

2017 National Household Travel Survey Method Changes and Implications

August 8, 2018

2017 NHTS – Westat Staff

- Janice Machado – Project Director
- Jeremy Wilhelm – Project Manager
- Shawn McCloskey – Project Manager

2017 National Household Travel Survey

Survey Methodology

Previous NPTS & NHTS

- Prior surveys: periodically from 1969 through 2009
- Data collection modes:
 - In-person
 - Telephone } Interviewer Moderated
- 2001 and 2009 Surveys: RDD telephone
- Double Digit Response Rates

The 2017 Environment - Need for a Change

- Increase in households with no landline phone (52.5%)
- Declining response rates
- Uptake in Internet Usage (~90% access)
 - Accessed from many device types

2017 NHTS Methodology

- Address-Based sample (ABS)
- Two-stage Survey Design
- Multi Mode Data Collection (Paper/Web/CATI)
- New Multi-stage Incentive Structure
- Sample: 26,000 national + 103,112 households in 13 Add-ons

Summary of Prior Versus Current Surveys

Element	2009	2017
Frame	Random Digit Dialing	Address Based
Data Collection Mode	Telephone (CATI)	Multimodal (Paper/Web/CATI)
Administration	100% Interviewer moderated	Mix of Self and Interviewer
Recruitment	Demographics and travel date assignment	Short and simple attitudinal survey
Travel Day Retrieval	Focus on travel collection	Person details and then travel collection
Geocoding	Post collection validation	Real time with modern APIs; speed/distance validation during trip collection
Completion Rules	50% of adult household members	100% of household

Main Survey Data Collection Overview

Stage of data collection	Data Collection Modes	Total Completes	Target for survey stage	Incentives
Recruitment Mail-outs	Mail	929,077 (100%)	925,000	\$2 per mail-out
Recruitments & Diary mail-outs	Mail, Web, CATI	252,279 (101%)	250,000	\$5 per diary package
Travel Data Retrievals	Web, CATI, Mixed	129,696 (100%)	129,112	\$20 per completed household

National Household Travel Survey

Understanding Place to Place



The U.S. Department of Transportation is working to help us build a snapshot of how well the roads, highways, and public transit are serving the future. We are asking you to help us build a snapshot of...

Participation is voluntary and your information will be kept confidential. We will use your information to understand travel behaviors of U.S. Public. Existing data sources, gather information. An agency may not collect information unless it displays a current privacy notice. For more information, call 1-855-997-1400 or visit www.nhts.gov. Comments or suggestions should be sent to: Michael Howell, Information Collection, 1200 New...

► This form should be completed by an adult household member.
 ► Please use a black or blue pen to complete this form.
 ► Mark to indicate your answer. If you want to change your answer, mark the correct answer with an .

Your Travel Experiences

1. How often do you use each of the following to get from place to place?

	Daily
Walk	<input type="checkbox"/>
Bike	<input type="checkbox"/>
Personal Vehicle (Car/Truck/SUV)	<input type="checkbox"/>
Taxi service or rideshare such as Uber/Lyft	<input type="checkbox"/>
Bus	<input type="checkbox"/>
Train/Subway	<input type="checkbox"/>
Paratransit	<input type="checkbox"/>

2. How much do you agree or disagree with each of the following statements?

	Strongly agree
The price of gas affects the number of places I go.	<input type="checkbox"/>
Getting from place to place costs too much.	<input type="checkbox"/>
I walk to places to save money.	<input type="checkbox"/>
I bike to places to save money.	<input type="checkbox"/>
I use public transportation to save money.	<input type="checkbox"/>

Technology You Use

3. How often do you use the following devices to access the Internet?

	Daily
Desktop or laptop computer	<input type="checkbox"/>
Smartphone	<input type="checkbox"/>
Tablet	<input type="checkbox"/>
Other device, please specify	<input type="checkbox"/>

Your Household and You

4. How many vehicles are owned, leased, or available for regular use by the people who currently live in your household? Be sure to include motorcycles, mopeds, and RVs.
 Please fill in "0" if your household has no motor vehicles.

