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Driverless Cars and Criminal Justice Resource Allocation

*Jeff Daniel Clark**

INTRODUCTION

Each year, state courts throughout the country adjudicate over twelve million misdemeanor cases and over forty million traffic cases. Their adjudication consumes a massive amount of criminal justice resources. Many millions of the misdemeanor cases, and almost all of the traffic cases, share common inceptions: cars.

Too many bad, drunk, and texting drivers are on our roads. A fair number of bad-drunk-texting drivers are probably on them as well. Traffic codes, which are voluminous, trip up even the most diligent drivers. And because the Fourth Amendment so feebly protects cars, those same traffic codes enable patrol officers to—quite legally—hunt for drug cases behind the veil of traffic enforcement. All of these factors fuel our nation’s misdemeanor and traffic courts with a steady flow of cases. This flow of cases will be cut off in the future however, by one of the great landmarks of human technological innovation: *driverless* cars.

Despite some early technological setbacks, driverless cars will eventually have the technological capability to operate flawlessly. Unlike you and I, who probably commit several traffic offenses on even the shortest drives, driverless cars will someday navigate traffic code thickets with digital precision and perfect compliance. That same digital precision also promises significant improvements in road safety. Driverless cars will be undistracted by things such as crying babies, spilled sodas, or texts from mom. They will never be drowsy or intoxicated. By harnessing massive CPU power and algorithms, they will make split-second accident avoidance decisions far superior to those made by humans.

Traffic stops, traffic tickets, and traffic accidents all are destined for history’s impound when driverless cars rule the roads. And when they do, they will have a significant impact on criminal justice resource allocations in the areas of policing, public safety, and the adjudication of criminal cases. By taking a deep-dive into one particular jurisdiction, this Article attempts to quantify the impact on misdemeanor cases in particular.¹ Broader aspects of

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1. This Article defines “misdemeanors” as non-felony criminal offenses for which a defendant may be subjected to jail time. “Traffic offenses” are simple citation-only offenses for which a defendant is usually not subjected to jail time.

the impact will also be explored. Section I of the Article will provide background information on driverless car technology. Next, in Section II, the Article will explore the significance of misdemeanor cases, traffic cases, and police traffic accident responses. Lastly, Section III will use the foundation established in Section II to discuss what impact driverless cars may have on criminal justice resource allocation and policing more broadly.

I. DRIVERLESS CAR TECHNOLOGY BACKGROUND

Driverless cars promise to be one of the great technological innovations in human history.² This innovation will usher the extinction of the conventional human-controlled car, “arguably one of the most underutilized, polluting, time-consuming and dangerous machines on Earth.”³ Beyond a drastic reduction in the frequency of crashes,⁴ driverless cars should improve mobility options for the disabled and the elderly, reduce energy and fuel emissions, save transportation costs, and increase productivity.⁵

But will driverless cars be as safe as their proponents extoll?⁶ As one scholar has noted, “technology is imperfect and often only as good as the

2. When referring to “driverless cars,” this Article means National Highway Traffic Safety Administration (NHTSA) Level-5, fully-automated cars. *See Automated Vehicles for Safety*, NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., <https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety> (last visited Jan. 6, 2020).
3. Adam Jonas, *Shared Mobility on the Road of the Future*, MORGAN STANLEY (Jun. 15, 2016), <http://www.morganstanley.com/ideas/car-of-future-is-autonomous-electric-shared-mobility/>.
4. *See* Brandon Schoettle & Michael Sivak, *A Preliminary Analysis of Real-World Crashes Involving Self-Driving Vehicles*, UNIV. OF MICH. TRANSP. RESEARCH INST., Rep. No. UMTRI-2015-34 (Oct. 2015), <http://www.umich.edu/~umtriswt/PDF/UMTRI-2015-34.pdf> (presenting results of a comparative study of the on-road safety record of self-driving cars that showed self-driving cars were at fault in *none* of the accidents in which they were involved).
5. Orly Ravid, *Don’t Sue Me, I Was Just Lawfully Texting & Drunk When my Autonomous Car Crashed into You*, 44 SW. L. REV. 175, 183–84 (2014); *see also* Michelle L.D. Hanlon, *Self-Driving Cars: Autonomous Technology That Needs A Designated Duty Passenger*, 22 BARRY L. REV. 1, 3 (2016) (“Self-driving cars are poised to usher in a new world order wherein the incidents of vehicular accidents are greatly reduced, saving lives and costs associated with both property damage and injury; fuel efficiency soars; and productivity snowballs.”).
6. Over 290 million miles of test-driving without a fatality are required to support a claim, within a 95% confidence interval, that driverless cars are as safe as human drivers. Alexander Hars, *Top Misconceptions of Autonomous Cars and Self-Driving Vehicles*, INVENTIVIO GMBH (Sept. 2016), <http://www.inventivio.com/innovationbriefs/2016-09/Top-misconceptions-of-self-driving-cars.pdf>.

