University of Michigan Journal of Law Reform

Volume 55

2022

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Recommended Citation

Joe Hillman, *Deprogramming Bias: Expanding the Exclusionary Rule to Pretextual Traffic Stop Using Data from Autonomous Vehicle and Drive-Assistance Technology*, 55 U. MICH. J. L. REFORM 959 (2022).
Available at: https://repository.law.umich.edu/mjlr/vol55/iss4/7

https://doi.org/10.36646/mjlr.55.4.deprogramming

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DEPROGRAMMING BIAS: EXPANDING THE EXCLUSIONARY RULE TO PRETEXTUAL TRAFFIC STOP USING DATA FROM AUTONOMOUS VEHICLE AND DRIVE-ASSISTANCE TECHNOLOGY

Joe Hillman*

ABSTRACT

As autonomous vehicles become more commonplace and roads become safer, this new technology provides an opportunity for courts to reconsider the constitutional rationale of modern search and seizure law. The Supreme Court should allow drivers to use evidence of police officer conduct relative to their vehicle's technological capabilities to argue that a traffic stop was pretextual, meaning they were stopped for reasons other than their supposed violation. Additionally, the Court should expand the exclusionary rule to forbid the use of evidence extracted after a pretextual stop. The Court should retain some exceptions to the expanded exclusionary rule, such as when there is a major public safety concern. In the semi-autonomous world, the Court has the opportunity to adopt a more expansive vision of Fourth Amendment protections and, in doing so, help remedy the issue of racial profiling in traffic stops.

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* J.D. Candidate, May 2023, University of Michigan Law School. Special thanks goes to Maddie McFee for her guidance and support throughout the writing process. I would also like to thank Erik Bubolz for his editing chops, and Jacob Shapiro and Clayton Fulton for helping me refine my topic. Above all, I want to thank my parents for always supporting my education.

INTRODUCTION

The majority of police interactions with civilians nationwide occur during traffic stops.[1] Traffic stops, though common, can go awry and turn deadly. All too often, traffic stops are predicated by racial profiling.[2] For example, a St. Anthony police officer justified a traffic stop of Philando Castile based on Castile's alleged resemblance to a robbery suspect, a resemblance that was based on racially coded language.[3] The current moment is one of increased public attention towards criminal justice reform. In the eighteen months following George Floyd's death, thirty states and the District of Columbia passed policing reform.[4] Despite this, much work remains to be done and it is an appropriate time to examine how technological advancements—particularly the emergence of autonomous vehicles and driver assistance technologies—can contribute to a safer and more equitable criminal law landscape.

Restricting the use of traffic stops—which have increased due to the use of the technologies outlined above—could help remedy issues of racial profiling, a practice that persists despite current reforms aimed

1. ELIZABETH DAVIS, ANTHONY WHYDE & LYNN LANGTON, U.S. DEP'T. OF JUST., BUREAU OF JUST. STATS., CONTACTS BETWEEN POLICE AND THE PUBLIC, 2015, 1 (2018), https://bjs.ojp.gov/content/pub/pdf/cpp15.pdf [https://perma.cc/X25H-82D6].

2. *See* Chris Horn, *Racial Disparities Revealed in Massive Traffic Stop Dataset*, U. OF S.C. (June 12, 2020), https://sc.edu/uofsc/posts/2020/06/racial_disparities_traffic_stops.php#.YavhVC-B2Rs [https://perma.cc/6TFY-698F].

3. *See* Madison Park, *The 62-Second Encounter Between Philando Castile and the Officer Who Killed Him*, CNN (May 30, 2017, 12:10 PM), https://www.cnn.com/2017/05/30/us/philando-castile-shooting-officer-trial-timeline/index.html [https://perma.cc/32Z6-T8DW]; Andy Mannix, *Police Audio: Officer Stopped Philando Castile on Robbery Suspicion*, STAR TRIB. (July 12, 2016, 7:55 PM), https://www.startribune.com/police-audio-officer-stopped-philando-castile-on-robbery-suspicion/386344001/ [https://perma.cc/T4ZL-LP4C]. Note the police officer's reliance on Castile's "wide-set nose" that was said to match that of the robbery suspect. Mannix, *supra* note 3.

4. Ram Subramanian & Leily Arzy, *State Policing Reform Since George Floyd's Murder*, BRENNAN CENT. FOR JUST. (May 21, 2021), https://www.brennancenter.org/our-work/research-reports/state-policing-reforms-george-floyds-murder [https://perma.cc/9946-KBZQ]; *see also* Michael N. Herring & Jenny Roberts, *George Floyd's Death Started with an Arrest for a Misdemeanor. Petty Crime Needs a Rethink.*, NBC NEWS (Mar. 9, 2021, 2:07 PM), https://www.nbcnews.com/think/opinion/george-floyd-s-death-started-arrest-misdemeanor-petty-crime-needs-ncna1260258 [https://perma.cc/NPS4-ASV9].

at curtailing police violence.[5] In fact, the reduction in police stops of pedestrians serves as a successful model for meaningful criminal justice reform.[6] After New York City's liberal stop-and-frisk policy ended in 2014, the city did not see an increase in crime[7] and was safer than it had been at any point in the preceding twenty-five years.[8] Since then, major crimes have continued to decline in the city,[9] supporting the view that decreasing police presence will lead to fewer arrests and help to remedy America's mass-incarceration problem.[10]

Racial profiling is also well-documented in traffic stops.[11] One study of police stops on the New Jersey Turnpike found that while Black and white drivers broke traffic laws at similar rates, Black drivers accounted for 46.2% of stops which represented a "statistically significant dispari-

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5. *See* Lynne Peeples, *What the Data Say About Police Brutality and Racial Bias—and Which Reforms Might Work*, NATURE (June 19, 2020), https://www.nature.com/articles/d41586-020-01846-z [https://perma.cc/2WS6-76N5]; *see also* Domenico Montanaro, *Where Views on Race and Police Stand a Year After George Floyd's Murder*, NPR (May 17, 2021, 5:00 AM), https://www.npr.org/2021/05/17/996857103/poll-details-the-very-different-views-of-black-and-white-americans-on-race-and-p [https://perma.cc/D9V2-FC94].

6. Racial profiling in policing is well-documented and particularly infamous in the context of police searches of pedestrians. *See* Russell L. Jones, Terry v. Ohio: *Its Failure, Immoral Progeny, and Racial Profiling*, 54 IDAHO L. REV. 511, 536 (2018). From January 2004 to June 2012, the New York City Police Department stopped 4.4 million pedestrians. In over half the cases, the police officer proceeded to preemptively frisk for weapons. *Id.* at 537. Though Black individuals make up 23% of New York City's population, they accounted for 52% of all "stop-and-frisks" and were 30% more likely to be arrested following a stop than white New Yorkers. *Id.* at 537–38. Similarly, a 2015 study of stop-and-frisks in Philadelphia showed that even after non-racial variables were controlled for, Black individuals were more likely to be stopped by police. David Rudovsky & David A. Harris, Terry *Stops and Frisks: The Troubling Use of Common Sense in a World of Empirical Data*, 79 OHIO ST. L.J. 501, 536–37 (2018).

7. James Cullen, *Ending New York's Stop-and-Frisk Did Not Increase Crime*, BRENNAN CENT. FOR JUST. (Apr. 11, 2016), https://www.brennancenter.org/our-work/analysis-opinion/ending-new-yorks-stop-and-frisk-did-not-increase-crime [perma.cc/7FEM-73AR].

8. *Id.*

9. *See* Neil MacFarquhar, *Murders Spiked in 2020 in Cities Across the United States*, N.Y. TIMES (Nov. 15, 2021, 7:37 AM), https://www.nytimes.com/2021/09/27/us/fbi-murders-2020-cities.html [https://perma.cc/2DHX-WU48]. Note that despite the increase in murders across the United States during 2020, the number of other types of major crimes continued to decline.

10. S. REBECCA NEUSTETER, RAM SUBRAMANIAN, JENNIFER TRONE, MAWIA KHOGALI & CINDY REED, VERA INST. OF JUST. GATEKEEPERS: THE ROLE OF POLICE IN ENDING MASS INCARCERATION 36 (2019), https://www.vera.org/downloads/publications/gatekeepers-police-and-mass-incarceration.pdf [https://perma.cc/DDQ5-PCRY]. Note how New York City's stop-and-frisk policy stained the reputation of its opponents and played a major role in the 2013 New York City mayoral race. *See* German Lopez, *Mike Bloomberg's Stop-and-Frisk Problem, Explained*, VOX (Feb. 25, 2020, 8:19 PM), https://www.vox.com/policy-and-politics/2020/2/21/21144559/mike-bloomberg-stop-and-frisk-criminal-justice-record [perma.cc/223E-8X5F]; Cullen, *supra* note 7.