Total number of motor vehicles available to your household:

5. Do you own or rent your home?

Own
 Rent
 Other, please specify:

6. Are you of Hispanic or Latino origin?
 Yes, Hispanic or Latino
 No, not Hispanic or Latino

7. What is your race? Mark all that apply.

White
 Black or African American
 Asian
 American Indian or Alaska Native
 Native Hawaiian or other Pacific Islander
 Other, please specify:

8. What is the highest grade or year of school you completed?

Less than a high school graduate
 High school graduate or GED
 Some college or Associates degree
 Bachelor's degree
 Graduate degree or professional degree

15. In order to understand how people get from place to place, it's important for us to know who currently lives in your household.

Including yourself, please write in the first name/nickname, age, and gender of each person currently living in your household, including children and newborn babies.

	First name, nickname, or initials	Does this person drive?	This person's age	This person's gender
Person 1	<input type="text" value="You"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 2	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 3	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 4	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 5	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 6	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 7	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 8	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 9	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 10	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Male <input type="checkbox"/> Female

16. If there are more than 10 people in your household, please write in the total number of people in your household.

Thank you!

Please return this questionnaire in the enclosed, pre-paid envelope. For more information about the survey, please visit www.NationalHouseholdTravelSurvey.com or call 1-855-997-1400.

Households were selected at random from the postal service's list of residential addresses. By selecting households randomly, we will be able to create scientific estimates about the households in America. It's important to participate, so that we have an accurate picture of you and your community.

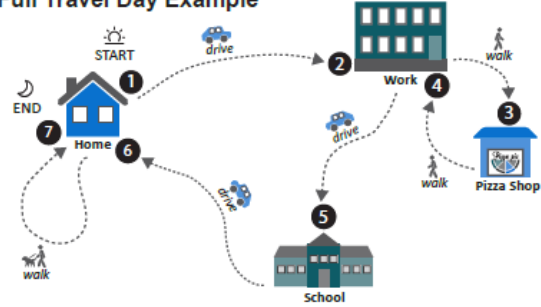


Recruitment Data Collection by Mode



Travel Log

A Full Travel Day Example



National Household Travel Survey

Frequently Asked Questions

Should I take the travel log with me during my travel day?

Yes. Keep your travel log with you so that you can write down each place you go and exactly what time you arrive and leave. Then, use the log to help finish the survey online or by phone.

I just took a walk around my neighborhood. Do I need to include that?

Yes. Even if you end up back at the same place you started, it still counts. If you go for a walk in your neighborhood, record it as a trip from home to home.

I use public transit. Do I need to write down every bus stop or train station?

No. Just tell us where you went. We don't need to know each station, bus stop, or transfer point along the way. Simply list all the ways you got to that place (e.g., walk, bus, and train).

Do I need to count all the passengers on the bus?

No. We are only interested in how many people traveled with you. If you and a friend took a bus together, just tell us that one person went with you.

Do I need to mail you my log after the travel day is over?

No. We will ask you to refer to the travel log when you are completing the follow-up survey online or by phone, but the log itself is yours to keep.

Activity List

- Regular home activities (chores, sleep)
- Work from home (paid)
- Work
- Work-related meeting/trip
- Volunteer activities (not paid)
- Drop off/pick up someone
- Change type of transportation
- Attend school as student
- Attend child care
- Attend adult care
- Buy goods (groceries, clothes, appliances, gas)
- Buy services (dry cleaner, banking, service a car, pet care)
- Buy meals (go out for a meal, snack, carry-out)
- Other general errands (post office, library)
- Recreational activities (visit parks, movies, bars, museums)
- Exercise (go for a jog, walk, walk the dog, go to the gym)
- Visit friends or relatives
- Health care visit (medical, dental, therapy)
- Religious or other community activities
- Other (please specify)

