

**HOW WILL THE AUTONOMOUS VEHICLE AFFECT LAW  
ENFORCEMENT BY 2020?**

by

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The Command College Futures Study Project is a FUTURES study of a particular emerging issue of relevance to law enforcement. Its purpose is NOT to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This journal article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

The views and conclusions expressed in the Command College Futures Project and journal article are those of the author, and are not necessarily those of the CA Commission on Peace Officer Standards and Training (POST).

April 20, 2020-Prior to hitting the street, Officer Megan Starr of the San Rafael Metro Police Department inspects her 2020 Ford Autonomous Interceptor. She gets into the drivers seat, which recognizes her by retina scan, and it immediately moves to the position she prefers. Officer Starr logs on via voice request to the department CAD system and “tells” the vehicle to patrol the downtown area using random patrol “Henry 1.”

The vehicle leaves the rear lot of the police department. As the car drives itself around the downtown area, Starr reads the briefing log to see what happened the previous twelve hours. She thinks about the officers that used to have to drive themselves while looking at the CAD screen, operating the lights and siren, and talking on the radio while trying to find the suspect who might be running away. The life of a police officer has dramatically changed with the autonomous vehicle, she thought; it’s allowed the police to focus on crime fighting rather than focusing on their driving.

Although it might seem unlikely to someone who has not studied advances in transportation, Officer Starr’s shift is an example of what law enforcement could be in the near future when autonomous vehicles take over as the “driver”. Of course, there are many positives and negatives to this advance in technology, as well as many unintended consequences. We will look at where the development of autonomous vehicles is at present, legal implications, and how driverless vehicles could transform police organizations as a result.

### **What is an Autonomous Vehicle?**

The autonomous vehicle that Google has been testing on the roads of California and Nevada has received a fair amount of attention the last six months; most, though, are

still asking, “What is an autonomous vehicle?” The best way to describe it is to know that what once seemed like science fiction portrayed in movies like Total Recall and Demolition Man is now an emerging reality. These vehicles, also known as “smart” cars, are already using technologies installed in vehicles for sale today.

If you went to a car dealership, you might see an upgrade like the collision avoidance system. According to America Online Techsplanation, a Collision avoidance system starts with a system called adaptive cruise control. It is cruise control with sensors that automatically slows, stops, or takes evasive maneuvers if need be. If your car is getting too close to another car too fast, the system will apply brake pressure more quickly than a human. If the computers and sensors determine that a crash is unavoidable, they also work to tighten seat-belts, adjust headrests, or close the power windows and sunroof to make the car safer in the collision.<sup>1</sup>

Another great attribute of the autonomous vehicles is that they are designed to drive closer to one another on the freeway, thus allowing more vehicles to be on the road and then to travel at a consistent speed. According to Volkswagen of America and Google, this consistent speed will allow traffic to flow smoothly and vehicle accidents overall could be a thing of the past. This is accomplished by similar technology as the collision avoidance system. The vehicles will have sensors that communicate with other vehicles, traffic lights, and other roadway signs.<sup>2</sup>

The emergence of smart cars can dramatically reduce the incidence of the most serious traffic collisions. The car’s occupants would not have the ability to run a red light,

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<sup>1</sup> <http://autos.aol.com/article/techsplanation-collision-avoidance-systems/>

<sup>2</sup> <http://www.nytimes.com/interactive/2012/10/28/automobiles/how-an-autonomous-car-gets-around.html>

make an unsafe lane change, or violate other vehicle codes that commonly cause injury and property damage. Vehicles able to link and travel smartly could also affect the way we live our lives. People who live in urban areas often plan their lives around the traffic patterns; our largest cities are commonly paralyzed by traffic that takes hours to navigate through. The predictability of smart travel can remove the uncertainty of commute time, allowing people to spend more time at work and at home. They could also live farther away from work if need be without the extra time on the road, and generally maximize the quality of their lives by removing a significant impediment to their daily tasks.

As great as the future appears to be when it comes to autonomous vehicles, when looking at this technology through a law enforcement lens, there are many questions to be answered before it enters the mainstream.

### **Changes in The Law**

History tells us that the government typically drags behind the private sector when it comes to updating to newer technology. Anyone who has worked in both the public and private sector often talks about this issue. In the public sector, public funds are used to purchase items. Agencies, therefore, tend to not be on the cutting edge of technology due to budgeting cycles, and also due to public bid processes. Unfortunately, if this same stance is taken when it comes to autonomous vehicles, public safety could be in for trouble. This issue is one that needs to be spearheaded by the law enforcement community from the start.

One of the first laws that need to be examined is the most basic of all, “Does one need a driver’s license to drive an autonomous vehicle?” On face value, our instinct is to

say yes, but when looking in depth, taking into account the belief that the technology is reliable, why do you need to know how to drive a car if it drives itself? Google notes that, as of August 7, 2012, their driverless smart vehicles already had more than 300,000 miles logged without a single accident under computer control.<sup>3</sup> 300,000 miles is a significant amount, and should be enough to convince people that this technology is safe and reliable, but is it enough to change our culture? Perhaps prospective smart car owners will attend some kind for a computer class instead of practical drivers training that allow us to interface with our vehicles at a young age. You only need to walk around a few minutes to see a five year old playing with an I-Phone to realize they could probably operate an autonomous vehicle just fine

Once the question about driver's licenses and drivers training is overcome, numerous other laws will have to be assessed and adjusted. Laws that relate to distracted driving could be rendered moot. Recently, laws have been enacted to stop people talking on their cellular phone and texting while driving. These newer laws could be obsolete as well as any other activity that would normally be prohibited while driving. The laws surrounding drinking alcohol and driving a car is another area that will be challenged, and this affects law enforcement greatly. If you are not in control of your car, would it be illegal to drink and drive? Since the autonomous vehicle could turn into a driverless limousine, would advocacy groups such as Mothers Against Drunk Driving urge its adoption? In one way, it accomplishes the goal of greatly reducing if not eliminating the fatalities surrounding drunk driving. On the other hand it could allow people to drink even more when they are out if the fear of getting arrested for drunk driving is absent. If

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<sup>3</sup> <http://techcrunch.com/2012/08/07/google-cars-300000-miles-without-accident/>

that is the case, the domino effect on law enforcement operations and funding could have far reaching consequences.