11. *See* Samuel R. Gross & Katherine Y. Barnes, *Road Work: Racial Profiling and Drug Interdiction on the Highway*, 101 MICH. L. REV. 651, 660 (2002); Rudovsky & Harris, *supra* note 6, at 531; Milton Heumann & Lance Cassak, *Profiles in Justice? Police Discretion, Symbolic Assailants, and Stereotyping*, 53 RUTGERS L. REV. 911, 911–12 (2001).

ty."[12] Similarly, of all cocaine seized by law enforcement on I-95, 16% came from stops of Hispanic drivers, who only account for approximately 5.3% of major cocaine dealers.[13] In Maryland, 28% of residents identify as Black, but 40% of traffic stops involve Black drivers.[14] It is also common for state police departments to underreport their interactions with communities of color.[15] Given the successes in reducing the number of pedestrian stops, it is clear that similar reforms targeted at decreasing vehicle traffic stops can make a meaningful impact.

There is hope that technology can help remedy the issues of racial profiling in traffic stops.[16] Some scholars believe that autonomous vehicles have the potential to dramatically reduce the frequency of traffic stops,[17] while other scholars argue that, as autonomous vehicles reduce human error, there will ultimately be fewer reasons to pull over cars.[18] Thus, in the future autonomous world, it will be less reasonable for police officers to conduct traffic stops without a warrant.[19] This reality potentially erodes the constitutional justification for traffic stops.[20] Yet a world of fully autonomous vehicles is a long way off, leaving open the question as to what reform in the interim should look like.[21]

This Note contends that even in the semi-autonomous world where fully and partially autonomous vehicles share the road, traffic stops can largely be relegated to the past. Part I of this Note discusses the Fourth Amendment constitutional standards of *reasonable suspicion* and *probable cause* that justify traffic stops, and provides a brief overview of autonomous vehicle technology. Part II explores the way a semi-autonomous world challenges the application of reasonable suspicion and probable

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12. Rudovsky & Harris, *supra* note 6, at 531.

13. Gross & Barnes, *supra* note 11, at 704.

14. *Id.* at 662.

15. *Id.* at 678–82.

16. *See* Michael R. Smith, *Depoliticizing Racial Profiling: Suggestions for the Limited Use and Management of Race in Police Decision-Making*, 15 GEO. MASON U. CIV. RTS. L.J. 219 (2005). One interesting example is an app called "Hello." "Hello" is officer-designed to replace "face-to-face contact with video conferencing technology" during traffic stops. Robert R. Furnier & Charlotte Anne Spencer, *Hello, Officer-A Proposal: Using Technology to Combat Racial Profiling in Traffic Stops*, 45 N. KY. L. REV. 175, 177–78 (2018). Using "Hello," officers can potentially mitigate escalation of force in police-driver interactions by removing any physical contact. *Id.* at 178. Even with the app, officers still have the option to perform a traditional traffic stop when necessary. *Id.* at 179.

17. *See* Dorothy J. Glancy, *Autonomous and Automated and Connected Cars-Oh My! First Generation Autonomous Cars in the Legal Ecosystem*, 16 MINN. J.L. SCI. & TECH. 619, 663 (2015).

18. Rachael Roseman, Note, *When Autonomous Vehicles Take over the Road: Rethinking the Expansion of the Fourth Amendment in A Technology-Driven World*, 20 RICH. J.L. & TECH. 3, 32–33 (2014).

19. Glancy, *supra* note 17, at 663.

20. *See id.*

21. Eric Adams, *Why We're Still Years Away From Having Self-Driving Cars*, VOX (Sep. 25, 2020, 3:40 PM), https://www.vox.com/recode/2020/9/25/21456421/why-self-driving-cars-autonomous-still-years-away [perma.cc/JR9H-7VPQ].

cause, specifically with the increased access to some objective vehicle data as evidence that a traffic stop was pretextual. Part III proposes that the Court should allow defendant drivers to use objective facts from their vehicles and police conduct as evidence of pretextuality and that, where a traffic stop is found to be pretextual, evidence from the ensuing vehicle search should be excluded.

I. BACKGROUND

The Fourth Amendment protects individuals from unreasonable search and seizure.[22] Intuitively, one can imagine how this might apply to real property or fixed personal property. For instance, most people expect privacy from warrantless police interaction while in their home. Similarly, when walking down the street, most people do not expect to get stopped and detained by a police officer absent any observable or suspected illegal activity. The required level of suspicion to search and seize an individual is a key question in Fourth Amendment jurisprudence, and one that is particularly interesting in the context of cars using public thoroughfares, which blend the privacy of homes and the public nature of walking on the sidewalk.

Section A of this Part explains the constitutional jurisprudence of search and seizure law in the context of traffic stops. Specifically, Section A highlights the constitutional protection of an individual's reasonable expectation of privacy, the exception of motor vehicles to that general rule, and the current two-part requirement for traffic stops and ensuing searches. Section B of this Part provides an overview of autonomous vehicle technology and the potential impact of autonomous vehicles on road safety.

A. *Reasonable Suspicion, Probable Cause, and Traffic Stops*

Most case law on search and seizure revolves around what constitutes a "reasonable expectation of privacy."[23] Where there is a reasonable expectation of privacy, a warrantless search is "per se unreasonable . . . subject to only a few specifically established and well-delineated exceptions."[24] "Knowingly expos[ing]" oneself to the public, even in one's home, negates a reasonable expectation of privacy over the subject of that expo-

22. U.S. CONST. amend. IV.
23. Katz v. United States, 389 U.S. 347, 360 (1967) (Harlan, J., concurring).
24. *Id.* (Stewart, J., majority opinion) at 357.

sure.[25] Alternatively, "even in an area accessible to the public," one may retain constitutional protections for some part of their person which they "[seek] to preserve as private."[26] For example, an individual using a telephone booth "may rely upon the protections of the Fourth Amendment" to cover the content of their conversation, as the use of a phone-booth imputes a level of privacy in communication even if the user is publicly visible.[27]

The Court has long recognized an exception for cars. Police officers can search a car without a warrant when there is probable cause that a crime is occurring in connection with the car.[28] This originated in 1925 when the Court decided the watershed case *Carroll v. United States*, allowing two Prohibition agents to search the car of suspected bootleggers without a warrant.[29] The petitioning Carroll brothers were known bootleggers who had even tried to sell alcohol to the Prohibition agents two months before the stop in question.[30] The brothers had "escaped observation" after that encounter.[31] Two months later, the agents found the brothers driving between Detroit and Grand Rapids, a route traveled by many bootleggers transporting contraband to and from Canada.[32] Consequently, "the officers were entitled to use their reasoning faculties upon all the facts of which they had *previous knowledge in respect to the defendants*."[33] The Court found that "the facts and circumstances within [the agents'] knowledge and of which they had reasonably trustworthy information were sufficient in themselves to warrant a man of reasonable caution in the belief that intoxicating liquor was being transported in the automobile."[34]

As originally articulated, *Carroll* set forth three required components for its Fourth Amendment exception for automobiles: "(1) probable cause, (2) a mobile vehicle, and (3) a requirement that in cases where securing a warrant is practicable the police should not engage in a warrantless search."[35] In the absence of "exigent" circumstances that necessitate an

25. *Id.* at 351.
26. *Id.* at 351–52.
27. *Id.* at 352.
28. Roseman, *supra* note 18, at 16–17; Carroll v. United States, 267 U.S. 132, 146–47 (1925).
29. *Carroll*, 267 U.S. at 160.
30. *Id.*
31. *Id.*
32. *Id.*
33. *Id.* at 161 (emphasis added). Note how overinclusive the Court is in finding that travel between Detroit and Grand Rapids, Michigan's two largest cities, contributes to the justification that someone could potentially be a bootlegger.
34. *Id.* at 162.
35. Martin L. O'Connor, *Vehicle Searches–the Automobile Exception: The Constitutional Ride from* Carroll v. United *States to* Wyoming v. Houghton, 16 TOURO L. REV. 393, 431 (2000).

immediate search and seizure, police officers under the blackletter of *Carroll* must get a warrant before searching a vehicle,[36] though in actuality the Court has given police officers more discretion in conducting warrantless searches.[37] By 1996, the Court held that police officers were authorized to search a car without a warrant merely on the suspicion that the vehicle contained contraband.[38] This expansion of the *Carroll* exception led Justice Stevens, dissenting in *Florida v. White*, to lament that "exceptions have all but swallowed the general rule" favoring privacy in Fourth Amendment jurisprudence.[39]

While the Court cites *Carroll* to justify a more expansive warrantless search power than is contemplated by the exigent circumstance requirement, scholars and judges generally believe that *Carroll*'s exception is tethered to the innate mobility of cars, which merits the increased police search and seizure powers.[40] The Court explicitly stated that "the need to seize readily movable contraband before it is spirited away undoubtedly underlies" the *Carroll* holding.[41] Cars can move from one jurisdiction to another with relative ease and function as discrete pockets of personal space that travel on public roads. Thus, the reasoning goes that if cars are afforded the same protections as homes under the Fourth Amendment, criminal actors could transport illegal substances with relative ease. In such situations, it is impractical for police officers to procure a warrant before every vehicle search, lest the suspect simply drive away in the interim. The importance of mobility in traffic stop jurisprudence is best demonstrated by the fact that a police officer can search a mobile home that is licensed for road use without a warrant if there is probable cause, as the home's mobility outweighs the deferential treatment homes generally receive under the Fourth Amendment.[42]

Carroll's holding, however, cannot be explained solely by the fact that cars are mobile. After all, a suspect on foot is mobile and can evade surveillance or capture just as a driver can drive away. Yet a pedestrian is

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36. *Id.* at 398–99.