1 Where did you go?	2 How did you get there?	3 What did you do?
START HERE		
Place 1: Where were you at 4:00 AM on your assigned travel day? Provide place name and address/intersection: Home	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) Drove my car
Place 2: Where did you go next? Provide place name and address/intersection: Work - Arbor Law Firm 990 Central Ave, Chicago, IL 60639	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) Drove my car
Place 3: Where did you go next? Provide place name and address/intersection: Giuseppe's Place 1800 Kerry Lane, Chicago, IL 60639	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) Walked
Place 4: Where did you go next? Provide place name and address/intersection: Work - Arbor Law Firm 990 Central Ave, Chicago, IL 60639	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) Walked
Place 5: Where did you go next? Provide place name and address/intersection: Fairview Elementary 7590 North Rd, Chicago IL 60639	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) Drove my car
Place 6: Where did you go next? Provide place name and address/intersection: Home	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) Drove my car
Place 7: Where did you go next? Provide place name and address/intersection: Home	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) Walked

Instructions:
1. Keep your ATM
2. After either online or by phone

Questions:
Q
A

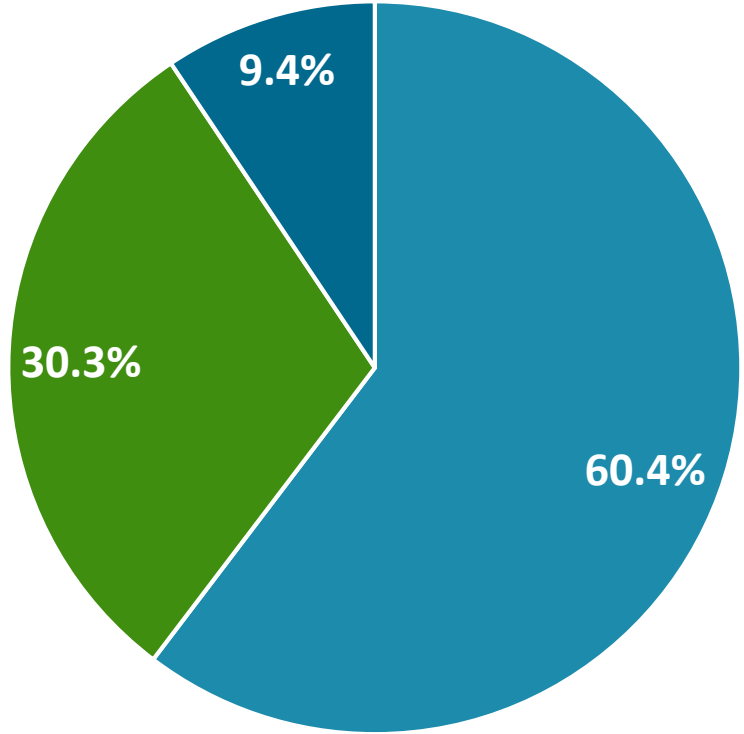
The information and your response will be kept confidential.
202-266-6170
2125-0545

1 Where did you go?	2 How did you get there?	3 What did you do?
START HERE		
Place 1: Where were you at 4:00 AM on your assigned travel day? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM
Place 2: Where did you go next? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM
Place 3: Where did you go next? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM
Place 4: Where did you go next? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM
Place 5: Where did you go next? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM
Place 6: Where did you go next? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM
Place 7: Where did you go next? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM
Place 8: Where did you go next? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM
Place 9: Where did you go next? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM
Place 10: Where did you go next? Provide place name and address/intersection:	What time did you arrive at this place? [] [] : [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM	How did you get to this place? (for example, walk, car, bus, train, etc.) [] [] AM [] [] PM [] [] AM [] [] PM [] [] AM [] [] PM

If you went more than 10 places on your travel day, please record these places on a separate paper. See the back page for a full travel day example!

