

# Team Stratacomm



Collection of Qualitative Feedback on Autonomous Driving Systems  
(ADS), Functions, Levels and Concepts

## **ADS Phase 2 Bulletin Board Research**

Discussion Guide

DRAFT – June 15, 2020

## INTRODUCTION

Thank you for taking part in this online discussion. Your opinions are important to us! Please be honest when answering questions and providing feedback as part of this online discussion. Your answers are anonymous and confidential, and none of your individual information will be shared with any third parties.

**[INCLUDE ON ITS OWN SEPARATE SCREEN AFTER THE INTRODUCTION SCREEN]**

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Welcome to day 1 of our Online Discussion Forum! My name is [INSERT MODERATOR NAME] and I'll be the moderator for our discussion over the next few days. I'm glad you could join us and I'm looking forward to our discussions.

As a reminder, you have agreed to participate in a three (3) day research project. It is very important for you to log into the forum on each of the following dates in order to collect your incentive at the end of the project:

- Tuesday, Date TBD
- Wednesday, Date TBD
- Thursday, Date TBD

There are about 30 participants in this group and each of you is identified by a unique screen name.

There are a few important things to note about this forum:

- It's secure.
- It's comprised of participants like yourself who were pre-screened to join by invitation only.
- It's being held for market research purposes only, not related to sales or sales efforts whatsoever.
- None of your personally identifiable information will be revealed.
- We believe you will find this engaging and that through collaboration with peers you can interact and inform one another. Be as detailed and expressive as you can.
- Because of the nature of the topic matter in this discussion and that this is for research purposes, we ask that you keep all content to yourself rather than discussing it with people outside of the forum.

**There are a lot of activities, but most are survey style questions and will go quickly. You should be able to easily complete each day in 15 to 20 minutes.**

## How It Works

Over the next few days you're going to be asked a series of questions as well as review concepts relating to vehicle safety. I will begin by gathering your general perspectives on vehicle technology and safety, and then we will get into more detail on subsequent days.

The Online Forum works as follows: For the next 3 days, I will post some questions at roughly the same time every day, and then during the rest of the day and night I will read everyone's responses and occasionally respond with my own follow-up questions.

Please be sure to **log on multiple times throughout each day**—the first time to give your initial response to the posted questions and then later to see what others have said and make follow-up comments or respond to additional posted questions.

Over the next three days we will use the feedback and insights you share to shape the way we communicate with the public on vehicle technology and safety. Your input can help us develop communications that are more relevant and more informative to people like yourself. As a token of appreciation, you will receive an incentive of \$75 for completing all 3 days (so make sure to sign on and complete activities each day).

## Ready, Set, Go!

To summarize what you need to do:

1. Log on **daily**. Read and respond to the questions for the day in as much detail as you can.
2. Log on again, a few hours later. **Read what others have said and respond to any follow-up questions** I may have posted and **add more comments as appropriate**.
3. If you have downloaded the **mobile app** to your smart phone or tablet, you can answer directly from there any time of the day or night.
4. **Be respectful of your fellow participants**. Be open and honest in expressing your thoughts and feelings with respect.
5. **Log on early**. Participate each day as early as you can to give time for the other participants and me to share in what you have said.

OK, let's get started by clicking on the first activity under Day 1!

## Day 1: Baseline Measures & Benefits

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- 1.1 I'd like to begin our conversation by talking about technology in general and getting your perspectives on some different types of technologies.

How interested are you in technology overall?

1. Not at all interested
2. Not very interested
3. Somewhat interested
4. Very interested
5. Extremely interested

- 
- 1.2 When a new product or technology comes out, are you typically one of the first people to get it?

1. Yes, I usually get new products or technologies as soon as they come out
2. No, I usually wait until products or technologies have been out for a while before I get them

- 
- 1.3 How interested are you in vehicle technology? This includes things like automatic liftgates, keyless entry, push button start, and navigation.

1. Not at all interested
2. Not very interested
3. Somewhat interested
4. Very interested
5. Extremely interested

- 
- 1.4 And, how interested are you in driver assistance technology? This includes things like:

Blind Spot Warning – Detects vehicles in the blind spot while driving and notifies the driver to their presence. Some systems provide an additional warning if the driver activates the turn signal.

Lane Departure Warning - Monitors vehicle's position within the driving lane and alerts driver as the vehicle approaches or crosses lane markers.

Automatic Emergency Braking - Detects potential collisions with a vehicle ahead, provides forward collision warning, and automatically brakes to avoid a collision or lessen the severity of impact. Some systems also detect pedestrians or other objects.

