

MY CAR IS MY DESIGNATED DRIVER: EXAMINING
AUTONOMOUS VEHICLE TECHNOLOGY &
ALABAMA’S DUI LAWS

Note

INTRODUCTION 438

I. DEVELOPING & REGULATING AUTONOMOUS VEHICLES 439

A. The Development of Modern Autonomous Vehicles..... 439

B. Present State and Federal Regulations of Autonomous Vehicles..... 441

II. APPLYING AUTONOMOUS VEHICLE TECHNOLOGY TO ALABAMA’S DUI
STATUTE 442

A. Who or What is Driving? 443

B. Who or What Has Control?..... 444

III. RETHINKING ALABAMA’S DUI STATUTE 446

A. The Elevator Pitch: Safety Considerations of Autonomous Vehicles..... 446

*B. The New Partnerships: Economic Opportunities Autonomous Vehicles
Offer*..... 448

C. Modifications to the Statutory Language 450

CONCLUSION 452

MY CAR IS MY DESIGNATED DRIVER: EXAMINING AUTONOMOUS VEHICLE TECHNOLOGY & ALABAMA'S DUI LAWS

Note

INTRODUCTION

“Don’t worry, Officer. I’m not drinking and driving!
My car is the designated driver tonight!”¹

While such an assertion sounds laughable, an unintended consequence of autonomous vehicle technology is the arising tension between the technology and current driving under the influence (DUI) laws. Autonomous vehicle technology is not without its benefits, particularly in the impaired-driving context, as the technology is predicted to “end[] the threat of distracted driving before it becomes an epidemic.”² However, in order for these benefits to be realized, statutory schemes must respond to the technology in a way that encourages—rather than stifles—its use.

This Note advocates for a statutory exemption from criminal liability under Alabama’s DUI statute for occupants of personal-use, fully autonomous³ vehicles. First, this Note will provide a brief history of the development of autonomous vehicle technology and describe the existing regulations and industry standards for the technology’s use. Then, Part II will consider whether an occupant of a completely autonomous vehicle could face criminal liability for driving under the influence based on Alabama’s DUI statute, as presently written. Alabama’s DUI statute holds impaired individuals liable for two forms of conduct: (1) driving a vehicle or (2) retaining “actual physical control” of a vehicle.⁴ While an occupant of a fully autonomous vehicle may not be its driver, an occupant of a fully autonomous vehicle does retain control of the vehicle’s

1. For an example of someone making a comparable assertion, see @Blurrblake, *When Your Car Is a Better Driver Than You*, TIKTOK (Sept. 3, 2020), <https://vm.tiktok.com/ZMRB8bVby/> [<https://ifunny.co/video/uUg32Qbx7j>]; see also Kevin Kelleher, *Man Arrested for Drunk Driving After Officers Found Him Asleep in Tesla Running in Autopilot Mode*, FORTUNE (Nov. 30, 2018, 6:15 PM), <https://fortune.com/2018/11/30/man-arrested-drunk-driving-asleep-tesla-autopilot-mode/>.

2. Frank Douma & Sarah Aue Palodichuk, *Criminal Liability Issues Created by Autonomous Vehicles*, 52 SANTA CLARA L. REV. 1157, 1158 (2012).

3. “Fully autonomous” in this Note refers to vehicles that meet level five autonomy, as defined by the Society of Automotive Engineers. For a discussion of the differences between the levels of automation, see *infra* notes 18–28 and accompanying text.

4. ALA. CODE § 32-5A-191 (2018).

operations such that criminal liability for driving-related offenses may be imposed.⁵

However, imposing criminal liability for driving offenses is irrational, as an occupant of a fully autonomous vehicle is not responsible for the vehicle's driving functions. Therefore, Part III provides suggested modifications to Alabama's statutory scheme to better align the DUI statute's purpose of removing impaired drivers from the roads with the use of autonomous vehicle technology. Recognizing that legislation is not created within a vacuum, Part III will begin by responding to the competing interests of various stakeholders in autonomous vehicle legislation.

I. DEVELOPING & REGULATING AUTONOMOUS VEHICLES

Autonomous vehicles are not as novel as one might think; their origin can be traced to Leonardo da Vinci's self-propelling cart, described as "the world's first robot."⁶ However, the development of modern autonomous vehicle technology began in the 1980s.⁷ Today, the National Highway Traffic Safety Administration (NHTSA) recognizes six levels of vehicular autonomy.⁸ These levels vary from zero (fully manual) to five (fully autonomous).⁹ Most vehicles operate between autonomy levels two and three;¹⁰ however, by 2025, vehicles are expected to operate between levels three and five, marking a significant shift towards vehicular rather than human responsibility for driving functions.¹¹ Despite the speed by which modern autonomous vehicle technology has developed, state legislatures have been slow to respond accordingly.

A. The Development of Modern Autonomous Vehicles

The development of modern autonomous vehicle technology is divided into three phases.¹² First, the foundational research phase, occurring from 1980

5. See Elizabeth Arentz, Note, *Driving Miss Lazy: Autonomous Vehicles, Industry, and the Law*, 12 OHIO ST. BUS. L.J. 221, 227 (2018).

6. *A Brief History of Autonomous Vehicle Technology*, WIRED, <https://www.wired.com/brandlab/2016/03/a-brief-history-of-autonomous-vehicle-technology/> (last visited Apr. 4, 2021).

7. See JAMES M. ANDERSON ET AL., AUTONOMOUS VEHICLE TECHNOLOGY: A GUIDE FOR POLICYMAKERS 55 (2014).

8. NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., U.S. DEP'T OF TRANSP., AUTOMATED DRIVING SYSTEMS 2.0: A VISION FOR SAFETY 4 (2017).

9. *Id.*

10. *The 6 Levels of Vehicle Autonomy Explained*, SYNOPSIS, <https://www.synopsys.com/automotive/autonomous-driving-levels.html> (last visited Apr. 4, 2021).

11. See *ABI Research Forecasts 8 Million Vehicles to Ship with SAE Level 3, 4 and 5 Autonomous Technology in 2025*, ABI RSCH. (Apr. 17, 2018), <https://www.abiresearch.com/press/abi-research-forecasts-8-million-vehicles-ship-sae-level-3-4-and-5-autonomous-technology-2025/> [hereinafter *ABI Research Forecasts*].

