

Appendix D

Fuel Economy, GHG, Other Emissions, and Alternative Fuels Education Program Draft Focus Group Discussion Guide

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This discussion guide follows a funnel approach, beginning with a broad conversation about consumer understanding of fuel economy issues in order to start the conversation and begin the topic discussion, then narrowing to specifically test the materials for this program.

The content of this discussion guide is designed to meet two main objectives:

- Explore consumer knowledge of fuel economy, GHG and other emissions, and alternative fuels information and perceptions of information currently available.
- Test materials and content developed to assess consumer comprehension and likelihood to encourage behavior change.

A. Introduction [10 minutes]

1. Welcome, group rules, privacy
2. Group introductions
 - i. First name
 - ii. How often do you drive?
 - iii. What is your primary purpose for driving?

B. General Exploration of Fuel Economy, Alternative Fuels & GHG and Other Emissions [15 minutes]

Fuel Economy

1. When you think of fuel economy, what comes to mind?
2. What about fuel efficiency? What does this mean to you? How, if at all, is it different from fuel economy?
3. When looking for a new vehicle, how important would you say a vehicle's fuel economy is to your purchase decision?
4. At what point in your decision process, if at all, do you look at fuel economy?
 - a) What fuel economy information do you specifically look for?
5. What are some of the benefits of owning a vehicle with better fuel economy?
 - a) Personal benefits vs. environmental benefits
6. Thinking about the vehicle you currently have, how important is it to you to maximize your fuel economy?

- a) What are some things that you do that can positively impact the fuel economy of your vehicle? [MODERATOR TO WRITE RESPONSES ON FLIP CHART] [PROBE DRIVER BEHAVIORS/ACTIONS]
- b) Where would you look for information on how to improve your fuel economy?
- c) Who do you trust to provide you with information on improving your fuel economy?
- d) Are there any resources that come to mind as particularly helpful in educating drivers on how to improve their fuel economy? [PROBE PERCEPTIONS OF CURRENT MATERIALS]

Alternative Fuels

- 7. What do you know about the use of alternative fuels in cars?
 - a) In what ways are vehicles that run on alternative fuels different from those that run on gasoline?
 - b) What are the benefits of these fuels? What are the drawbacks?
 - c) [PROBE ENVIRONMENTAL, PERSONAL, POLITICAL] Which are more important you?
- 8. By a show of hands, how many of you currently use alternative fuels in one or more of your vehicles? Which fuels do you use?
 - a) What motivated you to use alternative fuels?
- 9. For those of you with no experience with alternative fuels, what is keeping you from using them?
 - a) Will you consider purchasing a vehicle that can run on alternative fuels? Why/Why not?
 - b) What are some things you need to know about alternative fuels before considering purchasing a vehicle that runs on these fuels?
- 10. How likely are you to look up more information about alternative fuels?
 - a) Where would you look for this information?
 - b) Who do you trust to provide you with information on alternative fuel options?
 - c) Are there any resources that come to mind as particularly helpful in educating drivers on alternative fuels? [PROBE PERCEPTIONS OF CURRENT MATERIALS]

GHG & Other Pollutant Emissions

- 11. Have you heard of greenhouse gas emissions?
 - a) What are greenhouse gas emissions?
 - b) What are the effects of greenhouse gas?
- 12. What other pollutant emissions have you heard of?
 - a) What are these emissions?
 - b) What are the effects of these emissions?
- 13. How, if at all, are vehicle emissions and fuel economy related?
- 14. Thinking about the vehicle you currently have, how important is it to you to minimize its GHG and other pollutant emissions?
 - a) What are some things that you do that can reduce the emissions from your vehicle?
 - b) Where would you look for information on GHG and other pollutant emissions?
 - c) Who do you trust to provide you with information on this topic?
 - d) Are there any resources that come to mind as particularly helpful in educating drivers about GHG and other pollutant emissions? [PROBE PERCEPTIONS OF CURRENT MATERIALS]

C. Content Channels [5 minutes]

- 1. We talked a little already about where you might seek out information on the topics we discussed today. Thinking about all the topics we talked about – fuel economy, alternative fuels and emissions - where would you want this information to be available to you if you were interested in learning more about these topics?
 - a) What sources would be most helpful to you? [PROBE ONLINE, IN DEALERSHIPS, AT A GARAGE, ETC]

2. What organizations, if any, would you trust to provide you with this information?
 - a) Government sources: NHTSA vs. DOT vs. EPA vs. DOE
 - b) Industry sources: Auto manufacturers, Fuel companies
 - c) Third-party sources: Consumer Reports, Edmunds, KBB
 - d) What organizations, if any, would you NOT trust to provide you with this information?
3. How interested are you in searching for more information on these topics?
 - a) About which of these topics are you most interested in learning more? (Fuel economy, emissions, alternative fuels)
 - b) Which topic do you feel you need to learn more about? Are there any topics on which you believe you have more information than others?

