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TO PROTECT AND SERVE, BUT NOT DRIVE: POLICE USE OF AUTONOMOUS VEHICLES

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ABSTRACT

This paper will discuss the rapidly developing technology of autonomous vehicles and the legal ramifications of police departments across the country using them. This note will discuss that when autonomous vehicles become commercially viable and available, law enforcement could use these autonomous vehicles, allowing their officers to use their time more efficiently due to autonomous vehicles taking on the load of traffic patrol. This paper also discusses how autonomous vehicles used for law enforcement will result in an increased level in officer safety. Additionally, the argument will be made that these vehicles will result in less officer discretion and subjectivity, and will be a better vehicle for legally permissible evidence gathering.

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INTRODUCTION

Images of *Knight Rider*, *Herbie the Love Bug*, or HAL from *2001: A Space Odyssey* might be the first thing people think of when discussing artificial intelligence and self-driving vehicles, but that is quickly changing. While a self-driving car used to be just a pipe dream, an ever-increasing number of car manufacturers are taking off with the concept, but technology still needs to be developed and perfected before autonomous vehicles can be mass-produced and used for daily use. Currently, fully autonomous vehicles have traveled safely at speeds up to 31 miles per hour.[2] Car manufacturers including General Motors, Audi, Nissan, and BMW all expect fully autonomous, driverless cars to be in dealership showrooms by 2020.[3]

As curiosity and demand for these vehicles increase, the need for understanding how the law applies to them also increases. This leads to an important question that could have major implications for the future: what if police departments use this technology to patrol the streets and keep cities safe? This note will analyze and attempt to answer these questions, and will also discuss the technological history of autonomous vehicles, as well as the evolution of applicable law that will dictate the use of these "driverless" cars. This essay will be broken down into several parts. Part I will give a brief rundown of how autonomous vehicle technology works. Part II will discuss the legality of vehicle automation and the technologies inside the car, including how many of these technologies not only currently exist, but are legally permissible for crime prevention and surveillance purposes. Part II will also look at social acceptability of autonomous

[2] Early prototypes, such as Volvo's autonomous vehicles, are expected to roll out as soon as 2014. Volvo's model has the capability to autonomously drive safely up to 31 miles per hour. Charles Duxbury & John D. Stoll, *Volvo Plans to Roll Out Self-Driving Cars in 2014*, WALL. ST. J. DRIVER'S SEAT BLOG (Dec. 3, 2012, 10:00 AM), http://blogs.wsj.com/drivers-seat/2012/12/03/volvo-plans-to-roll-out-self-driving-cars-in-2014/.

[3] Dan Bigman, *Driverless Cars Coming to Showrooms by 2020, Says Nissan CEO Carlos Ghosn*, FORBES (Jan. 14, 2013, 4:39 PM), http://www.forbes.com/sites/danbigman/2013/01/14/driverless-cars-coming-to-showrooms-by-2020-says-nissan-ceo-carlos-ghosn/.

vehicles patrolling the streets and enforcing laws. Finally, Part III considers how autonomous vehicles will have the capability to take subjectivity, discretion, and potential prejudice out of patrolling and traffic stops, as well as increasing officer safety and efficiency.

I. GETTING FROM POINT "A" TO POINT "B" WITHOUT HUMAN ASSISTANCE

The technology that an autonomous vehicle uses to get around without needing human control is not something that was created overnight. An autonomous vehicle is made up of many different technologies acting together, some of which have been around for decades, others of which have been developed in the last few years. Components like cruise control used in human-controlled vehicles have been around for over 50 years.[4] Other technologies, like front crash prevention and adaptive headlights, are recent innovations that are just now being seen as basic features in cars.[5]

To fully understand what "autonomous" means in the eyes of the law and government regulation, the United States Department of Transportation released a policy statement that categorized autonomous vehicles based on the amount of technology a vehicle uses.[6] These categories, or levels, go from level zero, where no automation is present, all the way to level four, "full automation," where the vehicle is designed to perform all safety-critical driving functions and monitor roadway conditions for an entire trip.[7] This type of design anticipates that

[4] U.S. Patent No. 2,519,859 (filed Aug. 11, 1950).

[5] *Crash Avoidance Technologies*, INS. INST. FOR HIGHWAY SAFETY, http://www.iihs.org/iihs/topics/t/crash-avoidance-technologies/topicoverview (last visited Feb. 13, 2014).

[6] Press Release, U.S. Department of Transportation Releases Policy on Automated Vehicle Development, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., (May 30, 2013) *available at* http://www.nhtsa.gov/About+NHTSA/Press+Releases/U.S.+Department+Transportation+Releases+Policy+on+Automated+Vehicle+Development.

[7] *Id.*

the driver will provide destination or navigation input, but is not expected to control the vehicle at any time during the trip.[8] This level includes occupied and non-occupied vehicles, and safe operation rests solely on the automated vehicle system.[9] For purposes of this essay, any autonomous vehicle discussed for police use will be fully autonomous and non-occupied.