1. Not at all interested
2. Not very interested
3. Somewhat interested
4. Very interested
5. Extremely interested

---

1.5a Which of the vehicle safety technologies listed below are equipped on your vehicle or a vehicle that you regularly drive or ride as a passenger? *Please select all that apply.*

1. Automatic Emergency Braking (Detects potential collisions with a vehicle ahead, provides forward collision warning, and automatically brakes to avoid a collision or lessen the severity of impact. Some systems also detect pedestrians or other objects.)
2. Forward Collision Warning (Detects a potential collision with a vehicle ahead and alerts the driver. Some systems also provide alerts for pedestrians and other objects.)
3. Blind Spot Warning (Detects vehicles in the blind spot while driving and notifies the driver to their presence. Some systems provide an additional warning if the driver activates the turn signal.)
4. Rear Cross Traffic Warning (Detects vehicles approaching from the side at the rear of the vehicle while in reverse gear and alerts the driver. Some systems also warn for pedestrians or other objects.)
5. Reverse Automatic Emergency Braking (Detects potential collisions while in reverse gear and automatically brakes to avoid or lessen the severity of impact. Some systems also detect pedestrians or other objects.)
6. Back-up Camera (Displays the area behind the vehicle when in reverse gear.)
7. Lane Departure Warning (Monitors vehicle's position within the driving lane and alerts driver as the vehicle approaches or crosses lane markers.)
8. Lane Keeping Assistance (Provides steering support to assist the driver in preventing the vehicle from departing the lane).

9. Pedestrian Automatic Emergency Braking or Pedestrian Detection (Detects pedestrian crossing in front of the vehicle and warns driver; applies brakes automatically if collision is imminent.)
10. Active Driving Assistance such as Traffic Jam Assist (Provides steering and brake/acceleration support to the driver at the same time. The driver must constantly supervise this support feature and maintain responsibility for driving.)
11. Lane Centering Assistance (Provides continual steering to keep vehicle centered in its lane.)
12. Adaptive Cruise Control (Cruise control that also assists with acceleration and/or braking to maintain a driver-selected gap to the vehicle in front. Some systems can come to a stop and continue while others cannot.)
13. None of the above [EXCLUSIVE]

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1.5b Are there any other vehicle safety technologies equipped on your vehicle or a vehicle that you regularly drive or ride as a passenger? If so, please describe them below.

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1.6 People have different views toward what many people call automated or self-driving vehicles. These are fully automated cars, trucks and shuttles that drive people, instead of people driving them. While not available today, this technology is currently being developed and when available will use a combination of hardware (sensors, cameras, and radar) and software to handle the whole task of driving when we don't want to or can't do it ourselves. Which of the following best describes your own view?

1. Automated vehicles are DEFINITELY a good thing
2. Automated vehicles are PROBABLY a good thing
3. I am unsure if they are a good thing or not
4. Automated vehicles are PROBABLY not a good thing
5. Automated vehicles are DEFINITELY not a good thing

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1.7 In a moment we are going to start discussing vehicle safety technology in more depth. First, I want to get a sense of your understanding of two terms.

Based on the names alone, do you feel that Advanced Driver Assistance Systems are the same as or different from Automated Driving Systems? Please select the answer that best represents your view and then write a short sentence that explains why you feel they are the same or different.

1. They are the same
2. They are different

- 
- 1.8 There are different types of vehicle safety technologies. Some technologies support the driver through alerts and assistance while the driver remains in control. Thinking specifically of this type of technology, please review the two perspectives:

Some people say that it's **safer when the human driver is in complete control** of all the vehicle functions. They trust themselves more than technology and say that technology software could be hacked or that they can't fully relax in a vehicle where the computer **assists with certain driving tasks**.

Others say that vehicles in which drivers are **assisted by a combination of hardware (sensors, cameras, and radar) and software** are safer. **Technology can react more quickly and reliably** than people can, technology can be rigorously tested in a wide range of situations before they are allowed on vehicles, and new and better technology is on the horizon.

Which of these two perspectives comes closest to your own?

1. Definitely feel **humans are safer**
2. Somewhat feel **humans are safer**
3. Somewhat feel **technology is safer**
4. Definitely feel **technology is safer**

- 
- 1.9 In the future there will be other vehicle safety technologies that can handle all driving tasks when the driver doesn't want to or is unable to drive. These systems will offer fully automated driving. Thinking specifically of this type of technology, please review the two perspectives:

Some people say that it's safer when the **human driver is in complete control** of all the vehicle functions. They trust themselves more than technology and say that technology software could be hacked or that they



can't fully relax in a vehicle where the computer **is in full control of driving tasks.**

Others say that vehicles in which are **fully controlled by a combination of hardware (sensors, cameras, and radar) and software** are safer. **Technology can react more quickly and reliably** than people can, technology can be rigorously tested in a wide range of situations before they are allowed on vehicles, and new and better technology is on the horizon.