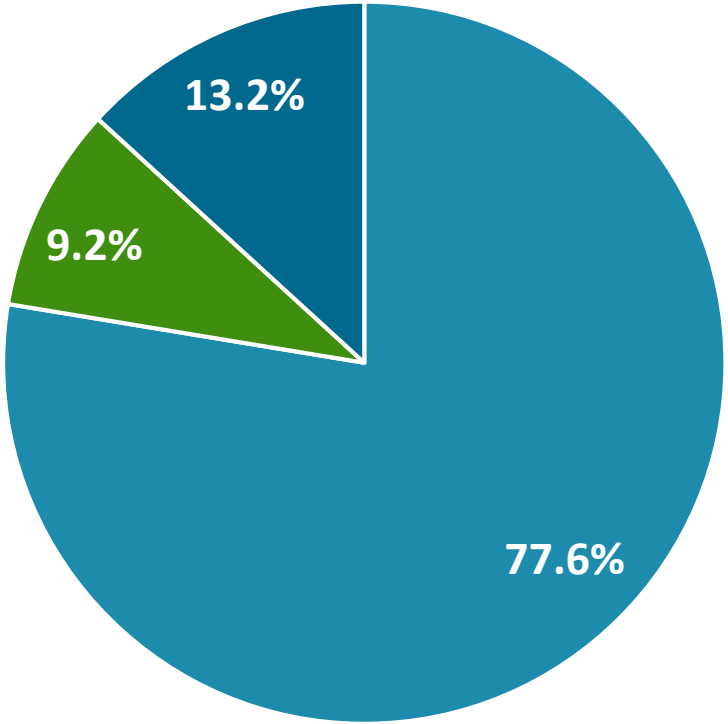
Travel Data Retrieval Survey

Retrievals by Mode



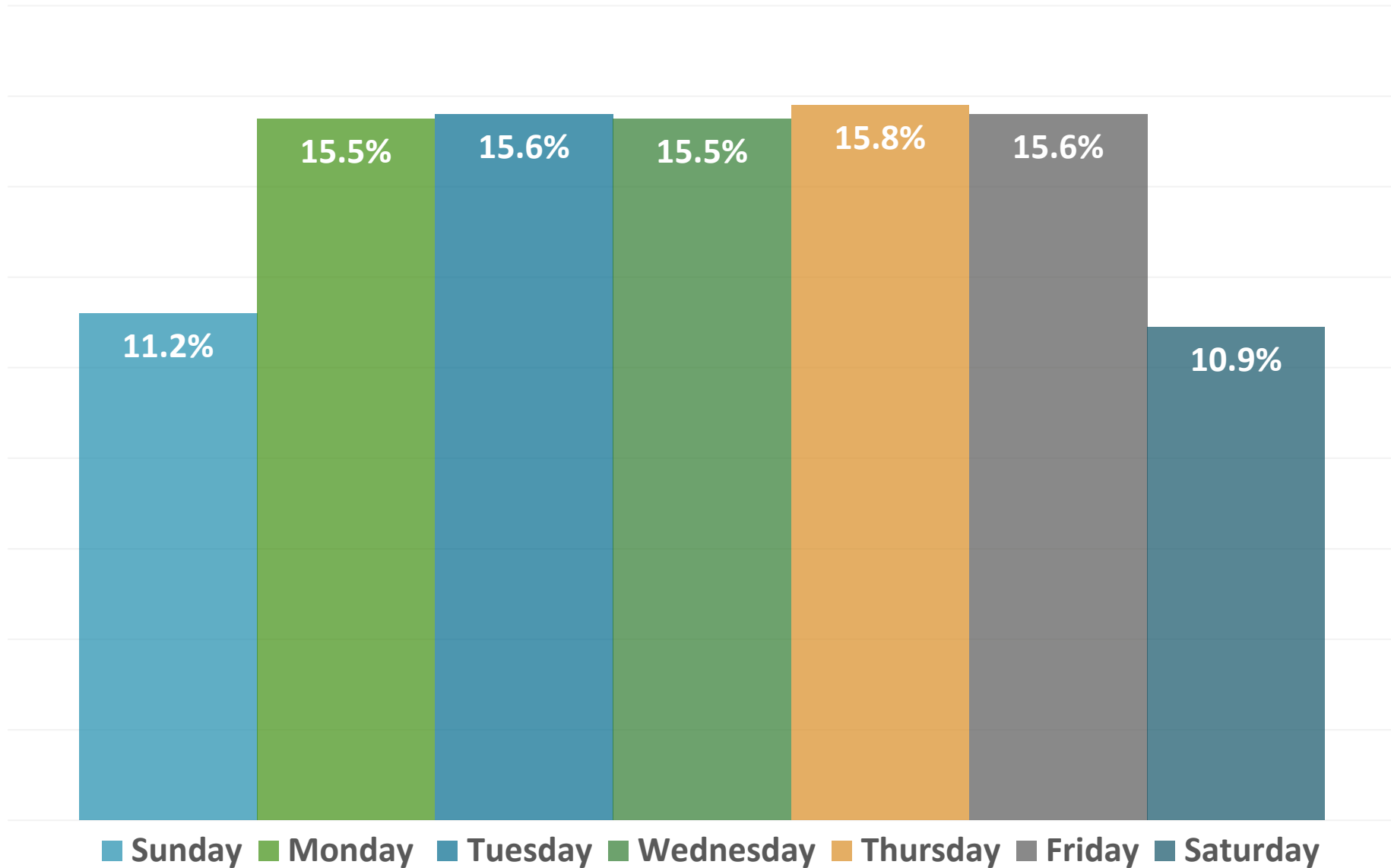
■ Web ■ Phone ■ Combination

Web Retrievals by Device



■ Desktop/laptop PC ■ Tablet ■ Smartphone

Completes by Day of Week



2017 National Household Travel Survey

Survey Questionnaire

2017 NHTS – What's Different?

- Definition of a “completed household”
- Self-reporting
- Real-time, online geocoding
 - Participant/interviewers were able to view locations on map
 - Only higher precision addresses were displayed

2017 NHTS – What’s Different?

- Definition of a “completed household”
- Self-reporting
- Real-time, online geocoding
- Calculated distance
 - 2009 NHTS – Distance reported by respondent
 - 2017 NHTS – Distance calculated along network path

2017 NHTS – What’s Different?

- Definition of a “completed household”
- Self-reporting
- Real-time, online geocoding
- Calculated distance
- Loop trips
 - 2009 NHTS – Recorded farthest point out and return trip
 - 2017 NHTS – Recorded as loop trip then prompted for distance

2017 NHTS – What’s Different?

- Definition of a “completed household”
- Self-reporting
- Real-time, online geocoding
- Calculated distance
- Loop trips
- Public transportation prompt
 - 2009 NHTS - Asked after the trip roster
 - 2017 NHTS – Asked before the places roster

2017 NHTS – What’s Different?

- Definition of a “completed household”
- Self-reporting
- Real-time, online geocoding
