

Attachment 8 Electric Vehicle Inventory Use Survey (eVIUS) Questionnaire

NOTE: The text in red font denotes programming instructions or options and will not be seen by the respondents.

Welcome to the Electric Vehicle Inventory and Use Survey (eVIUS)!

The U.S. Department of Transportation's Bureau of Transportation Statistics (BTS) is surveying a national sample of battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) to collect information about the general use of these vehicles, as well as charging behavior. The data will be used to inform policy related to electric vehicles (EVs) and charging infrastructure.

Your participation in this survey is voluntary; however, your response is important to ensure an accurate and comprehensive picture of the characteristics and uses of the electric vehicles being driven on the nation's roadways as well as the charging patterns and preferences related to those electric vehicles. A summary report of aggregate findings will be published on the BTS web page at www.bts.gov, and **no individual information or company names** will be included in the published reports. The Bureau of Transportation Statistics, its employees and agents, will use the information you provide for statistical purposes only and will hold your individual information in confidence to the full extent permitted by law. In accordance with the Confidential Information Protection and Statistical Efficiency Act of 2002 (Title 5 of Public Law 107-347) and the Foundations for Evidence-Based Policymaking Act of 2018 (Title 3 of Public Law 115-435) along with other applicable Federal laws, your responses will not be disclosed in identifiable form without your informed consent. Per the Federal Cybersecurity Enhancement Act of 2016, Federal information systems are protected from malicious activities through cybersecurity screening of transmitted data.

[ADD SURVEY INSTRUCTIONS – e.g., how to navigate survey, their responses will be saved if they do not complete in one sitting, etc.]

For some of these questions, it might be helpful to refer to information stored in charging apps or other software you may use to manage the charging of your electric vehicle.

Below are definitions for key terms used in the survey.

Electric Vehicles (EV): Refers all to types of electric vehicles, including battery electric vehicles and plug-in hybrid electric vehicles.

Battery Electric Vehicle (BEV): All-electric vehicles with a battery that is charged by plugging the vehicle in to charging equipment and always operate in all-electric mode.

Plug-In Hybrid Electric Vehicles (PHEV): PHEVs are powered by an electric motor that uses energy stored in a battery as well as an internal combustion engine. PHEVs are charged by plugging the vehicle in to the charging equipment and can be refueled with gasoline.

All survey questions refer to **[INSERT YEAR, MAKE, MODEL]**

Background Information

All questions on this survey refer to the vehicle identified by the following registration information:

[NOTE: All information in the table below will be prefilled]

VIN:	Model year:	State Registered:
Make:	Model:	Type: Battery Electric Vehicle (BEV) or Plug-in Hybrid Electric Vehicle (PHEV)

1. **[ALL]** When did you or your business originally take physical possession of the vehicle identified above? *Enter 2-digit months and 4-digit year.*

— — — — — —
Month Year

- Please check this box if this vehicle was never in your or your business' possession. **[IF CHECKED END SURVEY]**

2. **[ALL]** Was this vehicle new or used when you or your business took physical possession of it?

New
 Used

3. **[ALL]** Is this vehicle currently in your or your business' physical possession?

Yes **[SKIP TO Q6]**
 No

4. **[IF Q3 = NO]** When did you dispose of this vehicle? *Enter 2-digit months and 4-digit year*

— — — — — —
Month Year

5. **[IF Q3 = NO]** Why did you or your business dispose of this vehicle? *Please select all that apply*

- Too expensive to operate or maintain
- Insufficient residential charging (e.g., overnight)
- Insufficient public Level 2 charging stations
- Insufficient public direct current fast charger (DCFC) stations
- Battery-related issues (e.g., insufficient range, degradation, recalls, etc.)
- Wanted to lease/purchase [IF EV: another] battery electric vehicle
- Wanted to lease/purchase [IF PHEV: another] plug-in hybrid electric vehicle
- Wanted to lease/purchase a gasoline powered (non-plug in) vehicle
- Crash/collision or other damage
- End of vehicle lease
- Vehicle age or mileage
- Other (please specify: _____)

All survey questions refer to **[INSERT YEAR, MAKE, MODEL]**

6. **[ALL]** Which of the following best describes the ownership of this vehicle? *Please select one. Note: Government vehicles (State or local) are considered business.*

- Personal ownership
- Personal lease
- Business ownership
- Business lease
- Other (please specify _____)

7. **[Q4 = IF DISPOSED VEHICLE PRIOR TO JANUARY 1, 2023]** Do you have any feedback about your experience operating and/or maintaining this vehicle (e.g., charging) that you would like to share? *Please specify below.*

END OF SURVEY IF DISPOSED OF VEHICLE PRIOR TO JANUARY 1, 2023 - GO TO DEMOGRAPHICS.

