

New York City Department of Transportation

Notice of Adoption

NOTICE OF ADOPTION relating to the demonstration or testing of motor vehicles with autonomous vehicle technology on any public highway in the city of New York.

NOTICE IS HEREBY GIVEN PURSUANT TO THE AUTHORITY VESTED IN the Commissioner of the New York City Department of Transportation (DOT) by Sections 1043 and 2903 of the New York City Charter and in accordance with the requirements of Section 1043 of the New York City Charter that DOT hereby amends and adds Section 4-17 of Chapter 4 of Title 34 of the Rules of the City of New York.

This rule was first published on August 2, 2021 and a public hearing was held on September 1, 2021. DOT received written or oral comments from the public and made the following revisions:

- Clarify section 4-17(d)(4) to include the standards to which an automated vehicle tester must conform;
- Revise section 4-17(d)(7) to require a certification by the applicant with respect to cyber attacks, which is similar to a state of California requirement;
- Clarify section 4-17(d)(8) to recognize that in certain instances federal exemptions are granted;
- Clarify section 4-17(f)(6) with regards to the type of proposed changes DOT is interested in being notified;
- Revise section 4-17(f)(10) to increase the number of hours from two to four hours that a permit holder must notify DOT once a crash occurs;
- Revise section 4-17(h)(1) to add a new reporting requirement, specifically, the submission of the permit holder's federal Voluntary Safety Self-Assessment.

Statement of Basis and Purpose of Adopted Rule

The Commissioner of the New York City Department of Transportation (DOT) is authorized to issue rules regarding parking and traffic operations in the City pursuant to Section 2903(a) of the New York City Charter.

This rule regulates autonomous vehicle technology in New York City. In response to the continued development of autonomous vehicle technology and growing interest in testing and deploying this technology on city streets, and building on the New York State Department of Motor Vehicles' Autonomous Vehicle Technology Demonstration/Testing Permit, New York City is implementing a permit process, including self-certifications from autonomous vehicle technology companies that their autonomous vehicles will operate more safely than human drivers in New York City, and that the test vehicle operators will be able and prepared to assume control of the vehicle in the event of a failure of the autonomous vehicle technology. These certifications will provide important assurances to the public and the city that systems being tested on New York City's public roadways are safe by demonstrating sufficient prior successful experience in complex street environments. The certification that the test vehicle will operate more safely than a human driver will consider the autonomous vehicle technology and the test vehicle operator and associated operational safety protocols collectively.

As a condition of the permit, New York City will also establish collision notification and operational

reporting requirements for companies operating autonomous vehicles in New York City. This information will be critical to the oversight of autonomous vehicle operation within the city, allowing the City to monitor the scope of operations and safety procedures as they change over time and require corrective action.

The amendments to the DOT Traffic Rules are as follows:

- Add new section 4-17 establishing a permitting process for the demonstration or testing of motor vehicles equipped with autonomous vehicle technology on any public highway in the city of New York, specifically:
 - A permit will be required of any entity who has already received approval by the New York State Department of Motor Vehicles to demonstrate or test a motor vehicle with autonomous vehicle technology and wants to demonstrate or test such motor vehicle on any public highway in the city of New York prior to such demonstration or testing.
 - A permit fee will be required.
 - A permit application consisting of 10 various elements will be required, including:
 - self-certification by the developer of the autonomous vehicle technology that, based on previous evaluations of the autonomous vehicle technology, the test vehicle(s) will operate in New York City more safely than a human driver;
 - self-certification that a test vehicle operator with a valid driver license recruited and trained in accordance with most recent version of the Society of Automotive Engineers (SAE) AVSC 00001201911: “Best Practice for In-Vehicle Fallback Test Driver Selection, Training, and Oversight Procedures for Automated Vehicles Under Test,” and J3018: “Safety-Relevant Guidance for On-Road Testing of Prototype Automated Driving Systems (ADS)-Operated Vehicles,” will be in the driver’s seat of each autonomous vehicle while it is in operation on any public highway in the city of New York and that the test vehicle operator will be able to safely assume control of the vehicle in the event of a failure of the autonomous vehicle technology or other incident during which the autonomous vehicle technology cannot function; and
 - submission of a safety plan.
 - Each permit holder will need to comply with certain conditions, including data reporting and completion of a demonstration of the autonomous vehicle technology under the supervision of the Department within each geographic zone area in which the proposed demonstration or testing will occur prior to the commencement of the proposed demonstration or testing in such area.
- Add new penalty to DOT’s Penalty Schedule in Section 3-01 for demonstrating or testing a motor vehicle with autonomous vehicle technology on any public highway in the city of New York without a permit from the Department.

New material is underlined.

[Deleted material is in brackets.]

Section 1. Chapter 4 of Title 34 of the Rules of the City of New York is amended by adding a new section 4-17 to read as follows:

§ 4-17 Autonomous Vehicles.