- Calculated distance
- Loop trips
- Public transportation prompt
- Additional questions
 - Supplemental walk and bike questions
 - Travel attitudes and beliefs
 - Ride sharing services
 - General health

2017 National Household Travel Survey

Web Retrieval Survey Features

Online Instruments – Responsive Design

- Survey optimized for PC, tablet and smartphone

The image displays three overlapping screenshots of a survey instrument, demonstrating responsive design for different devices:

- PC View (Left):** Shows a desktop layout with a search bar, a "Click On Map" button, and a list of steps. Step 1 asks for the business name (input: "Westat"). Step 2 asks for the address (input: empty). Step 3 is a "Search" button. Step 4 shows a list of results, with "Westat (1600 Research Blvd, Rockville, MD 20850, United States)" selected. Step 5 is a "Use This Address" button.
- Tablet View (Middle):** Shows a tablet layout with a search bar, a "Click On Map" button, and a list of steps. Step 1 asks for the business name (input: empty). Step 2 asks for the address (input: empty). Step 3 is a "Search" button. A map of Rockville, MD is visible in the background.
- Smartphone View (Right):** Shows a smartphone layout with a search bar, a "Click On Map" button, and a list of steps. Step 1 asks for the business name (input: empty). Step 2 asks for the address (input: empty). Step 3 is a "Search" button. A map of Frederick, MD is visible in the background.