8. **[OWNED VEHICLE IN 2023]** How many months in 2023 was this vehicle **driven** while in your or your business' possession? *Please count each month in which at least one trip was taken.*
(Drop-down 0-12)

9. **[OWNED VEHICLE IN 2023]** Are **[or were]** you the primary driver of the vehicle (i.e., drive at least half of the annual miles of this vehicle)? *Please select one.*

- Yes
- No

Electric Vehicle Use

10. **[OWNED VEHICLE IN 2023]** For what purposes is **[was]** this vehicle used? *Please select one.*

- Personal use only (including commuting) **[SKIP TO Q12]**
- Business use only (e.g., rental vehicle, sales, deliveries, services, government vehicle, etc.)
- Mix of personal and business use

11. **[IF Q10 = BUSINESS ONLY OR MIX OF PERSONAL/BUSINESS]** Which of the following best describes the primary business use for this vehicle? *Please select one*

- Construction, manufacturing, or landscaping
- Professional or managerial services
- Technical services, installation, maintenance, or repair
- Transportation of goods/products- **ASK Q11a**
- Transportation of paying passengers (e.g., taxi, Uber, Lyft)
- Transportation of non-paying passengers
- Government fleet (State or local vehicles)
- [BUSINESS ONLY]** Vehicle leasing or rental (includes daily and other short-term rentals) **[SKIP TO Q15 and Q16 then END SURVEY]**
- Other (please specify: _____)
- Don't know

All survey questions refer to **[INSERT YEAR, MAKE, MODEL]**

11a. **[ASK IF Q11=TRANSPORTATION OF GOODS/PRODUCTS]** Is this vehicle being used to transport goods/products to businesses and/or to private residences (e.g., single family, apartment, townhouse, etc.)? *Please select one.*

- Businesses
- Private residences
- Both

Electric Vehicle Home Base

12. **[OWNED VEHICLE IN 2023 AND NOT VEHICLE LEASING/RENTAL]** Is the following address this vehicle's primary home base (i.e., where this vehicle is usually parked overnight)?

[Pre-filled based on registration data.]

- Yes
- No - If no, please edit the information above to the vehicle's current home base (city, state, and zip)

13. **[OWNED VEHICLE IN 2023 AND NOT VEHICLE LEASING/RENTAL]** Which of the following describes the primary home base of this vehicle? *Please select one.*

- Private residence - Owned (e.g., single family home, multi-unit apartment, townhome, etc.)
- Private residence - Rented (e.g., single family home, multi-unit apartment, townhome, etc.)
- Business/workplace (non-residential)
- Other (please specify: _____)

14. **[Q3=YES (VEHICLE IN POSSESSION)] [Q6 = PERSONAL OWN/LEASE AND ANY BUSINESS USE ONLY]** In addition to this vehicle, how many **other** personal vehicles did your household own or lease as of January 1, 2024? *Enter number of vehicles for each category; if no vehicles, enter 0.*

- [IF BEV: Other] battery electric vehicle(s) _____
- [IF PHEV: Other] Plug-in hybrid electric vehicle(s) _____
- Gasoline/diesel and non-plug-in vehicle(s), including motorcycles _____

14a. **[Q3=NO (VEHICLE NOT IN POSSESSION)] [Q6=PERSONAL OWN/LEASE AND ANY BUSINESS USE ONLY]** At the time of this vehicle's disposal, how many **other** personal vehicles did your household own or lease? *Enter number of vehicles for each category; if no vehicles, enter 0.*

- [IF BEV: Other] battery electric vehicle(s) _____
- [IF PHEV: Other] Plug-in hybrid electric vehicle(s) _____
- Gasoline/diesel and non-plug-in vehicle(s), including motorcycles _____

[Electric Vehicle/Plug-in Hybrid Electric Vehicle] 2023 Mileage

The next set of questions is about this [electric/plug-in hybrid electric] vehicle's mileage. If other people drive [drove] this vehicle, please consult with them to ensure that their use of the vehicle is reflected in

All survey questions refer to **[INSERT YEAR, MAKE, MODEL]**

the question responses.