12. ANDERSON ET AL., *supra* note 7.

to 2003, split autonomous vehicle developers into two schools of thought: those whose vehicles rely on vehicle-to-vehicle communication and those whose vehicles depend either not at all or very little on surrounding vehicles.¹³ During the grand challenges phase, occurring from 2003 to 2007, the United States Defense Advanced Research Projects Agency organized three races to test the designs and features of autonomous vehicles.¹⁴ The races sparked the development of sensor systems that could detect other vehicles, navigate on marked roads, and follow the rules of the road.¹⁵ Thereafter, permanent partnerships between car manufacturers, the education sector, and investors developed.¹⁶ The present phase of autonomous vehicle development, known as the commercial development phase, is its own form of race—the race to bring fully autonomous vehicles from the labs to consumers.¹⁷

As mentioned above, the NHTSA categorizes a vehicle's autonomy level based on definitions proposed by the Society of Automotive Engineers (SAE). The SAE divides vehicles into six levels based on the amount of human intervention and supervision that is required.¹⁸ At level zero automation, the human driver performs all the tasks associated with driving.¹⁹ At level one, the human driver retains control of the vehicle, but some of the vehicle's features may assist with steering or braking—but not both tasks simultaneously.²⁰ Level two refers to instances where the vehicle may perform combined tasks such as accelerating and steering; however, the driver remains engaged in all other driving tasks.²¹

Level three, the “conditional automation” stage, marks the shift away from human engagement and towards vehicular autonomy.²² While an engaged human driver is still a necessity, a level three vehicle is responsible for certain driving functions, such as detecting and accelerating past slower vehicles.²³ At level four, the vehicle can perform all driving functions.²⁴ While a human occupant retains the option to override the vehicle's functions, the vehicle is

13. *Id.* at 56.

14. *Id.* No vehicle completed the first race in 2004. *Id.* at 57. However, by 2007, when the third race occurred, six vehicles were able to finish the sixty-mile course—three did so within four and a half hours. *Id.*

15. *Id.*

16. *Id.*; see also *The State of the Self-Driving Car Race 2020*, BLOOMBERG (May 15, 2020, 4:00 AM), <https://www.bloomberg.com/features/2020-self-driving-car-race/> (“The treasure hunt for self-driving riches is now dominated by joint ventures. In some cases, a technology company's effort with an automaker is bankrolled by an institutional investor.”).

17. See ANDERSON ET AL., *supra* note 7, at 57.

18. NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., *supra* note 8.

19. *Id.*

20. *Id.*; *SAE Levels of Driving Automation Refined for Clarity and International Audience*, SAE INT'L: SAE BLOG (May 3, 2021), <https://www.sae.org/blog/sae-j3016-update>.

21. NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., *supra* note 8.

22. See *id.*

23. *Id.* At this stage, the driver remains obligated to stay alert and take control of the vehicle if the vehicle is unable to perform the task correctly. *The 6 Levels of Vehicle Autonomy Explained*, *supra* note 10.

24. NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., *supra* note 8.

able to self-correct as needed.²⁵ At level five, the vehicle performs all driving functions; “[t]he human occupants are just passengers” and are not involved in driving at all.²⁶

While personal-use vehicles are increasingly developed with more automated features, there are no personal-use vehicles available to consumers that operate at level five.²⁷ Most personal-use vehicles operate between levels two and three.²⁸ However, researchers predict that within the next five years, cars will fall within levels three and five.²⁹ Thus, the shift away from human responsibility for driving functions in favor of full vehicular autonomy is rapidly approaching.

B. Present State and Federal Regulations of Autonomous Vehicles

The federal government does not have present legislation regarding autonomous vehicle technology. Instead, federal agencies have provided states with guides and best policies for statutory schemes regarding the technology’s use.³⁰ Despite the delegation of authority, not all states have updated their statutory codes to address autonomous vehicles.³¹

Nevada was the first state to respond to the technology, passing its legislation regarding autonomous vehicles in 2011.³² Following Nevada’s lead, twenty-one states, including Alabama, have enacted some form of legislation

25. *Id.*; see also *The 6 Levels of Vehicle Autonomy Explained*, *supra* note 10.

26. *Automated Vehicles for Safety*, NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., <https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety> (last visited Sept. 16, 2021); see also NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., *supra* note 8. The primary difference between levels four and five is whether human intervention in driving functions is a possibility. Level five vehicles likely will not have steering wheels or pedals. Thus, human intervention will not even be possible. *The 6 Levels of Vehicle Autonomy Explained*, *supra* note 10.

27. Graham Rapier, *Tesla Released Its ‘Full Self-Driving’ Software, but the Top US Safety Regulator Says There’s No Such Thing*, BUS. INSIDER (Oct. 21, 2020, 12:03 PM), <https://www.businessinsider.com/tesla-full-self-driving-software-release-beta-questions-2020-10> (“[T]he National Highway Traffic Safety Administration[] had strong words following [Tesla’s ‘full self-driving’] beta release: ‘As we have stated consistently, no vehicle available for purchase today is capable of driving itself,’ the agency said.”).

28. Daniel Gessner, *Experts Say We’re Decades from Fully Autonomous Cars. Here’s Why.*, BUS. INSIDER (July 22, 2020, 9:30 AM), <https://www.businessinsider.com/self-driving-cars-fully-autonomous-vehicles-future-prediction-timeline-2019-8>.

29. *ABI Research Forecasts*, *supra* note 11.

30. NAT’L SCI. & TECH. COUNCIL, U.S. DEP’T OF TRANSP., ENSURING AMERICAN LEADERSHIP IN AUTOMATED VEHICLE TECHNOLOGIES: AUTOMATED VEHICLES 4.0 at 37 (2020) (indicating that “the U.S. Government will provide policies, guidance, and best practices . . . and offer necessary assistance” to the states as needed).

31. Jeffrey K. Gurney, *Driving into the Unknown: Examining the Crossroads of Criminal Law and Autonomous Vehicles*, 5 WAKE FOREST J.L. & POL’Y 393, 397 (2015) (“While car companies are racing to develop autonomous vehicles, only a few states and the District of Columbia have enacted laws specifically addressing these vehicles.”).

