Aurora

Public Safety Official and First Responder Interaction Plan: Peterbilt 579

Introduction

Call 1-800-815-0780 for immediate assistance

If you need guidance on interacting with one of our self-driving <u>passenger cars</u>, see our related guide:

Public Safety Officials and First Responder Interaction Plan: Toyota Sienna Hybrid



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Aurora

Introduction

This section explains how this guide was developed, its intended use, and what will trigger updates in the future.



Introduction

Development Process & Intended Use

This guide was developed to assist public safety officials and first responders who may interact with trucks equipped with the Aurora Driver, our self-driving vehicle technology.

The contents of this guide are aligned with applicable guidance from the Automated Vehicle Safety Consortium's "Best Practice for First Responder Interactions with Fleet-Managed Automated Driving System-Dedicated Vehicles (ADS-DVs)" that pertain to operating with a vehicle operator.

In addition to providing this guide to public safety officials and first responders, we work with state and local governments in every jurisdiction prior to operation and at a regular cadence thereafter.



Identifying an Aurora Truck

This section describes the trucks and sensors we use to test the Aurora Driver, our self-driving technology.



Identifying an Aurora Truck

Peterbilt 579

- Sensors are mounted on the roof, right and left sides of the cab below the rear-view mirrors, and on the front and rear bumpers of the tractor
- Aurora branding is located on the driver and passenger side doors
- Our legal business name, Aurora Operations, Inc., and USDOT #3441156 are posted on each side of the tractor
- Our tractor may be pulling a trailer that does not say "Aurora" on it



The tractor will be hauling a trailer most of the time

Hurora

Documentation

This section explains what documentation is available and where it is located in the truck.



Documentation

A documentation binder is located in the driver's seat rear pocket and contains Aurora's:

- Contact information
- Insurance card
- Registration
- Oversized Permit (in CA)
- Preferred towing vendors





Current Operations

This section describes our operational design domain (ODD), including where we operate, the conditions under which we operate, and the policies we follow to keep ourselves and other road users safe.



Current Operations

Where We Operate

Our ODD currently includes public and private roads in and around select cities in CA*, PA, and TX. We notify and work with state and local governments in every existing and new jurisdiction before we begin operating the Aurora Driver.

Our trucks traverse the following roadway types:

- Freeways
- On- and off-ramps
- Surface streets

*We limit autonomous operations in CA in accordance with state regulations but operate our vehicles in varied conditions on public and private roads.



Current Operations

Where We Operate

Our trucks operate:

- Within the speed limits of the roadways where we operate
- In suburban and urban areas, including in dense traffic
- Day and night
- In varied weather, including snow and rain

We closely monitor weather conditions and may halt testing in the following circumstances, should we have any concern that the safety of our performance would be degraded:

- Fog, heavy rain, heavy snow, and ice
- Reports of adverse road conditions (including loss of traction, unplowed roads, and ice), severe weather, or high wind



Truck Operators

All of our trucks have two vehicle operators:

The trained vehicle operator behind the steering wheel is solely focused on safe operation of the truck

The trained co-pilot in the passenger seat monitors and annotates the behavior of the Aurora Driver on a laptop





Interacting with the Truck

This section describes our operators' post-collision protocol; how to identify the system state; how to disengage self-driving (if necessary); and how to immobilize and disable the vehicle.



Vehicle Operator Protocol

Our vehicle operators will do the following after a collision:

- Disengage autonomy, if necessary;
- Call 911, if necessary;
- Pull the vehicle over to a safe location, if possible;
- Notify Aurora dispatch, who may assist with data requests, towing, or related post-collision needs.



Recommended Procedures for First Responders

Follow the recommended actions to secure the truck:

- 1. Determine if self-driving mode is engaged;
- 2. Disengage self-driving—if necessary—by pushing the Driver shutoff button; and
- 3. Immobilize and disable the vehicle by ensuring the engine is off and the air brakes are on (pulled).



Determining if Self-Driving is Engaged

In the unlikely event that the vehicle has not automatically disengaged self-driving post-collision, or the vehicle operators have not manually disengaged self-driving post-collision, first responders should refer to the light bar on the center instrument panel to determine the vehicle state.

