

Electric Vehicle Inventory and Use Survey (eVIUS) – Question Summary and Rationale

**Attachment 9
Electric Vehicle Inventory Use Survey (eVIUS) Question Rationale**

This document outlines the questions in the Electric Vehicle and Inventory Use Survey (eVIUS) and indicates the source as well as the rationale for each question. For source, references include:

- Vehicle Inventory Use Survey (VIUS), sponsored by the Bureau of Transportation Statistics
- Questions suggested in 60 Day Federal Register Notice comments
- Questions suggested by partner agencies, including Federal Highway Administration (FHWA) and Department of Energy (DOE)

In addition, partner agencies and stakeholders (FHWA, DOE, and the Joint Office of Energy and Transportation (JOET)) reviewed the questionnaire and provided input to many of the questions. For example, feedback from JOET was incorporated in the design of questions on vehicle disposal (Q5), factors that are important when choosing a charging station (Q20), and concerns related to charging (Q28).

	Question Topic	Question Source	Rationale
1	When did you or your business originally take possession? Month/year	VIUS	Provides an accurate measure of how long the respondent has had the vehicle in their physical possession (the registration date may not accurately reflect physical possession of the vehicle).
2	Was this vehicle new or used?	VIUS	Provides insight on the market for used EV/PHEVs.
3	Is this vehicle currently in your/your businesses' physical possession.	VIUS	Establishes whether the vehicle is still in their possession; acts as a screener for whether it is necessary to ask when the vehicle was disposed.
4	[IF Q3=NO] When did you dispose of this vehicle? Month/year	VIUS	Enables the screening out of respondents who disposed of their vehicle prior to January 1, 2023.
5	[IF Q3=NO] Why did you dispose of this vehicle?		Provides insight on why the driver disposed of their vehicle, including whether charging was a factor. Findings may inform USDOT policy related to charging infrastructure.
6	Which of the following best describes the ownership of this vehicle? (Personal vs. Business Own or Lease)	Federal Register Notice (FRN) Comments: Alliance for Automotive Innovation (AAI)	Provides data on type of ownership, which is important to the development of a national profile of EVs/PHEVs. Also, per Department of Energy, the distinction between ownership and leasing "will be important as section 45W of the IRA EV tax credits (nominally for "commercial" vehicles) allows for anyone to get the credit via leasing. Leasing has become more popular since passage of the IRA."

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		Department of Energy (DOE)	
7	[IF DISPOSED PRIOR TO JANUARY 1, 2023] Do you have any feedback on your experience operating and/or maintaining this vehicle? END SURVEY		Provides qualitative feedback from respondents who otherwise completed the survey (i.e., they do not qualify for the remaining questions).
ALL REMAINING QUESTIONS ARE ASKED OF THOSE WHO OWNED THEIR VEHICLE IN 2023			
8	How many months in 2023 was this vehicle driven?	VIUS	Enables (in combination with Q16) a more accurate measure of average miles driven per month in 2023. Also provides insight on the extent to which vehicles are not driven all 12 months of the year (e.g., can assess responses by geography (states with hotter vs. colder climates) to assess whether this is an important consideration).
9	Are you the primary driver?		Provides overall information on the extent to which EVs are registered to their primary operators, as well as contextual information for interpreting the data reported in other questions.
10	For what purpose is this vehicle used? (Personal/Business/Mix)	VIUS	Enables the development of a national profile of EV/PHEV use. Serves as an independent variable for subgroup analysis.
11	[IF Q10=BUSINESS OR MIX] Which of the following best describes the business use of this vehicle?	VIUS	Provides more specific information on the type of business use, including for transportation related business uses. Helps develop a more detailed national profile of EV/PHEV use.
11a	[IF Q11=TRANSPORT GOODS/PRODUCTS] Transport goods/products to businesses, residences, or both?	FHWA	This question measures the extent to which EVs/PHEVs are involved in e-commerce. This would inform other research being conducted on the local impacts of e-commerce (e.g., noise, pollution, etc.).
12	Confirm if registration address is the primary address home base.	VIUS	Confirms the home base of the vehicle, ensuring the accuracy of this measure.
13	Which of the following describes the home base (Private residence-owned, Private residence - rented, Business/workplace, Other)	VIUS	The physical address (Q12) does not provide sufficient information on whether the home base is a private residence, business/workplace, or other. Enables BTS to establish a national profile of home base location types for EVs/PHEVs. Also serves as an independent variable when analyzing general EV/PHEV use characteristics and charging behaviors.
14	[IF VEHICLE IN POSSESSION AND PERSONAL OWN/LEASE] How many other personal vehicles (by	VIUS FRN Comments:	Provides information on the driver's transportation options and the extent to which they have a choice on whether or not to use their EV/PHEV.