Autonomous vehicles go from destination to destination without human interaction by using a combination of sensors, ultrasound, radar, GPS units, and cameras.[10] Google's autonomous vehicle uses LIDAR, which consists of a constantly spinning unit that houses laser emitters and laser receivers.[11] 64 lasers and receivers are used to create a detailed map of the cars surroundings as it moves.[12] When the LIDAR is connected with the other components of the car with interconnected software, the data is compared with existing maps, allowing the vehicle to get around and avoid any differences in the data and the maps in the software, like people, other cars, or detours.[13] Much of the technologies used here are already in use on the road. Radar is used increasingly in vehicles for safety features like adaptive cruise control and blind spot monitoring.[14] Cameras are used for in-lane keeping systems.[15] Sensors are already used in anti-

[8] *Id.*

[9] *Id.*

[10] Henry Fountain, *Yes, Driverless Cars Know the Way to San Jose,* N.Y. TIMES (Oct. 26, 2012), http://www.nytimes.com/interactive/2012/10/28/automobiles/how-an-autonomous-car-gets-around.html?ref=automobiles.

[11] *Id.*

[12] *Id.*

[13] *Id.*

[14] *Id.* at 2.

[15] Fountain, *supra* note 10, at 2.

lock brakes and stability control systems.[16] GPS devices, whether they are part of the car or in a cell-phone, can already be found in just about every car on the road.[17]

II. LEGALITY AND SOCIAL ACCEPTABILITY OF AUTONOMOUS VEHICLES

A. Analyzing the Legal Aspects of Autonomous Vehicles

Autonomous technology is still relatively young, and the possible combinations of already available technologies with autonomous vehicles will be extremely sophisticated. Trying to completely foresee what will be considered a legal or illegal use and what the public perception of police use will be is a completely imprecise science, so past precedent will be used to try to estimate what might be permissible and socially acceptable.

In determining what might be legally permissible for police in using autonomous vehicles, the Fourth Amendment and its past interpretations will give particularly significant guidance. The Fourth Amendment states:

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.[18]

According to the United States Supreme Court, police activity constitutes a search in one of two ways. The first method that constitutes a search is when law enforcement conduct intrudes upon an actual expectation of privacy, and one that society is prepared to recognize as

[16] *Id.* at 2.

[17] *Id.*

[18] U.S. CONST. amend. IV.

reasonable.[19] The second activity that the Supreme Court deemed to be a search under the Fourth Amendment is when law enforcement physically trespasses on the suspect's property conjoined with an attempt to find something or obtain information.[20]

The *Katz* test came out of a case in which the defendant was convicted of a crime after the government wiretapped a phone booth that the defendant frequented.[21] The court determined that since the phone booth was fully enclosed, it was considered to not be a public place.[22] *Katz* afforded an individual stronger privacy rights, but did imply that conversations in public would not enjoy the same privacy protections.[23] On this point, Justice Stewart noted, "[w]hat a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection. But what he seeks to preserve as private, even in an area accessible to the public, may be constitutionally protected."[24]

As police have used an increasing level of technology for surveillance, patrolling, and evidence gathering, the Supreme Court has had to decide what types of technology are permissible, as well as when they can be used. When determining whether or not certain technologies may be used for policing purposes, courts look to the commercial availability and general public use of such technology.[25] Assuming that autonomous vehicles become fully

[19] Katz v. United States, 389 U.S. 347, 361 (1967).

[20] *See* United States v. Jones, 132 S. Ct. 945 (2011).

[21] *See Katz*, 389 U.S. at 347.

[22] A modern-day example of this would be having a conversation on a cell phone and a police officer walks by. *Id.* at 352.

[23] *Id.*

[24] *Id.*

[25] Kyllo v. United States, 533 U.S. 27, 28 (2001).

regulated and become legally available at car dealerships across the country, allowing use of these vehicles for police use would be a safe conclusion to jump to. The main issue here though is not whether the actual car would be legally permissible. States have already incorporated legislation into their state regulations regarding autonomous vehicles, making it reasonably to assume that the addition of proper future federal regulation would likely create few obstacles to making fully-autonomous vehicles legal.[26] Instead, the main issue is whether the technology used *inside* the vehicle, like cameras, audio recorders, GPS devices, and potentially even thermal cameras would pose any Fourth Amendment problems. Surveillance cameras will be specifically addressed, since they will likely be the most used type of technology inside of an autonomous police vehicle.

The line of cases that have followed Katz have been decided so similarly that the issue may very well be settled, despite the fact that the Supreme Court has never specifically ruled on executive use of surveillance cameras.[27] These cases seems to have come up with a synthesized rule that almost any knowing exposure to a third party could defeat a claimed reasonable expectation of privacy.[28] A criminal that confides in a friend might not even be able to raise a claim for a reasonable expectation of privacy, because there is a risk that his companions may be

[26] NEV. REV. STAT. §482a (2012). Nevada's statute regarding autonomous vehicles require registration, licensing, and a certificate describing geographic locations that autonomous vehicles are allowed to travel. The language found here is significantly similar to the other motor vehicle provisions found in Nevada's statutory code. *See* NEV. REV. STAT. §482 (2012).

[27] *See* Jack M. Balkin, *The Constitution in the National Surveillance State*, 93 MINN. L. REV. 1, 19-20 (2008).

[28] In addition to the reasonable expectation privacy test in *Katz*, the Supreme Court has also kept historical distinctions in place, such as open fields, curtilage, and the home. *See generally* United States v. Dunn, 480 U.S. 294 (1987).

reporting to the police.[29] These decisions have given police tremendous power and ability to use technology to conduct surveillance on suspected criminal activity.