(a) Definitions. For the purposes of this section, the following terms have the following meanings:

Autonomous vehicle technology. The term “autonomous vehicle technology” means the hardware and software that are collectively capable of performing part or all of the dynamic driving task on a sustained basis.

Dynamic driving task. The term “dynamic driving task” means all of the real-time operational and tactical functions required to operate a vehicle in on-road traffic, excluding the strategic functions such as trip scheduling and selection of destinations and waypoints.

(b) Permit required. Any entity who has already received approval by the New York State Department of Motor Vehicles to demonstrate or test a motor vehicle with autonomous vehicle technology and wants to demonstrate or test such motor vehicle on any public highway (as defined in section 4-01 of these rules) in the city of New York must obtain a permit from the Department, prior to such demonstration or testing.

(c) Permit fees. In order to demonstrate or test a motor vehicle with autonomous vehicle technology on a public highway in the city of New York, the applicant must pay to the Department an autonomous vehicle technology permit fee of \$5,000 annually.

(d) Applications. A permit application to demonstrate or test a motor vehicle with autonomous vehicle technology must be submitted on forms prescribed by the Department which will consist of the following information:

- (1) Legal name of the entity which has already received approval by the New York State Department of Motor Vehicles to demonstrate or test a motor vehicle with autonomous vehicle technology; address; contact name; contact telephone number; contact e-mail address;
- (2) Proof of New York State Department of Motor Vehicles approval for each motor vehicle with autonomous vehicle technology intended for demonstration or testing on any public highway in the city of New York, including a copy of the law enforcement interaction plan and any other information or documentation submitted to the New York State Department of Motor Vehicles as part of its application for approval;
- (3) Certification by the developer of the autonomous vehicle technology that, based on previous evaluations of the autonomous vehicle technology, the test vehicle(s) will operate in New York City more safely than a human driver, including documentation of previous demonstration or testing experience on public roadways; information on any crash involving the autonomous vehicle(s) that resulted in death, injury, or property

damage; and documentation of performance in environments similar to the New York City geographic zones approved for testing;

- (4) Certification by the applicant that a test vehicle operator with a valid driver license, recruited and trained in accordance with most recent version of the Society of Automotive Engineers (SAE) AVSC 00001201911: “Best Practice for In-Vehicle Fallback Test Driver Selection, Training, and Oversight Procedures for Automated Vehicles Under Test,” and J3018: “Safety-Relevant Guidance for On-Road Testing of Prototype Automated Driving Systems (ADS)-Operated Vehicles,” will be in the driver’s seat of each autonomous vehicle while it is in operation on any public highway in the city of New York and that the test vehicle operator will be able to safely assume control of the vehicle in the event of a failure of the autonomous vehicle technology or other incident during which the autonomous vehicle technology cannot function;
- (5) Safety plan for demonstration or testing in New York City, including documentation of the test vehicle operator training to ensure both legal and safe operation, documentation of the ability of test vehicle operators to assume control of the vehicle(s) in the event of a failure of the autonomous vehicle technology, and proof of completion of the training by all test vehicle operators;
- (6) Operating plan for demonstration or testing in New York City, including the purpose and parameters of the demonstration or test; proposed date(s), hour(s), and location(s) within geographic areas of New York City approved by the Department for demonstration or testing of motor vehicles with autonomous vehicle technology;
- (7) Certification that vehicle meets appropriate and applicable industry standards to help defend against, detect, and respond to cyber attacks, unauthorized intrusions, or false vehicle control commands;
- (8) Certification of compliance with or exemption from all federal standards and applicable New York State inspection standards for any motor vehicle with autonomous vehicle technology intended for demonstration or testing on any public highway in the city of New York;
- (9) Make and model of each motor vehicle with autonomous vehicle technology intended for demonstration or testing on any public highway in the city of New York; and
- (10) Proof of at least \$5 million automobile insurance for any motor vehicle with autonomous vehicle technology intended for demonstration or testing on any public highway in the city of New York, a minimum of \$3 million in personal liability insurance, and a minimum of \$2 million in property damage insurance.

(e) Review of applications for and issuance of permits.

- (1) The Department may decline to issue a permit to an applicant that:
 - (i) Has a demonstrated unsafe record in the city of New York or any other city where it has demonstrated or tested;
 - (ii) Does not submit the certifications required under subdivision (d);
 - (iii) Does not provide adequate proof of insurance;
 - (iv) Does not adhere to the conditions of any previously issued permit; or
 - (v) Does not adhere to the submitted safety plan or law enforcement interaction plan.
- (2) If the Department declines to issue such a permit because of any of the conditions

described in paragraph (1) of this section or if the application is incomplete, the applicant will have fifteen days from receipt of the denial to appeal the determination to the Commissioner. The Department will make a final determination on the appeal within thirty days.