Each screenshot includes a user profile header: "Joe / 55 / Male" (top left), "Joe / 44 / Male" (top middle), and "Joe / 55 / Male" (top right).

Online Instruments – WebGeoSurvey

National Household Travel Survey

What type of transportation investments should the state focus on? Please **SELECT YOUR TOP THREE** choices.

- New roadways
- Existing roadway maintenance / reconstruction
- Public transportation
- Sidewalks
- High-occupancy vehicle lanes
- Bike lanes and paths
- Recreational trails
- Transportation system management / signal coordination
- No other choices apply

<< Back

Next >>

National Household Travel Survey

Place 3 of 7 – Talay Thai Restaurant - from Federal Highway Administration by Public or commuter bus
Arrived at 12:32 PM and Departed at 1:43 PM

How many minutes did it take you to get to the bus station?

11

Did you park at the bus station or were you dropped off?

- Parked
- Dropped off
- Walked / Biked to bus

How many minutes did you have to wait for the bus?

3

How many times during your commute to Talay Thai Restaurant did you transfer (bus to bus, train to bus, train to train, etc)?

2

<< Back

Next >>

Online Instruments – Geocoding

Joe / 55 / Male

Search

Click On Map

1 What is the business name of your workplace?

Location Name:

Westat

e.g., Walmart, Acme Consulting, Mercy Hospital

2 What is the address or nearest cross streets of your workplace?

Address:

e.g., 875 Bourbon St, New Orleans, LA or Bourbon St & Dumaines St, New Orleans, LA