15. **[OWNED VEHICLE IN 2023]** What is the current odometer reading of this vehicle? *If you [your business] got rid of this vehicle in 2023, please estimate the odometer reading at the time of disposal.*

Please check the odometer and enter the number of miles _____

16. **[OWNED VEHICLE IN 2023]** Approximately how many miles was this vehicle driven in 2023? *If you [your business] got rid of this vehicle in 2023, please estimate the miles that had been driven in 2023 at the time of disposal.*

Enter the number of miles driven in 2023: _____

END OF SURVEY FOR THOSE WITH [BUSINESS USE ONLY AND PRIMARY BUSINESS IS VEHICLE LEASING OR RENTAL]

17. **[IF Q10 = MIX OF PERSONAL AND BUSINESS]:**

You indicated that this vehicle was used for a mix of personal and business use. Approximately what percentage of the total 2023 miles driven in this vehicle was for business use? *Please enter a whole number between 1 and 99 (without the %).*

Business use ____% **[CONSIDER PROGRAMMING AS A SLIDER]**

18. **[OWNED VEHICLE IN 2023]** In a typical 7-day week, how many total miles are **[were]** driven in this vehicle? *Please include the mileage of all drivers of this vehicle in your estimate:*

General Charging Behavior

The next set of questions is about the general charging patterns of this vehicle. If other people drive this vehicle, please consult with them to ensure that their use of the vehicle is reflected in the question responses. Below are definitions for different types of chargers.

Level 1 Charger: A charger that delivers approximately 5 miles of range per 1 hour of charging typically used while charging at home using a standard 3-prong household plug.

Level 2 Charger: A charger that delivers approximately 25 miles of range per 1 hour of charging at power levels up to 19 kilowatts (kW). Can be installed for home charging as well as for public charging.

Direct Current Fast Charger (DCFC): A charger that delivers approximately 100 to 200+ miles of range per 30 minutes of charging, with charge power levels currently ranging from 50 kW to 350 kW. Also referred to as Tesla Superchargers.

All survey questions refer to **[INSERT YEAR, MAKE, MODEL]**

20. **[Q19 = IF EVER CHARGE AT PUBLIC CHARGING STATION]** Which of the following factors are most important when choosing a public charging station? *Please select up to five factors.*

- Availability of a free/low-cost charger
- Convenient access from route
- Conveniently located near/at my final destination
- Speed/time to charge (e.g., access to a DCFC)
- Wait time to get a charger at charging location
- Charging network rewards or loyalty program
- Reliability of charger (i.e., charging station working)
- Customer ratings and reviews
- Safety of location (e.g., lighting)
- Conveniently located near amenities (e.g., food, restrooms, shopping)
- Accessible for users with mobility disabilities (e.g., access aisle and clear ground space)
- Other (please specify: _____)

21. **[OWNED VEHICLE IN 2023] [PHEV]** How often is **[was]** this vehicle typically refueled at a gas station?

Please select one.

- Every Day
- A few times per week
- About once a week
- A few times per month
- Monthly or less often
- Never
- Don't know

22. **[Q19 = RESPONSES 1-6 FOR YOUR PRIVATE RESIDENCE (HAS ACCESS)]** At your private residence, do **[did]** you/your household use a private charging space or a shared charging space (e.g., shared with other households in a multi-family dwelling). *Please select all that apply.*

- Private charging space
- Shared charging space (e.g., shared with other households in a multi-family dwelling)
- Don't know **[EXCLUSIVE]**

23. **[IF Q19 = EVER CHARGE AT PUBLIC CHARGING STATION]** For local trips, at what public charging locations is **[was]** this vehicle **typically** recharged? *Please select all that apply.*

- Municipal (e.g., library, post office) or other public parking lot or garage
- Supermarkets
- Shopping malls, retail stores, or other business
- Accommodations (hotels, motels, etc.)
- Restaurants or entertainment
- Healthcare facilities (e.g., doctor's office, hospitals)
- Education facilities (e.g., schools, college campuses)
- Transportation hub (e.g., train station, airport, bus depot)
- Highway or road rest area
- Fuel stations (not including highway or road rest areas)

All survey questions refer to **[INSERT YEAR, MAKE, MODEL]**

- Other (please specify: _____)
- Don't Know

2023 [Electric Vehicle/Plug in Hybrid Electric Vehicle] Travel and Charging

The next set of questions is about travel that exceeded this vehicle's range.