(f) Conditions of permit. The permit holder must:

- (1) Indemnify the city of New York against legal liabilities associated with the demonstration or testing of motor vehicles with autonomous vehicle technology on any public highway in the city of New York;
- (2) Adhere to the permit holder's safety and operating plans;
- (3) Operate only during the date(s) and hour(s) of operation approved by the Department;
- (4) Operate only within the geographic area(s) of New York City approved by the Department on the basis of traffic safety;
- (5) Safely complete a demonstration of the autonomous vehicle technology under the supervision of the Department within each geographic area in which the proposed demonstration or testing will occur prior to the commencement of the proposed demonstration or testing in such area;
- (6) Submit for approval by the Department any proposed changes to the number of vehicles, geographic zones approved for testing, testing date(s), or time of day of operation specified in the application;
- (7) Comply with all applicable traffic laws;
- (8) Provide the Department with written notice if the permit holder decides to discontinue the demonstration or testing of motor vehicles with autonomous vehicle technology;
- (9) Report to the Department the data specified in subdivision (h) of this section at the frequency specified in the permit;
- (10) Notify the Department of any crashes involving fatalities, injuries and/or property damage within four hours of such occurrence; and
- (11) Promptly notify the Department of any changes to the information provided in its application.

(g) Suspension and revocation of permits.

- (1) The Department may suspend or revoke a permit for failure to comply with any of the terms and conditions of the permit, these rules, or other applicable laws or rules.
- (2) Prior to suspending or revoking a permit, the permit holder will be provided with an opportunity to be heard within five business days. However, if the suspension or revocation of a permit is based on the permit holder's failure to comply with any law, rule, or permit condition related to safety, the Department may suspend or revoke the permit immediately, and the permit holder will be provided with an opportunity to be heard within two business days.
- (3) If the Department suspends or revokes a permit, the permit holder must cease any demonstration or test of motor vehicles with autonomous vehicle technology on any public highway in the city of New York within 24 hours of suspension or revocation.

(h) Data reporting requirements.

(1) Each permit holder must provide to the Department, at the frequency and in the format specified by the Department, the following datasets:

- (i) make, model, and license plate number of each vehicle engaged in demonstration or testing;
- (ii) miles driven in total and with autonomous vehicle technology engaged;
- (iii) location(s), date(s), and hour(s) of operation and number of test vehicle operators or other staff in each vehicle;
- (iv) median and maximum test vehicle operator driving shift length;
- (v) information on crashes involving the autonomous vehicle;
- (vi) information on safety-related traffic violations;
- (vii) information on instances in which the test vehicle operator assumed control of the vehicle while the autonomous vehicle technology was engaged;
- (viii) the permit holder’s most recent Voluntary Safety Self-Assessment transmitted to the National Highway Traffic Safety Administration; and
- (ix) any information transmitted to the National Highway Traffic Safety Administration under its General Order 2021-01, “Incident Reporting for Automated Driving Systems (ADS) and Level 2 Advanced Driver Assistance Systems (ADAS)” regarding incidents that occurred within the city of New York.

(i) Term and renewal of permits. Each permit will be issued for a term of one year and may be renewed. The permit renewal process will include a review of safety performance, compliance with permit provisions over the previous permit period, and any changes to the application materials.

§2. Section 3-01 of Chapter 3 of Title 34 of the Rules of the City of New York is amended by adding a new penalty to read as follows:

<u>Section</u>	<u>Description</u>	<u>Penalty (\$)</u>	<u>Default (\$)</u>
34 RCNY 4-17	Demonstrating or testing a motor vehicle with autonomous vehicle technology on any public highway in the city of New York without a permit from the Department.	<u>\$5,000 per day</u>	<u>\$5,000 per day</u>

FINDING OF SUBSTANTIAL NEED FOR EARLIER IMPLEMENTATION

I hereby find and represent to the Mayor that there is a substantial need for the implementation, immediately upon its final publication in the City Record, of the New York City Department of Transportation (“DOT”) rule regulating the demonstration or testing of motor vehicles with autonomous vehicle technology on any public highway in the city of New York.

These rules will implement a permit process, including self-certifications from autonomous vehicle technology companies that their autonomous vehicles will operate more safely than human drivers in New York City, and that the test vehicle operators will be able and prepared to assume control of the vehicle in the event of a failure of the autonomous vehicle technology. These certifications will provide important assurances to the public and the city that systems being tested on New York City’s public roadways are safe by demonstrating sufficient prior successful experience in complex street environments.

There is a substantial need for the early implementation of these rules because an autonomous vehicle company has already begun testing in New York City without a robust regulatory framework in place to require self-certification of autonomous vehicle technology safety or testing areas based on pedestrian density. The city does not currently have a role in the review of applications for the autonomous vehicles permit issued by the New York State Department of Motor Vehicles, and is not informed when a company will be approved to begin testing. It is therefore urgent for this rule to take effect as soon as possible so that the city can monitor the safety of this emerging technology while it is operated on public roadways.

Therefore, I find pursuant to section 1043(f)(1)(c) of the New York City Charter that there is a substantial need for its earlier implementation.

_____/s/_____
Henry B. Gutman, Commissioner
New York City Department of Transportation

APPROVED: /s/
Bill de Blasio
Mayor