3 Search for the address.

Search

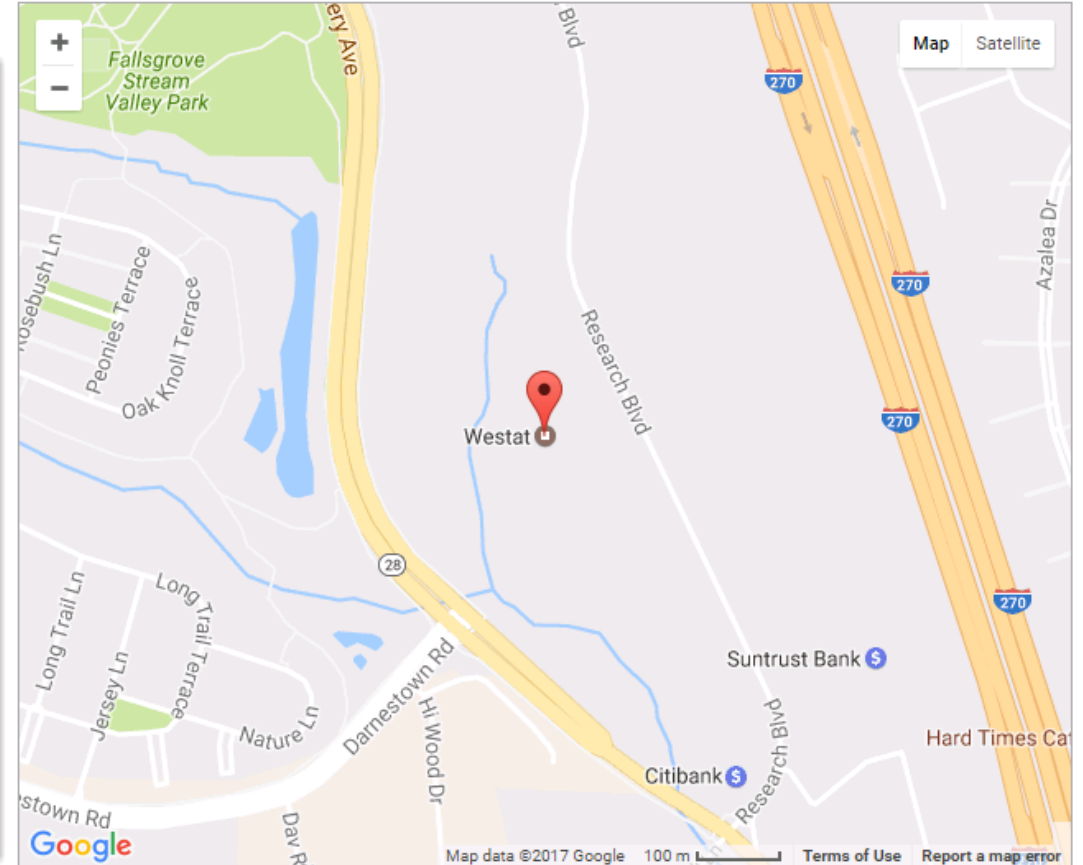
Show Search Tips

1 possible addresses found. Click an address to zoom map.

4 Select the best address below and click **Use this Address**

Westat (1600 Research Blvd, Rockville, MD 20850, United States)