humans programming it, feeding it information, or operating it.”⁷ Even if programmed to drive with near-perfection, driverless cars may “face a long list of rare circumstances that could be difficult to handle . . . unusual circumstances [sometimes] called edge cases.”⁸ Despite early analysis showing that driverless cars had not caused any of the accidents they were involved in,⁹ not all headlines have been halcyon.¹⁰ The headline perhaps most damaging to the technology’s momentum occurred in March 2018 when an Uber car in self-driving mode struck and killed a pedestrian in Tempe, Arizona.¹¹ The pedestrian, a 49-year-old woman walking a bike, came out from a dark center median into oncoming traffic when the car hit her.¹² Perhaps this accident was one of the edge cases,¹³ but it drew widespread media coverage, chiefly because the accident involved a driverless car. Every day, human drivers kill pedestrians—events that garner, at most, brief mentions in local police blotters.¹⁴ Nonetheless, the Tempe accident caused Uber and other companies to

7. See Ravid, *supra* note 5.
8. Matt McFarland, *Driverless Cars: A Tremendous Innovation With a Glaring Achilles’ Heel*, WASH. POST (Mar. 16, 2015), <https://www.washingtonpost.com/news/innovations/wp/2015/03/16/driverless-cars-a-tremendous-innovation-with-a-glaring-achilles-heel/>.
9. See Schoettle & Sivak, *supra* note 4.
10. See, e.g., Jacob Davidson, *This Car Safety Demo Went Terribly Wrong*, MONEY (May 26, 2015), <http://time.com/money/3896931/volvo-self-parking-accident/>; Alex Davies, *Google’s Self-Driving Car Caused Its First Crash*, WIRED (Feb. 29, 2016), <https://www.wired.com/2016/02/googles-self-driving-car-may-caused-first-crash/>; Andrew Liptak, *A Self-Driving Uber Ran a Red Light Last December, Contrary to Company Claims—Internal Documents Reveal That the Car Was at Fault*, VERGE (Feb. 25, 2017), <https://www.theverge.com/2017/2/25/14737374/uber-self-driving-car-red-light-december-contrary-company-claims>; Timothy B. Lee, *A Cruise Self-Driving Car Got a Traffic Ticket—GM Says It Did Nothing Wrong*, ARSTECHNICA (Mar. 29, 2018), <https://arstechnica.com/cars/2018/03/a-cruise-car-got-a-traffic-ticket-gm-says-it-did-nothing-wrong/>; Don Melvin, *Cop Pulls Over Google Self-Driving Car, Finds No Driver to Ticket*, CNN.COM (Nov. 13, 2015), <https://www.cnn.com/2015/11/13/us/google-self-driving-car-pulled-over/index.html>.
11. Sydney Maki & Alexandria Sage, *Self-Driving Uber Car Kills Arizona Woman Crossing Street*, REUTERS.COM (Mar. 19, 2018), <https://www.reuters.com/article/us-autos-selfdriving-uber/self-driving-uber-car-kills-arizona-woman-crossing-street-idUSKBN1GV296>.
12. *Uber Has Video That Shows Pedestrian Stepped Suddenly in Front of Self-Driving Car*, ORANGE CTY. REGISTER (Mar. 20, 2018), <https://www.ocregister.com/2018/03/20/uber-video-shows-victim-stepped-suddenly-in-front-of-self-driving-car/>.
13. See McFarland, *supra* note 8.
14. Julia Belluz, *A Self-Driving Uber Car Killed a Pedestrian. Human Drivers Will Kill 16 People Today*, VOX (Mar. 19, 2018), <https://www.vox.com/science->

halt their driverless car testing programs and has prompted calls for tighter government regulation of driverless car technology.¹⁵

But technological innovation rarely proceeds without setbacks.¹⁶ And notwithstanding these early setbacks for driverless car technology, this Article endorses the opinion held by some other legal scholars: driverless cars will eventually have the capability to operate in flawless compliance with traffic laws.¹⁷

II. MISDEMEANORS, TRAFFIC OFFENSES, & TRAFFIC ACCIDENTS

The great majority of state law enforcement and judicial resources are spent on the prosecution and adjudication of misdemeanors.¹⁸ In the United States, each year, prosecutors file an estimated 10–12 million new criminal misdemeanor cases.¹⁹ These cases “make up the majority of prosecutorial and defenders caseloads, half of the government probation office cases, and

and-health/2018/3/19/17139868/self-driving-uber-killed-pedestrian-human-drivers-deadly.