In *Knotts*, the court rejected the defendant's claim that using a GPS device amounted to a search.[30] The court reasoned that a vehicle has little capacity for escaping public scrutiny because it travels through public places where both occupants and its contents are in plain view.[31] Because possible visual surveillance by police could have revealed the same information that the GPS did, there was no reasonable expectation of privacy.[32] In what might amount to a significant understatement of future technology, the court also noted that nothing in the Fourth Amendment keeps the police from "augmenting the sensory faculties bestowed upon them at birth" with such enhancement that technology may afford them.[33] This could potentially give police departments the legal ability to fully equip autonomous vehicles with the most up to date surveillance equipment.

In *United States v. Karo*, the court found that government installation of a tracking device to monitor travel outside the home, where there is no reasonable expectation of privacy, was not a search, and did not afford the defendant any Fourth Amendment protections.[34] This decision reaffirmed the court's ruling in *Knotts*.

In *United States v. Jones*, the court reaffirmed its view that the Fourth Amendment provides no protection to activities conducted in public, but did decide that attaching a GPS

[29] United States v. White, 401 U.S. 745, 752 (1971).

[30] United States v. Knotts, 460 U.S. 276, 285 (1983).

[31] *Id*. at 281.

[32] *Id*.

[33] *Id*. at 282.

[34] *See* 468 U.S. 705 (1984).

device to the defendant's car amounts to a trespass of a constitutionally protected area.[35] This is technically distinguishable from the both *Knotts* and *Karo*, because the GPS devices in those cases were not directly attached to any of the defendant property. This could be used to allow autonomous police vehicles to use it's own GPS data to track a suspects travel without amounting to a trespass, and without needing a warrant for Fourth Amendment purposes.

Jones was decided 5-4, with all nine Justices concluding that the search was unconstitutional.[36] The disagreement among the court was a result of the fundamental reasoning behind the ruling. In a concurring opinion, Justice Alito disagreed with the trespass portion of the majority opinion, instead focusing on individual privacy rights.[37] Justice Alito opined that "short-term monitoring of a person's movements on public streets accords with expectations of privacy, but the use of *longer term* GPS monitoring in investigations impinges on expectations of privacy.[38] Alito reasoned that prolonged surveillance reveals every type of information about a person."[39]

Justice Alito's concurrence, had it received one more vote, would have held that monitoring every single movement of an individual's car for 28 days violated a reasonable expectation of privacy.[40] This would have more closely followed the lineage of Fourth Amendment jurisprudence following *Katz*.

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[35] *See* 132 S. Ct. 945 (2011).

[36] *See id*.

[37] *Id.* at 957 (Alito, J., concurring).

[38] *Jones,* 132 S. Ct. at 964 (emphasis added).

[39] *See Id*.

[40] *Id.* at 957 (Alito, J., concurring). Alito did not specifically say what amount of time constituted a search, but four weeks surely crossed the line.

Along with potentially being able to pass any Fourth Amendment scrutiny, proponents of police use of autonomous vehicles should successfully be able to argue that the technology they use is already legal and in existence. Surveillance cameras have already been implemented in many cities around the United States, and have withstood Fourth Amendment challenges. For example, the Tenth Circuit held that cameras installed on telephone poles are not subject to Fourth Amendment scrutiny, because they "observe only what any passerby would easily have been able to observe."[41] Multiple cities around the United States have incorporated surveillance cameras into their police force in an attempt to better protect their citizens. Washington, D.C., Chicago, and Baltimore are all large cities that utilize surveillance technologies to monitor their cities.[42] These technologies mainly consist of cameras, but some have also incorporated facial recognition software into the video feed to look out for potential suspects.[43] The most significant and best example of surveillance camera use is in New York City.

New York City has partnered up with Microsoft to roll out a public surveillance device called the Domain Awareness System.[44] This system aggregates and analyzes information from around 3,000 surveillance cameras around the city and allows police to scan license plates, check criminal databases, and measure radiation levels, among other things.[45] The use of surveillance cameras has existed since the mid-1970's, when cameras were used for crime prevention and

[41] United States v. Jackson, 213 F.3d 1269, 1281 (10th Cir. 2000).

[42] *See* I. Bennett Capers, *Crime Surveillance, and Communities*, 40 FORDHAM URB. L.J. 959, 962-63 (2012).

[43] Laura K. Donohue, *Technological Leap, Statutory Gap, and Constitutional Abyss: Remote Biometric Identification Comes of Age*, 97 MINN. L. REV. 407, 409 (2012).

[44] Joe Cascarelli, *The NYPD's Domain Awareness System is Watching You*, N.Y. MAG. DAILY INTELLIGENCER (Aug. 9, 2012, 8:50 AM) http://nymag.com/daily/intelligencer/2012/08/nypd-domain-awareness-system-microsoft-is-watching-you.html.