37. *See* United States v. Ross, 456 U.S. 798, 799 (1982).

38. Pennsylvania v. Labron, 518 U.S. 938, 940 (1996).

39. Florida v. White, 526 U.S. 559, 569 (1999) (Stevens, J., dissenting). It is also important to note that, as Chief Justice Roberts observed in *Seila L. LLC v. Consumer Fin. Prot. Bureau*, when examining precedent, the Court will "take the decision on its own terms, not through gloss added by a later Court in dicta." 140 S. Ct. 2183, 2200 n.4 (2020). This may signal the willingness of the current Court to rediscover the original meaning of precedent.

40. *See* Alyssa Vallar, Comment, *Robots on the Road: Fourth Amendment Implications of Stopping and Searching an Autonomous Vehicle*, 26 GEO. MASON L. REV. 587, 602 (2018); *White*, 526 U.S. at 564–65; California v. Carney, 471 U.S. 386, 390 (1985); South Dakota v. Opperman, 428 U.S. 364, 367 (1976).

41. *White*, 526 U.S. at 565.

42. *Carney*, 471 U.S. at 386.

not entirely without Fourth Amendment protections. A pedestrian may be subject to warrantless seizure only where they "knowingly [expose]" themselves to the public and do not reasonably expect to preserve an aspect of their privacy. [43] For example, one court has held that a police officer cannot perform a body-cavity search on a pedestrian absent exigent circumstances.[44] Additionally, mobility is not always required for warrantless car searches. For example, the Court does not require police officers to get a warrant to search a car that is immobilized at a police station,[45] even though there is no chance of the car driving itself away.[46] Mobility, therefore, does not fully explain *Carroll*, nor does the idea of reasonable expectation of privacy provide guidance, as a car is a more private setting than a sidewalk.

Perhaps this apparent gap can be explained by the inherent danger of cars, rather than their mobility. In Fourth Amendment cases regarding the use of force, the Court has routinely found that a police officer's use of deadly force was reasonable where a suspect attempted to flee in a high-speed vehicle.[47] In contrast, deadly force is *not* reasonable when a fleeing suspect poses a lower safety risk, such as in cases where the suspect runs away on foot.[48] The danger of evasive driving makes the use of force reasonable, as neutralizing the driver could help prevent innocent bystanders or police officers from getting injured or dying as a result of the driver's reckless maneuvering. Similarly, a police officer is constitutionally justified in pulling over a vehicle that swerves for a completely innocuous reason, such as avoiding a squirrel, because swerving of any kind may indicate impaired driving.[49]

Regardless of the public policy rationale for the *Carroll* majority's deference to law enforcement, today's Court still recognizes two constitutional requirements for any warrantless search and seizure of a vehicle: an officer needs 1) reasonable suspicion to stop the car, and 2) separate probable cause to search the car.[50] Probable cause has no strict definition, but instead requires only "the kind of 'fair probability' on which 'reasonable and prudent [people,] not legal technicians,' would believe a crime is occurring."[51] Reasonable suspicion is a lower standard

43. *See supra* text accompanying notes 23–27.
44. Foster v. Oakland, 621 F. Supp. 2d 779, 791 (N.D. Cal. 2008).
45. Chambers v. Maroney, 399 U.S. 42, 52 (1970).
46. O'Connor, *supra* note 35, at 399–400.
47. Plumhoff v. Rickard, 572 U.S. 765, 766 (2014); Smith v. Frelund, 954 F.2d 343, 348 (6th Cir. 1992).
48. Tennessee v. Garner, 471 U.S. 1, 19 (1985).
49. *See* Roseman, *supra* note 18, at 27; Vallar, *supra* note 40, at 612.
50. Vallar, *supra* note 40, at 604 n.144.
51. Florida v. Harris, 568 U.S. 237, 244 (2013).

than probable cause, referring to an accumulation of innocent activity that would allow a reasonable officer to draw a reasonable inference that a crime is occurring.[52] For example, a court has held that, where an individual is walking back-and-forth on a street and peers into the same store window during each pass, a police officer can reasonably infer that the legal activities of walking and window shopping constitute reasonable suspicion of criminal behavior.[53]

Accordingly, there are three categories of constitutionally permissible traffic stops based on "reasonable suspicion."[54] First, officers can rely on "prior extrinsic observation" where outside investigation increases suspicion that an individual is conducting criminal activity.[55] Second, officers can rely on tips from an informant,[56] incurring no liability if the tips turn out to be incorrect.[57] Third, officers can have reasonable suspicion of criminal activity based on direct observations of the vehicle and driver.[58]

Because the Court holds reasonable suspicion and probable cause to a subjective standard,[59] a driver has very little recourse to challenge the constitutionality of a traffic stop.[60] A traffic stop will always be reasonable under the Fourth Amendment, so long as the "police have probable cause to *believe* that a traffic violation has occurred."[61] Even where police officers have a mistaken understanding or knowledge of applicable laws, they can find safe harbor in their subjective understanding of the law.[62] Some courts have found that any violation of the traffic code legitimizes a traffic stop, even when the stop is a pretext for investigation of another crime.[63] Similarly, other courts have found that a police officer can stop a vehicle based on a given reason even if their real intent is to investigate another crime, so long as during the stop the officer es-

52. Terry v. Ohio, 392 U.S. 1, 22 (1968).

53. *Id*. at 22–23.

54. Roseman, *supra* note 18, at 27.

55. *Id*.

56. *Id*.

57. Illinois v. Gates, 462 U.S. 213, 214 (1983) (finding an informant's factually incorrect tip to law enforcement gives law enforcement probable cause to search a home under a "totality-of-the-circumstances" test).

58. Roseman, *supra* note 18, at 33.

59. *See* Whren v. United States, 517 U.S. 806, 813–14 (1996).

60. For an example of a successful challenge of a traffic stop, see Delaware v. Prouse, 440 U.S. 648 (1979), where the Court held that police officers cannot pull a driver over for the express purpose of checking the driver's license.

61. *Whren*, 517 U.S. at 810 (emphasis added).

62. *See id*.

63. United States v. Humphries, 504 F. Supp. 3d 464, 471 (W.D. Pa. 2020).

tablishes probable cause that a crime is occurring.[64] Reasonable suspicion "need not rule out the possibility of innocent conduct."[65]

Furthermore, passengers other than the driver have no Fourth Amendment protections when a car is pulled over.[66] Under the bright-line rule established in *Rakas v. Illinois*, passengers cannot claim an expectation of privacy when they enter someone else's vehicle.[67] That rule is based on the same reasonable expectation of privacy rationale that is articulated in *Katz*.[68] The Supreme Court in *Carpenter v. United States*, however, recently reaffirmed that the Fourth Amendment is meant to protect privacy against "arbitrary power" and to "place obstacles in the way of a too permeating police surveillance."[69] Unfortunately, a jurisprudence entirely deferential to the subjective knowledge of police officers further justifies permeating surveillance.

The semi-autonomous world offers an opportunity to redefine Fourth Amendment protections. Rather than the current regime which affords a broad police power, a more tailored concept of search and seizure law is possible when autonomous vehicles make roads safer. The future of safer roads, as the next Section explores, may come to pass sooner with current technological advancements poised to change the way people drive.

B. *Autonomous Vehicle Technology*

When discussing autonomous vehicles, one may think of portrayals in fiction, such as the futuristic society of the *Minority Report* or the anthropomorphic Volkswagen Beetle Herbie (everyone's favorite "love bug").[70] In reality, driving automation is neither fictional nor a far-off fantasy, as widescale autonomous technology testing is currently underway.[71] SAE International, the global association of engineers, has

64. *Whren*, 517 U.S. at 806.

65. United States v. Arvizu, 524 U.S. 266, 277 (2014).

66. Rakas v. Illinois, 439 U.S. 128, 150 (1978).

67. *Id.* at 148–49.

68. *See* Vallar, *supra* note 40, at 589.

69. Carpenter v. United States, 138 S.Ct. 2206, 2214 (2018) (quoting Boyd v. United States, 116 U.S. 616, 630 (1886) and United States v. Di Re, 332 U.S. 581, 595 (1948)).

70. *See* Rudy Salo, *Hollywood and Autonomous Vehicles: How Films, Cartoons and TV Shows Have Shaped Our AV Biases*, FORBES (Oct. 10, 2019, 12:05 PM), https://www.forbes.com/sites/rudysalo/2019/10/10/hollywood-and-autonomous-vehicles-how-films-cartoons-and-tv-shows-have-shaped-our-av-biases/?sh=4ed54be3a760 [https://perma.cc/K2Y7-L5NJ].