15. *E.g.*, Jason Levine, *Self-Driving Uber Death Should Be a Safety Wake-Up Call for Congress*, HILL (Mar. 29, 2018), <http://thehill.com/opinion/technology/380845-self-driving-uber-death-should-be-a-safety-wake-up-call-for-congress>.
16. Consider, for example the U.S. Space Program. *See* Sarah Larimer, ‘We Have a Fire in the Cockpit!’ *The Apollo 1 Disaster 50 Years Later*, WASH. POST (Jan. 26, 2017), <https://www.washingtonpost.com/news/speaking-of-science/wp/2017/01/26/50-years-ago-three-astronauts-died-in-the-apollo-1-fire/>; Elizabeth Howell, *Challenger: Shuttle Disaster That Changed NASA*, SPACE.COM (May 1, 2019), <https://www.space.com/18084-space-shuttle-challenger.html>.
17. *E.g.*, Orin Kerr, *How Self-Driving Cars Could Determine the Future of Policing*, WASH. POST (June 16, 2017), <https://www.washingtonpost.com/news/volokh-conspiracy/wp/2017/06/16/how-self-driving-cars-could-determine-the-future-of-policing/> (“Here’s the interesting part of the picture, I think: Self-driving cars can be programmed to drive in perfect compliance with traffic laws.”); Robin Washington, *Autonomous Vehicles Will Mean the End of Traffic Stops*, WIRED (Sept. 30, 2016) <https://www.wired.com/2016/09/autonomous-vehicles-will-mean-end-traffic-stops/> (quoting Joseph A. Schafer, head of the criminal justice department at Southern Illinois University: “I think you would see the end of traffic stops.”).
18. *See, e.g.*, Alexandra Natapoff, *Misdemeanors*, 85 S. CAL. L. REV. 1313, 1314–15 (2012) (“But [felony cases] are only the tip of the iceberg. An estimated ten million misdemeanor cases are filed annually, flooding [the] lower courts, jails, probation offices, and public defender offices.”).
19. *Id.* at 1315; *see also* Nat’l Ctr. for State Courts, 2016 Criminal Incoming Caseload – Trial Courts (reporting 15,016,388 new criminal cases with approximately 75%, or 11.4 million, being misdemeanors).

fuel a growing private probation industry.”²⁰ The misdemeanor case is “in fact the paradigmatic U.S. criminal case.”²¹ Many of these misdemeanor cases stem from arrests for drug offenses. Roughly 80% to 85% of the approximate 1.6 million drug arrests in 2016 were most likely for misdemeanor drug possession.²² The scholarly literature is almost uncontroversial that the “war on drugs” has dramatically increased mass incarceration rates,²³ fostered racial and socioeconomic discrimination,²⁴ and, more generally, has left a “searing imprint . . . on the U.S. criminal justice system and on American society.”²⁵

Beyond the war on drugs, what other factors contribute to the volume of misdemeanor cases? Expanding substantive criminal codes may have some role.²⁶ Perhaps the “Broken Windows” theory and its associated “New Policing” models, focused on “[a]rrests for low-level misdemeanors, as well as noncustodial citations or summonses,” are factors.²⁷ But a large number of misdemeanor cases share a common originating factor: traffic stops.²⁸ Many traffic stops are made pretextually, meaning the officer’s actual motivation for conducting the traffic stop is something other than traffic enforcement. As long as the officer is not motivated by racial bias, pretextual stops are

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20. Alexandra Natapoff, *Misdemeanor Decriminalization*, 68 VAND. L. REV. 1055, 1063 (2015).
 21. *Id.*; but see Juleyka Lantigua-Williams, *Are Prosecutors the Key to Justice Reform?*, ATLANTIC (May 18, 2016), <https://www.theatlantic.com/politics/archive/2016/05/are-prosecutors-the-key-to-justice-reform/483252/> (citing Fordham Law Professor John Pfaff’s data indicating that in 1994, one of every three arrests were for felony cases, but by the end of the 2000s, felonies were two out of every three arrests).
 22. FED. BUREAU OF INVESTIGATION, CRIME IN THE UNITED STATES – TABLE 18: ESTIMATED NUMBER OF ARRESTS, (2016), <https://ucr.fbi.gov/crime-in-the-u.s/2016/crime-in-the-u.s.-2016/topic-pages/tables/table-18>; *Crime, Arrests, and Law Enforcement*, DRUG WAR FACTS, https://www.drugwarfacts.org/chapter/crime_arrests (last visited Jan. 9, 2020) (noting that, historically, the Federal Bureau of Investigation (FBI) has broken out drug offense data between “possession” and “sale or manufacturing” arrests but did not do so for 2016. Possession offenses have historically been 80–85% of the arrest total).
 23. Heather Schoenfeld, *The War on Drugs, the Politics of Crime, and Mass Incarceration in the United States*, 15 J. GENDER RACE & JUST. 315, 319–20 (2012).
 24. Benjamin Levin, *Guns and Drugs*, 84 FORDHAM L. REV. 2173, 2179 (2016).
 25. *Id.*
 26. Cf. William J. Stuntz, *The Pathological Politics of Criminal Law*, 100 MICH. L. REV. 505, 513–14 (2001) (illustrating the phenomenal growth in the number of defined offenses in state and federal criminal codes).
 27. Jeffrey Fagan & Elliott Ash, *New Policing, New Segregation: From Ferguson to New York*, 106 GEO. L.J. ONLINE 33, 34–35 (2017).
 28. See *infra* notes 51–56 and accompanying text.

constitutional.²⁹ Unsurprisingly, they frequently occur in high-crime and high-drug areas. In these areas, an apparently “routine traffic stop” often goes something like this:

[I]t is only a matter of time before some technical or trivial offense produces the necessary excuse for a traffic stop. Perhaps because the offenses are often so insignificant, the driver may be told at the outset that he will merely be given a warning. But then things get ugly. As a part of the “routine,” a criminal-history and outstanding-warrants records check is run on the driver and passengers; they are closely questioned about their identities, the reason for their travels, their intended destinations, and the like, and may be quizzed as to whether they have drugs on their persons or in the vehicle. The driver may be induced to submit to a full search of his vehicle, or a drug-sniffing dog may appear on the scene and “do his thing.”³⁰

Officers can easily find a technical or trivial traffic offense because state and local traffic codes are chock-full of them. The Texas Transportation Code title concerning “Vehicles and Traffic” is almost 800 pages long.³¹ Chapter 28 from the Dallas City Code, “Motor Vehicles and Traffic,” is over 200 pages long.³² Of course, all of these pages do not define offenses. But buried within the byzantine bailiwicks of these codes are literally hundreds of varied traffic offenses available to ensnare all but the most exacting of drivers.

Between the traffic codes and their ensnarements supposedly stands the Fourth Amendment. A routine traffic stop is considered a Fourth Amendment “seizure” of the car’s driver.³³ The stopping officer needs at least a reasona-

29. *Whren v. United States*, 517 U.S. 806 (1996); *see also* Kerr, *supra* note 17 (“Although part of the police interest in traffic enforcement relates to traffic safety, a lot of it also relates to enforcing other laws. The Supreme Court has repeatedly held that the police can use traffic stops pretextually. What the officer is really trying to do doesn’t matter . . . as long as the officer has a valid basis for stopping a car for a traffic violation.”).

30. Wayne R. LaFave, *The Routine Traffic Stop from Start to Finish: Too Much Routine, Not Enough Fourth Amendment*, 102 MICH. L. REV. 1843, 1845 (2004); *but see* *Rodriguez v. United States*, 135 S. Ct. 1609 (2015) (holding that officers cannot extend an otherwise-completed traffic stop, absent reasonable suspicion, in order to conduct a drug dog sniff).

31. *See* TEX. TRANSP. CODE §§ 500.001–1006.155.

32. *See* DALL. TEX., CITY CODE vol. I, ch. 28 (2019), [http://library.amlegal.com/nxt/gateway.dll/Texas/dallas/cityofdallastexascodeofordinances?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:dallas_tx](http://library.amlegal.com/nxt/gateway.dll/Texas/dallas/cityofdallastexascodeofordinances?f=templates$fn=default.htm$3.0$vid=amlegal:dallas_tx).

33. *See* *Delaware v. Prouse*, 440 U.S. 648, 659 (1979) (noting that a decision to stop an automobile is, of course, also reasonable if police have probable cause that a traffic violation has occurred).

ble suspicion that the driver has committed some offense.³⁴ Additionally, the driver's car is considered a Fourth Amendment "effect,"³⁵ and therefore, the stopping officer, absent a constitutional exception, cannot legally search it without a warrant.³⁶

Constitutional exceptions abound, however. The Supreme Court, by finding a lesser privacy interest in cars, has all but eviscerated the Fourth Amendment protections within them.³⁷ Amidst the Amendment's entrails are exceptions that allow for a search without a warrant: (1) the car's passenger compartment for weapons;³⁸ (2) the passenger compartment incident to arrest of the car's occupant;³⁹ (3) the entire car—including the occupant's personal containers⁴⁰—if the officer has probable cause to believe the car contains criminal evidence;⁴¹ (4) the entire car to inventory its contents for routine "administrative caretaking" purposes;⁴² and (5) certain commercial vehicles operating within pervasively regulated industries.⁴³ The driver's consent to a warrantless search is yet another, and perhaps the most frequently used, exception.⁴⁴ All of these exceptions have rendered the Fourth Amendment languorous towards privacy interests within cars. This enables patrol officers, operating under the camouflage of traffic enforcement, to pretextually hunt for drug and weapons charges.

34. *Terry v. Ohio*, 392 U.S. 1, 21 (1968) (defining reasonable suspicion as "specific and articulable facts which, taken together with rational inferences from those facts" reasonably warrant the conclusion that "criminal activity may be afoot").
35. *Cady v. Dombrowski*, 413 U.S. 433, 439 (1973).
36. U.S. CONST. amend. IV.
37. *E.g.*, *Almeida-Sanchez v. United States*, 413 U.S. 266, 279 (1973) (Powell, J., concurring) ("The search of an automobile is far less intrusive on the rights protected by the Fourth Amendment than the search of one's person or of a building."); *S. Dakota v. Opperman*, 428 U.S. 364, 368 (1976) (quoting *Cardwell v. Lewis*, 417 U.S. 583, 590 (1974) ("One has a lesser expectation of privacy in a motor vehicle . . . A car has little capacity for escaping public scrutiny. It travels through public thoroughfares where both its occupants and its contents are in plain view.")).
38. *Michigan v. Long*, 463 U.S. 1032 (1983).
39. *Arizona v. Gant*, 556 U.S. 332 (2009).
40. *California v. Acevedo*, 500 U.S. 565 (1991); For cell phones and other digital personal containers, see *Riley v. California*, 134 S. Ct. 2473 (2014).
41. *Carroll v. United States*, 267 U.S. 132 (1925).
42. *S. Dakota v. Opperman*, 428 U.S. 364 (1976).
43. *New York v. Burger*, 482 U.S. 691 (1987).
44. *Schneckloth v. Bustamonte*, 412 U.S. 218 (1973); *Ohio v. Robinette*, 519 U.S. 33 (1996); see also Christo Lassiter, *Consent to Search by Ignorant People*, 39 TEX. TECH L. REV. 1171, 1171–72 (2007).