[45] *Id.*

detection in Times Square. Along with the new Domain Awareness System, there are enough surveillance cameras in lower Manhattan that if you were in a public space, the odds were "pretty good" you were being watched.[46] This might sound scary and create some apprehension, but these systems work. Surveillance equipment was one of the primary tools used in preventing terrorist attacks in Times Square, John F. Kennedy Airport, and in the Bronx in 2010.[47]

In addition to the massive surveillance systems that already exist, autonomous police vehicles would likely also use the federal government's Intelligent Transportation Systems initiative, which proposes a future where all cars use wireless technology to communicate with each other, as well as devices embedded in the road.[48] This data would include location and speed, as well as problems with the car's mechanics or registration.[49] Here, the potential for law enforcement is great. Traffic violations like speeding, running a stoplight, or even driving under the influence could be automatically and remotely enforced using the data generated.[50] Aside from law enforcement purposes, these systems also serve an important public policy: public safety.[51] Crashes could be significantly reduced through automated enforcement, because the proper intent of these systems is to reduce violations by modifying driving behavior.[52] This

[46] Bob Hennelly, *A Look Inside the NYPD Surveillance System*, WNYC NEWS (May 21, 2010), http://www.wnyc.org/articles/wnyc-news/2010/may/21/a-look-inside-the-nypd-surveillance-system.

[47] Chris Dolmetsch, *Cameras to Catch Terrorists Triple Since June in New York With Bomb Plots*, Bloomberg News (Nov. 13, 2010, 12:01 AM), http://www.bloomberg.com/news/2010-11-12/cameras-to-catch-terrorists-triple-since-june-in-new-york-with-bomb-plots.html.

[48] Elizabeth E. Joh, *Discretionless Policing: Technology and the Fourth Amendment*, 95 CAL. L. REV., 199, 200 (2007).

[49] *Id*.

[50] *Id.* at 221.

[51] *Id*.

[52] *Id*.

would create an additional connection between governmental autonomous vehicles and the surveillance infrastructure of any given city.

Due to the already existing use of surveillance cameras and their coexisting software counterparts, allowing autonomous vehicles to be used by the police for crime prevention and detection purposes is a logical and consequential extension of legally permissible uses of technology by the police. Another problem remains however. Even if police use of autonomous vehicles is legally permissible, the use still must successfully pass through the court of public opinion. For example, applying the rationale from Alito's *Jones* concurrence, problems might exist if an autonomous vehicle is used to follow a person for weeks at a time. No physical trespass would occur, but the same information would be gathered as if a GPS monitor was actually attached to a person's property.

B. Social Acceptability of Autonomous Vehicles

When it comes to social acceptability and public perception of police use of autonomous vehicles, there are two distinct issues. The first is the social acceptability of the driverless car itself, and the second is the acceptability and perception of police use of such technology. It is a natural and almost instinctual feeling to have some apprehension of sharing the roads with a car that does not have a person in control of the vehicle. On this possible issue, O. Kevin Vincent, chief counsel of the National Highway Traffic Safety Administration acknowledged in an interview "it is a scary concept for the public," noting that the public is fully aware of what happens when vehicles collide on the road.[53]

[53] John Markoff, *Collision in the Making Between Self-Driving Cars and How the World Works,* N.Y. TIMES (Jan. 23, 2012), http://www.nytimes.com/2012/01/24/technology/googles-autonomous-vehicles-draw-skepticism-at-legal-symposium.html?_r=0.

The biggest concern that the general public will have is how the police use of autonomous vehicles will coexist with their privacy rights and preferences. Public trust and confidence has quickly faded as more revelations come out about the National Security Agency ("NSA") use of technological data, and the technology industry's acquiescence to government demands.[54] The government will have to be completely transparent and open with both the types and amount of information that autonomous vehicles will gather, since they will likely be capable of seeing, hearing, and recording everything around them.

Another concern that the government will have to overcome is the public's notion of "fair play" concerning the law and traffic stops. The public might be reluctant to give up their preference for "human enforcement" of laws.[55] As it stands today, drivers always stand a chance to get away with speeding, illegal U-turns, or running red lights or stop signs because police may exercise discretion in giving out citations based on traffic conditions, locations, and time of day.[56] This arises out of a public view that there is a meaningful distinction between technical legal violations and abiding by the purpose for which the laws exist.[57] If we take the human element out of law enforcement, and an autonomous vehicle automatically records a vehicle speeding, running a stoplight or stop sign, or making an illegal U-Turn, it takes away all discretion, and the general arguments of pretextual stops would be greatly weakened. Many people might run stoplights if stopping appears unwarranted based on the circumstances, like if it

[54] Jackie Calmes & Nick Wingfield, *Tech Leaders and Obama Find Shared Problem: Public Trust,* N.Y. TIMES (Dec. 17 2013), http://www.nytimes.com/2013/12/18/us/politics/as-tech-industry-leaders-meet-with-obama-nsa-ruling-looms-large.html.

[55] Ronald V. Clarke, *Situational Crime Prevention*, 19 CRIME & JUST. 91, 135 (1995).

[56] *Id.*

[57] Joh, *supra* note 48, at 231.

is in a remote location, late at night, with little to no traffic.[58] However, there are two sides to that coin, which will be discussed further in Part III. The same discretion used t o not give a driver a ticket may also be used to pull a driver over based on prejudicial bias.