71. Samantha Subin & Michael Wayland, *Alphabet's Waymo and GM's Cruise Get California DMV Approval to Run Commercial Autonomous Car Services*, CNBC (Sep. 30, 2021, 4:46 PM), https://www.cnbc.com/2021/09/30/waymo-and-cruise-get-california-dmv-approval-to-run-driverless-cars.html

defined six levels of driving automation ranging from SAE Level 0 to SAE Level 5.[72] Technology included in SAE Levels 0 to 2 is considered "driver support features," where the driver maintains constant supervision of the road.[73] Examples of driver support features are blind-spot warnings (SAE Level 0), lane-centering technology (SAE Level 1), and lane-centering technology coupled with adaptive cruise control (SAE Level 2).[74] These driver support features are widely available today.[75]

SAE Levels 3 to 5 correspond to "automated driving features."[76] Examples of automated driving features include traffic jam chauffeuring (SAE Level 3), local driverless taxis (SAE Level 4), and complete automation (SAE Level 5).[77] At SAE Level 3, a passenger may be required to take over driving in specific situations as the system requests.[78] SAE Levels 4 and 5 require no driver, though SAE Level 4 vehicles may have a limited geographic range.[79] Vehicle-to-vehicle communication, where various autonomous vehicles can coordinate and share data, may also play a role in creating fully autonomous roadways.[80] SAE Level 3 autonomous vehicles may be available as soon as next year.[81]

With current road safety concerns, it is not entirely surprising that the Fourth Amendment allows police officers a wide latitude to rely on their subjective understanding of a situation or the law when pulling over vehicles. Each year in the United States there are 38,000 deaths and 4.4 million serious injuries resulting from dangerous driving.[82] If a driver exhibits temporary erratic behavior, a police officer has an incentive to pull over the vehicle immediately, rather than wait and observe the driver for continued issues. The risk of an impaired, reckless, or negligent driver presents a major safety issue. Thus, autonomous vehi-

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[https://perma.cc/HXV3-7A6J]; Andrew J. Hawkins, *Cruise Gets the Green Light to Give Driverless Rides to Passengers in San Francisco*, THE VERGE (Sep. 30, 2021, 4:35 PM), https://www.theverge.com/2021/9/30/22702962/cruise-waymo-california-dmv-autonomous-vehicle-permit.

72. *SAE J3016 Levels of Driving Automation*, SAE INT'L (2021), https://www.sae.org/binaries/content/assets/cm/content/blog/sae-j3016-visual-chart_5.3.21.pdf [https://perma.cc/6PWU-WU28].

73. *Id.*

74. *Id.*

75. *See* Yu Tu, Wei Wang, Ye Li, Chengcheng Xu, Te Xu & Xueqi Li, *Longitudinal Safety Impacts of Cooperative Adaptive Cruise Control Vehicle's Degradation*, 69 J. OF SAFETY RSCH. 177, 177 (2019).

76. *SAE J3016 Levels of Driving Automation*, *supra* note 72.

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. Michael Taylor & Carly Schaffner, *BMW 7 Series to Reach Level 3 Autonomy Next Year*, FORBES (Nov. 4, 2021), https://www.forbes.com/wheels/features/bmw-7-series-level-3-autonomy/ [https://perma.cc/J3JV-KXKT].

82. *Road Safety Facts*, ASS'N FOR SAFE INT'L RD. TRAVEL, https://www.asirt.org/safe-travel/road-safety-facts/ [https://perma.cc/DV3K-K3FR] (last visited Nov. 15, 2021).

cles have the potential to make the roads a safer place as they mitigate human error, which is the cause of 94% of traffic accidents.

Some scholars question the potential safety benefits of autonomous vehicles, doubting the ability of autonomous vehicles to minimize the dangers of driving despite claims of their ability to mitigate human error.[83] In particular, some have safety concerns regarding current driver support features, such as the potential for increased crash risk during the rapid transitions from adaptive cruise control back to manual driving required in some situations.[84] Taken in the aggregate, however, driver support features, automated driving features, and vehicle-to-vehicle communication are all predicted to make driving safer by mitigating human error.[85] Autonomous vehicles are, by definition, more predictable and less affected by the mental state of any one driver than non-autonomous cars. As technological advancements like autonomous driving continue to increase road safety, police should become less inclined to conduct traffic stops on the sole basis that a driver's behavior was cause for reasonable suspicion.

II. OBJECTIVE SAFETY IMPROVEMENTS CONFLICT WITH SUBJECTIVE SUSPICION

In a world of autonomous vehicles and safer roads, some scholars argue that the need and constitutional justification for traffic stops will be outdated and thus police officers should be required to get a warrant before searching a vehicle.[86] There is also limited scholarship arguing that the *Carroll* doctrine would no longer allow for observation-based traffic stops of autonomous vehicles,[87] and that the *Rakas* passenger rule would not apply where there is no driver to begin with.[88] However, the more immediate and difficult question is how search and seizure law

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83. *See, e.g.*, Lionel P. Robert, Jr., *Are Automated Vehicles Safer Than Manually Driven Cars?*, 34 AI & SOC'Y 687 (2019); *Self-Driving Vehicles Could Struggle to Eliminate Most Crashes*, INS. INST. FOR HIGHWAY SAFETY & HIGHWAY LOSS DATA INST. (June 4, 2020), https://www.iihs.org/news/detail/self-driving-vehicles-could-struggle-to-eliminate-most-crashes [https://perma.cc/2SS8-GRXW].

84. Tu et al., *supra* note 75, at 186.

85. *See* Offer Grembek, Alex Kurzhanskiy, Aditya Medury, Pravin Varaiya & Mengqiao Yu, *Making Intersections Safer with I2V Communication*, TRANSP. RSCH.: PART C, May 2019, at 3–4; *see generally* Chang Wang, Qinyu Sun, Zhen Li & Hongjia Zhang, *Human-Like Lane Change Decision Model for Autonomous Vehicles That Considers the Risk Perception of Drivers in Mixed Traffic*, 20 SENSORS 2259 (2020).

86. *See* Glancy, *supra* note 17, at 665.

87. *See* Roseman, *supra* note 18, at 2.

88. *See* Vallar, *supra* note 40, at 589.

applies to the semi-autonomous world, where cars ranging from SAE Level 0 to 5 share the road.

This Part of the Note focuses on the conflict between increased road safety in the semi-autonomous world and search and seizure law. Section A explains how individuals with driver assistance or autonomous vehicle technology will have stronger evidence that a traffic stop was pretextual—where a police officer cites one reason for the traffic stop but is intending to investigate a separate crime. Then, Section B outlines why evidence that a traffic stop was pretextual will not be sufficient to change what factfinders believe to be "reasonable" under the current reasonable suspicion regime. Next, Section C highlights the infeasibility of restoring the exigent circumstance standard that the Court originally adopted in *Carroll*. Finally, Section D briefly explains why state solutions to this problem are effective but insufficient to satisfy the Fourth Amendment.

A. *Increased Driver Suspicion of Pretextual Traffic Stops*

As the roads become safer in the semi-autonomous world, there will be less human error in driving. Thus, there will be fewer legitimate reasons to pull over vehicles.[89] Yet the potential for autonomous vehicles to undermine the safety-based constitutional rationale for most traffic stops relies on *fully* autonomous roads, as only then will police officers lose the ability to claim, "I thought that the vehicle in question was non-autonomous." In the interim, drivers of autonomous or driver-assisted vehicles may have stronger evidence that a traffic stop was pretextual, thus strengthening claims against unreasonable searches and seizures. For example, location tracking and camera data could provide strong evidence that a vehicle was not speeding or did not swerve between lanes.[90] Where such data negates a police officer's explicit rationale behind the traffic stop, the driver has an effective argument that the stop was based

89. *See* discussion *infra* Part II.B.

90. *See* Thomas J. Cowper & Bernard H. Levin, *Autonomous Vehicles: How Will They Challenge Law Enforcement?*, LEB (Feb. 13, 2018), https://leb.fbi.gov/articles/featured-articles/autonomous-vehicles-how-will-they-challenge-law-enforcement [https://perma.cc/WJ6S-PSU9]. *See also* Keith Barry, *The Cameras in Your Car May Be Harvesting Data as You Drive*, CONSUMER REPS. (Apr. 15, 2020), https://www.consumerreports.org/automotive-technology/the-cameras-in-your-car-may-be-harvesting-data-as-you-drive-a3473812015/ [perma.cc/L6WN-838K] (explaining how non-autonomous vehicles can collect driver data).

on pretextual motives. Even after a car accident, law enforcement can often use vehicle data to objectively allocate fault between drivers.[91]

If police officers retain unconstrained discretion in traffic stops in the semi-autonomous world, [92] public trust may erode in law enforcement and the Court's ability to protect constitutional rights.[93] This is especially true given the Court has held police officers can pull over drivers for minor traffic violations and then extend a vehicle search beyond the traffic violation conducted.[94]

While autonomous vehicle technology is not infallible,[95] the current subjective "reasonable suspicion" regime provides police officers with a discretion that is too broad for even the non-autonomous world,[96] as evidenced by rampant and unaddressed racial profiling.[97] The government interest in public safety is clear, but such a high level of discretion violates the purpose of the Fourth Amendment to remedy "the concern about giving police officers unbridled discretion to rummage at will among a person's private effects."[98] From the perspective of an individual driver, it may feel absurd to get pulled over for something the car did when following its programming. Drivers from minority backgrounds may be particularly frustrated if law enforcement retains a completely discretionary power rooted in subjective suspicion to pull over vehicles due to a historical practice of targeting minorities through these stops.[99] This distrust and frustration can be exacerbated by the fact that police

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91. *See* Patrick Hurtado, *Implications of Self-Driving Vehicles*, POLICE CHIEF MAG. (last accessed Dec. 20, 2021, 7:58 PM), https://www.policechiefmagazine.org/implications-of-self-driving-vehicles/ [https://perma.cc/UQ45-PRFN].

