Customer Meeting 11/3/22

1. What occurs when there is no time to stop in a collision?
    a. The system should always stop if a collision is detected to happen
    b. Should be unlikely as 1 or more car lengths should be maintained when system is active
    c. The vehicle should only move if the vehicle ahead moves, should stop otherwise
2. What is the relationship between Adaptive Cruise Control (ACC) and TJA?
    a. TJA is only allowed to turn on when ACC is on
        i. ACC is the main actuator
    b. The vehicle should know its position so the system know when it can be turned on
        i. System should have some sort of GPS access
    c. If the vehicle exits a limited access highway (LAH) the system should disable and alert the driver that the system has been turned off
3. What is autonomous in the system?
    a. The system is not fully autonomous
        i. It has elements of an autonomous driving system
    b. Driver is still required to steer the vehicle?
        i. Lane keeping systems warn the driver that a turn is approaching, does not turn the steering wheel
        ii. It can make small adjustments
    c. The system should detect if driver is using the wheel; Driver must be using the steering wheel
        i. System should turn off is wheel is not being used
4. In which conditions is the system not enabled?
    a. When the vehicle is not on an approved LAH, system shouldn't be allowed to turn on
    b. GPS data will determine the areas that it is turned on
5. How does the system handle weather conditions?
    a. ACC doesn't discriminate between poor conditions and clear ones
    b. ABS can detect slip conditions, TJA should disengage under slippery conditions
    c. Radar will likely get clogged by snow and ice before slippery conditions occur
        i. System should disable if the sensors are blocked
6. What is the expected behavior in a construction zone?
    a. Without closed lanes, distance should maintain, as well as speed
    b. If something pulls out in front you stop at set distance
    c. If merging, driver will have to make the choice to merge
7. How does the system know that the driver is attentive?

    a. Tactile feedback in the steering wheel
        i. Resistance from the driver
    b. Internal camera
        i. Watches to make sure eyes are on the road
        ii. Likely will be near the visor
    c. Privacy laws for the camera
        i. Not recorded data so it should be fine
        ii. Might be in a recorder box
8. What is appropriate max speed for system
    a. 80 mph is maximum speed it functions
    b. Constrained by target vehicles speed, and distance
9. How should the driver be alerted?
    a. A text will appear on the dash with a chime
        i. “Sensor is blocked”
10. What are the parameters the driver can control?
    a. Speed, following distance
        i. Distance is usually between 1-3 vehicle lengths
        ii. No acceleration rate control from driver
    b. Can be turned on and off
    c. Tapping the brake pauses, hitting resume resumes
11. How can the driver take control of the system?
    a. Tap the brakes
    b. Cancel button
        i. There should also be a resume button
    c. ON/OFF button
12. What are the limitations of the technology?
    a. Weather affecting the sensors
    b. TJA detects the lane markers to keep in lane
13. How does the car know what highways to use? Can the allowable LAHs change?
    a. It uses a navigation database to determine where it is, and if it is on an allowable LAH
    b. The vehicle will only use OEM certified maps
    c. The vehicle can receive updates
        i. Might be physically done, but more modern cars might have a 4G or 5G modem
            1. Must be secure
        ii. Over the air updates should only be allowed when parked
14. What is expected behavior if the car in front is reversing?
    a. Driver must decide what to do
    b. TJA is forward motion only

15. What is expected if the system has a faulty sensor or GPS unit?
    a. System should disable and alert the driver
    b. Any failure disables the whole system
16. Is there a failsafe if the system can't stop safely?
    a. System should apply brakes before collision
        i. This should stop the car the set distance from the object
    b. System should be canceled, and then require driver to resume
17. How does the system handle pedestrians and bikers?
    a. The system will know that there is a target in front and brake accordingly
18. What is the optimal way for the driver interface?
    a. Buttons on the steering wheel
        i. Sets distance
    b. Accelerator
    c. Brake
    d. Warning signals on dash
19. What does the system do during lane changing?
    a. Lane keeping is disabled when turn signal is on
20. What is expected when the gas pedal is pressed?
    a. The system allows them to, but will return to set speed when no longer accelerating
21. How does the system handle different hardware statuses?
    a. Brake wear isn't monitored
    b. System statuses aren't monitored
22. What does TJA solve?
    a. Driver fatigue due to constant switching between brake and gas pedals
    b. Prevents mistakes
    c. Allows the driver to relax
23. What are the minimum power requirements?
    a. Customer didn't know, but it should not be excessive