The Office of Traffic Safety provides numerous funding opportunities for agencies to enforce the laws related to drinking and driving. This is accomplished through DUI checkpoints and roving patrols that target people who drink and drive. If the autonomous vehicle progresses into the mainstream, not only will injuries and fatalities related to drinking and driving plummet, but the need for the Legislature to commit the large amount of funds would not be necessary. This could allow funds to be used for another important public purpose (not necessarily related to policing) or research into the next piece of technology that could continue to enhance public safety. In addition to changes in the law, there may also be dramatic changes to the structure of law enforcement as we know it.

### **Police Organizational Structure Change**

With the reduced funding and greatly reduced injuries and fatalities, an additional unintended consequence of smart cars may be a reduction of law enforcement personnel who do traffic enforcement as their main function. Perhaps these officers can be assigned to a variety of task forces or other law enforcement related duties; possibly, these positions could be eliminated for cost savings. The highways and freeways could be patrolled by non-sworn employees who would be available to provide assistance to a motorist in the unlikely circumstance their vehicle breaks down. These sweeping

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changes could have far reaching effects from which the structure, purpose and function of field policing will change from its current configuration.

Anyone in law enforcement knows that proactive police work is the backbone of any good agency. The ability to stop a crime before it happens is the perfect storm in law enforcement. Many times, serious criminal cases are solved subsequent to stopping a vehicle for violating a section of the State's Vehicle Code. These stops, for infractions ranging from red lights to stop signs to equipment violations, will dramatically drop. Additionally, pretext stops are conducted in narcotics and intelligence investigations as a means to identify persons suspected of criminal activity. The autonomous vehicle has the potential to change all of that, and change forever the manner in which the police detect and investigate a wide range of crimes.

The proactive traffic stop for something as common as not signaling fifty feet prior to making a turn becomes non-existent along with numerous other common violations. The impact on law enforcement's ability to combat crime will have to be measured over a period of time. Additionally, the impact on fine revenue and its use for public safety programs will have to be adjusted downward. A portion of the fines collected by courts go to prosecutorial efforts, and also for law enforcement programs and training. All of these functions can be significantly impacted through a loss of their traditional funding sources. These issues are by means no reason to oppose the rise of the autonomous vehicle; the possibility to halt the number of people who perish in vehicle related deaths every year is too great to not pursue this technology. It is just a reminder to the law enforcement community that change occurs, and unless they are looking forward, an invention such as this could affect the field greatly if no one has prepared.

## **How to Be Prepared**

With all the changes slated to take place in the vehicles of the near future, what should law enforcement do to prepare for the impending change? It is always important to look to the past to think about how change will be accepted in the future. Many Law Enforcement Officers can think of a major change in law enforcement during their careers and how it was received before and after implementation. Transitioning from call boxes to receive calls for service, handheld radios for their belts, going from revolvers to semi-automatic handguns, Mobile Data Terminals in the vehicles, using computers to write reports, red light cameras, and more recently the automatic vehicle license plate readers, it is apparent that law enforcement has seen many changes. Smart cars will soon join that group as another generational advance of importance to law enforcement.

All of the above mentioned changes eventually proved to be groundbreaking in its own time, but initially there were many skeptics who either didn't think the technology could be reliable, or who preferred to do things the old way. No matter what the reason, these technologies progressed and eventually became the industry standard. If we told officers six years ago they would have hand held computers (smartphones) in their pockets while they did their job, most would have either not believed it or thought it wouldn't be useful. Just as happened with the advent of portable radios and soft body armor, once the new ways became the norm, going back to the past becomes unthinkable.

The first hurdle to the acceptance of the autonomous vehicle by law enforcement is educating law enforcement as to what this technology is and what it isn't. When showing that elements of autonomous vehicle functions are on the roads today it makes

people understand that these ideas are not just straight out Hollywood movies. Once the agreement is made that the autonomous vehicle is hitting the market soon, law enforcement needs to work with the Legislature now to make recommendations regarding law and policy well ahead of the emergence of the consumer-useful autonomous car. Since the autonomous vehicle has already been made legal by the Legislatures in California and Nevada, we could already be a step behind. It is going to take vibrant, visionary leaders to prepare the law enforcement field for its biggest change in years.

If you look back to Officer Starr's shift, one can see how helpful the autonomous vehicle can be for law enforcement. It freed her to look around more, take in more information, vary her patrol techniques, and allow serious multitasking while driving. One can envision the possibilities to enhance officer safety during emergency vehicle operations, an issue with vast potential to reduce liability as well as to protect the lives of the police and the people they serve. Her vehicle will communicate with the other vehicles on the road, as well communicating with traffic signals to allow her to get to a serious call for service more efficiently and safely than ever before. Finally, the Patrol Officer/Autonomous Vehicle has the ability to focus on in-progress or quality of life crimes without worrying about traffic enforcement.

The patrol shift of the near future, with the help of the autonomous vehicle, could change the culture of law enforcement very quickly. I was reminded that this technology is very close the other day when driving to work. I saw a vehicle in the number two lane on highway 101 in San Rafael. As I got closer, I saw that it was the "Google" car driving itself down the road with a human in the driver's seat but she was not touching the wheel. Someday that will be all of us, and that day is coming very soon.