D. Materials Testing [85 minutes]

I'd like you to imagine that an organization wants to put information regarding the topics we've discussed today on a website so that consumers can learn more about fuel economy, alternative fuels and GHG and other emissions.

Fact Sheet

The first item we'll evaluate tonight is a fact sheet. I'll hand out the fact sheet, then using your pens, circle anything you like and cross out anything that you don't like or is confusing. This includes words, phrases, images, icons. When you're finished, flip the paper over and provide a rating from 1 to 10 on how informative this fact sheet is. "1" means it is not at all informative and "10" means it is very informative.

FUEL ECONOMY

NHTSA, by setting new safety and fuel economy standards, encourages manufacturers to develop innovative technologies to continually improve the efficiency of vehicles in the United States. These include a wide range of devices like cruise air conditioning systems and engines that shut off automatically when you don't need them.

TECHNOLOGY & INNOVATION

At the National Highway Traffic Safety Administration, our top priority is your safety, both in your vehicle and on the highway. We provide reliable information, tools, and tips that can help you make good decisions about vehicle operation and maintenance. Visit www.nhtsa.gov for more information.

TECHNOLOGY AND INNOVATION AT A GLANCE

Did you know only about 14-26 percent of the energy from the fuel you put in your tank gets used to move your car down the road. The rest of the energy is lost to inefficiencies or used for power accessories, which is why it is so important to continue to advance technology that improves fuel economy.

FUEL ECONOMY

SOLAR PANELS
Some electric, fuel cell electric, hybrid electric, and plug-in hybrid electric vehicles can have solar panels fitted to the roof panels of the vehicle. The above the vehicle the capture the sun's energy to help run the vehicle's electrical system thereby saving fuel.

WINDOWS
NHTSA standards encourage manufacturers to install heat reflectors in their windows glass to manage heat. On hot days, these windows reduce the amount of heat that enters the vehicle, keeping the inside of the vehicle more comfortable. The angle is turned off.
NHTSA also encourages vehicle manufacturers to make their car's "sunroof" enough to lower when it's getting too hot inside. Some vehicles systems can automatically detect the window a small amount to let the hot air escape. This reduces the amount of air conditioning needed to make the vehicle comfortable on a hot day.

ACTIVE SEAT VENTILATION
NHTSA encourages manufacturers to provide driver and passenger seat technologies that keep the most cool without the need for air conditioning. These seat technologies take heat away from the seating surface keeping you cooler on warm days. Like other thermal management technologies, heat energy directed to temperature control means savings at the pump.

HIGH EFFICIENCY EXTERIOR LIGHTS
NHTSA provides incentives for lighting technologies that use less electricity compared to conventional lighting systems. Less power running exterior lights means that less fuel is used.

SOLAR REFLECTIVE PAINT
NHTSA encourages manufacturers to use exterior paint that reflects the sun's rays preventing heat buildup and keeping vehicle interiors cooler. This means less energy is needed to keep the vehicle cool on sunny days, which in turn, helps to save fuel.

START-STOP TECHNOLOGIES
Stop-start technology conserves energy by shutting off a vehicle's engine when the vehicle is stopped at a red light or when the driver presses the gas pedal to go forward. This technology reduces the amount of times the vehicle spends idling, which leads to less fuel consumption and emissions.
These electric-charge devices provide a reserve of fuel that when a car is stopped in cold conditions or can continue to circulate cold air as needed in warmer weather.

NHTSA is focused on its capabilities to establish regulations, encourage innovation and ensure safety. Doing so will enable NHTSA to overcome misconceptions and build awareness of its role in fuel economy and connect that subject matter to safety.

NHTSA

1. Overall, what is this fact sheet telling you?
2. What are some of the things you liked about this fact sheet?
3. What are some of the things you did not like about this fact sheet?
4. Is there anything confusing or unclear?
5. How do you feel about the design?
6. How do you feel about the amount of information presented? Too much/too little/just right?
7. Is this information easily comprehensible? What, if anything would you change to make this fact sheet easier to understand?
8. Where would you expect to see this fact sheet? Online? Print?
9. Where would it be most useful for you?

Interactive Infographic

Next, we will be looking at the blueprints for an interactive infographic. Are you familiar with interactive infographics? This infographic will provide different tips and information as you click around the image. For the purposes of tonight's group, we will separately evaluate the image, then the information that will be included once you click on in.