Stops honestly motivated by traffic safety interests generate a large number of misdemeanor cases. These cases happen when the arrest offense is more serious than a simple traffic violation but still related to the operation of the vehicle.⁴⁵ Driving while intoxicated (DWI) and driving under the influence (DUI) charges are the misdemeanor juggernauts in this category.⁴⁶

When driverless cars are widely adopted, and if they are able to “drive in perfect compliance with the traffic laws,”⁴⁷ then traffic stops and citations for traffic law infractions will be vanishingly rare.⁴⁸ What impact might this have on the volume of misdemeanor cases in our criminal justice system? The question is difficult to answer, because our criminal justice “system” is really an amalgam of numerous state and local criminal justice systems.⁴⁹ Case data often remains at the county level, “trapped in arcane, disconnected databases, and sometimes even in filing cabinets.”⁵⁰ Deriving and compiling meaningful statistical data on traffic-stop-related cases nationwide is therefore a daunting task. But some insight can be gleaned by looking at an individual jurisdiction.

Take, for example, the large metropolitan county of Dallas, Texas.⁵¹ In 2017, the Dallas County District Attorney’s Office (DCDA) filed approximately 33,650 Class A and Class B misdemeanor cases—a rate of about 1,350 cases per 100,000 residents.⁵² Approximately 20% of the cases were possession of marijuana charges, 16% were DWI charges, and 3% were unlawful carrying of weapons charges.⁵³ These charges are frequently—almost

45. See, e.g., TEX. PENAL CODE ANN. § 49.04; TEX. TRANSP. CODE ANN. § 545.401; TEX. TRANSP. CODE ANN. § 545.420 (West 2018).

46. 1.1 million drivers were arrested in 2014 for driving under the influence of alcohol or narcotics. *Crime in the United States: 2014*, FED. BUREAU INVESTIGATION, <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s./2014/crime-in-the-u.s.-2014/tables/table-29> (last visited Jan. 12, 2020).

47. See KERR, *supra* note 17.

48. 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, 661–62 (2015).

49. Issie Lapowsky, *Florida Could Start a Criminal-Justice Data Revolution*, WIRED (Mar. 13, 2018), <https://www.wired.com/story/florida-criminal-justice-data-sharing/>. The federal criminal justice system is a part of the amalgam as well.

50. *Id.*

51. As of July 2017, Dallas County had an estimated population of 2.5 million people.

52. See generally *Dallas County Public Information Act Reports*, DALL. CTY., <https://www.dallascounty.org/dcpia/captcha> (last visited Jan. 12, 2020).

53. See *id.* (6,440, 5,498, and 1,057 cases, respectively. Of the remaining 60% of charges, the bulk are assault, theft, and trespass charges; these charges are rarely associated with cars and car searches.).

exclusively with DWI charges—associated with cars and car searches.⁵⁴ To estimate how many of these cases originated from traffic-related contacts,⁵⁵ the author surveyed probable cause affidavits for all of the approximate 1,000 Class A and Class B misdemeanor cases filed by the Dallas Police Department (DPD) for the month of January 2017.⁵⁶ Almost exactly one third of those cases originated from traffic-related contacts with law enforcement officers.

These misdemeanor traffic-related contacts were in the following categories:

Accidents	21.3%	License plate checks (warrant hits)	5.2%
Various moving violations	11.3%	Swerving/failure to maintain lane	4.6%
License plate checks (invalid registration/insurance)	11.0%	Driving without headlights at night	4.0%
Vehicle equipment violations	10.1%	Passed out / asleep at the wheel	4.0%
Failure to stop (stop signs and traffic lights)	9.8%	Driving wrong direction on a street	2.4%
Speeding	7.6%	Illegal parking	1.5%
Failure to signal lane change	5.8%	Seatbelt violations	1.5%

Driverless cars arguably would not eliminate all of these contacts. Certainly, there will be some small number of traffic accidents and, relatedly, laws requiring seatbelts would therefore remain. Vehicle equipment violations would still be in play, as would invalid registration and insurance violations, and perhaps warrant hits.⁵⁷ However, the rate of contacts for these four categories should still decrease since a large portion of the driverless cars on the road will likely be owned, maintained, and insured by large companies as fleets.⁵⁸ Nonetheless, even with total exclusion of these four categories, and allowing for the occurrence of some accident-related contacts, driverless cars could reduce traffic-related misdemeanor contacts in Dallas County by