Perhaps the best way to evaluate the needs for safety and order with society, as well as individual autonomy and privacy rights is to conduct a balancing test. Balancing the opinions that mass surveillance is necessary in deterring crimes and apprehending criminals against the opinions that express privacy and autonomy concerns. Privacy norms center on the unique dignity of each individual human person.[59] In terms of autonomous vehicles and privacy, there are three types of privacy interests that come into play: personal autonomy, personal information, and surveillance.[60] When the vehicle is used for governmental purposes, all three interests become exponentially important. These privacy interests articulate important political considerations regarding the impact these vehicles will have on civil liberties and individual freedoms.[61] All three of these privacy interests play important roles in a well-functioning civil society.[62] These privacy interests will likely be the center of debate, due to the ability for an autonomous vehicle to record an endless amount of video and potentially audio that it picks up as it patrols the streets. This might automatically implicate the privacy rights of individuals who may not want their personal business recorded. In a basic sense, simply collecting massive amounts of data on drivers or civilians on the streets infringes on autonomy, the ability to make

[58] *Id.*

[59] Dorothy J. Glancy, *Privacy in Autonomous Vehicles*, 52 SANTA CLARA L. REV. 1171, 1172 (2012).

[60] *Id.* at 1187.

[61] *Id.*

[62] *Id.*

decisions, and to retain a sphere of private activity free from surveillance.[63] This is not a new concern, as similar objections were made when photo radar first became available.[64] As battles over further privacy rights rage on in the wake of an increasing amount of surveillance, potential use of autonomous vehicles as tools for comprehensively tracking people will affect privacy interests associated with concerns about surveillance.[65] When these vehicles become a viable option for the government as well as the people, these types of privacy interests will have to exist as the cornerstone of regulation and legislation in order to convince and ensure the public that the right of an individual to retain some privacy and autonomy will not be impeded on by autonomous police vehicles. It will likely take entities within industry, academia, and the government working together to establish fair, proper, and legal autonomous vehicle policies.[66]

With the recent public outcry for stronger privacy protections in the wake of NSA revelations, it looks to be an uphill battle for the government to persuade the public that using autonomous vehicles is a good thing, and that they will not amount to any impermissible intrusions on privacy. Two of the strongest arguments the government can use to convince the public to trust the use of these *Knight Rider-RoboCop* hybrids are that they will decrease the amount of discriminatory traffic stops, take subjectivity and discretion out of certain aspects of policing that do not require either, and that they will increase officer safety and police efficiency. The capability of autonomous vehicles to do all of those things will not only help regain public

[63] *Id.*

[64] Some state legislatures responded by banning photo radar use altogether. Survey evidence now shows strong public support for red-light cameras. Robert Puentes, *An Intelligent Transportation Policy*, THE BROOKINGS REV. (2001), *available at* http://www.brookings.edu/research/articles/2001/12/winter transportation-puentes (reporting results of survey by Insurance Research Council that "83% of respondents favor use of red light cameras").

[65] Glancy, *supra* note 59, at 1172.

[66] Dr. Sven A. Beiker, *Legal Aspects of Autonomous Driving*, 52 SANTA CLARA L. REV. 1145, 1153 (2012).

trust in the government and police departments, but will also potentially save valuable taxpayer dollars. These arguments are evaluated in Part III, discussed below.

III. POLICE USE OF AUTONOMOUS VEHICLES WILL BE BENEFICIAL TO SOCIETY

A. Autonomous Vehicles Will Reduce Discriminatory Stops and the Need for Discretion, Decreasing the Amount of Officer Subjectivity

When autonomous vehicles roll onto the streets of the United States in the not-so-distant future, they have the capability to achieve what a seemingly endless amount of regulation and legislation has not yet achieved: the ability to eliminate police discretion from traffic stops.[67] This particular capability has great possibilities and could eliminate prejudicial stops based on race or religion, and could be a significant building block in restoring public trust in police departments and government that has faded tremendously.[68] This has the potential to ultimately lead to safer streets, happier citizens, and a better relationship between the police and the people.

Currently, the use of police discretion in deciding whom they should pursue for potential legal violations can depend on any bias or prejudice that a police officer may have. Legal challenges to police discretion have been made impracticable, if not impossible. Courts give great weight and deference to the discretion of officers, and have allowed simple traffic violations to be considered "reasonable suspicion" for Fourth Amendment purposes.

For example, in *Whren v. United States*, a plainclothes vice officer stopped two African-Americans in a "high drug area" of Washington, D.C. for failing to use a turn signal and driving at an "unreasonable speed."[69] These seemingly minor infractions led to a search of the vehicle,

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[67] Joh, *supra* note 48, at 199.

[68] *Id.*

[69] *See* Whren v. United States, 517 U.S. 806 (1996).

ultimately resulting in drug charges for the defendants.[70] At trial, the defendants argued that the officer's decision to stop them should have been based on whether a "reasonable officer" would have stopped them.[71]

However, the court disagreed, and found that the stop was reasonable under the Fourth Amendment as long as there was any ground for stopping the defendants, despite the fact that it was against department policy for plainclothes officers to conduct traffic stops.[72] The court reasoned that as long as legal justification existed, the officer's subjective intent was irrelevant.[73] This decision effectively eliminated challenges to evidence obtained by traffic strops for unrelated crimes when police discretion was used as grounds for the stop.[74]

Another failed challenge to an almost glaringly obvious pretextual stop occurred in Texas when the defendant was arrested for failing to wear a seat belt.[75] There, the defendant claimed that even though Texas law permitted the arrest for anyone who failed to wear a seat belt, she was arrested based on the arresting officer's personal animosity towards her.[76] The facts of the case suggest that when the defendant was pulled over, the officer yelled something to the effect of "we've met before," and "you're going to jail."[77] The court rejected defendant's challenge, and reasoned that so long as an officer has probable cause for the offense, an otherwise

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[70] *Id.* at 806.