Which of these two perspectives comes closest to your own?

1. Definitely feel **humans are safer**
2. Somewhat feel **humans are safer**
3. Somewhat feel **technology is safer**
4. Definitely feel **technology is safer**

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1.10a One type of vehicle technology is called Advanced Driver Assistance System. Some of these systems alert or inform the driver of hazards that may be present on the road, but don't physically assist the driver with any driving task.

What do you believe are the benefits of having alerts? Please list as many as you can think of.

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1.10b In other circumstances, the Advanced Driver Assistance Systems have technology that provide alerts and information along with assistance with steering and/or braking/accelerating. The human driver must continue to pay full attention ("monitor the driving environment") at all times.

What do you believe are the benefits of having alerts AND assistance?? Please list as many as you can think of.

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1.11a Another type of vehicle technology is called Automated Driving Systems. This system has technology that can perform all aspects of the driving tasks and monitor the driving environment (but still requires the human driver to be ready to take back control when the system requests the human driver to do so).

What do you believe are the benefits of Automated Driving Systems when the when the vehicle performs most of the driving tasks, but the human driver is still required and must be ready to take control? Please list as many as you can think of.

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1.11b In other circumstances, the Automated Driving Systems have vehicle technology where the human need not pay attention and, in some cases, the human occupants are just passengers and never need to be involved in driving.

What do you believe are the benefits of Automated Driving Systems where the human occupants are just passengers and need not be involved in driving? Please list as many as you can think of.

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1.12a Now, let's think back to benefits of Advanced Driver Assistance Systems, which alert or inform the driver of hazards that may be present on the road, but don't physically assist the driver with any driving task.

Please select the items that best describe the benefit(s) you shared at Q1.10a

1. Makes driving easier
2. Less road rage
3. Greater awareness of surroundings
4. Can provide feedback on driving abilities
5. Can offset momentary distractions
6. Can help protect against other "bad" drivers on the road
7. Gives driving support while still allowing the driver to be in control
8. Increased safety for me/my loved ones
9. Helps teen drivers learn to drive better
10. Other

---

1.12b Please think back to the benefits of Advanced Driver Assistance Systems that provide alerts and information along with assistance with steering and/or braking/accelerating.

Please select the items that best describe the benefit(s) you shared at Q1.10b

1. Makes driving easier
2. Less road rage
3. Greater awareness of surroundings
4. Can provide feedback on driving abilities
5. Can offset momentary distractions
6. Can help protect against other "bad" drivers on the road
7. Gives driving support while still allowing the driver to be in control
8. Increased safety for me/my loved ones
9. Helps teen drivers learn to drive better

## 10. Other

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1.13a Now let's do a similar exercise for the benefits for Automated Driving Systems. Please think back to the benefits of technology that can perform all aspects of the driving tasks and monitor the driving environment (but still requires the human driver to be ready to take back control when the system requests the human driver to do so).

Please select the items that best describe the benefit(s) you shared at Q1.11a

1. Makes travel easier
2. Can offset momentary distractions
3. Can help protect against other "bad" drivers on the road
4. Increased safety for me/my loved ones
5. Other

---

1.13b Still thinking about the benefits of Automated Driving Systems. We also talked about some of the benefits associated with vehicle technology where the human need not pay attention and, in some cases, the human occupants are just passengers and never need to be involved in driving.

Please select the items that best describe the benefit(s) you shared at Q1.11b

1. Makes travel easier
2. Increased mobility
3. Less road rage
4. Frees up time that would have been spent driving, allowing for increased productivity
5. Can offset momentary distractions
6. Can help protect against other "bad" drivers on the road
7. Gives greater options for traveling when a person can't or doesn't want to
8. Increased safety for me/my loved ones
9. Gives you the option for mixed use...you can drive to a bar and have the car drive you home
10. Other

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1.14. Now let's talk about the different places where you would go to read, hear, or see information about these types of vehicle technologies. From the list below, please select the source or sources you are likely to seek out when looking for information. Please select all that apply.