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54. This author did note two boating while intoxicated charges in the dataset. After driverless cars, will skipperless boats come next?
55. Incidents involving traffic stops or traffic accident responses by police officers.
56. The DCDA prosecutes cases filed from numerous law enforcement agencies within Dallas County. However, due to the limited search functionality of the county's website, the only way to get a complete temporal dataset is to isolate a single agency. DPD was chosen because it generates more cases for the DCDA than any other law enforcement agency does.
57. See John Frank Weaver, *Why Police Might Pull Over Self-Driving Cars*, SLATE (June 27, 2016), http://www.slate.com/articles/technology/future_tense/2016/06/why_police_might_pull_over_self_driving_cars.html (noting that “[t]he car may be a safe driver, but that doesn’t mean it takes care of itself. Cars still need to be maintained properly, and state and federal regulations designed to ensure that cars are in safe condition will likely remain.”).
58. See Washington, *supra* note 17 (noting that “[t]he drivers may not own the vehicles, which could be part of a Google or General Motors fleet that picks up and drops off riders all day long.”).

around 65% to 70%.⁵⁹ Extrapolating this rate to Dallas County overall, driverless cars might eliminate 8,500 to 9,200 misdemeanor cases per year, or about 25% of Dallas County's total misdemeanor caseload.⁶⁰ At the state level, driverless cars might eliminate 100,000 Texas misdemeanor cases per year.⁶¹ Nationally, they might eliminate as many as 3,000,000 cases annually.⁶²

Driverless cars will probably reduce the volume of simple traffic offense cases as well. As of 2016, there were nearly 45 million active traffic offense cases in the United States.⁶³ In Texas alone, officers filed 5.3 million new traffic cases in justice and municipal courts in 2017.⁶⁴ About 75% of these traffic cases resulted from vehicle-in-motion violations,⁶⁵ precisely the type of violations that driverless cars should be programmatically prohibited from committing.⁶⁶ On the national level, that would eliminate about 30 mil-

59. This estimate is consistent with 2008 Bureau of Justice Statistics data on traffic stops as well—75.4% of the stops were predicated by vehicle-in-motion violations such as speeding, illegal turns/lane changes, stop sign/light violations, reckless driving, cell phone use while driving, and following too closely. *See* Christine Eith & Matthew R. Durose, *Publications and Products: Contacts Between Police and the Public, 2008*, BUREAU JUST. STATS. 10, tbl. 10 (Oct. 5, 2011), <https://www.bjs.gov/index.cfm?ty=pbse&sid=18>.
60. Note that a significant portion of *felony* cases might be eliminated as well. A full third of the felony cases charged by DCDA in 2017 were for drug offenses. In addition, DCDA charged 600 felony DWI-related cases for repeat DWI, intoxication assault, and intoxication manslaughter offenses. However, analysis of felony charges is outside the scope of this Article. *See Dallas County Public Information Act Reports*, *supra* note 52.
61. 403,375 new misdemeanor cases were filed in 2017. *Annual Statistical Report for the Texas Judiciary, Fiscal Year 2017*, OFF. OF CT. ADMIN. Detail-43, <https://www.txcourts.gov/media/1441397/ar-fy-17-final.pdf> (last visited Jan. 12, 2020).
62. It wouldn't be the first time that technology has reduced certain misdemeanor offense caseloads. Take the displacement of check writing by debit/credit card point-of-sale systems—new Texas misdemeanor cases for “Theft by Check” have decreased by 76% in the past five years. Of course, credit/debit fraud offenses have surely increased. *Id.* at Statewide-18.
63. This includes non-criminal traffic violations, parking and ordinance violations, and other traffic/violation case types. *See Traffic Caseloads*, NAT'L CTR. FOR STATE COURTS, <http://www.courtstatistics.org/NCSC-Analysis/Traffic.aspx> (last visited Jan. 12, 2020).
64. *Annual Statistical Report for the Texas Judiciary, Fiscal Year 2017*, *supra* note 61, at Detail-45.
65. *See* Eith & Durose, *supra* note 59.
66. *But see* Jonathan O'Callaghan, *Google's Driverless Cars Will EXCEED Legal Speed Limits so They Can Keep Up With Other Drivers*, DAILY MAIL (Aug. 21, 2014), <http://www.dailymail.co.uk/sciencetech/article-2730818/The-need->

lion traffic cases per year. Of greater importance, driverless cars should eliminate a large number of deaths and serious injuries. About 35,000 fatal traffic accidents occur annually in the United States.⁶⁷ Those fatal accidents, along with 2.2 million other non-fatal injury accidents, almost always require on-scene response by law enforcement officers.⁶⁸

