



# NextGen NHTS NEWSLETTER

Summer 2020

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## FHWA Launches NextGen NHTS

For the past 50 years, the Federal Highway Administration's (FHWA's) National Household Travel Survey (NHTS) has been providing insights into the daily travel of Americans. Traditionally conducted every 5 to 8 years, the NHTS documents the who, what, when, why, and how of daily personal travel. The survey results provide details on a range of topics, such as travel patterns by age cohort, trends in how children get to and from school, and how travel differs for those living in rural versus urban areas.

In addition to documenting the basic characteristics of daily travel (e.g., number of trips, trip purposes, distance traveled, time spent traveling, etc.), the most recent NHTS, which was conducted in 2017, also included data on telecommuting, Internet shopping, and travel by rideshare, carshare, and bikeshare, as reported by almost 130,000 households across the country. The data support transportation planning and policy efforts at the national, State, and regional levels.

Even as the 2017 NHTS was being conducted, the daily travel landscape was evolving at a much faster pace than ever before, including the development and widescale adoption of travel modes such as rideshare, the almost overnight appearance of e-scooters, and the proliferation of data products that leverage passively generated mobility data from in-vehicle devices and smartphone applications. In recognizing that technology and

transportation are changing at such a rapid pace, FHWA launched NextGen NHTS, which includes a pooled fund partnership and a two-part data effort. In this new design, the survey is a smaller effort so that it can collect more targeted data that can be disseminated faster to keep up with these changes, unlike what the NHTS has historically been able to do. NextGen NHTS also includes a passive data component that provides origin-destination (O-D) data for nationwide travel between metropolitan areas and other defined non-metropolitan rural areas in the States. More details on the pooled fund partnership and both data components are provided in this issue.

## Pooled Fund Partnership

An important facet of NextGen NHTS is the input and participation of pooled fund partners. Next Gen NHTS has a technical advisory committee (TAC) comprising pooled fund participants and other representatives. The goal of the TAC is to guide travel behavior and other data collection work, advocate new technology and new method adaptation, and promote transparency for both the data and data methods. Current TAC members include:

- Keith Killough, Arizona DOT
- Habte Kassa, Georgia DOT
- Lisa Shemer, Maryland DOT/State Highway Administration
- Karen Faussett, Michigan DOT
- Mark Grainer, New York State DOT
- Tae-Guy Kim, North Carolina DOT
- Rebekah Anderson, Ohio DOT
- Laura Chaney, Oklahoma DOT
- Becky Knudson, Oregon DOT
- Chowdhury Siddiqui, South Carolina DOT
- David Lee, Tennessee DOT
- Peng Xiao, Virginia DOT
- Guy Rousseau, Atlanta Regional Commission
- Vladimir Livshits, Maricopa Association of Governments
- Kenneth Joh, Metropolitan Washington Council of Governments
- Nicole Cernohorsky, Oahu MPO
- Brian Tefft, AAA Foundation for Traffic Safety
- Megan Beardsley/Amy Bunker, U.S. Environmental Protection Agency

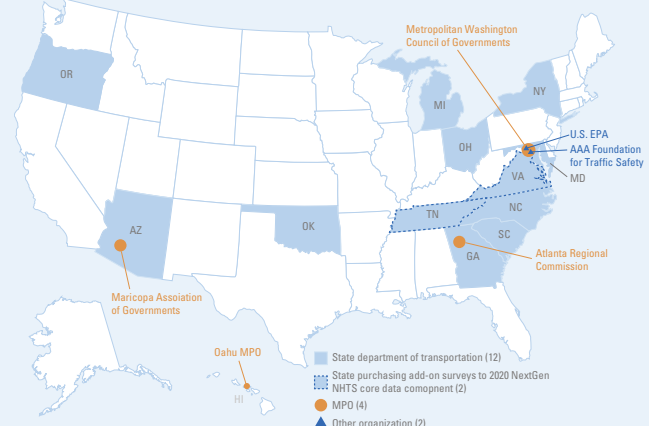
TAC members plan to meet in person once a year, with the meeting hosted by one of the TAC members. The first TAC meeting was held in December 2019 in Phoenix, AZ, with

special thanks to the Maricopa Association of Governments for hosting. At the meeting, TAC members provided input on the 2020 national core data survey design and discussed priorities for advancing transportation surveys. In addition, TAC members were briefed and updated on a host of topics related to the future of travel surveys. FHWA and the TAC appreciate these additional presenters who had shared their expertise and knowledge with the TAC:

- Vladimir Livshits (Maricopa Association of Governments); "Collecting Travel Data or Not."
- Rebekah Anderson (Ohio DOT); "Maintaining and Sustaining Travel Behavior Data Programs in a Changing World: State DOT Perspective."
- Jesse Casas (Westat); "Preparing for and Running the Race: Lessons Learned from Regional Household Travel Surveys."
- Mark Bradley (Resource Systems Group); "Advanced Travel Data Collection: Current and Future."
- Ram Pendyala (Arizona State University); "Behavioral Data for Integrated Modeling in an Era of Disruptive Transportation Technologies."
- Mansour Fahimi (Ipsos); "Survey Sampling in the Digital Age: Credible Surveys in the 21st Century."