32. *Autonomous Vehicles: Self-Driving Vehicles Enacted Legislation*, NAT’L CONF. OF STATE LEGISLATURES (Feb. 18, 2020), <https://www.ncsl.org/research/transportation/autonomous-vehicles-self-driving-vehicles-enacted-legislation.aspx>.

related to autonomous vehicles.³³ Some state statutes are particularly innovative, incorporating the SAE's levels of automation into their statutory codes to define levels of automation with precision.³⁴ Most of the statutory provisions simply authorize pilot programs for testing autonomous vehicles.³⁵ None exempt human occupants in even fully autonomous vehicles from criminal liability for traffic infractions.³⁶

In Alabama, legislation regarding autonomous vehicles only addresses the use of remote drivers for commercial trucks,³⁷ leaving questions regarding personal autonomous vehicles unanswered.³⁸ However, Alabama lawmakers created a joint legislative committee to address key topics associated with personal use of autonomous vehicles.³⁹ In particular, the committee has engaged in early discussions regarding liability for accidents,⁴⁰ licensing,⁴¹ the applicability of a DUI charge,⁴² and who would pay for traffic citations.⁴³

II. APPLYING AUTONOMOUS VEHICLE TECHNOLOGY TO ALABAMA'S DUI STATUTE

Under Alabama law, “[a] person shall not drive or be in actual physical control of any vehicle while” impaired.⁴⁴ “Drive” is synonymous with “operate”

33. *Id.*

34. *See, e.g.*, ARK. CODE ANN. § 27-51-2001 (2019); COLO. REV. STAT. § 42-1-102 (2021); CONN. GEN. STAT. § 13a-260 (2019); NEV. REV. STAT. § 482A.030 (2017); OKLA. STAT. tit. 47, § 1701 (2019); UTAH CODE ANN. § 41-26-102.1 (2019).

35. *See, e.g.*, CAL. VEH. CODE § 38755 (2017); WASH. REV. CODE § 46.30.050 (2020); *see also* Gurney, *supra* note 31, at 397 (“At this point, state autonomous vehicle laws primarily address the testing of autonomous vehicles . . .”).

36. Gurney, *supra* note 31, at 420.

37. ALA. CODE § 32-9B-6 (2019). Notably, this statutory section indicates that “the remote driver is considered to be the operator of the vehicle for the purpose of assessing compliance with applicable traffic or motor vehicle laws, including . . . any charge for a violation of Title 13A or this title.” *Id.* § 32-9B-6(b). Thus, remote drivers of commercial trucks could be charged with a DUI in Alabama, even if the remote driver was not physically present in Alabama. *Id.* § 32-9B-6(e).

38. *See* Brandon Moseley, *Whatley Appointed to Chair Joint Legislative Study Committee on Driverless Vehicles*, ALA. POL. REP. (Sept. 27, 2019), <https://www.alreporter.com/2019/09/27/whatley-appointed-to-chair-joint-legislative-study-committee-on-driverless-vehicles/> (clarifying that present legislation was for “commercial vehicles only”).

39. *See* Lydia Nusbaum, *Lawmakers Try to Pave Way for Self-Driving Vehicles*, WSFA12 NEWS (Sept. 26, 2019, 10:40 PM), <https://www.wsfa.com/2019/09/27/lawmakers-try-pave-way-self-driving-vehicles/>.

40. *Id.*

41. *Id.*

42. *Id.*; *see also* Tim Lockette, *Will Alabama Be the Next State to Regulate Driverless Cars?*, GOV'T TECH. (Jan. 17, 2017), <https://www.govtech.com/fs/automation/Will-Alabama-Be-the-Next-State-to-Regulate-Driverless-Cars.html> (“With a self-driving car, I could get drunk at Damn Yankees, get in my car and say, “Siri, take me home,” [State Senator Tom Whatley] said.”).

43. Moseley, *supra* note 38.

44. ALA. CODE § 32-5A-191(a) (2019).

and refers to situations in which the person moves or attempts to move the vehicle.⁴⁵ Whether a person is in “actual physical control” of the vehicle is a totality-of-the-circumstances test,⁴⁶ focusing on the driver’s power and ability to determine the vehicle’s use and movements. While there is uncertainty as to whether occupants of fully autonomous vehicles are drivers under Alabama law, this Part demonstrates that Alabama’s control provision is expansive enough to encompass occupants of even fully autonomous vehicles.

A. Who or What is Driving?

At level five autonomy, the vehicle performs all driving functions.⁴⁷ Thus, occupants of level five vehicles are comparable to passengers in a taxi rather than drivers.⁴⁸ Recognizing that human control is not necessary in the context of fully autonomous vehicles, car manufacturers are in the process of developing vehicles that make human involvement in driving functions entirely impossible.⁴⁹

Google’s autonomous vehicle project, Waymo, is credited with spurring the race towards entirely driverless vehicles.⁵⁰ In 2015, Waymo shocked the autonomous vehicle industry when it announced that Steve Mahan, a blind man, took the world’s first ride in a self-driving car on public roads.⁵¹ By 2020, Waymo launched “Waymo Driver,” a self-driving car that can be requested from an app—not unlike Uber or Lyft.⁵² The only difference between Waymo and other ride-sharing services is that there is no human driver in cars equipped with Waymo’s technology.⁵³

After Waymo’s development, Ford Motor Company obtained a patent for a car with a removable steering wheel and foot pedals.⁵⁴ The patent application explained that in the context of fully autonomous vehicles, “a steering wheel is no longer needed to pilot the vehicle.”⁵⁵ Thus, the next step in autonomous vehicle development is removing the possibility for human involvement in

45. See *Underwood v. State*, 132 So. 606, 607 (Ala. Ct. App. 1931) (using the terms “operate” and “drive” interchangeably).

46. *Cagle v. City of Gadsden (Ex parte City of Gadsden)*, 495 So. 2d 1144, 1145 (Ala. 1986).

47. NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., *supra* note 8.

48. See Douma & Palodichuk, *supra* note 2, at 1160 (“The major problem with autonomous vehicles is that it is unclear who, if anyone, is actually involved with the ‘driving.’”).