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14a	type) did your household own/lease as of January 1, 2024 OR [IF DISPOSED OF VEHICLE]: At the time of disposal, how many other personal vehicles did your household own or lease?	AAI	Also serves as an independent variable when analyzing general EV/PHEV use characteristics and charging behaviors (e.g., Q24 and Q26).
15	What is the current odometer reading?	VIUS	Provides information on the overall use of the vehicle. Coupled with the information on how long the driver has had the vehicle (Q1), enables the calculation of average annual miles driven.
16	Approximately how many miles was this vehicle driven in 2023?	VIUS	Provides information on annual use of the vehicle and allows for a point of comparison with average annual miles driven (calculated from Q15 and Q1).
17	[IF Q10=MIX OF PERSONAL/BUSINESS] Approximately what percentage of the total 2023 miles driven in this vehicle was for business use?		Provides information that helps establish a national use profile for the vehicle. Also, may serve as an independent variable when analyzing general EV/PHEV use characteristics and charging behaviors.
18	In a typical 7-day week, how many total miles are driven in this vehicle?	FRN Comments: AAI (Daily mileage)	Provides more detailed information on typical vehicle use, and in combination with other measures, such as average annual mileage and number of long-distance trips, contributes to a better understanding of EV/PHEV use and needs.
19	How often is this vehicle charged at each of the following locations?	FRN Comments: AAI	Provides information on the frequency with which the vehicle is charged at different key locations (residence, workplace, public, etc.) providing insights on charging behavior and needs.
20	Which of the following factors are important when choosing a public charging station?		Enables EV/PHEV drivers to share the factors that are most important to them when considering public charging, providing potential policy direction as the USDOT builds out its charging infrastructure.
21	[PHEV] How often is this vehicle typically refueled at a gas station?		In combination with information about annual mileage and frequency of charging, provides information on whether the PHEV is primarily used as an EV or not.
22	[IF Q19=EVER CHARGE AT PRIVATE RESIDENCE] At your private residence, do you/your household use a private charging space or a shared charging space?		Provides an understanding of the ease with which drivers are able to charge at their private residence (a factor of EV adoption). Also serves as an independent variable in understanding/analyzing charging behavior.

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23	[IF Q19=EVER CHARGE AT PUBLIC CHARGING] For local trips, at what public charging stations is this vehicle typically recharged?		Provides information on current charging locations and can compare to desired locations (Q30). Provides insights for charging infrastructure decisions.
24	During 2023, how many times, if any, was this vehicle driven where the round trip distance exceeded this vehicle's range?	FRN Comments: AAI	Provides a national profile on the extent to which EVs/PHEVs are being used on long distance trips.
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?		Provides information on the types of charging stations that are being used on trips that exceed the vehicle's range. Provides insights for charging infrastructure decisions.
26	Thinking about all round trips taken in 2023 (in any vehicle) that exceeded this vehicle's range, was a gasoline/diesel powered non-plug used instead of this vehicle due to charging concerns?	FRN Comments: AAI	Used as a screener to determine if EV/PHEV drivers are substituting gas powered vehicles for their EVs/PHEVs on trips that exceed the vehicle's range.
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?		Provides information on the extent to which drivers are substituting gas powered vehicles for their EV/PHEV on long distance trips, thus providing insight on the drivers' comfort with charging on long distance trips.
28	[IF26=YES] What were the primary charging concerns that led to the use of a gasoline/diesel powered vehicle	FRN Comments: AAI JOET (input)	Provides more detailed information on charging concerns, which can be used to inform policy as charging infrastructure expands across the US.
29	Thinking about all your trips (local and long distance), where would you like to see more charging stations?		Provides information on drivers' preferences regarding charging stations and can be used to inform decisions related to the deployment of charging infrastructure.
30	Age		Provides information on the age profile of EV/PHEV registrants and serves as an independent variable when analyzing general EV/PHEV use characteristics and charging behaviors.
31	Income		Provides information on the income profile of EV/PHEV registrants and serves as an independent variable when analyzing general EV/PHEV use characteristics and charging behaviors (including equity analyses).
32 33	Race and ethnicity	FHWA	Provides information on the race and ethnicity profile of EV/PHEV registrants and serves as an independent variable when analyzing general EV/PHEV use characteristics and charging behaviors (including equity analyses).

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34	Disability license plate or placard		Provides information on the disability profile of EV/PHEV registrants and informs efforts of the US Access board, which is currently working on a rule making about ensuring the accessibility of EV charging stations to those with disabilities.