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HOUSE BILL DRH50045-ML-69C* (02/07)

Short Title: Regulation of Fully Autonomous Vehicles. (Public)

Sponsors: Representatives Shepard and Torbett (Primary Sponsors).

Referred to:

1 A BILL TO BE ENTITLED
2 AN ACT TO REGULATE THE OPERATION OF FULLY AUTONOMOUS MOTOR
3 VEHICLES ON THE PUBLIC HIGHWAYS OF THIS STATE.

4 The General Assembly of North Carolina enacts:

5 SECTION 1. G.S. 20-4.01(25) reads as rewritten:

6 "(25) Operator. – A person (i) in actual physical control of a vehicle which is in
7 motion or which has the engine ~~running~~-running or (ii) who causes a fully
8 autonomous vehicle, as defined in G.S. 20-399, to move or travel with the
9 automated driving system, as defined in G.S. 20-399, engaged. The terms
10 "operator" and "driver" and their cognates are synonymous."

11 SECTION 2. G.S. 20-8 reads as rewritten:

12 "§ 20-8. Persons exempt from license.

13 The following are exempt from license hereunder:

14 ...

15 (8) A fully autonomous vehicle with the automatic driving system engaged, or
16 the operator of a fully autonomous vehicle with the automated driving
17 system engaged. For purposes of this subdivision, the terms "automated
18 driving system" and "fully autonomous vehicle" are as defined in
19 G.S. 20-399."

20 SECTION 3. G.S. 20-49(4) reads as rewritten:

21 "§ 20-49. Police authority of Division.

22 The Commissioner and such officers and inspectors of the Division as he shall designate
23 and all members of the Highway Patrol and law enforcement officers of the Department of
24 Public Safety shall have the power:

25 ...

26 (4) When on duty, upon reasonable belief that any vehicle is being operated in
27 violation of any provision of this Article or of any other law regulating the
28 operation of vehicles to require the driver thereof to stop and exhibit his
29 driver's license and the registration card issued for the vehicle, and submit to
30 an inspection of such vehicle, the registration plates and registration card
31 thereon or to an inspection and test of the equipment of such vehicle. For a
32 fully autonomous vehicle, as defined in G.S. 20-399, in which the automated
33 driving system, as defined in G.S. 20-399, is engaged and operating the
34 vehicle, the requirement under this subdivision to exhibit the registration
35 card for the vehicle shall be satisfied if the registration card is in the vehicle,



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1 or available electronically, and readily available to be inspected by an officer
2 or inspector."

3 **SECTION 4.** G.S. 20-57 reads as rewritten:

4 **"§ 20-57. Division to issue certificate of title and registration card.**

5 ...

6 (b) The registration card shall be delivered to the owner and shall contain upon the face
7 thereof the name and address of the owner, space for the owner's signature, the registration
8 number assigned to the vehicle, and a description of the vehicle as determined by the
9 Commissioner, provided that if there are more than two owners the Division may show only
10 two owners on the registration card and indicate that additional owners exist by placing after
11 the names listed "et al." For a fully autonomous vehicle, as defined in G.S. 20-399, the
12 registration card shall also contain upon the face thereof the information required under
13 G.S. 20-400(a)(5). An owner may obtain a copy of a registration card issued in the owner's
14 name by applying to the Division for a copy and paying the fee set in G.S. 20-85.

15 (c) Every such registration card shall at all times be carried in the vehicle to which it
16 refers or in the vehicle to which transfer is being effected, as provided by G.S. 20-64 at the time
17 of its operation, and such registration card shall be displayed upon demand of any peace officer
18 or any officer of the Division: Provided, however, any person charged with failing to so carry
19 such registration card shall not be convicted if ~~he~~the person produces in court a registration
20 card theretofore issued to ~~him~~the person and valid at the time of ~~his~~the person's arrest: Provided
21 further, that in case of a transfer of a license plate from one vehicle to another under the
22 provisions of G.S. 20-72, evidence of application for transfer shall be carried in the vehicle in
23 lieu of the registration card. For a fully autonomous vehicle, as defined in G.S. 20-399, in
24 which the automated driving system, as defined in G.S. 20-399, is engaged and operating the
25 vehicle, the requirement under this subdivision to display upon demand the registration card for
26 the vehicle shall be satisfied if the registration card is in the vehicle, or available electronically,
27 and readily available to be inspected by an officer.

28"

29 **SECTION 5.** G.S. 20-135.2A reads as rewritten:

30 **"§ 20-135.2A. Seat belt use mandatory.**

31 ...

32 (c) This section shall not apply to any of the following:

33 ...