5 Use This Address

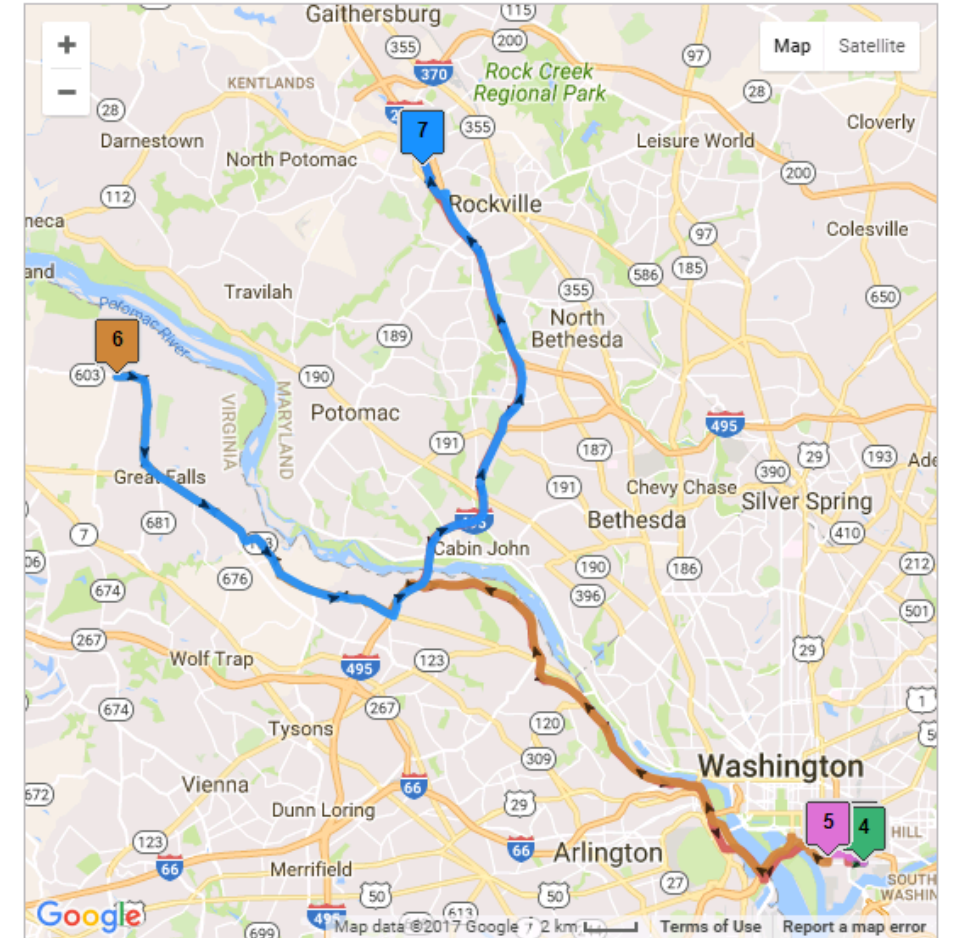


Online Instruments – TripBuilderWeb

For each place: (1) Use the drop down menu to select where you went; (2) Enter the time you arrived and left; (3) Click the 'Save' button; (4) Use the 'Add New Place' button if you made another trip or check the box to show that the 'I did not leave this place'. The map on the right will display the route(s) to help visualize the travel day.

1	Westat (1600 Research Blvd, Rockville, MD 20850, USA)	Started day here Departed: 7:05 AM	
Forgot a place? Click to insert it here.			
2	Federal Highway Administration (1200 New Jersey Ave SE, Washington, DC 20590, United States)	Arrived: 10:02 AM Departed: 12:30 PM Stayed: 2 hr 28 min	
Forgot a place? Click to insert it here.			
3	Justin's Cafe (1025 First St SE, Washington, DC 20003, United States)	Arrived: 12:50 PM Departed: 1:45 PM Stayed: 55 min	
Forgot a place? Click to insert it here.			
4	Federal Highway Administration (1200 New Jersey Ave SE, Washington, DC 20590, United States)	Arrived: 2:03 PM Departed: 3:41 PM Stayed: 1 hr 38 min	
Forgot a place? Click to insert it here.			
5	Starbucks-3 (1100 4th St SW, Washington, DC 20024, United States)	Arrived: 3:57 PM Departed: 4:13 PM Stayed: 16 min	
Forgot a place? Click to insert it here.			
6	L'Auberge Chez Francois (332 Springvale Rd, Great Falls, VA 22066, United States)	Arrived: 5:12 PM	

Show All Places



The routes shown on the map are for illustrative purposes only.
The map is here to help you recount your day.

Online Instruments – TripBuilderWeb (cont.)

1	Westat (1600 Research Blvd, Rockville, MD 20850, USA)	Started day here Departed: 7:05 AM	
Forgot a place? Click to insert it here.			
2	Federal Highway Administration (1200 New Jersey Ave SE, Washington, DC 20590, United States)	Arrived: 10:02 AM Departed: 12:30 PM Stayed: 2 hr 28 min	
→ Show this Trip Commute: 2 hrs 57 min			
Forgot a place? Click to insert it here.			
3	Justin's Cafe (1025 First St SE, Washington, DC 20003, United States)	Arrived: 12:50 PM Departed: 1:45 PM Stayed: 55 min	
→ Show this Trip Commute: 20 min			
Forgot a place? Click to insert it here.			
4	Federal Highway Administration (1200 New Jersey Ave SE, Washington, DC 20590, United States)	Arrived: 2:03 PM Departed: 3:41 PM Stayed: 1 hr 38 min	
→ Show this Trip Commute: 18 min			
Forgot a place? Click to insert it here.			
5	Starbucks-3 (1100 4th St SW, Washington, DC 20024, United States)	Arrived: 3:57 PM Departed: 4:13 PM Stayed: 16 min	
→ Show this Trip Commute: 16 min			
Forgot a place? Click to insert it here.			
6	L'Auberge Chez Francois (332 Springvale Rd, Great Falls, VA 22066, United States)	Arrived: 5:12 PM Departed: 7:37 PM Stayed: 2 hr 25 min	
→ Show this Trip Commute: 59 min			
Forgot a place? Click to insert it here.			

Show All Places

The routes shown on the map are for illustrative purposes only.
The map is here to help you recount your day.

2017 National Household Travel Survey

Thank You!