49. E.g., Gurney, *supra* note 31, at 396–97 (“[Google’s] prototype does not have a steering wheel, brake pedal, shifter, or an accelerator. Therefore, . . . Google is in the process of developing an autonomous vehicle that does not require or even allow human input.”).

50. See ANDERSON ET AL., *supra* note 7, at 57.

51. *Our Journey*, WAYMO, <https://waymo.com/journey/> (last visited Apr. 4, 2021).

52. John Krafcik, *Waymo Is Opening Its Full Driverless Service to the General Public in Phoenix*, WAYMO (Oct. 8, 2020), <https://blog.waymo.com/2020/10/waymo-is-opening-its-fully-driverless.html>.

53. *Id.*

54. U.S. Patent No. 9,963,035 (filed Feb. 5, 2016).

55. *Id.* at col. 1, ll. 3–4.

driving functions entirely. More recently, the NHTSA and Department of Transportation (DOT) expressed intent to modify present safety regulations that require steering wheels and brake/gas pedals in vehicles to “enabl[e] innovative designs” for autonomous vehicles.⁵⁶

Waymo’s success, Ford’s patent, and the NHTSA’s anticipated changes to its regulations are all illustrative of the automobile industry’s trend towards complete vehicular autonomy. As the technology continues to develop, the term “driver” is no longer limited to people.⁵⁷ In instances where human involvement in the vehicle’s driving functions is neither necessary nor possible, it is unlikely a “person” in a fully autonomous vehicle is “driving” as required to impose criminal liability under Alabama’s DUI statute.

B. *Who or What Has Control?*

Alabama’s definition of “actual physical control” is notably expansive.⁵⁸ The phrase encompasses drivers found behind the wheel of a vehicle that has obviously been driven recently⁵⁹ as well as drivers behind the wheel of inoperable vehicles towed on public roads.⁶⁰ Thus, neither driving nor operability is a requirement for criminal liability under Alabama’s control provision. So long as drivers retain the “exclusive physical power, and present

56. Framework for Automated Driving System Safety, 85 Fed. Reg. 78,058 (Dec. 3, 2020) (to be codified at 49 C.F.R. pt. 571). Ford Motor Company and Volkswagen are among the many car manufacturers who provided comments on the need for reduced regulation of autonomous vehicle design standards. Letter from Desi Ujkashevic, Glob. Dir., Auto. Safety Off., Ford Motor Co., to Dr. Steve Cliff, Acting Adm’r, Nat’l Highway Traffic Safety Admin. (Apr. 1, 2021), <https://www.regulations.gov/comment/NHTSA-2020-0106-0730>, Letter from Thomas Zorn, Senior Dir., Safety Affs. & Advanced Rsch., Volkswagen Grp. of Am., to Dr. Steve Cliff, Acting Adm’r, Nat’l Highway Traffic Safety Admin. (Apr. 1, 2021), <https://www.regulations.gov/comment/NHTSA-2020-0106-0723>.

57. See *Technology*, WAYMO, <https://waymo.com/tech/> (last visited Apr. 4, 2021) (referring to the car as “the World’s Most Experienced Driver”); KODIAK, KODIAK SAFETY REPORT 2020 at 2 (2020), <https://kodiak.ai/safety-report/> (referring to its autonomous vehicle as “the Kodiak Driver”); see also LOC. MOTORS, OLLI SAFETY REPORT 6 (2019), https://localmotors.com/wp-content/uploads/2019/09/LM_OL_0056_OlliSafetyReport_R4_100419-1.pdf (naming its vehicle “Olli” and using the personal pronoun “she” in reference to the car). Car manufacturers regularly personify autonomous vehicles or draw comparisons between autonomous vehicles and people in their safety reports and marketing materials. See, e.g., GEN. MOTORS, 2018 SELF-DRIVING SAFETY REPORT 4, 6 (2018), <https://www.gm.com/content/dam/company/docs/us/en/gmcom/gmsafetyreport.pdf> (indicating that “the Cruise AV has the capability to see the environment around it” and describing the vehicle’s “brain”); FORD, A MATTER OF TRUST: FORD’S APPROACH TO DEVELOPING SELF-DRIVING VEHICLES 11 (2018), https://media.ford.com/content/dam/fordmedia/pdf/Ford_AV_LLC_FINAL_HR_2.pdf (“Human anatomy can help explain self-driving vehicles”).

58. See *Cagle v. City of Gadsden* (*Ex parte* City of Gadsden), 495 So. 2d 1144, 1146 (Ala. 1986) (expanding the definition of “actual physical control” because of “the strong policy behind legislative and judicial efforts to eliminate the drinking drivers from Alabama’s highways”).

59. *Id.* This is a totality-of-the-circumstances inquiry, but some factors a court might consider in making this determination are the location of the vehicle’s ignition key in relation to the person charged with a DUI and the position within the vehicle of the person charged. *Id.* at 1147.

60. See *Mester v. State*, 755 So. 2d 66, 69–71 (Ala. Crim. App. 1999).

ability” to direct the use of a vehicle, they may be charged with driving under the influence in violation of Alabama law.⁶¹

The statute’s breadth indicates that even an occupant of a fully autonomous vehicle could receive a DUI charge in Alabama because an occupant will be able to “direct” the car’s movements.⁶² In an attempt to escape liability, an individual could pre-program all navigation and destination information while entirely sober.⁶³ After returning to the vehicle inebriated, the occupant would have to ride in the backseat of the car, effectively turning the autonomous vehicle into a taxi.⁶⁴ Perhaps adherence to both steps would negate allegations of retained control.⁶⁵ However, because of the breadth of Alabama’s DUI statute, the car would need to be able to begin the preprogrammed ride without any human involvement for the occupant of a fully autonomous vehicle to escape criminal liability.⁶⁶

Moreover, despite even strict adherence to these steps, a human occupant of an autonomous vehicle could still receive a DUI charge in Alabama if the driver has the ability to override or alter a preprogrammed ride.⁶⁷ Under Alabama law, criminal liability may be imposed under the DUI statute’s control provision even when the driver is not actually driving the vehicle.⁶⁸ So long as the driver *could* direct the car’s movement, she retains control of the vehicle.⁶⁹

An occupant might avoid Alabama’s expansive definition of “control” if autonomous vehicles contained in-car breathalyzers, not unlike the alcohol ignition interlock devices typically installed after an individual receives a DUI.⁷⁰ Interlock devices connect to the vehicle’s ignition and do not allow the car to start until the driver blows a blood alcohol concentration (BAC) level below a set limit, usually 0.02.⁷¹ An autonomous vehicle in-car device could function

61. *Cagle*, 495 So. 2d at 1145 (quoting *Key v. Town of Kinsey*, 424 So. 2d 701, 703 (Ala. Crim. App. 1982)).