34 (9) An automated driving system, as defined in G.S. 20-399, engaged and
35 operating a fully autonomous vehicle, as defined in G.S. 20-399.

36"

37 **SECTION 6.** G.S. 20-135.2B reads as rewritten:

38 **"§ 20-135.2B. Transporting children under 16 years of age in open bed or open cargo**
39 **area of a vehicle prohibited; exceptions.**

40 (a) ~~The~~Except as otherwise provided in this subsection, the operator of a vehicle having
41 an open bed or open cargo area shall ensure that no child under 16 years of age is transported in
42 the bed or cargo area of that vehicle. For a fully autonomous vehicle, as defined in G.S. 20-399,
43 in which the automated driving system, as defined in G.S. 20-399, is engaged and operating the
44 vehicle, the parent or legal guardian of the child is responsible for ensuring compliance with
45 this subsection. An open bed or open cargo area is a bed or cargo area without permanent
46 overhead restraining construction.

47"

48 **SECTION 7.** G.S. 20-137.1 reads as rewritten:

49 **"§ 20-137.1. Child restraint systems required.**

50 (a) ~~Every~~Except as otherwise provided in this subsection, every driver who is
51 transporting one or more passengers of less than 16 years of age shall have all such passengers

1 properly secured in a child passenger restraint system or seat belt which meets federal standards
2 applicable at the time of its manufacture. For a fully autonomous vehicle in which the
3 automated driving system is engaged and operating the vehicle, the parent or legal guardian of
4 a passenger of less than 16 years of age shall be responsible for ensuring the passenger is
5 properly secured in accordance with this section. For purposes of this section, the terms
6 "automated driving system" and "fully autonomous vehicle" are as defined in G.S. 20-399.

7 ...

8 (c) Any ~~driver~~ person found responsible for a violation of this section may be punished
9 by a penalty not to exceed twenty-five dollars (\$25.00), even when more than one child less
10 than 16 years of age was not properly secured in a restraint system. No ~~driver~~ person charged
11 under this section for failure to have a child under eight years of age properly secured in a
12 restraint system shall be convicted if ~~he~~ the person produces at the time of ~~his~~ the person's trial
13 proof satisfactory to the court that ~~he~~ the person has subsequently acquired an approved child
14 passenger restraint system for a vehicle in which the child is normally transported.

15 (d) A violation of this section shall have all of the following consequences:

- 16 (1) ~~Two~~ Except for a parent or legal guardian responsible for a passenger in a
17 fully autonomous vehicle in which the automated driving system is engaged
18 and operating the vehicle, two drivers license points shall be assessed
19 pursuant to G.S. 20-16.
20 (2) No insurance points shall be assessed.
21 (3) The violation shall not constitute negligence per se or contributory
22 negligence per se.
23 (4) The violation shall not be evidence of negligence or contributory
24 negligence."

25 **SECTION 8.** G.S. 20-163 reads as rewritten:

26 **"§ 20-163. Unattended motor vehicles.**

27 No person driving or in charge of a motor vehicle shall permit it to stand unattended on a
28 public highway or public vehicular area without first stopping the engine, effectively setting the
29 brake thereon and, when standing upon any grade, turning the front wheels to the curb or side
30 of the highway. This section does not apply to a fully autonomous vehicle, as defined in
31 G.S. 20-399, in which the automated driving system, as defined in G.S. 20-399, is engaged and
32 operating the vehicle."

33 **SECTION 9.** G.S. 20-166 reads as rewritten:

34 **"§ 20-166. Duty to stop in event of a crash; furnishing information or assistance to**
35 **injured person, etc.; persons assisting exempt from civil liability.**

36 ...

37 (c3) An automated driving system engaged and operating a fully autonomous vehicle
38 shall be deemed to comply with the requirements of subsections (a) through (c1) of this section
39 if the vehicle remains on the scene of the crash and the vehicle, or the person responsible for
40 the vehicle, promptly contacts the appropriate law enforcement agency and communicates the
41 information required under the applicable subsection. The owner of a vehicle subject to this
42 subsection shall be responsible for any violation of a provision of this section committed by the
43 vehicle. For purposes of this section, the terms "automated driving system" and "fully
44 autonomous vehicle" are as defined in G.S. 20-399.

45 ...

46 (e) ~~The~~ Except for the owner of a fully autonomous vehicle subject to subsection (c3) of
47 this section, the Division of Motor Vehicles shall revoke the drivers license of a person
48 convicted of violating subsection (a) or (a1) of this section for a period of one year, unless the
49 court makes a finding that a longer period of revocation is appropriate under the circumstances
50 of the case. If the court makes this finding, the Division of Motor Vehicles shall revoke that
51 person's drivers license for two years. Upon a first conviction only for a violation of subsection

1 (a1) of this section, a trial judge may allow limited driving privileges in the manner set forth in
2 G.S. 20-179.3(b)(2) during any period of time during which the drivers license is revoked."