III. IMPACT OF DRIVERLESS CARS ON CRIMINAL JUSTICE RESOURCE ALLOCATION

Whatever the precise numbers are, it is fair to say that driverless cars will markedly decrease the volume of misdemeanor cases, traffic cases, and traffic accidents that occur in the United States each year and therefore significantly impact government resources and budgets. Compiling disparate government budgetary data is challenging, but it is easy to ponder the financial windfalls that driverless cars might deliver. Would police departments need as many patrol officers? Could city and county jails, the usual first stops for arrested misdemeanants, cut their budgets by 25%? And what about the judicial machinery that “moves an endless stream of cases” through our misdemeanor courts?⁶⁹ Misdemeanor courts in Dallas County have an aggregate budget of over \$7.5 million.⁷⁰ A good chunk of the county’s \$60 million salaries budget for assistant district attorneys and public defenders is used to prosecute and defend cases in those courts.⁷¹ Driverless cars may enable large metropolitan counties to cut millions of dollars from their budgets or to reallocate those savings to other functions. Similarly, the reduction in traffic accidents should free up officers who respond to accident calls so that they may instead respond to more crime calls. The DPD alone responded to over 10,000 traffic accidents during 2017; over a third of those were for major accidents.⁷² Decreased misdemeanor and traffic cases, coupled with fewer accident-response calls, could generate substantial financial resource savings.

speed-Google-driverless-cars-EXCEED-legal-limits-safety-reasons-says-engineer.html.

67. *Police-Reported Motor Vehicle Traffic Crashes in 2016*, NAT’L HIGHWAY TRAFFIC SAFETY ADMIN. (Mar. 2018), <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812501>.

68. There are also over 5.0 million property-damage-only (PDO) traffic accidents each year and many of those require law enforcement response as well. *See id.*

69. *See* Herbert L. Packer, *Two Models of the Criminal Process*, 113 U. PA. L. REV. 1, 3 (1963).

70. *Dallas County Fiscal Year 2017–2018 Budget*, DALL. CTY. OFF. OF BUDGET & EVAL. (Sept. 17, 2017), https://www.dallascounty.org/Assets/uploads/docs/budget/fy2018/FY2018_BudgetDetail.pdf.

71. *Id.*

72. Of course, many of these responses also resulted in the initiation of some of the misdemeanor case. *See supra* Section II. *See DPD Incidents*, DALL. OPEN

On the other hand, state and local governments generate substantial revenue from conventionally driven cars and the offenses their drivers commit. This kind of offender-driven revenue, sometimes called “legal financial obligations” (LFOs), includes receipts for things like booking fees, pretrial diversion fees, clerk and court cost assessments, fines, probation fees, and expungement fees.⁷³ Government criminal justice agencies “increasingly rely on the income from LFOs to fund ordinary system operations and to expand the system’s reach.”⁷⁴ Fines for traffic tickets in particular comprise a large percentage of revenue for state and local governments.⁷⁵ Beyond the reduction in traffic tickets, widespread adoption of driverless cars might also reduce the number of people who want a driver’s license in the first place. What impact would this have on the \$200 million Texas collects each year for driver’s license fees and surcharges?⁷⁶ Although lost fees, fines, and other LFOs may be an offset, driverless cars should still generate meaningful resource savings for police departments and other criminal justice system actors.

Rather than reducing government budgets, criminal justice policymakers could redeploy the resource savings in a related way: by investing in driverless car technology for law enforcement use. Driverless cars themselves should enhance law enforcement’s ability to investigate and prosecute crimes. Driverless patrol cars equipped with license plate readers and surveillance cameras could be integrated into real-time surveillance systems.⁷⁷ These mobile surveillance units could be programmed to patrol high-crime areas and “look for patterns of suspicious activity,” such as hand-to-hand transactions indicative of drug sales or quick movements indicative of robberies.⁷⁸ A driverless patrol car could pursue and monitor a suspect into areas beyond the coverage of fixed surveillance systems, all while “transmitting camera feeds to a central facility that would dispatch officers” as needed.⁷⁹

DATA, <https://www.dallasopendata.com/Public-Safety/Police-Incidents/tbnj-w5hb/data#column-menu>.

73. Wayne A. Logan & Ronald F. Wright, *Mercenary Criminal Justice*, U. ILL. L. REV. 1175, 1177 (2014).

74. *Id.*

75. Torie Atkinson, *A Fine Scheme: How Municipal Fines Become Crushing Debt in the Shadow of the New Debtors’ Prisons*, 51 HARV. C.R.-C.L. L. REV. 189, 195–96 (2016).

76. Glenn Hegar, *Biennial Revenue Estimate 2018–2019*, TEX. COMPTROLLER PUB. ACCOUNTS (Jan. 9, 2019), <https://comptroller.texas.gov/transparency/reports/biennial-revenue-estimate/2018-19/>.

77. See ANDREW GUTHRIE FERGUSON, *THE RISE OF BIG DATA POLICING: SURVEILLANCE, RACE, AND THE FUTURE OF LAW ENFORCEMENT* 84–106 (2017).

78. *Id.*

79. Paul J. Pearah, *Opening the Door to Self-Driving Cars: How Will This Change the Rules of the Road?*, 18 J. HIGH TECH. L. 38, 67 (2017).