62. *Arentz*, *supra* note 5 (“In the context of fully autonomous vehicles, Alabama’s definition presents a large complication because the occupant will likely always have the present ability to ‘direct’ the vehicle.”).

63. *Id.*

64. *Id.*; *see also* Douma & Palodichuk, *supra* note 2, at 1163.

65. *See* *Arentz*, *supra* note 5.

66. *Id.*

67. *Gurney*, *supra* note 31, at 420 (“So long as autonomous vehicles have an override feature, the operator of the vehicle could be criminally liable for driving under the influence, even if the autonomous technology was in control of the vehicle . . .”).

68. *See* *Mester v. State*, 755 So. 2d 66, 69–70 (Ala. Crim. App. 1999) (“Mester sat behind the wheel . . . guiding its direction and applying the brakes when necessary. . . . It seems obvious that Mester was in actual physical control of a vehicle and that he had the present ability to move the vehicle.”).

69. *Douma & Palodichuk*, *supra* note 2, at 1163 (“As long as an override option is available, an inebriated person could be found to be in control of the car, since courts have interpreted ‘control’ of the vehicle to mean much more than just driving it.”).

70. *Id.* at 1163–64.

71. *Transportation Safety: What Works: Ways to Reduce or Prevent Alcohol Impaired Driving*, CTR. FOR DISEASE CONTROL & PREVENTION (Aug. 25, 2020), https://www.cdc.gov/transportationsafety/impaired_driving/strategies.html; *see also* *Ignition Interlock Laws*, ALA. L. ENFT AGENCY, <https://www.alea.gov/dps/driver-license/license-and-id-cards/ignition-interlock->

similarly, disengaging the override option until the driver reaches a BAC below a set limit.⁷² Thus, only if an individual was physically incapable of regaining control of the vehicle through its default settings could he escape liability under the control provision of Alabama's DUI statute.

III. RETHINKING ALABAMA'S DUI STATUTE

Alabama's present efforts to reduce impaired driving have been largely unsuccessful. In the fiscal year of 2018, Alabama expended approximately \$2,509,190.26 for social media campaigns, increased police visibility efforts, and impaired driving training.⁷³ Despite these efforts, Alabama consistently remains among the top ten states with the most fatalities resulting from impaired driving.⁷⁴

In light of the safety and economic considerations inherent in DUI legislation, this Part seeks to reconsider Alabama's DUI statute to account for the opportunities autonomous vehicle technology offers. The very nature of autonomous vehicle technology provides a potential solution to Alabama's epidemic of impaired drivers. Because occupants of fully autonomous vehicles are not responsible for the vehicle's driving functions, the technology, by its design, furthers Alabama's DUI statute's purpose of "helping [to] identify the problem of the drinking driver and to keep him off the highway."⁷⁵

A. *The Elevator Pitch: Safety Considerations of Autonomous Vehicles*

Proponents of autonomous vehicle development champion its safety benefits as the vehicles reduce human error on the road.⁷⁶ Mothers Against

laws (last visited Apr. 4, 2021) (describing additional requirements for DUI offenders under Alabama's Ignition Interlock Law).

72. Douma & Palodichuk, *supra* note 2, at 1163–64.

73. OFF. OF GOVERNOR KAY IVEY, STATE OF ALABAMA FISCAL YEAR 2018 ANNUAL REPORT 27–35 (2018), https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/al_fy2018_ar.pdf.

74. Rebecca Edwards, *The Safest and Most Dangerous Roads on New Year's*, SAFEWISE (Dec. 16, 2019), <https://www.safewise.com/blog/states-by-highest-impaired-driving-rate/> (utilizing data published by the NHTSA involving drivers with a BAC of .08 or more compared with the 2018 populations per state to determine deaths per 10,000 residents); *see also* Lydia Nusbaum, *Alabama Has Fifth Highest Drunk Driving Deaths in 2017, Study Says*, WSFA12 NEWS (Dec. 31, 2018, 2:58 PM), <https://www.wsfa.com/2018/12/31/alabama-has-fifth-highest-drunk-driving-deaths-study-says/>.

75. ALA. CODE § 32-5A-191 cmt. (2019); *see also* Callie A. Kanthack, Note, *Autonomous Vehicles and Driving Under the Influence: Examining the Ambiguity Surrounding Modern Laws Applied to Future Technology*, 53 CREIGHTON L. REV. 397, 420 (2020) ("In response to the inevitable use of autonomous vehicles, states should adopt either separate laws or create exemptions for persons operating autonomous vehicles under the influence of drugs or alcohol . . ."); Katherine L. Hanna, Comment, *Old Laws, New Tricks: Drunk Driving and Autonomous Vehicles*, 55 JURIMETRICS 275, 277 (2015) ("If the purpose of enhanced DUI penalties is to decrease accidents and fatalities, it is not rational to punish people riding in the driver's seat of an autonomous vehicle the same way we punish people operating a standard vehicle." (footnote omitted)).

76. Moseley, *supra* note 38 ("[A]ccording to information provided by Auburn University, switching to driverless vehicles could cut accidents by between 91 and 93 percent."); Nusbaum, *supra* note 39 ("Lawmakers

Drunk Driving (MADD), a nonprofit group seeking to end impaired driving, strongly supports autonomous vehicle technology and has partnered with car manufacturers to advocate for fully autonomous vehicle development.⁷⁷ MADD describes autonomous vehicle technology as the “ultimate way to end drunk driving and other behavioral-related traffic deaths.”⁷⁸ However, not all share MADD’s assessment. Because the technology has been relatively untested on public roads, researchers suggest autonomous vehicle technology simply replaces accidents caused by human error with those caused by vehicular error.⁷⁹

The hesitance to accept fully autonomous vehicle technology is unsurprising. The history of technological innovations is littered with humans reluctantly relinquishing their own control to a machine.⁸⁰ For example, in the early 1900s, the elevator industry created the first driverless elevator, swapping an operator for safety bumpers and automatic stopping.⁸¹ However, it took more than fifty years for society to fully accept the operator-less elevator.⁸² Today, most enter an elevator without pause, but there was a time where the feared “two-ton death machine” was an elevator rather than a vehicle.⁸³

Undoubtedly, highly publicized crashes involving semiautonomous Teslas on AutoPilot or Uber’s “self-driving” car do not build public confidence in the technology.⁸⁴ However, it is important to examine these accidents with the

including Sen. Gerald Allen, R-Tuscaloosa, said these autonomous vehicles would increase safety on the roads.”).