[71] *Id.*

[72] *Id.*

[73] *Id.*

[74] Joh, *supra* note 48, at 213.

[75] *See* Atwater v. City of Lago Vista, 532 U.S. 318 (2000).

[76] *Id.* at 324.

[77] *Id.*

permissible warrantless arrest is constitutional.[78] The gravity of this decision was not lost on Justice O'Connor, who noted that there is a potential for abuse in such "unbounded discretion."[79]

As an increasing amount of similar prejudicial stops have come to light, communities – specifically minority communities – have turned to politics to attempt to change the police practice in traffic stops.[80] As a result of state legislation, voluntary departmental changes, and litigation, departments across the nation have begun to collect data on race and ethnicity of motorists in routine traffic stops.[81] Political pressure and media scrutiny have also prompted some police organizations to set forth formal rejections of the use of race as a primary justification for traffic stops.[82] The federal government has followed suit, and issued formal guidelines prohibiting the use of race by federal law enforcement agencies in "traditional law enforcement activities."[83] Racial profiling is so prevalent that the majority of Americans are not only familiar with the practice, but also disapprove of its use.[84] Much like many other political issues, little has been done outside of data collection and formal rejections and renouncements. Despite the widespread attention to these problems, reports of alleged abuses of police discretion remain prevalent.[85]

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[78] *Id.* at 354.

[79] *Id.* at 372.

[80] Brandon Garrett, *Remedying Racial Profiling*, 33 COLUM. HUM. RTS. L. REV. 41, 82 (2001).

[81] *Id.* at 61-81.

[82] Joh, *supra* note 48, at 215.

[83] Guidance Regarding the Use of Race by Federal Law Enforcement Agencies, U.S. DEP'T OF JUSTICE (2003), *available at* http://www.usdoj.gov/crt/split/documentsguidance_on _race.htm (last visited Feb. 14, 2014).

[84] Garrine P. Laney, *Racial Profiling: Issues and Federal Legislative Proposals and Options*, Cong. Res. Serv. Report RL32231 (Feb 17, 2004), at 5.

[85] Joh, *supra* note 48, at 215.

At first thought, it might be difficult to understand where autonomous vehicles come into play, and how they would have any impact on this issue that has been around for decades. However, if autonomous vehicles were connected with the Intelligent Transport Systems initiative as discussed above, the answer may seem a bit more clear.[86] An automated enforcement program could eliminate stops based on routine traffic stops, like excessive speeding.[87] In order of frequency, the reasons most often cited by the police for traffic stops include speeding, record checks, vehicle defects, stoplight violation, illegal turns, seat belt violations, and suspected drunk driving.[88] Aside from seatbelt violations, all of these reasons would be candidates for automatic enforcement, and could be enforced without the discretion of police officers. These programs would only have a significant impact on eliminating police discretion if the traffic stops are almost 100% automated.[89] This is where autonomous vehicles would have the greatest potential impact.

By driving on its own, the vehicle (and computer inside) does not know the driver's race nor does it harbor any animosity. There is always the potential for discrimination, like if the vehicles are programmed to only minority communities. But the vehicles themselves have no prejudices, and would not be driving down certain streets or neighborhoods just because they are known for being a minority area. By allowing autonomous police vehicles to automatically patrol the streets and detect violations or safety issues, police departments would have substantially limited the amounts of traffic stops conducted by its own officers, eliminating human discretion,

[86] *Id*. at 200.

[87] *Id.* at 221.

[88] *See* MATTHEW R. DUROSE ET AL., U.S. DEP'T OF JUSTICE, CONTACTS BETWEEN POLICE AND THE PUBLIC: FINDINGS FROM THE 2002 NATIONAL SURVEY, iv (2005).

[89] Joh, *supra* note 48, at 222.

potential racial bias, or personal animosity.[90] Not all discretion would be eliminated. Human patrols would still be out on the streets to look for things that autonomous vehicles may not be able to pick up on, as well as give the public an appearance of a safe neighborhood. Autonomous patrols should be meant to supplement, not completely replace humans, and officers or a dispatch would still be able to look in at vehicle's recordings and take calls.

These vehicles would patrol the streets, and would use the technological devices inside the car as well as its connection to the Intelligent Transport System to detect violations. Citations, or even warnings for first time violators, could automatically be mailed to the driver's residence, similar to stoplight or speed cameras, and the driver could challenge the citation using the existing procedures.[91] By implementing an automated system with mailed out warnings, the relationship with the public might increase, and violators would no longer be able blame a perceived quota that must be met as the bases for being stopped for speeding or running a stoplight. An autonomous police car could also help make driving safer, and could become aware of car accidents or malfunctioning cars much more quickly than human officers could. By using its connection to the Intelligent Transport System, the vehicle could pick up "distress signals" from broken down cars, and could respond appropriately. No longer would the *Whren's*[92] or *Atwater's*[93] of the country have a challenge to a conviction based on discretion, racism, or prejudice. While similar defendants would still have broken the law and would have to be held responsible for their actions, these technological innovations significantly reduce the risk of

[90] *Id.* at 223.