1. Google/internet search
2. YouTube
3. Car magazines
4. Auto shows
5. Mechanic
6. Dealership
7. Friends and family
8. Consumer reports
9. Kelley Blue Book
10. Auto insurance agencies
11. A government agency website such as National Highway Traffic Safety Administration website or U.S. Department of Transportation
12. The vehicle owner's manual
13. Other – *please tell me the specific source(s)*

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1.15. Looking at this same list of places where you would go to read, hear, or see information about these types of vehicle technologies. From the list below, please select the source you are MOST likely to seek out when looking for information. [SELECT ONE]

DISPLAY SAME LIST AS Q1.14

### End of Day 1 Topics

Thanks! That's all for today. I am very appreciative of the time you spent answering these questions. New questions will be posted tomorrow.

Until then, be sure to come back later today to review responses from other participants and share your thoughts about their answers. Also answer any follow-up questions I might have for you before tomorrow's activities or add more ideas to some of your responses and respond to ideas of other participants.

Thanks again, [INSERT MODERATOR NAME]

## Day 2 Deep Dive on Levels of Automation

### **Welcome Back!**

Welcome back and thank you again for your time.

Yesterday, we had some discussion around vehicle safety technology. We'll be exploring the topic a bit more in-depth in our discussion today and talking about different levels of vehicle automation.

- 2.1 There are a variety of different levels of automation that can be incorporated into vehicles to assist drivers and help vehicles operate more safely. Please read through those levels below and then move on to the next question when you're ready.

Level 0	The human driver does all the driving.
Level 1	An advanced driver assistance system (ADAS) on the vehicle can sometimes assist the human driver with either steering or braking/accelerating, but not both simultaneously.
Level 2	An advanced driver assistance system (ADAS) on the vehicle can itself actually control both steering and braking/accelerating simultaneously under some circumstances. The human driver must continue to pay full attention ("monitor the driving environment") at all times and perform the rest of the driving task.
Level 3	An automated driving system (ADS) on the vehicle can itself perform all aspects of the driving task under some circumstances. In those circumstances, the human driver must be ready to take back control at any time when the ADS requests the human driver to do so. In all other circumstances, the human driver performs the driving task.
Level 4	An automated driving system (ADS) on the vehicle can itself perform all driving tasks and monitor the driving environment – essentially, do all the driving – in certain circumstances. The human need not pay attention in those circumstances.
Level 5	An automated driving system (ADS) on the vehicle can do all the driving in all circumstances. The human occupants are just passengers and need never be involved in driving.

- 
- 2.2 Thinking about Level 0, described below, please rate the clarity of the description and tell us what, if anything, can be done to make the description clearer and easier to understand?

**LEVEL 0**

*The human driver does all the driving.*

1. Not at all clear
2. Not very clear
3. Somewhat clear
4. Very clear
5. Extremely clear

- 
- 2.3 Of the options provided, which name do you think best describes Level 0, again described below?

**LEVEL 0**

*The human driver does all the driving.*

1. Basic driver assistance
2. Limited driver support
3. Advanced warning

- 
- 2.4 Thinking about Level 1, described below, please rate the clarity of the description and tell us what, if anything, can be done to make the description clearer and easier to understand?

**LEVEL 1**

*An advanced driver assistance system (ADAS) on the vehicle can sometimes assist the human driver with either steering or braking/accelerating, but not both simultaneously.*

1. Not at all clear
2. Not very clear
3. Somewhat clear
4. Very clear
5. Extremely clear

- 
- 2.5 Of the options provided, which name do you think best describes Level 1, again described below?

**LEVEL 1**

*An advanced driver assistance system (ADAS) on the vehicle can sometimes assist the human driver with either steering or braking/accelerating, but not both simultaneously.*

1. Driver assistance
2. Driver support
3. Limited auto-assisted driving

- 
- 2.6 Thinking about Level 2, described below, please rate the clarity of the description and tell us what, if anything, can be done to make the description clearer and easier to understand?

**LEVEL 2**

*An advanced driver assistance system (ADAS) on the vehicle can itself actually control both steering and braking/accelerating simultaneously under some circumstances. The human driver must continue to pay full attention (“monitor the driving environment”) at all times and perform the rest of the driving task.*

1. Not at all clear
2. Not very clear
3. Somewhat clear
4. Very clear
5. Extremely clear

- 
- 2.7 Of the options provided, which name do you think best describes Level 2, again described below?

**LEVEL 2**

*An advanced driver assistance system (ADAS) on the vehicle can itself actually control both steering and braking/accelerating simultaneously under some circumstances. The human driver must continue to pay full attention (“monitor the driving environment”) at all times and perform the rest of the driving task.*

1. Advanced driver assistance
2. Advanced driver support
3. Auto-assisted driving



- 
- 2.8 Thinking about Level 3, described below, please rate the clarity of the description and tell us what, if anything, can be done to make the description clearer and easier to understand?

