

## Attachment D.

### Changes Made to the Questionnaires in Response to the Recommendations Received

#### Section A. Registration Information

- No changes

#### Section B. Disposal

- Added “sent to another country” to the disposal method question.

#### Section C. Acquisition

- Added new question to heavy truck form only: “Do you plan to replace this vehicle with a vehicle of a different weight class or axle load within the next 5 years?”

#### Section D. Leasing

- Simplified wording of questions on both forms and removed the terms “lessee” and “lessor” which were confusing to respondents.

#### Section E. Type of Vehicle

- Revised question 1 on heavy truck form to ask “Was this vehicle a semi-truck (tractor/trailer truck)?” based on feedback from cognitive interviews that found the term “semi-truck” easier to understand than “truck tractor.”
- Added new responses to single-unit body types question on the heavy truck form: box truck, conveyor bed, hooklift/roll-off, wood chipper
- Removed responses from single-unit body types question that were referring to trailers rather than trucks from heavy truck form: low boy, tank - dry bulk, van - basic enclosed, van - insulated nonrefrigerated, van - insulated refrigerated, van - open top

#### Section F. Physical Characteristics

- Simplified the original axle question (on both forms) by splitting it into two questions: “What was the total number of axles on this vehicle?” and “How many tires were on the rear axle?”
- Added new question to heavy truck form only: “How many gears did this vehicle have?”
- Revised response options to the type of transmission question based on feedback from cognitive interviews.
- Revised cab type questions on heavy truck form to remove obsolete cab types (cab over engine, cab beside engine) and replace with more common types (cutaway, low cab forward).
- Added new question to both forms: “What was this vehicle’s towing capacity in pounds?”
- Added new question to both forms: “What was the height of this vehicle’s cabin?”
- Added a series of new questions about standard features, emerging technologies, and fuel economy features to both forms (**full response lists are in the draft questionnaires**):
  - o “Did this vehicle have any of the following standard features?”
  - o “Did this vehicle have any of the following driving control assistance features?”
  - o “Did this vehicle have any of the following collision warning features?”
  - o “Did this vehicle have any of the following collision intervention features?”
  - o “Did this vehicle have any of the following parking assistance features?”
  - o “Did this vehicle have any of the following other driver assistance systems features?”
  - o “Did this vehicle have any of the following added fuel economy features?”

- o “Did this vehicle have any of the following other features?”

#### Section G. Time Operated

- Reordered the two existing questions.

#### Section H. Home Base

- Added “motor pool” and “port” to response categories for the type of home base question on both forms.

#### Section I. Miles

- Added two new question to both forms:
  - o “How was the annual mileage calculated?”
  - o “How was miles-per-gallon calculated?”
- Modified question asking about range of miles to separate the off-road component into a separate question (on both forms) and define the term based on feedback from cognitive interviews: “What was the approximate percentage of this vehicle’s 2021 mileage driven off road (not on an established public or private road)?”
- Added two new questions to the heavy truck form only:
  - o “What was the approximate percentage of this vehicle’s operating time spent idling (stationary)?”
  - o “What was the approximate percentage of this vehicle’s operating time spent using an auxiliary power unit?”

#### Section J. Fuel and Maintenance

- Modified fuel type responses on both forms to split natural gas into Compressed Natural Gas and Liquefied Natural Gas. Added “ethanol (E85, E100)” to the alcohol fuels option.
- Modified the question about extensive repairs (on both forms) based on feedback from cognitive interviews stating the existing example list was limited and confusing. “Were any extensive repairs over \$500 performed on this vehicle? *Extensive repair means a repair that requires the replacement of a costly part to have the vehicle fully operational again. Exclusions (i) Repair that can be remedied temporarily without special tools or parts. (ii) Tire disablement without other damage even if no spare tire is available. (iii) Headlamp or taillight damage. (iv) Damage to turn signals, horn, or windshield wipers which makes them inoperative.*”
- Added four new questions to both forms:
  - o “What was the total cost of all general maintenance?”
  - o “What was the total cost of all extensive repairs?”
  - o “Has this vehicle’s engine ever been rebuilt or overhauled?”
  - o “In what year was this vehicle’s engine last rebuilt or overhauled?”

#### Section K. Vehicle Configuration

- Added a screener question on both forms based on feedback from cognitive interview: “Was this vehicle used to pull a trailer?”
- Simplified the question about miles driven with a trailer to a yes/no response.
- Modified the response items to the trailer type question (only asked of heavy trucks):
  - o split “automobile carrier” into three types
  - o added container and intermodal chassis
  - o changed “pole, logging, pulpwood, or pipe” to “logging”

- Added a new question to both forms: “Did this trailer have any of the following add-on equipment?” **(full response list is in the draft questionnaires)**

#### Section L. Weight

- Modified wording for empty weight and cargo questions.
- Added two new questions to heavy truck form only:
  - “How many annual overweight permits did you purchase for this vehicle?”
  - “How many trips were taken with this vehicle that required the purchase of single trip overweight permits?”

#### Section M. Kind of Business

- Added a screener question on both forms to simplify this section for respondents who use their truck for personal transportation only: “Was this vehicle used, at least partially, for any commercial or business-related activities?” If the respondent answers “no” then they are finished with the survey.
- Modified response options for industry question on both forms to break out some NAICS categories into subgroups to help respondents better classify their business. **(full response list is in the draft questionnaires)**
- Modified wording and instructions for the operator classification questions to remove jargon and simplify language for respondents so they can better classify the work they do and divide up their mileage in the correct categories.

#### Section N. For-Hire (heavy trucks form only)

- Deleted question about percentage of mileage by type of carrier because it is obsolete.
- Deleted question about percent of hauls found from different sources based on discussions with expert reviews from trucking associations.
- Deleted question about percent of hauls found through use of the internet based on discussions with expert reviews from trucking associations.

#### Section O. Products, Equipment, or Materials

- Added two new questions to both forms:
  - “What was the approximate percentage of this vehicle’s mileage that this vehicle was filled to physical capacity (cubed out)?”
  - “What was the approximate percentage of this vehicle’s mileage that this vehicle was filled to weight limit (weighed out)?”
- Added three new questions to the heavy truck form only:
  - “What was the approximate percentage of this vehicle’s mileage driven to reposition the empty vehicle to a new location for the next load?”
  - “What was the approximate percentage of this vehicle’s mileage driven empty or deadhead directly back to home base?”
  - “Did this vehicle ever take less efficient routes due to low height on a bridge or tunnel, weight restriction on a bridge, weight restriction on a highway, none of the above?”

#### Section P. Hazardous Materials (heavy truck form only)

- No question changes.
- Updated hazmat classes and divisions list.