92. *See supra* text accompanying notes 59–65.

93. For an argument that pretextual traffic stops are limited to avoid "bad faith," *see* State v. Ochoa, 206 P.3d 143, 155 (N.M. Ct. App. 2008); *see also* Carla R. Kock, State v. Akuba*: A Missed Opportunity to Curb Vehicle Searches of Innocent Motorists on South Dakota Highways*, 51 S.D. L. REV. 152, 154 (2006) (arguing that allowing police officers to request consent for searches during routine traffic stops is ultimately unjust).

94. Whren v. United States, 517 U.S. 806, 818 (1996); Brian J. O'Donnell, Whren v. United States*: An Abrupt End to the Debate Over Pretextual Stops*, 49 ME. L. REV. 207 (1997).

95. *See* Keith Barry, *Elon Musk, Self-Driving, and the Dangers of Wishful Thinking: How Tesla's Marketing Hype Got Ahead of Its Technology*, CONSUMER REPS. (Nov. 11, 2021), https://www.consumerreports.org/automotive-industry/elon-musk-tesla-self-driving-and-dangers-of-wishful-thinking-a8114459525/ [perma.cc/L6WN-838K].

96. This discretion is based in the idea that law enforcement outweighs privacy. *See Whren*, 517 U.S. at 818 (upholding "the usual rule that probable cause to believe the law has been broken 'outbalances' private interest in avoiding police contact."). *Cf.*, Mike McIntire & Michael H. Keller, *The Demand for Money Behind Many Police Traffic Stops*, NY TIMES (Oct. 31, 2021), https://www.nytimes.com/2021/10/31/us/police-ticket-quotas-money-funding.html [https://perma.cc/VM4Z-AWSU].

97. *See* discussion *supra* Introduction.

98. Arizona v. Grant, 556 U.S. 332, 345 (2009).

99. *See, e.g.*, David A. Harris, *"Driving While Black" and All Other Traffic Offenses: The Supreme Court and Pretextual Traffic Stops*, 87 J. CRIM. L. & CRIMINOLOGY 544 (1997)

officers may still be legally justified in committing a pretextual stop based on mistaken knowledge of the applicable law or facts of the situation.[100]

Drivers are not completely without recourse, but protective remedies are often inaccessible. Courts are supposed to suppress evidence that is acquired through improper searches and seizures under the exclusionary rule, but there are numerous carveouts.[101] For example, the Court in *Rodriguez v. United States* held that a police officer violated the Fourth Amendment where, without reasonable suspicion, they extended an otherwise-completed traffic stop and used a drug-sniffing dog to inspect the car.[102] On remand, however, the Eight Circuit affirmed the criminal conviction because "searches conducted in objectively reasonable reliance on binding appellate precedent are not subject to the exclusionary rule."[103] The Supreme Court denied certiorari on the defendant's ensuing appeal.[104] Despite the police officer's unconstitutional search the defendant was still convicted, further demonstrating the limits to remedies available to those subject to unreasonable search and seizure. Also, the exclusionary rule does not even apply where there are no criminal charges, leaving many more without recourse.

Additionally, while it is technically unconstitutional to base reasonable suspicion of a crime solely on an individual's appearance,[105] police find many loopholes around these protections. For example, a border patrol agent violates the Fourth Amendment when they stop and search a vehicle on the suspicion that its occupants are illegal immigrants based solely on their appearance.[106] However, under federal jurisprudence, all a border agent would need to do to avoid a Fourth Amendment violation is cite an additional, unrelated rationale. Similar instances of profiling are even more rampant in the context of traffic stops, but such blatant evidence of prejudice is often not available, leaving most racial profiling out of the scope of the exception to the deference afforded to law enforcement. As even minor traffic violations constitutionally justify a traffic stop, there is effectively little check on pretextually prejudiced search and seizure.

While some states have more thorough protections, such protections are not uniformly guaranteed. For example, the New Mexico Court

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100. *See* United States v. Humphries, 504 F. Supp. 3d 464, 470 (W.D. Pa. 2020).

101. Margaret M. Lawton, *The Road to* Whren *and Beyond: Does the "Would Have" Test Work?*, 57 DEPAUL L. REV. 917, 920–22 (2008).

102. Rodriguez v. United States, 575 U.S. 348, 348 (2015).

103. United States v. Rodriguez, 799 F.3d 1222, 1223 (8th Cir. 2015) (quoting Davis v. United States, 131 S. Ct. 2419, 2423–24 (2011)).

104. Rodriguez v. United States, 136 S. Ct. 1514 (2016).

105. United States v. Brignoni-Ponce, 422 U.S. 873, 885–87 (1975).

106. *Id.*

of Appeals has held that pretextual traffic stops are not "constitutionally reasonable" under the New Mexico state constitution.[107] In one case, that Court held that a police officer's actions were pretextual when he performed a drug search after stopping the defendant for an apparent seatbelt violation.[108] An Ohio court went further, finding that the exclusionary rule barred the admission of evidence obtained during a traffic stop where the police officer mistakenly believed the conduct in question was unlawful.[109] These states have gone beyond the federal courts in a way that better codifies the purpose of the Fourth Amendment to curtail the "unbridled discretion" of law enforcement.[110]

Other states, however, mirror the Supreme Court's interpretation of search and seizure law.[111] Massachusetts courts generally do not consider subjective or pretextual intent in the content of drug searches in traffic stops.[112] The Supreme Court of Iowa held that running a red light justifies a traffic stop regardless of any pretextual motives.[113] The Court of Appeals of New York enforces a similar rule.[114] While some states protect citizens from pretextual traffic stops, state law protections vary greatly. Yet when constitutional rights are at issue, it should not matter in which state one lives or drives; protections should be for all.[115]

Additionally, the exclusion of evidence is the Court's "last resort, not [their] first impulse,"[116] meaning that such a remedy for unreasonable search and seizure is highly disfavored even when justified. In the semi-autonomous world, drivers will have access to much stronger evidence that a given traffic stop was pretextual or otherwise unjustified based on data generated and stored by the vehicle.[117] From the police of-

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107. State v. Ochoa, 206 P.3d 143, 155 (N.M. Ct. App. 2008).

108. *Id.* at 156–57. Note that on appeal of that decision, the Supreme Court of New Mexico denied certiorari. State v. Ochoa, 225 P.3d 794 (N.M. 2009).

109. State v. Babcock, 992 N.E.2d 1215, 1219–22 (Ohio Ct. App. 2013).

110. Arizona v. Grant, 556 U.S. 332, 345 (2009).

111. *See* Commonwealth v. Buckley, 90 N.E.3d 767, 777–78 (Mass. 2018); State v. Brown, 930 N.W.2d 840, 854 (Iowa 2019); People v. Robinson, 767 N.E.2d 638, 640 (N.Y. 2001).

112. *See Buckley*, 90 N.E.3d at 873; Commonwealth v. Gervet, No. 20-P-1204, 2021 WL 4805267, at *2–3 (Mass. App. Ct. Oct. 15, 2021); Commonwealth v. Shaw, No.20-P-246, 2021 WL 2589071, at *5 (Mass. App. Ct. June 22, 2021).

113. *Brown*, 930 N.W.2d at 854.

114. *Robinson*, 767 N.E.2d at 640.

115. *See* Mapp v. Ohio, 367 U.S. 643, 650–51 (1961) (incorporating Fourth Amendment search and seizure protections to the states through the Fourteenth Amendment). *Cf.* George C. Thomas III, *When Constitutional Worlds Collide: Resurrecting the Framers' Bill of Rights and Criminal Procedure*, 100 MICH. L. REV. 145, 168–74 (2001) (arguing that the incorporation of the criminal procedure protections to states effectively undermined those protections when used in the federal context).

116. Hudson v. Michigan, 547 U.S. 586, 591 (2006).

117. *See* Simon Wright, *Autonomous Cars Generate More Than 300 TB of Data per Year*, TUXERA (July 2, 2021), https://www.tuxera.com/blog/autonomous-cars-300-tb-of-data-per-year/ [https://perma.cc/7SGM-9YKL]; *see also* Chris Mellor, *Autonomous Vehicle Data Storage: We Grill Self-Driving Car Experts*

ficer's perspective, however, not much will have changed externally. This division between subjective suspicion and objective realities may undermine trust in law enforcement and the Court's ability to protect constitutional rights.[118] Ultimately, vehicle data can challenge pretextual traffic stops and serve as an impetus to restrict current police power.