**LEVEL 3**

*An automated driving system (ADS) on the vehicle can itself perform all aspects of the driving task under some circumstances. In those circumstances, the human driver must be ready to take back control at any time when the ADS requests the human driver to do so. In all other circumstances, the human driver performs the driving task.*

1. Not at all clear
2. Not very clear
3. Somewhat clear
4. Very clear
5. Extremely clear

- 
- 2.9 Of the options provided, which name do you think best describes Level 3, again described below?

**LEVEL 3**

*An automated driving system (ADS) on the vehicle can itself perform all aspects of the driving task under some circumstances. In those circumstances, the human driver must be ready to take back control at any time when the ADS requests the human driver to do so. In all other circumstances, the human driver performs the driving task.*

1. Limited automation
2. Conditional automation
3. Partial automation

- 
- 2.10 Thinking about Level 4, described below, please rate the clarity of the description and tell us what, if anything, can be done to make the description clearer and easier to understand?

**LEVEL 4**

*An automated driving system (ADS) on the vehicle can itself perform all driving tasks and monitor the driving environment – essentially, do all the driving – in certain circumstances. The human need not pay attention in those circumstances.*

1. Not at all clear
2. Not very clear
3. Somewhat clear
4. Very clear

5. Extremely clear

---

2.11 Of the options provided, which name do you think best describes Level 4, again described below?

**LEVEL 4**

*An automated driving system (ADS) on the vehicle can itself perform all driving tasks and monitor the driving environment – essentially, do all the driving – in certain circumstances. The human need not pay attention in those circumstances.*

1. Advanced automation
  2. Optional self-driving
  3. Limited automated driving
- 

2.12 Thinking about Level 5, described below, please rate the clarity of the description and tell us what, if anything, can be done to make the description clearer and easier to understand?

**LEVEL 5**

*An automated driving system (ADS) on the vehicle can do all the driving in all circumstances. The human occupants are just passengers and need never be involved in driving.*

1. Not at all clear
  2. Not very clear
  3. Somewhat clear
  4. Very clear
  5. Extremely clear
- 

2.13 Of the options provided, which name do you think best describes Level 5, again described below?

**LEVEL 5**

*An automated driving system (ADS) on the vehicle can do all the driving in all circumstances. The human occupants are just passengers and need never be involved in driving.*

1. Fully automated
2. Self-driving
3. Auto-drive

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2.14a Do you feel like each level is distinct from the level that precedes it?

[INSERT LEVELS 0-5 TABLE AS WHITEBOARD]

If you select no, please tell me which levels feel similar and what specifically makes them feel that way?

1. Yes, the levels are distinct from one another
2. No, the levels are not all distinct from one another

---

2.14b In particular, I'm interested in exploring the differences or similarities between level 3 and level 4. Please tell me the key words that make these levels distinctive from one another or the key words in their definitions that sound similar to you.

[INSERT LEVELS 3 AND 4 TABLE AS WHITEBOARD]

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2.14c Next, I'm interested in exploring the differences or similarities between level 4 and level 5. Please tell me the key words that make these levels distinctive from one another or the key words in their definitions that sound similar to you.

[INSERT LEVELS 4 AND 5 TABLE AS WHITEBOARD]

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2.15 Now that we've spent some time thinking about the specific levels of automation, I want to know how comfortable you would be moving between those different levels in a vehicle. Please use the scale below and indicate how comfortable you would be moving from a vehicle with Level 0 automation to a vehicle with Level 1 automation?

[INSERT LEVELS 0-5 TABLE AS WHITEBOARD]

1. Not at all comfortable
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely comfortable

---

2.16 Now that we've spent some time thinking about the specific levels of automation, I want to know how comfortable you would be moving between those different levels in a vehicle. Please use the scale below and indicate how comfortable you would be moving from a vehicle with Level 1 automation to a vehicle with Level 2 automation?

[INSERT LEVELS 0-5 TABLE AS WHITEBOARD]

1. Not at all comfortable
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely comfortable

---

2.17 Now that we've spent some time thinking about the specific levels of automation, I want to know how comfortable you would be moving between those different levels in a vehicle. Please use the scale below and indicate how comfortable you would be moving from a vehicle with Level 2 automation to a vehicle with Level 3 automation?

[INSERT LEVELS 0-5 TABLE AS WHITEBOARD]

1. Not at all comfortable
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely comfortable

---

2.18 Now that we've spent some time thinking about the specific levels of automation, I want to know how comfortable you would be moving between those different levels in a vehicle. Please use the scale below and indicate how comfortable you would be moving from a vehicle with Level 3 automation to a vehicle with Level 4 automation?