3 **SECTION 10.** G.S. 20-166.1 reads as rewritten:

4 **"§ 20-166.1. Reports and investigations required in event of accident.**

5 ...

6 (c1) Fully Autonomous Vehicles. – An automated driving system engaged and operating
7 a fully autonomous vehicle shall be deemed to comply with the requirements of subsections (a)
8 through (c) of this section if the vehicle remains on the scene of the crash and the vehicle, or
9 the person responsible for the vehicle, promptly contacts the appropriate law enforcement
10 agency and communicates the information required under the applicable subsection. The owner
11 of a vehicle subject to this subsection shall be responsible for any violation of a provision of
12 this section committed by the vehicle. For purposes of this section, the terms "automated
13 driving system" and "fully autonomous vehicle" are as defined in G.S. 20-399.

14"

15 **SECTION 11.** Chapter 20 of the General Statutes is amended by adding a new
16 Article to read:

17 "Article 17.

18 "Regulation of Fully Autonomous Vehicles.

19 **"§ 20-399. Definitions.**

20 The following definitions apply in this Article:

- 21 (1) Automated driving system. – The hardware and software that are
22 collectively capable of performing the entire dynamic driving task on a
23 sustained basis, regardless of whether it is limited to a specific operational
24 design domain.
- 25 (2) Dynamic driving task. – All of the real-time operational and tactical
26 functions required to operate a vehicle in on-road traffic, excluding strategic
27 functions such as trip scheduling and the selection of destinations and
28 waypoints, but including all of the following:
- 29 a. Lateral vehicle motion control via steering.
- 30 b. Longitudinal motion control via acceleration and deceleration.
- 31 c. Monitoring the driving environment via object and event detection,
32 recognition, classification, and response preparation.
- 33 d. Object and event response execution.
- 34 e. Maneuver planning.
- 35 f. Enhancing conspicuity via lighting, signaling, and gesturing.
- 36 (3) Fully autonomous vehicle. – A motor vehicle equipped with an automated
37 driving system that has the capability to perform all aspects of the dynamic
38 driving task without a human driver within a limited or unlimited operational
39 design domain and will not at any time request that a driver assume any
40 portion of the dynamic driving task when the automated driving system is
41 operating within its operational design domain.
- 42 (4) Minimal risk condition. – A low-risk operating mode in which a fully
43 autonomous vehicle operating without a human driver achieves a reasonably
44 safe state, such as bringing the vehicle to a complete stop, upon experiencing
45 a failure of the vehicle's automated driving system that renders the vehicle
46 unable to perform the entire dynamic driving task.
- 47 (5) Operational design domain. – A description of the specific operating
48 domains in which an automated driving system is designed to effectively
49 operate, including geographical limitations, roadway types, speed range, and
50 environmental conditions such as weather and limited visibility.

51 **"§ 20-400. Regulation of fully autonomous vehicles.**

1 (a) Operation. – A person may operate a fully autonomous vehicle with the automated
2 driving system engaged without a human driver present in the vehicle if the vehicle meets all of
3 the following requirements:

4 (1) Unless an exemption has been granted under applicable State or federal law,
5 the vehicle is (i) capable of being operated in compliance with Articles 3,
6 3A, 7, and 13 of this Chapter and (ii) has been, at the time of its
7 manufacture, certified by the manufacturer as being in compliance with
8 applicable federal motor vehicle safety standards.

9 (2) The vehicle has the capability to meet the requirements of G.S. 20-166(c3)
10 and G.S. 20-166.1(c1).

11 (3) The vehicle can achieve a minimal risk condition.

12 (4) The vehicle is covered by a motor vehicle liability policy meeting the
13 applicable requirements of G.S. 20-279.21.

14 (5) The vehicle is registered in accordance with Part 3 of Article 3 of this
15 Chapter, and, if registered in this State, the vehicle shall be identified on the
16 registration as a fully autonomous vehicle.

17 (b) Preemption. – No local government shall enact any local law or ordinance with
18 regards to the regulation of fully autonomous vehicles and their operation."

19 **SECTION 12.** This act becomes effective December 1, 2017, and applies to
20 offenses committed on or after that date. Prosecutions for offenses committed before the
21 effective date of this act are not abated or affected by this act, and the statutes that would be
22 applicable but for this act remain applicable to those prosecutions.