## Want to Join the Pooled Fund?

Participation in the NextGen NHTS pooled fund effort is on a rolling basis. Pooled fund partners can purchase additional core survey data and O-D data in their regions. For more information about joining at any time, contact the FHWA National Travel Behavior Data Program Manager Danny Jenkins at [daniel.jenkins@dot.gov](mailto:daniel.jenkins@dot.gov).



## Update on NextGen NHTS 2020 Core Data

The core data survey component of the new NextGen NHTS is designed to provide travel behavior data that document current mobility patterns. The ability to trend important travel metrics, such as person trips and person miles traveled, vehicle trips and vehicle miles traveled, mode usage, time of day of travel, and levels of telecommuting and Internet shopping, is an important part of the NextGen NHTS core data survey design. The design balances the collection of travel behavior details with the need to reduce respondent burden and improve participation rates. As a result, the 2020 survey design collects fewer surveys (7,500 households nationally as compared to 26,000 households in 2017), asks fewer questions (with a focus on data needed for trending key metrics), and will be conducted more frequently (biennially, beginning in 2020). The 2020 survey will be the first in the series to collect both personal travel and commercial travel made using household-owned vehicles (such as by ridesharing and food delivery drivers).

The contract to conduct the 2020 data collection cycle was awarded through a competitive process in fall 2019 to [Ipsos](#). Founded in 1975, Ipsos is the third largest global market research company and has conducted more than 47 million interviews in the past 45 years, with almost half of those interviews conducted online. In addition to leveraging their travel survey experience, the Ipsos Knowledge Panel (KP) will be used to streamline the recruitment process for the national survey. KP is a probability-based panel comprised of more than 55,000 U.S. households. Members were randomly selected from an address-based sampling frame and agreed to participate in surveys. Those without Internet access are provided a tablet and data plan to complete surveys, which helps ensure that the 100% online design includes all types of households. A strong advantage of using the probability-based panel is that the demographic characteristics of households are known in advance, so each month, new selected samples will be released to help balance out the gaps typically caused by hard-to-reach households. This will help reduce non-response bias, which translates into less extreme weighting procedures than have been required in the past.

The 2020 survey design is currently undergoing review by the Office of Management and Budget (OMB). Once the OMB review is complete, the design will be finalized, and a small

pilot test will be conducted. The actual launch of the 2020 data collection effort will occur once mobility levels return to normal (or approach a new normal) and will capture household travel over an assigned 24-hour period. Household reporting will be equally distributed across all days of the week and all 365 days in a year. Two pooled fund partners have committed to purchasing add-on samples in 2020: Virginia Department of Transportation (11,000 households) and Tennessee Department of Transportation (5,000 households).

## Update on NextGen NHTS 2020 O-D Data

NextGen NHTS's O-D component is intended to complement the core data survey effort through leveraging in-vehicle and smartphone application-generated passive mobility data to provide a national summary of travel between 582 metropolitan statistical areas (MSAs) and reminders of State zones (click [here](#) for more information about the MSA geography). The O-D tables will summarize the following trips for both passenger and truck travel for the 50 States plus the District of Columbia:

- **The national passenger O-D flow data** will provide MSA-to-MSA as well as MSA-to-remainder of State trip flows over an entire year. Algorithms will be used to impute travel mode (i.e., air, rail, vehicle, or other) and purpose (work or non-work). The travel O-Ds will be used to estimate trip distance, which will be categorized into eight groups by mileage (0–10, 10–25, 25–50, 50–75, 75–100, 100–150, 150–300, and greater than 300 miles).
- **The national truck O-D flow data** will also provide MSA-to-MSA as well as MSA-to-remainder of State trip flows over an entire year. Trips covered will include those made by all single unit and combination trucks (classes 5–13) distributed across similar distance categories as for the passenger trip data.

The contract to develop annual O-D data products for 2020 to 2024 was competitively awarded to a team led by the [University of Maryland](#). Agencies wishing more detailed geographic zones can purchase an add-on and specify geographic flows down to the census block level. For more information or to purchase a passive data add-on component, please contact the Research Manager Patrick Zhang at [patrick.zhang@dot.gov](mailto:patrick.zhang@dot.gov).

# NHTS DATA SPOTLIGHT:

## Iowa MPO Add-ons

The Iowa Northlands Regional Council of Governments (INRCOG) and the Des Moines Area MPO (DMAMPO) both participated in the 2017 NHTS pooled fund effort though purchasing add-on surveys for their planning areas. Their objectives for participating were the same: to obtain local data to support various planning efforts. Here is a quick look into how they have used the data so far.

### INRCOG

With a population of around 125,000 and a planning area geography that encompasses only a portion of Black Hawk County, IA, INRCOG holds the distinction for being the smallest MPO to participate in the 2017 NHTS add-on program. The agency has already leveraged its 1,200 household add-on purchase and the data from its six add-on questions to support a variety of planning activities including its long-range plan update, model update, and pedestrian master plan (the following table highlights their bike/pedestrian trip statistics).