B. *"Reasonable" Suspicion is Not a Sufficient Solution*

New evidence of a police officer's pretext is likely not enough to change what constitutes "reasonable" behavior under the reasonable suspicion standard. The standard is fundamentally based on a totality of the circumstances in each case.[119] A flexible standard that "[rejects] rigid rules, bright-line tests, and mechanistic inquiries" has the potential to adapt in an evolving world.[120] It is thus reasonable to assume that as driver-assisted and autonomous vehicles gradually come to dominate the road, fact-finders can adjust and determine *ex post* whether a traffic stop was reasonable based on the realities of technology at the time. This approach, mirroring traditional common law, may eventually shift incentives to change police behavior *ex ante*.

Some criminal procedure scholars, however, doubt that "reasonableness" has the potential to turn something as normal as a traffic stop into something relegated to rare situations.[121] It will be difficult to change the perception of courts and drivers that police officers are practically always allowed to pull over a car for any reason, whether pretextual or based on mistaken observations or knowledge of the law. In other words, "reasonable" may be too closely tied to the end result of normalizing of traffic stops, rather than to the actual standard of suspicion required of the police officer who conducted a vehicle search. Accordingly, even when technology changes, courts may naturally continue to apply wide deference to police officers in Fourth Amendment cases.[122]

About Sensors, Clouds… and Robo Taxis, BLOCK & FILES (Feb. 3, 2020), https://blocksandfiles.com/2020/02/03/autonomous-vehicle-data-storage-is-a-game-of-guesses/ [https://perma.cc/34UC-NZAV].

118. *See* discussion *supra* notes 92–94 and accompanying text.

119. Florida v. Harris, 568 U.S. 237, 237 (2013).

120. *Id.*

121. *See, e.g.*, Keith S. Hampton, *Stranded in the Wasteland of Unregulated Roadway Police Powers: Can "Reasonable Officers" Ever Rescue Us?*, 35 ST. MARY'S L.J. 499 (2004); *see also* Wayne R. LaFave, *The "Routine Traffic Stop" from Start to Finish: Too Much "Routine," Not Enough Fourth Amendment*, 102 MICH. L. REV. 1843 (2004); Lewis R. Katz, *"Lonesome Road": Driving Without the Fourth Amendment*, 36 SEATTLE U. L. REV. 1413, 1415 (2013).

122. For an example of how an idea with a clear meaning can shift to encompass concepts outside the original scope of the idea, see Conor Friedersdorf, *How Americans Became So Sensitive to Harm*, THE ATL. (Apr. 19, 2016), https://www.theatlantic.com/politics/archive/2016/04/concept-creep/477939/

Thus, what constitutes "reasonable" for many may simply be the current police practices we see today.

Where a constitutional right is concerned, a common law approach is inappropriate because slow evolution does nothing for those whose rights are violated today. That is why the Supreme Court, though deferential to its precedent, has "often recognized [that] *stare decisis* is not an inexorable command."[123] In fact, *stare decisis* "is at its weakest when [the Court interprets] the Constitution."[124] The introduction of vehicle data as evidence could be the impetus needed for the Court to readdress the constitutionality of pretextual traffic stops that were legalized in *Whren v. United States*.[125]

C. *Restoring Carroll is Infeasible and Ultimately Unhelpful*

In an attempt to rediscover the spirit of the Fourth Amendment, there are some experts who argue that the Court should once again enforce the original exigent circumstance test from *Carroll*.[126] Under that test, police officers are required to cite another factor that justifies skipping the procurement of a warrant. Such factors could include a high likelihood that evidence may be disposed of before a warrant is procured, or that the suspect could escape police surveillance before they are identified.[127] Under that system, warrantless searches are effectively relegated to extraordinary situations with police officers bearing the burden to explain why the facts merited a warrantless search. Traffic stops would still occur, but there will no longer be an unconstrained doorway to search the vehicle.

However, this proposal faces two issues. First, as long as the Court defers to the subjective knowledge of police officers, they will continue to find a safe harbor against Fourth Amendment claims. After pulling over a vehicle, a police officer could cite a slew of exigent circumstances based solely on their subjective knowledge. For example, a police officer

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[https://perma.cc/X8EY-SBCA] (explaining the theory of "concept creep" in the context of what constitutes "harm").

123. Janus v. Am. Fed. of State, Cnty., and Mun. Employees, Council 31, 138 S. Ct. 2448, 2478 (2018) (quoting Pearson v. Callahan, 55 U.S. 223, 233 (2009)).

124. Agostini v. Felton, 521 U.S. 203, 235 (1997).

125. Whren v. United States, 517 U.S. 806, 819 (1996).

126. *See* Di Jia, Katlee Spooner, & Rolando V. Del Carmen, *An Analysis and Categorization of U.S. Supreme Court Cases Under the Exigent Circumstances Exception to the Warrant Requirement*, 27 GEO. MASON U. CIV. RTS. L.J. 37, 60–61 (2016) (arguing that the issue with current search and seizure law revolves around the application of the exigent circumstance requirement).

127. O'Connor, *supra* note 35, at 431.

can claim that they smelled marijuana and that allowing the driver to leave would have also allowed the driver to dispose of the relevant evidence.[128] An exigent circumstance test then becomes the same deferential standard that the Court uses for pretextual traffic stops, allowing a police officer to cite irrelevant reasons after the fact to avoid violating the Fourth Amendment in the moment.[129]

Second, the Court has been hostile to any attempt at reestablishing an exigent circumstances test for vehicle searches.[130] When "the relevant test is not whether it is reasonable to procure a search warrant, but whether *the search* was reasonable,"[131] the Court does not adhere to the "cardinal principle" of the Fourth Amendment.[132] Accordingly, any remedy to search and seizure violations in the semi-autonomous world requires going beyond the current reliance on police subjectivity in establishing the record of a given case. Allowing defendants to present vehivehicle data afforded by autonomous cars would allow defendants to bring more objectivity into such legal disputes.

D. *The Meaningful but Limited Value of State Legal Reform*

As previously discussed, some states have adopted more protective search and seizure rules.[133] These reforms have tangible benefits, such as curtailing racial profiling in traffic stops[134] and reducing the number of searches of otherwise innocent drivers.[135] Yet where states have adopted these reforms, they often view the changes as going above and beyond the federal Constitution. For example, New Mexico has explicitly construed its state constitution to "provide broader protections than are available under the Fourth Amendment."[136] While state-level reforms have value, the protection of fundamental constitutional rights should not depend on the state in which one resides or drives.

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128. *See, e.g.*, State v. Vega, 116 N.E.3d 1262, 1266 (Ohio 2018); United States v. Champion, 609 F. App'x 122, 125 (4th Cir. 2015). *Cf.* United States v. Fennell, 312 F. Supp. 3d 568, 574 (W.D. Tex. 2018).

129. Jia et al., *supra* note 126, at 61 (stressing that "officials need only probable cause showing that contraband is located in the vehicle to search without a warrant.").

130. O'Connor, *supra* note 35, at 433–34.

131. United States v. Rabinowitz, 339 U.S. 56, 66 (1950) (emphasis added).

132. O'Connor, *supra* note 35, at 434.

133. See *supra* text accompanying notes 107–10.

134. *See* Anthony J. Ghiotto, *Traffic Stop Federalism: Protecting North Carolina Black Drivers from the United States Supreme Court*, 48 U. BALT. L. REV. 323, 342–49 (2019).

135. *See* Carla R. Kock, State v. Akuba*: A Missed Opportunity to Curb Vehicle Searches of Innocent Motorists on South Dakota Highways*, 51 S.D. L. REV. 152, 189–91 (2006).

136. State v. Ochoa, 206 P.3d 143, 152 (N.M. Ct. App. 2008).

The semi-autonomous world, with increased road safety, exposes the tensions underlying search and seizure law, namely the division between drivers with objective knowledge that their vehicles were complying with traffic laws and the Court's deference to police officers' subjective viewpoints on facts and law. While what the Court views as reasonable may slowly shift over time, most scholars do not believe this will facilitate the urgently needed changes to search and seizure law. Restoring the exigent circumstances test from *Carroll* is unlikely to resolve the problem and is a jurisprudential longshot given the expressed mood of the Court. State reforms show more promise, but do not guarantee the protection of everyone's Constitutional rights. However, the Court could expand protections by allowing objectivity into Fourth Amendment analysis.

III. ALLOWING OBJECTIVITY INTO SEARCH AND SEIZURE LAW

The semi-autonomous world provides a perfect opportunity to reexamine the constitutional underpinnings of traffic stops and make appropriate changes that adhere to the spirit of the Fourth Amendment. In the semi-autonomous world, Courts should expand the exclusionary rule to pretextual stops by allowing defendant drivers to raise objective facts that demonstrate that a traffic stop was pretextual. Specifically, the Court should allow a defendant driver to use their vehicle's technology and police officer actions as evidence of pretextual motives.