[91] *See* Steven Tajoya Naumchik, *Stop! Photographic Enforcement of Red Lights*, 30 MCGEORGE L. REV. 833, 846-47 (1999).

[92] *See generally* Whren and Brown v. United States, 517 U.S. 806 (1996).

[93] *See generally* Atwater v. City of Lago Vista, 532 U.S. 318 (2000).

police discrimination and humiliation. This not only takes some negative connotations away from the police, but also could increase judicial efficiency.

Technological innovations like autonomous vehicles and their use in patrolling the streets could possibly prevent pretextual, discriminatory traffic stops by taking discretion or bias almost entirely out of the picture. This could aid in instilling a new, positive relationship with the public, improve the general reputation of the police force, and prevent humiliating and unnecessary traffic stops. However, the benefits of using autonomous vehicles for police purposes do not stop there. Using these self-driving and semi-self patrolling vehicles creates the potential for increasing the safety of police officers, and they just might be able to increase the efficiency of police departments nationwide.

B. Autonomous Vehicles Will Make Officers Safer and Increase Police Efficiency

By implementing autonomous vehicles into every day use by police departments, the potential is created for an increase in officer safety, and a more efficient, less costly police force. Autonomous police vehicles give police departments around the country the ability to put fewer officers in cars, keeping them out of harms way. Efficiency may also be increased, because these cars allow officers to tend to other crimes, which could possibly be a better use of taxpayer funds. In addition to using taxpayer money more efficiently, they might also be able to reduce the amount police departments rely on, because some police functions could be successfully outsourced to third-party American individuals or groups.

1. Looking at Efficient Models in Other Countries

One of the best ways to model a new system and to foresee how effective it will be is to look at other countries across the world. For purposes of this note, Great Britain will be the most influential and helpful country. Even though most here in America might think that "Big Brother" is most existent in America, Great Britain actually retains the crown for being the "champion of closed-circuit television ("CCTV") surveillance."[94] The British government has access to between two and three million cameras, enabling them to create more video images per capita than any other country in the world.[95] It is not the vast amount of cameras that is important here. What is important is what they actually do with all of that camera footage. Since that amount of footage would be nearly impossible for any governmental agency to sift through and look for potential crimes, Britain's government offers cash rewards to citizens that watch the live-streaming CCTV footage on their home computers and assist the police in apprehending criminals.[96] This is an extremely interesting program, one that has the potential to have great success if implemented in concert with autonomous police vehicles.

Autonomous police vehicles would have cameras equipped on them capable of recording 24 hours a day, seven days a week. Instead of paying an outrageous amount of taxpayer money to workers that would try to sift through the infinite amount of footage, the U.S. government could offer rewards or even tax credits to those who watch the live-streamed footage and assist the police in detecting crime, very similar to what is being done in Great Britain.[97] Surely, some

[94] Christopher Slobogin, *Public Privacy: Camera Surveillance of Public Places and the Right to Anonymity,* 72 MISS. L.J. 213, 220 (2002).

[95] *Id*. at 220 – 21.

[96] *Internet Eyes, Fighting Crime from Home,* ONTHEMEDIA.ORG, http://www.onthemedia.org/story/ 132939-internet-eyes-fighting-crime-from-home/ (last visited Feb. 13, 2014).

sort of training-type program would be implemented to keep these people from assuming everything they see as a crime, but this could have a tremendous impact on police departments. This would not only save them money, as they have essentially "outsourced" the footage to an outside party, but would also give the public a chance to see what the police see. This, along with giving the public the ability to contribute to the well-being and safety of their area, could go a long way in establishing a healthy, trustworthy relationship with the police, instead of the apprehensive, fearful feelings a lot of the public harbor towards police departments. This truly would be an extension of the "see something, say something" campaign launched by the Department of Homeland Security.[98]

2. Autonomous Vehicles Might Loosen Tight Budgets

Being able to show that autonomous vehicles would be able to help balance budgets and save the police department, and ultimately the government, money could go a long way in determining whether or not they could be used for police purposes. In a time of economic downturn, where between 12,000 and 15,000 police officers have been laid off and a significant amount of officers have been furloughed, money is getting harder and harder to come by for many police departments across the country.[99] This is particularly worrisome, because a reduction in the amount of working police officers can have a direct correlation with an increase

[97] *See* Capers, *supra* note 42, at 963.

[98] *If You See Something, Say Something*, DEP'T OF HOMELAND SECURITY, *available at* http://www.dhs.gov/if-you-see-something-say-something (last visited Feb. 10, 2014).