As scary as it sounds, armored and weaponized driverless police vehicles could be used to safely contain—and even end—outdoor active shooter situations.⁸⁰ Beyond law enforcement’s direct use of driverless car technology, all of the imagery and data collected by *non-law* enforcement driverless cars will become an evidentiary treasure trove for officers trying solve crimes.⁸¹ This imagery and data will enable officers to reconstruct past events and put together a detailed record of a person’s movements.⁸² The network connectivity of driverless cars would enable law enforcement officers to monitor suspect movement on a real-time basis. At the time of arrest, police could use the same connectivity to remotely disable the suspect’s driverless car or, more conveniently, the suspect’s car “could be . . . instructed to child-lock its doors from the inside and drive itself to the police station.”⁸³ Of course, these types of investigative techniques would raise Fourth Amendment search and seizure considerations.⁸⁴ To what degree would depend on several different factors, including whether the collection was of real-time or historical location records, whether the driverless car was owned by a third-party or the occupant, any agreements with third-parties concerning the car’s data collection, and what sort of legal process law enforcement officers had. However, assuming Fourth Amendment compliance, driverless cars should become useful tools for law enforcement.

Unfortunately, driverless cars might be useful tools for criminals as well. Removal of the pretextual traffic stop, “one of the most valuable tools of policing,”⁸⁵ may foster more crime inside of driverless cars. Crime within driverless cars may be further fostered by 360-degree blacked-out window

80. Cf. Peter W. Singer, *Police Used A Robot To Kill – The Key Questions*, CNN (July 10, 2016), <https://www.cnn.com/2016/07/09/opinions/dallas-robot-questions-singer/index.html> (describing the Dallas Police Department’s use of bomb robot to kill active shooter Micah Xavier Johnson). *But see* RADLEY BALKO, *RISE OF THE WARRIOR COP: THE MILITARIZATION OF AMERICA’S POLICE FORCES* (2014).

81. See Lindsey Barrett, *Herbie Fully Downloaded: Data-Driven Vehicles and the Automobile Exception*, 106 GEO. L.J. 181, 187–88 (2017); cf. Adrienne LaFrance, *How Self-Driving Cars will Threaten Privacy*, ATLANTIC (Mar. 21, 2016), <https://www.theatlantic.com/technology/archive/2016/03/self-driving-cars-and-the-looming-privacy-apocalypse/474600/> (driverless “cars will collect reams of information about the people they drive around—like the data Uber has amassed about its customers’s transportation habits, but down to a level of detail that’s astonishing.”).

82. See Kerr, *supra* note 17.

83. See Washington, *supra* note 17.

84. As to historical location records, see *Carpenter v. United States*, 138 S. Ct. 2206 (2018). As to real-time location monitoring, see *United States v. Jones*, 132 S. Ct. 945, 964 (2012) (Alito, J., concurring).

85. See Washington, *supra* note 17.

tinting.⁸⁶ Laws regulating window tinting are aimed at ensuring driver visibility,⁸⁷ but those laws would be unnecessary for driverless cars. For smugglers, driverless cars would make ideal couriers. Driverless cars could be loaded with drugs or other contraband and, if interdicted, would not “flip” and cooperate with law enforcement like human couriers might. More gravely, driverless cars could be loaded with explosives or biological weapons and used as instruments of terrorism.⁸⁸ Resources freed from the investigation and prosecution of misdemeanors and traffic offenses may be rapidly absorbed by the investigation and mitigation of new criminal threats posed by driverless cars.

Exactly how criminal justice resources will shift remains to be seen. But it seems certain that driverless cars will indeed cause a major shift.

IV. CONCLUSION

By analyzing one jurisdiction at a granular level, this Article has illustrated that one-quarter of the misdemeanor cases adjudicated in our criminal justice system may be eliminated once driverless cars achieve widespread adoption. As many as 30 million traffic offense cases, and over 2 million traffic accidents may disappear as well. Admittedly, these conclusions rest upon a premise generally assumed by this Article—that driverless cars are going to be as good as everyone says they’ll be. Recent events cast some doubt on that premise. Moreover, widespread adoption of driverless cars with the technological capability to operate flawlessly may not occur for decades.

If and when they do achieve that adoption, however, driverless cars will have a significant impact on our criminal justice system. The elimination of numerous misdemeanor cases, traffic cases, and accidents will assuredly alter resource allocations within that system. More broadly, they will alter how crimes are investigated and committed.

86. *Contra* Cardwell v. Lewis, 417 U.S. 583, 590 (1974) (“A car has little capacity for escaping public scrutiny. It travels through public thoroughfares where *both its occupants and its contents are in plain view.*”) (emphasis added).

87. *See* Weaver, *supra* note 57.

88. *E.g.*, Kelsey D. Atherton, *ISIS Shows Off A Driverless Carbomb*, POPULAR SCIENCE (Jan. 6, 2016), <https://www.popsoci.com/isis-shows-off-driverless-carbomb>; *see also* Mark HARRIS, *FBI Warns Driverless Cars Could Be Used as ‘Lethal Weapons,’* GUARDIAN (July 16, 2014), <https://www.theguardian.com/technology/2014/jul/16/google-fbi-driverless-cars-lethal-weapons-autonomous>.