This Part of the Note explains how that expansion of the exclusionary rule would work. First, Section A highlights how a defendant driver would utilize evidence of their vehicle's technology and police officer conduct as evidence that a traffic stop was pretextual. Then, Section B explains how and when the exclusionary rule would apply to those classes of pretextual traffic stops. Finally, Section C explains how the expanded exclusionary rule for traffic stops is workable and appropriate in the semi-autonomous world.

A. *Objective Components Added*

Drivers in the semi-autonomous world should be able to use their vehicle's technology as evidence that a traffic stop was potentially pretextual. To do so, a driver would first present evidence of their vehicle's capabilities and proof that those capabilities were in use at the time of

the stop.[137] A jury or judge would then be allowed to take that evidence into account when deciding whether the traffic stop was pretextual. If the factfinder decided that the search was pretextual, then the court should exclude evidence from the ensuing vehicle search at the trial or bench hearing. For example, where an officer cites erratic driving or speeding as the justification for the initial traffic stop [138] but a driver can point to data from their driver-assisted or autonomous vehicle to refute that claim, the factfinder can consider such evidence when determining whether a stop was pretextual. While workability concerns are addressed in-depth below, it is important to note that some states already successfully allow factfinders to determine if a traffic stop is pretextual based on objective evidence beyond a driver's actions.[139]

Similarly, the Court should allow a defendant driver to use evidence of police conduct to establish pretextual motives of a traffic stop. The following are two examples of objective police conduct in the semi-autonomous world that could potentially factor into claims of pretextuality. First, assuming an officer can run a license plate to determine whether a vehicle is autonomous or driver-assisted, there could be an obligation on police officers to check the status of a vehicle before conducting a traffic stop based on "public indicia of impaired driving."[140] Second, when it becomes clear that the vehicle that performed an erratic or dangerous action is autonomous, police officers would likely need to observe the repetition of illegal driving or continuous issues like swerving back and forth before pulling over the vehicle. If this were required, the driver could present proof in court that the officer did know that the car was driving autonomously and therefore there was no non-pretextual reason to be pulled over.

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137. *See* Paul Hightower, *Independent Thinking: Why the "Black Box" is Needed for Autonomous Vehicle Deployments*, MACH. DESIGN (Jan. 19, 2018), https://www.machinedesign.com/mechanical-motion-systems/article/21836355/independent-thinking-why-the-black-box-is-needed-for-autonomous-vehicle-deployments [https://perma.cc/3WFB-FB24] (highlighting the potential value of an equivalent to flight data recorder for autonomous vehicles).

138. Under the current reasonable suspicion standard, erratic or illegal driving is not an inherent requirement; as Vallar notes, "repeated weaving within a single lane alone might not give an officer enough reasonable suspicion to stop a vehicle, but driving need not be erratic, unsafe, or illegal in order to generate reasonable suspicion." Vallar, *supra* note 40, at 612 n.216.

139. *See* discussion *infra* Part III.C and discussion *supra* Part II.D. (New Mexico Courts weigh the reasoning behind the traffic stop and the rationale of the ensuing vehicle search. Ohio Courts can use a police officer's mistake of law as evidence of pretext).

140. *See* Vallar, *supra* note 40, at 612. Vallar notes that where a vehicle acts erratically or dangerously "reasonable suspicion is not negated merely because the vehicle is an AV." *Id.* To expand Constitutional protections under the Fourth Amendment in the semi-autonomous world, therefore, it is important to normalize and require, where feasible, police conduct such as running license plates to better comprehend the technology of a given vehicle.

Allowing drivers to bring in evidence of police conduct and their vehicle's technology will allow for a more holistic and thorough trial. If the factfinder determines a traffic stop was pretextual, the exclusionary rule will apply and evidence from the ensuing vehicle search would be excluded from trial. The benefit to public trust in the police and judiciary is evident: defendant drivers would feel like they have some recourse against pretextual and otherwise unreasonable traffic stops. Additionally, over time, police officers could adjust course and be more conservative in pursuing unnecessary traffic stops to better align their behavior with a jurisprudence that is more protective of Fourth Amendment rights. This is not to say all evidence from a pretextual traffic stop would always be excluded, but rather police officers would need to satisfy a higher burden of proof to justify a vehicle search ensuing from a pretextual traffic stop.

B. *The Expanded Exclusionary Rule is Not Limitless*

Fundamentally, probable cause "is not a high bar."[141] It "requires only a probability or substantial chance of criminal activity, not an actual showing of such activity."[142] In determining whether an officer had probable cause for a search and seizure, the Court "[examines] the events leading up to the arrest, and then decides "whether these historical facts, viewed from the standpoint of an objectively reasonable police officer, amount to probable cause."[143] The above proposal to add objective components to the exclusionary rule as it applies to traffic stops effectively creates a heightened probable cause for pretextual traffic stops in the semi-autonomous world.

Facially, the line of inquiry for this heightened requirement would remain the same. The Court would still start by considering "the standpoint of an objectively reasonable police officer,"[144] but the "reasonable" inquiry would now explicitly take into account the realities of the semi-autonomous world. This departs from the present reliance on factfinders to slowly transform what constitutes "reasonableness," which would require a long and uncertain evolution of the term,[145] in that the Court would proactively shift the reasonableness standard. In doing so, the

141. District of Columbia v. Wesby, 138 S. Ct. 577, 586 (2018) (quoting Kaley v. United States, 134 S. Ct. 1090, 1103 (2014)).

142. Illinois v. Gates, 462 U.S. 213, 243–44 n.18 (1983).

143. *Wesby*, 138 S. Ct. at 586 (quoting Maryland v. Pringle, 540 U.S. 366, 371 (2003) and Ornelas v. United States, 517 U.S. 690, 696 (1996)).

144. *Id*.

145. *See* discussion *supra* Part II.B.

Court would allow defendant drivers to introduce objective facts about their vehicle's technology and officer conduct that better incorporates a holistic understanding of the reasonable suspicion that initiates a traffic stop. In response to the new rules, defendant drivers would have a greater guarantee of their Fourth Amendment Constitutional rights.[146]

That being said, the expanded exclusionary rule should not be construed to allow a defendant driver to avoid conviction for any crime merely because of an officer's pretextual motives. Police officers still retain their executive function to stop criminal activity that is evident during a pretextual stop. For example, if a police officer stops a vehicle and then observes a crime occurring, such as hearing banging coming from the trunk or seeing the driver holding an opened can of beer, they would still be able to intervene without fearing that any prior pretext could render the criminal immune from judgment. Where no search is needed for the police officer to establish a new probable cause, the expanded exclusionary rule does not apply.

Similarly, police officers would still be able to respond to extreme circumstances of indicia of impaired driving. For example, if a police officer is following a driver for pretextual reasons and then the police officer witnesses the driver perform an evasive maneuver, then the police still could, with reasonable suspicion, pull over the vehicle despite any pretextual motives in the initial interaction. Even autonomous vehicles may have such an evident malfunction as to merit a traffic stop.[147] These limits on the expanded exclusionary rule align with the public safety concern that permeates Fourth Amendment case law.

Additionally, the Court may want to address the potential that, in the semi-autonomous world, vehicles can switch between autonomous or driver-assisted mode and regular driving. However, the above standard already considers that potential issue. If when running a license plate a police officer is informed that a vehicle requires the driver to take over in certain circumstances, then the factfinder can use that information

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146. For an argument that a stricter search and seizure standard would benefit drivers, see Ghiotto, *supra* note 134.

147. *See Top Three Possible Dangers of Self-Driving Cars*, VESTTECH (last visited Nov. 20, 2021), https://www.vesttech.com/top-3-possible-dangers-of-self-driving-cars/ [https://perma.cc/J75X-SNBU] (providing a cursory explanation of three potential safety issues with autonomous vehicles, one of which is a software malfunction. A glitch could cause eradicate and dangerous driving, which would merit a traffic stop); *see also* Rani Molla, *Self-Driving Cars: The 21st Century Trolley Problem*, VOX (Oct. 6, 2021, 7:00 AM), https://www.vox.com/recode/22700022/self-driving-autonomous-cars-trolley-problem-waymo-google-tesla [https://perma.cc/3BUG-7FEQ] (explaining the issue of programing autonomous vehicles to address balancing crashes); *Automated Car Insurance: Everything You Need to Know*, CAR AND DRIVER (May 14, 2021), https://www.caranddriver.com/car-insurance/a36433040/automated-car-insurance/ [https://perma.cc/VF4R-R2KA] (exploring the current impact of driver assistance technology on car insurance).

to help determine whether a traffic stop was pretextual. A more complex issue occurs where a driver is knowingly misusing drive-assistance or lower-level autonomous technology that qualifies as SAE Level 3 or 4, as it would be difficult to objectively capture that fact. Yet the Court is perfectly capable of performing a balancing test that takes into account varying levels of vehicle technology and the need for some subjective police observation.[148]

Further, these issues already exist under the current legal regime and should not justify continued constitutional abuses as roads become safer. Modern driver-assistance technology is unable to tell if its drivers are capable of taking back control when they need to.[149] Arguably, this type of abuse of driver-assistance technology is evidence that the safety underpinnings of traffic stops remain true in the semi-autonomous world. An expanded exclusionary rule, however, provides exceptions that consider dangerous situations. Additionally, if a driver is incapacitated or otherwise unable to take back control of the vehicle, they will not be able to pull the vehicle over anyway. Technological advances can potentially remedy that issue if cars are programmed to pull over if a driver attempts to forgo their responsibilities.