77. *Advanced Vehicle Technology*, MOTHERS AGAINST DRUNK DRIVING, <https://www.madd.org/the-solution/drunken-driving/secure-the-future/#av> (last visited Apr. 4, 2021).

78. *Id.*; see also Hanna, *supra* note 75, at 276 (“Autonomous vehicles could be the key to permanently ending DUI by removing human drivers from the equation.”); Douma & Palodichuk, *supra* note 2, at 1163 (“The possibility of removing drunk drivers from the road is one of the most prominent benefits autonomous vehicles might provide.”).

79. *Self-Driving Vehicles Could Struggle to Eliminate Most Crashes*, INS. INST. FOR HIGHWAY SAFETY (June 4, 2020), <https://www.iihs.org/news/detail/self-driving-vehicles-could-struggle-to-eliminate-most-crashes> (“[A]utonomous vehicles might prevent only around a third of all crashes . . .”). *But see Automated Vehicles for Safety: Benefits of Automation*, U.S. DEP’T OF TRANSP., <https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety> (last visited Apr. 4, 2021) (“Automated vehicles’ potential to save lives and reduce injuries is rooted in one critical and tragic fact: 94% of serious crashes are due to human error.”).

80. Guy Seidman & Aviv Gaon, *A Future Without Human Driving*, 18 GEO. J.L. & PUB. POL’Y 503, 532 (2020) (“Throughout our history, humans have sought ways to improve our living and working conditions through technological innovation. In each generation, some people embraced the prospect of change while others reacted with concern.”).

81. Steve Henn, *Remembering When Driverless Elevators Drew Skepticism*, NPR (July 31, 2015, 5:08 AM), <https://www.npr.org/2015/07/31/427990392/remembering-when-driverless-elevators-drew-skepticism>.

82. *Id.* (“The automatic elevator was invented around 1900, but it took more than 50 years before the public became comfortable and automatic elevators became ubiquitous.”).

83. Robert Hof, *Tesla’s Elon Musk Thinks Cars You Can Drive Will be Eventually Outlawed*, FORBES (Mar. 17, 2015, 7:24 PM), <https://www.forbes.com/sites/roberthof/2015/03/17/elon-musk-eventually-cars-you-can-actually-drive-may-be-outlawed/?sh=17e55d5a2546> (making comparisons between elevator development and autonomous vehicle development); see also Henn, *supra* note 81.

84. See Ron Schmelzer, *What Happens When Self-Driving Cars Kill People?*, FORBES (Sept. 26, 2019, 10:03 AM), <https://www.forbes.com/sites/cognitiveworld/2019/09/26/what-happens-with-self-driving-cars-kill-people/?sh=5ba2c1ab405c> (discussing recent, fatal accidents involving semiautonomous vehicles).

SAE's autonomy definitions in mind. Semiautonomous vehicles are, by definition, not fully autonomous and thus rely on human supervision and backup.⁸⁵ Therefore, the failure of human occupants to properly supervise the technology is the ultimate cause for those accidents.⁸⁶

Admittedly, it is difficult to reconcile these accidents with the claim that vehicles will become safer as humans become less involved in driving responsibilities. However, the misuse of semiautonomous technology is not reflective of the safety advantages of fully autonomous technology.⁸⁷ Even critics of autonomous vehicle technology recognize that fully autonomous vehicles, incapable of driving impaired, would reduce the number of accidents caused by driving under the influence.⁸⁸ Therefore, the safety benefits of fully autonomous vehicle technology are compatible with a statutory exemption from criminal liability for a DUI charge. The technology removes impaired drivers from behind the wheel without any imposition of liability.

B. *The New Partnerships: Economic Opportunities Autonomous Vehicles Offer*

While the liquor and automobile industries are rarely partners, lobbyists within the liquor industry have actively supported autonomous vehicle technology development.⁸⁹ The push from liquor industry lobbyists is expected.⁹⁰ Analysts suggest autonomous vehicles could cause global alcohol sales to increase by \$250 billion, assuming people consumed an additional two drinks per week.⁹¹ Even if individuals only consumed an additional drink per

85. *Id.* For a discussion regarding when human intervention is required in the autonomous vehicle context, see *supra* text accompanying notes 18–26.

86. Kristin Houser, *Many Self-Driving Car Accidents Have Been Caused by Humans*, BUS. INSIDER (Sept. 5, 2018, 2:47 PM), <https://www.businessinsider.com/self-driving-car-accidents-caused-by-humans-2018-9> (“After looking at all the incident reports filed with State of California Department of Motor Vehicles between 2014 and 2018, the company found that people were responsible for 81 of the 88 accidents involving [semiautonomous vehicles].”).

87. Tracy Hresko Pearl, *Fast & Furious: The Misregulation of Driverless Cars*, 73 N.Y.U. ANN. SURV. AM. L. 19, 72 (2017) (“Partially autonomous cars raise an entirely different set of . . . challenges than fully autonomous cars”); see also Leesa Guarnotta, Comment, *Death of the DUI: Should Autonomous Vehicles Be Considered Synonymous to Designated Drivers Under Georgia Law?*, 70 MERCER L. REV. 1113, 1125 (2019) (indicating that relying on semiautonomous vehicles as though they are fully autonomous is “abuse” of the technology).

88. *Self-Driving Vehicles Could Struggle to Eliminate Most Crashes*, *supra* note 79 (“Crashes due to only sensing and perceiving errors accounted for 23 percent of the total, and incapacitation accounted for 10 percent. Those crashes might be avoided if all vehicles on the road were self-driving”); see also Jerome Lutin et al., *The Revolutionary Development of Self-Driving Vehicles and Implications for the Transportation Engineering Profession*, 83 INST. TRANSP. ENG'RS J. 28, 28 (2013) (“Autonomous systems do not get drunk.”).