If the light bar is solid <u>green</u> or solid <u>red</u>, first responders should press the Driver shutoff button to disengage autonomy. All other colors mean the Driver is not operating in autonomy. See the next page for further instructions.



Green



Red



Disengaging Self-Driving

If the light bar is solid <u>green</u> or solid <u>red</u>, the first responder should press the Driver shutoff button (labeled "DBW") located in the center console between the driver and passenger seats.

Pressing the Driver shutoff button will disengage self-driving mode and cut power to the self-driving system. The light bar will change color from green or red to blue or white and an audible alert will sound. Lights adjacent to the light bar pertain to the power source and do not relate to this guidance.

If the Driver shutoff button is depressed, and the air brake is set (see page 19), the vehicle cannot enter self-driving mode.



If there is any concern about the light bar color status, press the red Driver shutoff button (labeled "DBW").



Immobilizing and Disabling the Vehicle

After determining the system state and disengaging self-driving:



Shift the truck into neutral.



Pull the yellow lever to set the air brakes.



Turn the ignition key off.

When the truck is shut off, dashboard indicator lights will <u>**not**</u> be illuminated, and navigation or other displays will <u>**not**</u> be on.



Turning on the Truck

Should turning on the vehicle be required for any reason, please note:

- Turning on the truck will **<u>not</u>** engage the system in self-driving mode.
- Our vehicle operators will assist with turning on, moving, and towing the truck, if necessary.
- If our vehicle operators cannot assist and you need further support, please call Aurora Dispatch at 1-800-815-0780 for instructions or wait for an Aurora employee to arrive at the site to provide assistance.



Turning Off Battery Power Supply

This section provides instructions on how to safely turn off the truck's battery power supply in the event of a fire or to ensure safe extrication of passengers.



De-Powering the Truck Battery Shut Off

Batteries are located beneath the driver's door.

There is an external main battery shut off switch located near the catwalk that may be used to shut off battery power.







De-Powering the Truck

Battery Shut Off

A battery shut off switch that specifically de-powers the Aurora Driver is located near the catwalk / trailer air lines. Shut off the battery if needed to reduce fire risk. This shut off switch <u>does not</u> disconnect the truck's battery power.





Firefighting and Extrication

This section includes recommended guidance for how to fight a fire in the truck and safety considerations if it is necessary to extricate passengers.



Firefighting and Extrication Firefighting

Each truck is outfitted with a fire extinguisher under the driver's seat.

Firefighters and first responders should follow current best practices for fighting fires in commercial motor vehicles.

See <u>Additional Resources</u> (page 30) for more information.





Firefighting and Extrication Firefighting

We have added a battery to the truck that is accessible through a hatch behind the passenger side door. The hatch is opened using the ignition key.

The battery will not supply power to the Aurora Driver compute if the Driver shutoff button is depressed.

If the battery catches fire, follow current firefighting best practices for extinguishment.







Firefighting and Extrication Extrication

The truck has two fuel tanks located beneath the sleeper cab that are accessible at the rear of the tractor near the catwalk.

Avoid cutting fuel tank, fuel, or coolant lines.







Towing Information

This section provides towing information.



Post-Incident Response

Towing

- All of our trucks currently have two trained operators who will arrange for towing assistance.
- If our operators cannot assist, please call 1-800-815-0780.
- A heavy duty wrecker is needed; flatbed towing is not possible.
- A list of our preferred vendors is included in the documentation binder located in the rear seat pocket of the passenger seat.
- Towing personnel should refer to page 7 of this guide to review the sensor locations to avoid damage if possible.



Additional Resources

This section includes links to additional commercial vehicle firefighting best practice guidance and Aurora company resources.



Additional Resources



Fire Engineering Heavy Truck Extrication: Truck Types and Hazard Identification



Additional Resources

Company Resources

Safety at Aurora aurora.tech/safety

Aurora's Voluntary Safety Self-Assessment (VSSA) View Our VSSA



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