[99] *The Impact of the Economic Downturn on American Police Agencies*, COMM. ORIENTED POLICING SERVICES, U.S. DEP'T OF JUSTICE (Oct. 2011), http://www.cops.usdoj.gov/files/RIC/Publications/e101113406_Economic%20Impact.pdf (last visited Feb. 10, 2014).

in crime.[100] While the upfront cost of an autonomous vehicle fully equipped with all of the latest technology might be significant, it has the potential to do the work of multiple officers, all while still effectively patrolling neighborhoods.[101] Autonomous police vehicles would become a strong investment, with dividends paying off both financially, as well as in the real world on the streets. Autonomous vehicles could ease the burden that budget cuts and sequestration has caused, and could allow police departments to get back to doing their job, instead of constantly worrying about cutting costs (and corners).

3. Officers Will be Safer With Autonomous Vehicles

Along with efficiency, officer safety is also an ever-growing concern. According to the FBI Uniform Crime Report for 2005, 57,546 police officers were assaulted, with 15,763 resulting in injuries.[102] Over the past decade, on-duty car accidents were responsible for over 450 officer deaths, and a countless amount of injuries.[103] While getting injured or possible even killed is an inherent risk in becoming a police officer, many departments are embracing safety as a core value.[104] Getting hurt is no longer part of the job, and many departments require their officers to

[100] Erica Goode, *After Deep Police Cuts, Sacramento Sees Rise in Crime,* N.Y. TIMES (Nov. 3, 2012), http://www.nytimes.com/2012/11/04/us/after-deep-police-cuts-sacramento-sees-rise-in-crime.html?_r=0.

[101] The cost could very well be over $100,000. Currently, the 3-D sensors in Google's autonomous vehicle alone come in at around $70,000. Brad Plumer, *Here's What It Would Take for Self-Driving Cars to Catch On*, WASH. POST (Oct. 23, 2013), http://www.washingtonpost.com/blogs/wonkblog/wp/2013/10/ 23/heres-what-it-would-take-for-self-driving-cars-to-catch-on/.

[102] Lila Stansups, *How Often Do the Police Get Killed?*, YAHOO! VOICES (Jun. 12, 2007), http://voices.yahoo.com/how-often-police-killed-384148.html?cat=17.

[103] *Causes of Law Enforcement Deaths*, NAT'L LAW ENFORCEMENT OFFICERS MEMORIAL FUND, http://www.nleomf.org/facts/officer-fatalities-data/causes.html (last updated Dec. 30, 2014).

[104] Mark Whitman, *The Culture of Safety: No One Gets Hurt Today*, THE POLICE CHIEF (Nov. 2005), http://www.policechiefmagazine.org/magazine/index.cfm?fuseaction=display_arch&article_id=737&issue_id=112005.

go through safety training programs in an effort to reduce the amount of injuries suffered by officers every year.[105] Introducing autonomous vehicles into everyday police use could be one method of helping these "zero injury cultures" achieve their goal. Simply by taking officers off of everyday routine traffic patrol, autonomous vehicles can prevent officers from being injured or killed in car accidents. While officers may not like the idea of being replaced by a computerized machine, knowing that they are going to work every day with a greatly reduced risk of being hurt or killed on the job will give them tremendous peace of mind.

Within the next 25 years, there will be an ever growing demand and need to create a more efficient and less costly police presence across the United States. Along with efficiency, keeping officers safe and out of harms way will also be a goal that will grow ever more important. When the technology is finally perfected and available, there will be an easy mechanism to achieving both safety and efficiency. Autonomous vehicles, while costly upfront, will increase the safety and efficiency of any police department that employs them on their streets.

CONCLUSION

No one knows just quite how the mass production and police use of autonomous vehicles will affect the future of the criminal justice system. Thus far, the only thing that can be done is mere speculation by looking at the current developing technology of these self-driving vehicles, combined with already existing surveillance technology, Fourth Amendment jurisprudence, and other legal analysis. Even though much of the surveillance technologies that these autonomous vehicles will incorporate already exist and are legal to use by police departments, there will likely be cases that make it all the way to the United States Supreme Court once autonomous

[105] *Id.*

police cars are rolled out onto the streets, and it is here where some concrete determinations are made.

If police departments allow use of autonomous vehicles, officers could use their time more efficiently due to autonomous vehicles taking on the load of traffic patrol. Use of autonomous vehicles would also increase officer safety, because fewer officers on the road would risk injury or death from car accidents, and when officers are needed on a scene, they will be more readily prepared. There will also be a reduction of discriminatory stops, because autonomous vehicles will be capable of giving out automatic citations for traffic violations, leaving out any potential animosity or bias. These vehicles will also result in less officer discretion and subjectivity, and a better vehicle for legally permissible evidence gathering. Cumulatively, this will not only result in safer streets and neighborhoods, but also a renewed instillation of trust in police departments and governments across the country.

Some problems may arise due to the vehicles ability to monitor and track suspects 24/7, and record unwilling individuals who rather be left alone. This note has proposed issues and potential solutions for the pro-autonomous vehicle side of the issue. There is no doubt that ever-emerging technology and autonomous vehicles have the potential to change the legal and justice systems as we know it. When thinking about what the future holds in regards to a self-driving police car, one must not rush to the conclusion that they will be RoboCop-Knight Rider hybrids that are capable of going after crime rings and dangerous criminals. These cars will have to abide by the same laws as non-autonomous vehicles, as well as laws governing evidence collecting and the constitution. As the prototypes and ideas of autonomous vehicles turn into reality, we must be ready to adapt, expand, and understand our laws to maintain their underlying purpose.