89. Caitlin Dewey, *Why the Liquor Industry Wants to Get Self-Driving Cars on the Road*, WASH. POST (Mar. 13, 2018), <https://www.washingtonpost.com/news/wonk/wp/2018/03/13/why-the-liquor-industry-wants-to-get-self-driving-cars-on-the-road/> (indicating that a group of nearly 400 alcohol brokers lobbied in favor of autonomous vehicle technology development). “Diageo, Pernod Ricard, Bacardi and Constellation, four of the world's largest liquor and beer producers,” were among the supporters of autonomous vehicle development. *Id.*

90. *Id.*

91. *Id.*

week because of the technology, the liquor industry could see an additional “80 basis points of annual revenue growth to the industry’s sales for the next 10 years.”⁹² The projected revenue is based, in large part, on the increased opportunities one would have to consume alcohol—including prior to getting into the car as well as once inside the vehicle.⁹³

What the liquor industry stands to gain, some suggest Alabama stands to lose.⁹⁴ Traffic citations account for approximately \$200 million in revenue across the state.⁹⁵ Additionally, a percentage of fines collected from DUIs are placed in the State General Fund.⁹⁶ The State General Fund is one of the state’s major operating funds and is used for both the “ordinary expenses” of the state government and “support[ing] state programs such as child development and protection, criminal justice, conservation efforts, economic development, public health and safety, mental health, Medicaid, legislative activities, and the court system.”⁹⁷ Thus, creating exemptions from criminal liability for occupants of autonomous vehicles threatens the state’s ability to support its programs in light of the potential revenue loss.⁹⁸

However, autonomous vehicle technology also presents Alabama with opportunities for economic development. In her 2019 State of the State address, Governor Kay Ivey applauded the growth of Alabama’s automotive industry.⁹⁹ Because of this growth, the relationship between autonomous

92. Tae Kim, *Self-Driving Cars Are ‘Significant Growth Opportunity’ for Alcoholic Beverages*, *Morgan Stanley Says*, CNBC (Sept. 7, 2017, 6:43 PM), <https://www.cnbc.com/2017/09/07/self-driving-significant-growth-opportunity-for-alcohol-morgan-stanley.html>.

93. *Id.* (“Morgan Stanley also estimates there are 600 billion passenger hours currently spent in automobiles and 380 billion hours spent drinking alcohol. There will be ‘more opportunities to drink before getting in the car. [And] more opportunities to drink while in the car,’ [as a Morgan Stanley analyst] wrote.” (first alteration in original)).

94. Chip Brownlee, *Legislators Hope State Can Get Ahead and Benefit from Self-Driving Cars*, ALA. POL. REP. (Jan. 20, 2017), <https://www.alreporter.com/2017/01/20/legislators-hope-the-state-can-get-ahead-of-and-benefit-from-self-driving-cars-2/> (“[S]elf-driving cars could drastically reduce the number of . . . traffic citations that the State’s law enforcement issue every year, . . . [reducing] the \$200 million in revenue cities and municipalities in Alabama collect every year.”).

95. *Id.*

96. *Revenue Sources*, EXEC. BUDGET OFF., ALA. DEP’T OF FIN., https://budget.alabama.gov/revenue_sources_description/ (last visited Apr. 4, 2021) (“The Code of Alabama 1975, § 12-19-152, states that a percentage of the fines collected in misdemeanor and felony cases in district and circuit courts are remitted to the State General Fund. . . . In DUI cases, for the first offense the State General Fund receives \$150, for the second offense \$400, and for the third offense \$900.00.”).

97. *State General Fund – Description*, EXEC. BUDGET OFF., ALA. DEP’T OF FIN., https://budget.alabama.gov/state_general_fund_description/ (last visited Apr. 4, 2021).

98. Lockette, *supra* note 42 (“How would the state pay for district courts, which are mostly funded by traffic fines and the court fees attached to them?”).

99. Governor Kay Ivey, *State of the State Address* (Mar. 5, 2019) (“Alabama is on track to be the number two auto-producing state in the nation, in less than five years. This is remarkable for a state that 25 years ago did not produce a single car, truck or SUV. . . . Alabama has emerged as a powerhouse in the automotive . . . industr[y] . . .”).

vehicle technology and Alabama's automotive industry has been a focus of Alabama's Joint Legislative Committee on autonomous vehicles.¹⁰⁰

Around the country, states are vying to become the epicenter of autonomous vehicle testing and development, citing the economic benefits of doing so.¹⁰¹ Alabama is a potential contender due to the plans to develop an autonomous vehicle research facility in Auburn.¹⁰² Auburn's facility will be one of the few in the nation that has an attached test track.¹⁰³ With the growth in both the automotive¹⁰⁴ and technology industries,¹⁰⁵ Alabama is uniquely capable of responding to the demands further developments of autonomous vehicle technology might have. Thus, providing a DUI statutory exemption for occupants of fully autonomous vehicles is consistent with the economic opportunities the technology offers. Embracing the technology signals an investment in the technology that could open more doors for the Alabama automotive industry.

C. *Modifications to the Statutory Language*

Across the globe, other countries are addressing the tension between autonomous vehicle technology and criminal liability for driving offenses. For example, Australia's National Transport Commission recently authored a report addressing criminal liability for impaired driving offenses in the autonomous vehicle context.¹⁰⁶ The report recommends an exemption from liability for driving offenses for occupants of fully autonomous vehicles.¹⁰⁷ Australian lawmakers are now working to create uniform policies addressing liability in the autonomous vehicle context.¹⁰⁸

100. Nusbaum, *supra* note 39 (“Obviously with Alabama having a large presence of automobile manufacturing, this will be something that is very important to our economy,” said [Representative] Whatley. “We need to look at all aspects of this.”).

101. See, e.g., PUB. SECTOR CONSULTANTS & CTR. FOR AUTO. RSCH., PLANNING FOR CONNECTED AND AUTOMATED VEHICLES 4 (2017) (“[S]takeholders in Southeast Michigan are working to leverage the region’s unparalleled automotive heritage to become the center of connected and automated vehicle technology development. This emerging industry could drive local job creation, talent retention, and economic development, and improve quality of life throughout the region.”).