First, let's take a look at the image that is the basis for this infographic. I'll hand out the image, then using your pens, circle anything you like and cross out anything that you don't like or is confusing. When you're finished, flip the paper over and provide a rating from 1 to 10 on how appealing this image is. "1" means it is not at all appealing and "10" means it is very appealing.



1. Overall, how do you feel about the design?
2. What are some of the things you liked about this image?
3. What are some of the things you did not like about this image?
4. What, if anything, would you change to make this image more appealing?
5. What would you expect to happen as you click around the image? [MODERATOR CHOOSE 3 PROMPTS]
 - a) Click on the car?
 - b) Click on the window?
 - c) Click on the gas pedal?
 - d) Click on the tire?
 - e) Click on the gas cap?
 - f) Click on the roof rack?
 - g) Click on the hood?

Next I'd like to show you the working version of this infographic. I have pulled this infographic up on the TV. I also have here scripts for you to follow along. We'll go through this page by page together. As you read the scripts, please note that "prompt" means something on the screen is indicating that you should take that action. "Text box" means the text that will appear on screen. Then, "transition" and "action" describe what else is happening in this infographic as you move along.

Each page covers about three prompts. Please turn to the first page and follow along. [MODERATOR CLICKS THROUGH FIRST 3 PROMPTS MOVING ALONG]. Now on this sheet, I'd like you to circle anything you like or is helpful, and cross out anything that you don't like or is confusing.

1. Is the information presented believable or not believable?
2. What, if anything, did you find confusing or unclear?
3. What additional information would you need to make this more clear?

4. This information pops up when you [INSERT PROMPT], does this placement make sense to you?
5. Where else do you think you could click to reach this information?
6. [INSERT ACTION] happens when you see this information. Does this make sense to you?
7. What else could happen within the image to help readers understand the information?

Now let's turn to the second page. [MODERATOR CLOSSES PROMPT 3 TEXT BOX TO DEMONSTRATE TRANSITION, THEN PROCEEDS WITH PROMPTS 4 AND 5]. Again on this sheet, please circle anything you like or is helpful, and cross out anything that you don't like or is confusing.

8. Is the information presented believable or not believable?
9. What, if anything, did you find confusing or unclear?
10. What additional information would you need to make this more clear?
11. This information pops up when you [INSERT PROMPT], does this placement make sense to you?
12. Where else do you think you could click to reach this information?
13. [INSERT ACTION] happens when you see this information. Does this make sense to you?
14. What else could happen within the image to help readers understand the information?

Turn to the next page. [MODERATOR PROCEEDS WITH PROMPTS 6 THROUGH 8]. Again on this sheet, please circle anything you like or is helpful, and cross out anything that you don't like or is confusing.

15. Is the information presented believable or not believable?
16. What, if anything, did you find confusing or unclear?
17. What additional information would you need to make this more clear?
18. This information pops up when you [INSERT PROMPT], does this placement make sense to you?
19. Where else do you think you could click to reach this information?
20. [INSERT ACTION] happens when you see this information. Does this make sense to you?
21. What else could happen within the image to help readers understand the information?

And finally, turn to the last page. [MODERATOR DEMONSTRATES FINAL TRANSITION]. Again on this sheet, please circle anything you like or is helpful, and cross out anything that you don't like or is confusing.

Now that we've gone through the whole infographic, please flip the booklet over and provide a rating from 1 to 10 on how useful this information is for you personally. "1" means it is not at all useful and "10" means it is very useful. Then we'll talk about this as a group.

22. Overall, what are some of the things you liked about this infographic?
23. Overall, what are some of the things you did not like about this infographic?
24. What, if anything, would you change about the information presented to make it easier to understand?
25. How useful is this information to you, personally?
26. How easy do you think it would be to use?
 - a. What if anything would you change to make this easier to use?
27. How likely are you to share this with others? Why/why not?
28. How likely are you to apply what you learn in this infographic to your own driving?

29. Where would you expect to find this infographic? Where would it need to be in order for you to see it?

Fuel Economy Video

The next set of materials we will be looking at tonight are storyboards for a video aimed at teaching consumers some of these same fuel economy tips. I'm going to hand out the storyboards for you to read through on your own. This video will be animated so the sketches are meant to demonstrate what you will see on screen, while the text below each frame indicates what the voiceover will be saying as things happen on screen.