[INSERT LEVELS 0-5 TABLE AS WHITEBOARD]

1. Not at all comfortable
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely comfortable

---

2.19 Now that we've spent some time thinking about the specific levels of automation, I want to know how comfortable you would be moving between those different levels in a vehicle. Please use the scale below and indicate how comfortable you would be moving from a vehicle with Level 4 automation to a vehicle with Level 5 automation?

[INSERT LEVELS 0-5 TABLE AS WHITEBOARD]

1. Not at all comfortable
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely comfortable

---

2.20 Thinking about all the different levels of automation, some people have voiced concerns. To what degree are each of the items below concerning for you?

1. Not at all concerning
  2. Not too concerning
  3. Somewhat concerning
  4. Very concerning
  5. Extremely concerning
- 
- a. Lack of experience with automated features
  - b. Giving up control to the vehicle/technology
  - c. Not knowing the conditions when the automated features would work
  - d. Having to be prepared to take over when the Automated Driving System is in control

---

2.21 Which of the following would do the best job of addressing your concerns with regard to the different levels of vehicle automation? Please select your top 3.

[SELECT THREE]

1. Continue to promote benefit of safety technologies and educate consumers
2. Create and share videos/virtual experiences to show how the system works
3. Provide opportunities for direct experience with the different levels of vehicle automation
4. Transparency in testing procedures
5. Increased access to research/safety data
6. Knowing you have the option to turn on or off the automated features
7. Include detailed examples to help explain conditions in which systems will operate
8. Create and share videos/virtual experiences to show how the system works
9. Offer access to additional information/FAQs about conditions
10. Carefully explain what is required for the system to work
11. Clarify if the vehicle can still operate with a human driver if requirements are not met
12. Offer access to additional information/FAQs about conditions
13. Provide examples of specific situations when the driver would be requested to take over driving
14. Set expectations around how quickly driver would need to engage
15. Give examples of the types of vehicles where this type of technology would be applicable

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2.22 There are different ways people can think about their vehicles and the level of automation. Do you tend to think about your vehicle operating at a certain level? Or do you tend to think about your vehicle having different technology and systems that can enable it to function at a certain level?

1. Think about my vehicle operating at a certain level
2. Think about my vehicle having different technology and systems that can enable it to function at a certain level

## END OF DAY 2 TOPICS

That's all for today. Our final activity and questions will be posted tomorrow.

Until then, be sure to come back later today to review responses from other participants and share your thoughts about their answers. Also answer any

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educate | persuade | motivate cause the effect STRATEGIES

follow-up questions I might have for you before tomorrow's activities or add more ideas to some of your responses and respond to ideas of other participants.

Thanks again for your thoughtful responses!

[INSERT MODERATOR NAME]



## Day 3 Concept Assessment

### Welcome Back!

Hello, welcome to our third day with our final activity and set of questions. I really appreciate the thoughtful responses and discussion you all have been having over the last couple days.

Today we will be reviewing and discussing three (3) concepts related to the different levels of vehicle automation. Please keep in mind these concepts are in DRAFT form at the moment, so please don't worry about the resolution of the images. If/when they are turned into final concepts, they will be presented in higher resolution.

### [ROTATE ORDER OF CONCEPTS DISPLAYED (A/B/C) BY REGION]

3.1a Let's take a look at our first concept.

[SHOW VISUAL OF CONCEPT A, INCLUDE OPTION TO OPEN LARGER IMAGE]

**SAE J3016™ LEVELS OF DRIVING AUTOMATION**

	SAE LEVEL 0	SAE LEVEL 1	SAE LEVEL 2	SAE LEVEL 3	SAE LEVEL 4	SAE LEVEL 5
<b>What does the human in the driver's seat have to do?</b>	You are driving whenever these driver support features are engaged – even if your feet are off the pedals and you are not steering			You are not driving when these automated driving features are engaged – even if you are seated in "the driver's seat"		
	You must constantly supervise these support features; you must steer, brake or accelerate as needed to maintain safety			When the feature requests, you must drive	These automated driving features will not require you to take over driving	
<b>What do these features do?</b>	These are driver support features			These are automated driving features		
	These features are limited to providing warnings and momentary assistance	These features provide steering OR brake/acceleration support to the driver	These features provide steering AND brake/acceleration support to the driver	These features can drive the vehicle under limited conditions and will not operate unless all required conditions are met		This feature can drive the vehicle under all conditions
<b>Example Features</b>	<ul style="list-style-type: none"> <li>• automatic emergency braking</li> <li>• blind spot warning</li> <li>• lane departure warning</li> </ul>	<ul style="list-style-type: none"> <li>• lane centering OR</li> <li>• adaptive cruise control</li> </ul>	<ul style="list-style-type: none"> <li>• lane centering AND</li> <li>• adaptive cruise control at the same time</li> </ul>	<ul style="list-style-type: none"> <li>• traffic jam chauffeur</li> </ul>	<ul style="list-style-type: none"> <li>• local driverless taxi</li> <li>• pedals/steering wheel may or may not be installed</li> </ul>	<ul style="list-style-type: none"> <li>• same as level 4, but feature can drive everywhere in all conditions</li> </ul>