102. Chris Anthony, *Auburn University Building New Autonomous Vehicle Research Facility*, AUBURN U. SAMUEL GINN COLL. ENG’G (June 18, 2020, 4:23 PM), <http://www.eng.auburn.edu/news/2020/06/autonomous-vehicle-research-facility.html>.

103. *Id.*

104. See Ivey, *supra* note 99.

105. See Leada Gore, *Alabama City 3rd Best in Country for High-Tech Jobs*, AL.COM (Mar. 7, 2019, 7:19 AM), <https://www.al.com/news/2019/03/alabama-city-3rd-best-in-country-for-high-tech-jobs.html>.

106. AUSTL. NAT’L TRANSP. COMM’N, CHANGING DRIVING LAWS TO SUPPORT AUTOMATED VEHICLES 57–59 (2018).

107. *Id.* at 59 (“We propose that passengers in dedicated automated vehicles are exempt from drink-and drug-driving offences because they are not driving so it is inappropriate that driving-related offences apply to them.”).

108. Kanthack, *supra* note 75, at 420–21.

Historically, Alabama is among the last to utilize technology to address issues of criminal law, particularly in the impaired driving context.¹⁰⁹ To receive the safety and economic benefits the technology offers, Alabama lawmakers should seize the opportunity to engage in a thoughtful review of the technology and legislate accordingly.¹¹⁰ First, Alabama legislators should define what constitutes an autonomous vehicle. Based on marketing tactics car manufacturers employ, the precise meaning of “fully autonomous” is not clear to consumers.¹¹¹ Thus, it is imperative that Alabama’s statutory definitions delineate what level of vehicular autonomy is necessary for an exemption from criminal liability for vehicle occupants.

Alabama law currently defines autonomous vehicles as those which are equipped with an “automated driving system.”¹¹² An automated driving system is “[t]he hardware and software that are collectively capable of performing the entire dynamic driving task on a sustained basis.”¹¹³ Based on the ambiguity regarding what constitutes a “sustained basis,” this definition could encompass the SAE’s levels three through five of vehicular autonomy.¹¹⁴ Instead, Alabama lawmakers should codify the industry standards articulated by the SAE to ensure that only occupants of completely autonomous vehicles, defined as a level five, are exempt from criminal liability under the DUI statute.¹¹⁵

Once levels of autonomy are clearly defined, subsequent statutory provisions should state that Alabama’s DUI statute shall not apply to occupants of fully autonomous vehicles.¹¹⁶ The proposed exemption would only apply to level five vehicles, which strikes the balance between rationally imposing

109. See, e.g., ALA. L. ENFT AGENCY, *supra* note 71 (indicating that Alabama was the fiftieth state to adopt an ignition interlock device law to address DUIs).

110. Pearl, *supra* note 87, at 69 (“Lawmakers should thus resist the call to regulate out of fear and uncertainty and instead engage in careful review of highway safety data, studies of autonomous technologies, and real world experience, before attempting to respond to the regulatory challenges posed by driverless cars.”).

111. See Gessner, *supra* note 28 (describing the “incredible amount of confusion in the general public around the context of self-driving” cars). In a recent survey, 23% of respondents thought self-driving cars were available for purchase today. *Id.* According to Bryan Reimer, autonomous vehicle researcher and expert, the confusion regarding the meaning of “self-driving” is caused, in part, by “statements by Elon Musk and others talking about the driverless capabilities and self-driving capabilities of vehicles.” *Id.*

112. ALA. CODE § 32-9B-1(1) (2019).

113. *Id.* § 32-9B-1(2).

114. For a discussion of the differences between the levels of autonomy, see *supra* text accompanying notes 18–26. Notably, the SAE does not distinguish between levels of autonomy based on *how long* the vehicle can perform tasks independently but on the *types of* tasks the vehicle can perform independently. NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., *supra* note 8.

115. Codifying the SAE’s definitions of autonomy is an approach taken by other states when authorizing pilot testing programs of autonomous vehicle technology. See, e.g., ARK. CODE ANN. § 27-51-2001 (2019).

116. The proposed statutory exemption is modeled after ALA. CODE § 32-9B-6(b), which discusses liability of remote drivers of commercial vehicles and would read as follows: When an occupant is within a fully autonomous vehicle, defined by the Society of Automotive Engineers as a level five vehicle, the occupant is not considered the driver of or in physical control of the vehicle for the purpose of assessing compliance with ALA. CODE § 32-5A-191.

liability and recognizing the limitations of autonomous vehicle technology.¹¹⁷ However, as the technology is developed, utilized, and accepted, Alabama lawmakers must continue to evaluate the relevance of Alabama's statutory schemes to lower automation levels.

CONCLUSION

Alabama's DUI statute is sufficiently broad to impose liability upon occupants of fully autonomous vehicles. While recent technological innovations challenge whether "driving" is limited to people, Alabama's statutory provision regarding control would include autonomous vehicles as presently designed. Absent an installed device comparable to the ignition interlock, a driver will always retain the ability to regain control of the vehicle, making Alabama's DUI statute applicable.

However, imposing criminal liability on those who are not responsible for the vehicle's driving functions is irrational. The purpose of Alabama's DUI statute is to remove impaired drivers from the road. Completely autonomous vehicles accomplish this purpose through their design—without any imposition of criminal liability. Moreover, imposing liability for driving-related offenses when occupants are not responsible for the driving functions fails to embrace the safety and economic benefits fully autonomous vehicle technology offers. Ultimately, Alabama lawmakers must choose between legislating out of the fear of change or the hope of innovation. Alabamians deserve innovation.

*Katelyn Carson**

117. See Hanna, *supra* note 75, at 277.

* University of Alabama, J.D. 2022. Thanks to The University of Alabama School of Law for my legal training. Thanks to Auburn University's political science department—especially Dr. Clifton Perry—for sparking my interest in the study of law. Many thanks to my parents and grandmother who entertained conversations about autonomous vehicle technology at the dinner table. A final thank you to the editors of ALABAMA LAW REVIEW for their careful edits and thoughtfulness.