Take a few minutes to look through the storyboard – each frame is numbered so that you can follow along in order. Like we did for the other materials, please circle anything you like or is helpful, and cross out anything that you don't like or is confusing. When you're finished, please turn the packet over and provide a rating for how useful you think this video would be for you?

1. By a show of hands, how many of you watch videos online?
2. Where would you expect to see a video like the one described in these storyboards?
3. How likely are you to watch a video about saving fuel?
4. How likely are you to share this type of video with your friends and family?
5. What are some of the things you circled on the storyboards? Why?
6. What are some of the things you crossed out? Why?
7. What, if anything, would you change to make this video easier to understand?
8. What, if anything, would you change to make this video more useful to you?
9. Where would this video need to be online in order for you to see it?

Video Game

The last set of materials I have for you to evaluate tonight is a video game concept. I have a set of storyboards here that explain the objective of the video game and lays out how the game is played. We'll walk through this together, but first...

1. By a show of hands, how many of you have downloaded games for a smartphone or tablet?
2. What type of games do you play (provide examples)?
3. Do you play these games often?
4. Where do you learn about these games?
5. Do you think a game could be effective in educating users about topics like fuel economy, alternative fuels and emissions?
6. How likely are you to download a driving game that is a choose your own adventure game where you compete with your friends to drive across the U.S., earning badges and points along the way?

[MODERATOR HANDS OUT USER EXPERIENCE BRIEF] Let's go through this together page by page. On your papers, each frame is numbered to demonstrate the order in which you would read this storyboard. I'll display the storyboards on the screen as well and flip through it frame by frame. As we go along, I'd like you to again mark the pages – circle anything you like and cross out anything that you don't like or think should not be included in the video game.

Video game follow-up questions:

1. Are the instructions clear?
2. What would you expect to happen on screen?
3. What does this teach you about fuel economy, alternative fuels, and emissions?
4. Overall, how easy is this to understand?
5. How educational do you think this video game would be?
 - a) What elements do you think would be most informative?

- b) What elements do you think would be least informative?
- 6. How enjoyable do you think this video game would be?
- 7. Is there anything included in the game that you think is unnecessary or you would take out?
- 8. Is there anything that is unclear or confusing?
- 9. How likely are you to play this game?
- 10. How likely are you to replay this game?
- 11. How likely are you to challenge your friends?
- 12. How likely are you to apply what you learn in the video game to your own driving?
- 13. Do you have any advice for those who are developing this game?

Before we move on, I'd like to share with you some images that demonstrate what the video game may look like

- 1. How appealing or unappealing are these graphic?
- 2. Does this look like games you have played before?
- 3. How much more or less likely are you to play this game based on this image?

Taglines

Before we finish for the evening, I'd like you to think about all the materials we've looked at tonight. Imagine the fact sheet, interactive infographic, video and video game were all part of a broader campaign to help educate drivers about fuel economy, alternative fuels and emissions. For our final activity, I'd like to take a look at some taglines that could accompany this campaign.

I'm going to pass out a piece of paper with a potential tagline. Before we discuss it as a group, I'd like you to individually read the tagline and jot down your initial thoughts. Then please give this tagline a grade, from A to F, based on how appealing it is to you personally. [MODERATOR HANDS OUT PAPER WITH FIRST TAGLINE]

TAGLINES

- A. Drive Farther, Cleaner
- B. Safer Roads, Cleaner Futures
- C. Drive to a Cleaner Future
- D. Drive Green, Save Green

TESTING ORDER

- Group 1: A, B, C, D
- Group 2: B, A, D, C
- Group 3: C, D, A, B
- Group 4: D, C, B, A

[MODERATOR ALLOWS A MOMENT FOR PARTICIPANTS TO REVIEW; MODERATOR READS THE TAGLINE ALOUD TO THE GROUP]

- 1. What do you like about this tagline?
- 2. What don't you like about this tagline?
- 3. Does this tagline make sense for this campaign?
- 4. To what extent does this tagline encompass all of the materials we evaluated tonight?
 - a) How would you change this tagline to make it more encompassing?

[AFTER ALL TAGLINES ARE REVIEWED]

- 5. [MODERATOR PINS UP ALL TAGLINES] Thinking of all the taglines we've reviewed, which stand out to you as more compelling?
- 6. Better at capturing your attention?

7. Better for a campaign focused on educating drivers about fuel economy, alternative fuels and emissions?

D. Closing [5 minutes]

1. And finally, before we end tonight's group, how likely are you to use the materials we looked at tonight?
2. What additional materials would be helpful in educating drivers on these topics?
3. Where would you expect to hear about this campaign and find the materials we evaluated tonight?
4. Do you have any final advice to share before we end?

Thank and close group.