For a more complete description, please download a free copy of SAE J3016: [https://www.sae.org/standards/content/J3016\\_201806/](https://www.sae.org/standards/content/J3016_201806/).

How effective is this concept at conveying the different levels of automation and what that means for the driver?

1. Not at all effective
2. Not too effective

3. Somewhat effective
4. Very effective
5. Extremely effective

---

3.2a How easy to understand is this concept?

[SHOW VISUAL OF CONCEPT A, INCLUDE OPTION TO OPEN LARGER IMAGE]

1. Not at all easy to understand
2. Not too easy to understand
3. Somewhat easy to understand
4. Very easy to understand
5. Extremely easy to understand

---

3.3a Select which of the following reactions align with your own view of this concept. Please select all that apply.

[SHOW VISUAL OF CONCEPT A, INCLUDE OPTION TO OPEN LARGER IMAGE]

1. Color coding helps show where driver is in control
2. Bulleted lists are helpful to show examples, especially at higher levels
3. Good resource for those who want to get into the details and like having more information
4. Color coding is distracting
5. Volume of information can be overwhelming
6. The language and design feel very technically-oriented
7. None of the above

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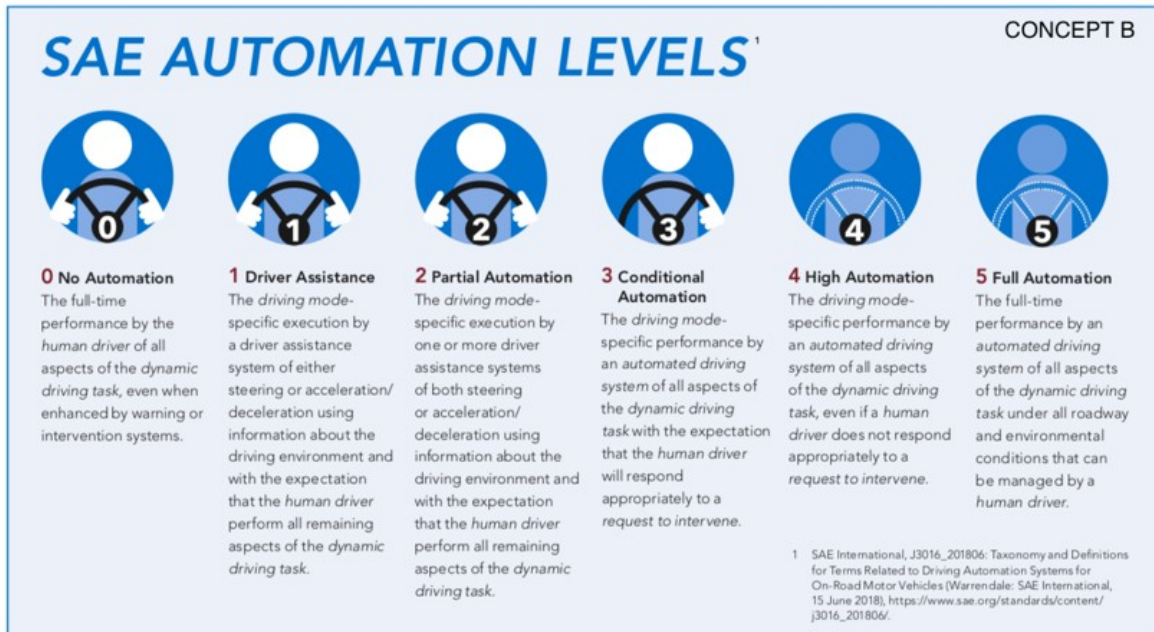
3.4a Do you have any suggested additions or changes to this concept? Please be as specific as possible. [MODERATOR: PROBE FOR SPECIFICS]

[SHOW VISUAL OF CONCEPT A, INCLUDE OPTION TO OPEN LARGER IMAGE]

---

3.1b Let's take a look at our next concept.