Continuing to disregard Constitutional rights, on the other hand, would not solve the problem, nor is it worth the cost when the benefit is only a theoretical increase in safety. The most realistic safety concern in the semi-autonomous world is likely that changed incentives will foster more reckless pedestrians.[150] It would be absurd to argue that increased accidents caused by pedestrians justify the search and seizure of otherwise well-functioning vehicles. That would judicially create a national

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148. *See, e.g.*, Pike v. Bruce Church, 397 U.S. 137, 142 (1970) (applying a factually-intensive balancing test to issues of state laws that affect interstate commerce); Mathews v. Eldridge, 424 U.S. 319, 321 (1976) (articulating a three-part balancing test for procedural due process claims against administrative actions). While a bright-line rule may be easier to apply, the Court is capable of factually intensive balancing, such as in *Pike* and *Mathews*. According to Westlaw, Courts have cited *Mathews* over 17,000 times and *Pike* over 1,700 times. Citing References for Pike v. Bruce Church Inc., WESTLAW EDGE, https://1.next.westlaw.com (after opening the case on Westlaw, click the "Citing Reference" tab directly above the body of the case); Citing References for Mathews v. Eldridge, WESTLAW EDGE, https://1.next.westlaw.com (after opening the case on Westlaw, click the "Citing Reference" tab directly above the body of the case).

149. *See* Dave Vanderwerp, *It's Not Just Tesla: All Other Driver-Assist Systems Work Without Drivers, Too*, CAR AND DRIVER (Aug. 11, 2021), https://www.caranddriver.com/news/a37260363/driver-assist-systems-tested/ [https://perma.cc/Y2CR-69L4] (explaining how current drivers misuse current driver-assist systems).

150. *See* Rodney Brooks, *The Big Problem With Self-Driving Cars is People*, IEEE SPECTRUM, (July 27, 2017), https://spectrum.ieee.org/the-big-problem-with-selfdriving-cars-is-people [https://perma.cc/Q94T-F3WL], *and* Revisionist History Podcast, *I Love You Waymo*, PUSHKIN, at 28:30 (June 24, 2021), https://www.pushkin.fm/episode/i-love-you-waymo/ [https://perma.cc/V3CM-R6LP].

"stop-and-frisk" because police officers are afraid of pedestrians potentially walking dangerously.

C. *Workability and the Intent of the Founders Support the Proposed Change*

While the nature of police work and the complexities of the semi-autonomous world justify some aspects of discretion to police subjectivity in search and seizure law,[151] there is evidence that the drafters of the Fourth Amendment recognized a more expansive protection for search and seizure than is explained by the *Whren* majority.[152] While the often-cited James Madison's draft of the Fourth Amendment merely limited the use of "general warrants" that provided police officers an unlimited power,[153] Madison's draft was ultimately not adopted.[154] Instead, the Fourth Amendment was influenced by John Adams and others familiar with a more expansive interpretation of search and seizure protections common to Massachusetts.[155] In fact, "[although] Adams and our other forefathers struggled to establish exactly what the proper standards were, *objective criteria* to measure the propriety of a search and seizure that persisted from case to case was the goal."[156]

Despite the intention of the Fourth Amendment's drafters to consider objective facts, the Court has cited workability issues as a reason for not expanding constitutional protections for pretextual traffic stops.[157] There is a fear that courts will not be able to properly handle traffic stop cases if the Court adopts a rule that is more protective of constitutional rights. These fears, however, seem unfounded as various states have already adopted more rigorous protections from pretextual traffic stops without problems.[158] A heightened probable cause standard

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151. *See supra* note 147 and accompanying text.

152. *See* Thomas K. Clancy, *The Framers' Intent: John Adams, His Era, and the Fourth Amendment*, 86 IND. L.J. 979, 1061 (2011).

153. *Id.* at 1046.

154. *Id.* at 1047–48.

155. *Id.* at 1061.

156. *Id.* (emphasis added)*; see also* Thomas Y. Davies, *Correcting Search-and-Seizure History: Now-Forgotten Common-Law Warrantless Arrest Standards and the Original Understanding of "Due Process of Law"*, 77 MISS. L.J. 1, 221–24 (2007) (arguing that current search and seizure doctrine is not in line with the original intent of the Fourth Amendment, but that "[t]oo much has changed" to go back to that old standard).

157. Whren v. United States, 517 U.S. 806, 818–19 (1996) (arguing that Petitioner in that case failed to identify a workable standard and a reason to go beyond the traditional common law rule that probable cause justifies a warrantless search and seizure).

158. *See* discussion *supra* Part II.A on page 972. This is similar to the Court's fear of "anarchy" that prevented the codification of a heightened standard for religious liberty cases in *Employment Division v. Smith*, 494 U.S. 872, 888 (1990). Yet despite the fear of anarchy many states have success-

is thus workable, negating the rationale of the *Whren* majority which forbade any prohibition on pretextual traffic stops under the Fourth Amendment.

Justice Scalia, who wrote the majority opinion of the Court in *Whren*,[159] also dissented in *Navarette v. California* where the Court held that an informant's factually incorrect tip of a drunk driver justified pulling over a vehicle that exhibited no evidence of driver impairment.[160] The majority reasoned that a drunk driver may have adjusted course and comported themselves well when a police car came into view.[161] Justice Scalia retorted "[that] is not how I understand the influence of alcohol. I subscribe to the more traditional view that the dangers of intoxicated driving are the intoxicant's impairing effects on the body—effects that no mere act of the will can resist."[162] Under current search and seizure doctrine, there is effectively a presumption that one is driving drunk until they otherwise prove they are sober.[163] This absurd result is an example of doctrinal inertia, where the court-enforced doctrinal dance overtakes the spirit of the relevant Constitutional provision.[164]

Yet, technological change has always been a major contributor to the evolution of how the Court interprets Constitutional rights.[165] Such changes highlight "the dangers of doctrinal obsolescence: the perpetuation of rules and principles that do not sensibly fit the world that we currently inhabit."[166] Accordingly, in the semi-autonomous world, the Court will have the opportunity to make sure jurisprudence matches both the realities of driving and the spirit of the Fourth Amendment as articulated by the amendment's drafters. Just as Scalia found the *Navarette* majority misunderstood intoxication, the current Court misunderstands the well-observed issue of pretextual traffic stops, especially as those stops allow for rampant racial profiling.

Allowing defendant drivers to use their vehicle's technology and associated police conduct as evidence of a pretextual traffic stop is worka-

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fully adopted and implemented a heightened standard. *See* Lucien J. Dhooge, *The Religious Freedom Restoration Act at 25: A Quantitative Analysis of the Interpretive Case Law*, 27 WM. & MARY BILL RTS. J. 153 (2018); Christopher C. Lund, *RFRA, State RFRAs, and Religious Minorities*, 53 SAN DIEGO L. REV. 163 (2016).

159. *Whren*, 517 U.S. at 808.

160. Navarette v. California, 572 U.S. 393, 403 (2014).

161. *See id.* at 398–99.

162. *Id.* at 413 (Scalia, J., dissenting).

163. *See* Christopher D. Sommers, *Presumed Drunk Until Proven Sober: The Dangers and Implications of Anonymous Tips Following* Navarette v. California, 60 S.D. L. REV. 327 (2015).

164. David S. Han, *Constitutional Rights and Technological Change*, 54 U.C. DAVIS L. REV. 71, 106 (2020).

165. *Id.* at 130.

166. *Id.*

ble and allows defendant drivers to have more faith in the judicial process. Expanding the exclusionary rule to such cases further increases the perception of fairness in search and seizure and provides recourse that can help remedy racial profiling in traffic stops by limiting unnecessary traffic stops. Allowing some exceptions to the expanded exclusionary rule addresses public safety concerns. Fundamentally, the semi-autonomous world will allow for such a revolution in search and seizure law that better adheres to the original intent of the Fourth Amendment.[167]

CONCLUSION

Current Fourth Amendment search and seizure law contributes to racial profiling in traffic stops as it provides substantial discretion to police officers' subjective viewpoints. This standard makes sense given the public safety issues inherent with driving. But as driver-assistance and autonomous vehicle technologies become common, public safety issues will begin to subside. Accordingly, the semi-autonomous world provides a perfect opportunity for the Court to better embody the spirit of the Fourth Amendment. To do so, the Court should allow defendant drivers to use their vehicle technology and corresponding police conduct as evidence of pretextual motives. Where a factfinder concludes a traffic stop was pretextual, evidence from an ensuing search should be excluded. Expanding the exclusionary rule will hopefully discourage police officers from conducting unnecessary traffic stops altogether.

167. *See* Clancy, *supra* note 152, at 1061.