24. **[OWNED VEHICLE IN 2023]** During 2023, approximately how many times, if any, was this vehicle driven, where the round-trip distance exceeded this vehicle's range (i.e., it was necessary to recharge [PHEV: or refuel])? *Please select one.*

Note: a round-trip includes both travel from the origin to the final destination and the return.

- 0- **SKIP TO Q. 26**
- 1 to 4
- 5 to 8
- 9 to 12
- 13 to 24
- 25 to 49
- 50 +
- Don't know - **SKIP TO Q. 26**

25. **[IF Q24>0]** Thinking about the round trips taken in 2023 that exceeded this vehicle's range, at what public charging locations was this vehicle charged **while en-route**? *Please select all that apply.*

- Municipal (e.g., library, post office) or other public parking lot or garage
- Supermarkets
- Shopping malls, retail stores or other business
- Accommodations (hotels, motels, etc.)
- Restaurants or entertainment
- Healthcare facilities (e.g., doctor's office, hospitals)
- Education facilities (e.g., schools, college campuses)
- Transportation hub (e.g., train station, airport, bus depot)
- Highway or road rest area
- Fuel stations (not including highway or road rest areas)
- Other (please specify: _____)
- Don't know
- None (only charged at final destination)

All survey questions refer to **[INSERT YEAR, MAKE, MODEL]**

26. **[OWNED VEHICLE IN 2023]** Thinking about all round trips taken in 2023 (in any vehicle) that exceeded this vehicle's total range, was a gasoline/diesel powered non-plug-in vehicle used instead of this vehicle due to **concerns about charging en-route**? Please select one.

- Yes
- No- **SKIP TO Q29**
- Not applicable (i.e., no round trips taken in 2023 that exceeded this vehicle's range) - **SKIP TO Q29**
- Don't know - **SKIP to Q29**

27. **[IF Q26=YES]** Approximately how many times was a gasoline/diesel powered non-plug-in vehicle used instead of this vehicle due to **concerns about charging en-route**? Please select one.

- 1 to 4
- 5 to 8
- 9 to 12
- 13 to 24
- 25 to 49
- 50+
- Don't know

28. **[IF Q26=YES]** What were the **primary charging concerns** that led to the use of a gasoline/diesel powered non-plug-in vehicle instead of this vehicle? Please select all that apply.

- Concern about finding convenient charging locations along route
- Concern about finding convenient charging locations near/at final destination
- Concern about speed/time to charge (e.g., access to a DCFC)
- Concern about wait time to get a charger at charging location
- Concern about reliability of charging (i.e., charging station not working)
- Other charging concern(s) (please specify: _____)

29. **[OWNED VEHICLE IN 2023]** Thinking about all your trips (local and long distance), where would you like to see more public charging stations? Please select up to four locations.

- Municipal (e.g., library, post office) or other public parking lot or garage
- Supermarkets
- Shopping malls, retail stores, or other local business
- Accommodations (hotels, motels, etc.)
- Restaurants or entertainment
- Healthcare facilities (e.g., doctor's office, hospitals)
- Education facilities (e.g., schools, college campuses)
- Transportation hub (e.g., train station, airport, bus depot)
- Highway or road rest area
- Fuel stations (not including highway or road rest areas)

All survey questions refer to **[INSERT YEAR, MAKE, MODEL]**

Other (please specify: _____)

Demographics

ASK ONLY FOR [PERSONAL OWNERSHIP] OR [BUSINESS WITH MIX PERSONAL/BUSINESS USE]

30. What is your age? *Please select one.*

- 15 to 17 years
- 18 to 24 years
- 25 to 34 years
- 35 to 44 years
- 45 to 54 years
- 55 to 64 years
- 65 to 74 years
- 75+ years
- Prefer not to answer

31. What is your annual household income? *Please select one.*

- Less than \$50,000
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 to \$249,999
- \$250,000 or more
- Prefer not to answer

32. What is your race, ethnicity, or origin? *Please select all that apply.*

- American Indian or Alaskan Native
- Asian
- Black or African American
- Middle Eastern or North African
- Native Hawaiian or Other Pacific Islander
- White
- Another identify/prefer to self-describe: _____
- Prefer not to answer

33. Are you Hispanic or Latino?

- Yes
- No
- Prefer not to answer

34. Does this vehicle have a disability license plate or does someone who operate this vehicle have a disability placard? *Please select one.*

- Yes
- No

All survey questions refer to **[INSERT YEAR, MAKE, MODEL]**

Prefer not to answer