Recommendation

Because both questions ask about usage of the same categories of the same types of devices, the main decision in recommending a question is what level of detail is appropriate: binary knowledge of device usage or information on how frequently each device is used? Because the focus of our report is on household-level demographics, we recommend using the ACS question of Figure 14. Individuals completing the questionnaire may not be able to accurately answer how frequently each device type is used across their entire household, so the NHTS question appears overly detailed. If frequency of device usage is of particular interest for a survey, then we recommend using the NHTS question, but grouping it with individual socio-demographic questions that were not the focus of our group’s report.

Number of Vehicles

Source 1. American Community Survey (2021)

Public data is available for ACS from 1996 to present. We checked all the way back, and the questionnaire had the exact same question for all years from 1996 until 2021, with the only exception being that in 1996 it asked for the answer in a textbox, whereas in all the next surveys it was a multiple choice question.

![Number of household vehicles in 2021 ACS questionnaire](source)
Source 2. PSRC Household Travel Survey (2019)

---

**Figure 17**: Number of household vehicles in 1996 ACS questionnaire (source)

**Figure 18**: Number of household vehicles in 2019 PSRC questionnaire (source)
Source 3. National Household Travel Survey (NHTS) (2017)

Figure 19: Number of household vehicles in 2017 NHTS questionnaire (source)

Figure 20: Number of household vehicles in 2009 NHTS questionnaire (source)

Figure 21: Number of household vehicles follow-up question in 2009 NHTS questionnaire (source)
Comparison
The ACS asks for the number of automobiles, vans, and trucks of one-ton capacity or less. And the choices are None, 1, 2, 3, 4, 5, and 6 or more. The question may be slightly confusing since it mentions a capacity of one-ton or less, which every user may not be familiar with. This may cause them to include and not include some vehicles. If they really want to have this distinction collected richly in their data, it may be better to provide examples of what vehicles are usually less than one-ton capacity and what vehicles provide more than that. Furthermore, the respondent may confuse capacity and the actual weight of the car since the word “one-ton” is mentioned.

For PSRC, the questionnaires for 2019 and 2017 were checked and both asked the same question for the number of vehicles in the household. The choices for this question start from 0, and go all the way to 10 or more. The question does clarify what it means by household by distinctly stating that it is referring to everyone who lives in a home, including roommates, relatives, friends, and household help. However, there are many problems with this. First, it is too long, and the choices are taking a lot of space which is bothersome. Second, it tells the respondent not to include carshare vehicles (e.g. ZipCar, Car2Go, etc.) in their number of household vehicles, which we find as redundant information. These vehicles rationally do not count as household vehicles so people would not include it anyway. Also, carsharing services are not available everywhere in the US.

The NHTS questionnaire was checked for the years 2017 and 2009. In the 2017 survey, there was only one question asking about the number of vehicles owned, leased, or available for regular use by people currently living in the household, including motorcycles, RVs, and mopeds. In the 2009 survey, however, there was a follow-up question in addition to this, asking if the named vehicles are all of the available
vehicles for the household, or if there are more. We found this second follow-up question to be relatively meaningless and redundant since there is already the first question asking for the number of vehicles which are available to the household. The choices here, however, are better compared to the previous questions since they do not include a long list of choices. Finally, the National Transportation Availability and Use Survey questionnaire dates back to 2002 and is the oldest of all of the surveys. However, it is almost completely similar to that of the NHTS.

Recommendation

Due to the long list of options which exist in the ACS and PSRC questionnaires, we recommend using a text box instead to save space. However, our recommendation is the closest to PSRC in terms of question structuring, since it clearly states the definition of household again, and it clearly states not to include ATVs and golf carts which we believe is important information. Our recommendation is shown in Figure 23.

![Survey Question](image)

**Figure 23:** Our designed survey question for number of household vehicles