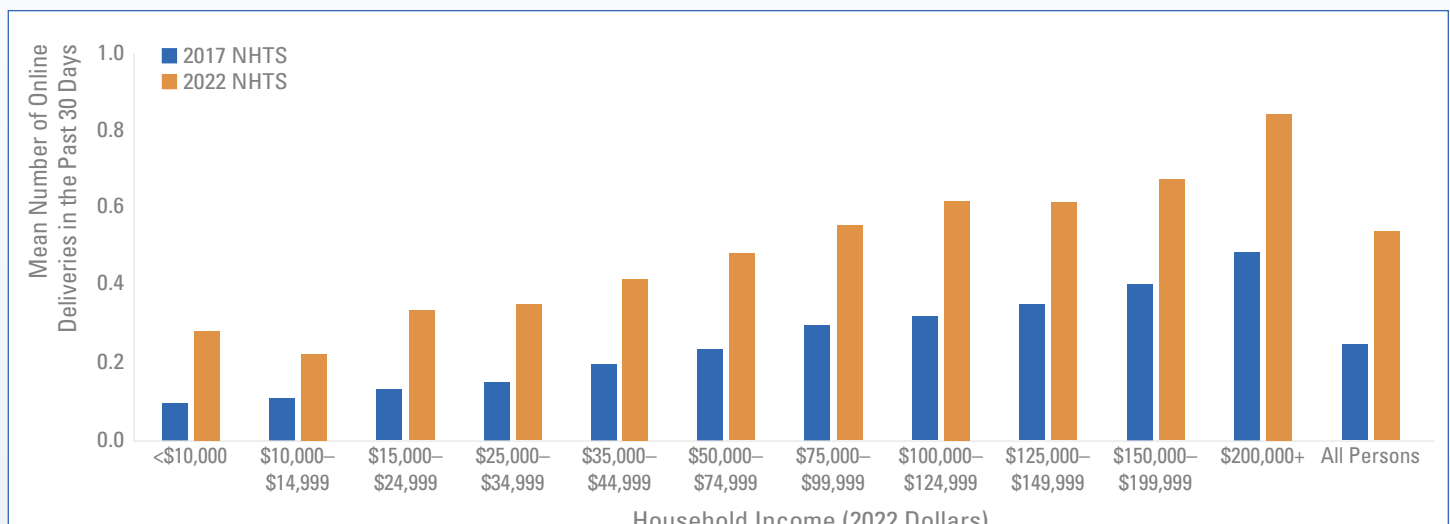
In addition, online purchases were found to correlate with lower levels of daily travel. Among the presented questions in the 2022 NHTS,

respondents were asked if they had taken fewer trips in the past 30 days and, if so, for what reasons. About 16% of respondents who stated they had taken fewer trips in the past 30 days indicated it was due to receiving more deliveries. Statistical testing confirmed these responses, with those indicating having taken fewer trips due to an increase in deliveries reporting a mean of 0.9 more deliveries and taking a mean 0.1 less daily trips compared to all other respondents.

This increase in online purchased deliveries was also found to interact

with the increase in WFH. In the 2022 NHTS, respondents who WFH in any capacity used online deliveries more than those who did not, with a mean difference of 3.08 more deliveries. Controlling for household income showed similar statistically significant differences for all income groups as well. Coupled with the aforementioned reductions in daily travel for those WFH and the additional stated response findings, the 2022 NHTS shows indications that these technological adoptions may be impacting daily person travel levels.

### Mean Number of Online Purchases Delivered Over the Past 30 Days per Person by Household Income (2022 Dollars).



U.S. Department of Transportation  
**Federal Highway Administration**

## Stay Connected

To learn more about NextGen NHTS, join the pooled fund, or provide suggestions, please visit our website at <http://nhts.ornl.gov> or contact:

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