[SHOW VISUAL OF CONCEPT B, INCLUDE OPTION TO OPEN LARGER IMAGE]



How effective is this concept at conveying the different levels of automation and what that means for the driver?

1. Not at all effective
2. Not too effective
3. Somewhat effective
4. Very effective
5. Extremely effective

3.2b How easy to understand is this concept?

[SHOW VISUAL OF CONCEPT B, INCLUDE OPTION TO OPEN LARGER IMAGE]

1. Not at all easy to understand
2. Not too easy to understand
3. Somewhat easy to understand
4. Very easy to understand
5. Extremely easy to understand

---

3.3b Select which of the following reactions align with your own view of this concept. Please select all that apply.

[SHOW VISUAL OF CONCEPT B, INCLUDE OPTION TO OPEN LARGER IMAGE]

1. Clearly breaks down the levels
2. The use of visuals to reinforce differences noted in the text helps to differentiate the levels and what the driver is doing
3. Inclusion of visuals and text provides just enough detail
4. Text is highly technical and cumbersome
5. The visuals convey progression, but need additional details to show differences between Levels 1 & 2 and Levels 4 & 5
6. Image including steering wheel at Level 5 is confusing
7. None of these

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3.4b Do you have any suggested additions or changes to this concept? Please be as specific as possible. [MODERATOR: PROBE FOR SPECIFICS]

[SHOW VISUAL OF CONCEPT B, INCLUDE OPTION TO OPEN LARGER IMAGE]

## 3.1c Let's take a look at our final concept.

[SHOW VISUAL OF CONCEPT C, INCLUDE OPTION TO OPEN LARGER IMAGE]



How effective is this concept at conveying the different levels of automation and what that means for the driver?

1. Not at all effective
2. Not too effective
3. Somewhat effective
4. Very effective
5. Extremely effective

## 3.2c How easy to understand is this concept?

[SHOW VISUAL OF CONCEPT C, INCLUDE OPTION TO OPEN LARGER IMAGE]

1. Not at all easy to understand
2. Not too easy to understand
3. Somewhat easy to understand
4. Very easy to understand
5. Extremely easy to understand

---

3.3c Select which of the following reactions align with your own view of this concept. Please select all that apply.

[SHOW VISUAL OF CONCEPT C, INCLUDE OPTION TO OPEN LARGER IMAGE]

1. Includes simple language
2. Has a clean look
3. Visuals show hands, feet, and field of vision which offer helpful detail
4. Clearly spells out what the vehicle does vs. what the driver does
5. Text lacks helpful detail
6. Looks too cluttered
7. Consider changing “Machine Operated” to “System Operated” to be more consistent with language relating to *What the Vehicle Does*
8. The text for *What the Vehicle Does* at Level 3 is confusing
9. None of these

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3.4c Do you have any suggested additions or changes to this concept? Please be as specific as possible. [MODERATOR: PROBE FOR SPECIFICS]

[SHOW VISUAL OF CONCEPT C, INCLUDE OPTION TO OPEN LARGER IMAGE]

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3.5 Please take a moment to review all three of the concepts you just evaluated. Please **thoroughly review the concepts, including all images and written text**, before answering the question below. Please scroll up and down to be sure you are viewing the concepts in their entirety.

[SHOW VISUAL OF ALL THREE CONCEPTS]

Please select the concept you prefer the MOST and tell me why.

1. Concept A
2. Concept B
3. Concept C

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3.6 I'd like to revisit a question I asked you on our first day together.

Some people say that it's safer when the human driver is in complete control of all the vehicle functions. They trust themselves more than technology, and say that technology software could be hacked, or that they can't fully relax in a vehicle where the computer assists with certain driving tasks.

Others say that vehicles in which drivers are assisted by a computer are safer. Technology can react more quickly and reliably than people can, technology can be rigorously tested in a wide range of situations before they are allowed on vehicles, and new and better technology is on the horizon.

Now, which of these two perspectives comes closest to your own?

1. Definitely feel **humans are safer**
2. Somewhat feel **humans are safer**
3. Somewhat feel **technology is safer**
4. Definitely feel **technology is safer**

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3.7 Is there anything else you'd like to share, regarding automated vehicles, levels of automation, or the concepts you evaluated?

## END OF DAY 3 TOPICS

This brings us to the end of our session. Thank you so much for your thorough participation these past few days.

Please plan to come back to the forum a couple more times today to answer any follow up questions I might have for you and to read what others have posted. You can also comment on each other's posts by clicking on the reply button under the post.

Thanks again for your engagement and thoughtful answers to my questions!  
[INSERT MODERATOR NAME]