Codie Leseman, a transportation planner at INRCOG said, “The tools developed by the NHTS team have been very helpful for us. I think small MPOs nationwide would greatly benefit from having these resources available for their regions.” INRCOG along with the 12 other 2017 NHTS add-on partners helped FHWA develop the Advanced Analytics and Data Explorer tools in 2018 and 2019. “We developed a great working relationship with FHWA through this add-on process,” Leseman said. “I wasn’t simply the recipient of these tools. I had the opportunity to share ideas on how smaller MPOs could use these tools in the future.”

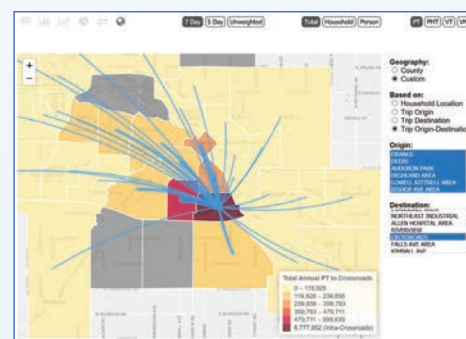
### Bicycle and Pedestrian Trip Statistics in the MPO Area.

Bicycle and Pedestrian Trip Statistics	Bicycling	Walking
Commute to work (percent)*	0.5%	4.6%
All trips (percent)	1.2%	6.8%
Annual person trips (number)	1,774,000 trips	10,359,000 trips
Annual trip distance (miles)	5,370,000 mi	6,596,000 mi
Average trip distance (miles)	3.03 mi	0.64 mi
Average trip duration (minutes)	22.33 min	17.03 min
Mode use in past 7 days (number)	9,167 residents	66,290 residents

\*U.S. Census American Community Survey data (2012–2016) for Black Hawk County, IA. All other values are from the 2017 NHTS add-on for the MPO area.

One example of how access to the Advanced Analytics tool helped INRCOG is with their recent analysis of transit trips as part of their transit agency restructuring all of the fixed bus routes in Waterloo and Cedar Falls, IA. The routes have not changed for about two decades, and ridership is lower than similar Midwest cities. Using the Advanced Analytics tool, INRCOG staff can quickly look at the trip data on a map and compare travel patterns based on different weights and analysis variables. “For example, I can see there is a greater share of person-trips to the Crossroads Mall area using the 7-day weights versus the 5-day weights,” Leseman said. “Then I can look deeper at other areas to see where weekend travel to the mall is significantly higher

and where it might actually be lower, and we can adjust the route schedules accordingly.” These data can also be shared with elected officials to make the case for expanding weekend bus service in select areas. The transit agency hopes to implement the planned bus route changes in July 2021.



### Regional Person Trips Destined to the Crossroads Mall Area.



## DMAMPO

DMAMPO serves a population of over 500,000 people across four counties. Their 2017 add-on of 1,200 households was used to support multiple planning efforts, including updating the long-range plan to input into the travel demand model as well as estimating non-work travel characteristics such as distance, purpose, and time of day. “Although our main reason for purchasing the 2017 NHTS add-on was for data to support our model update, the ability to specify six questions unique to our regional needs really helped us to leverage the survey results to answer other planning related questions. Input from Des Moines regional residents was used to prioritize infrastructure investments and inform our safe routes to school activities” says DMAMPO planner Zhi Chen.

Both DMAMPO and INRCOG have been able to accomplish their objectives in leveraging their 2017 NHTS add-on data to support a variety of planning activities. Look for more use case examples in future newsletters.

## INRCOG

**Population:** 125,000

**No. Counties:** 1

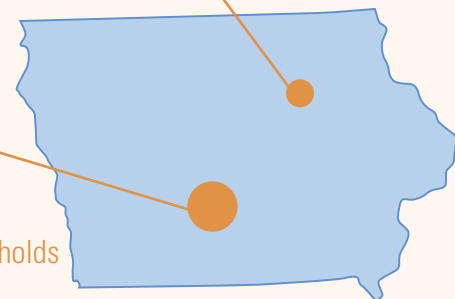
**Add-On Purchase:** 1,200 Households

## DMAMPO

**Population:** 500,000

**No. Counties:** 4

**Add-On Purchase:** 1,200 Households



### Example of How DMAMPO Leverages Survey Results to Inform Future Planning for Safe Routes to School.

Survey Question: Which of the following reasons would influence your decision to allow your child/children to walk/bike to school?	Number of Households	Percent of Respondents
Crossing guards present	119	9.2%
Presence of adult chaperones/supervision	114	8.8%
Sidewalk and crosswalks are located along the route	193	14.9%
School participates in a Safe Routes to Schools program	59	4.6%
Education and training is provided for children, parents, and others	13	1.0%
School is located within neighborhood	138	10.7%
Distance between home and school	231	17.9%
Don't know	2	0.2%
Refused to answer	3	0.2%

Data are from the 2017 NHTS add-on for the MPO area.



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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