

Automated Traffic Enforcement Systems

Many jurisdictions, including the District of Columbia (the District or D.C.), use automated traffic enforcement (ATE) systems to supplement traffic enforcement.¹ This memorandum provides background information on traffic injuries and fatalities; examines what an ATE system is and which jurisdictions use them; describes the two types of penalties states use for traffic violations; and weighs their impact on safety and racial equity. The memorandum also outlines the District’s current ATE program.

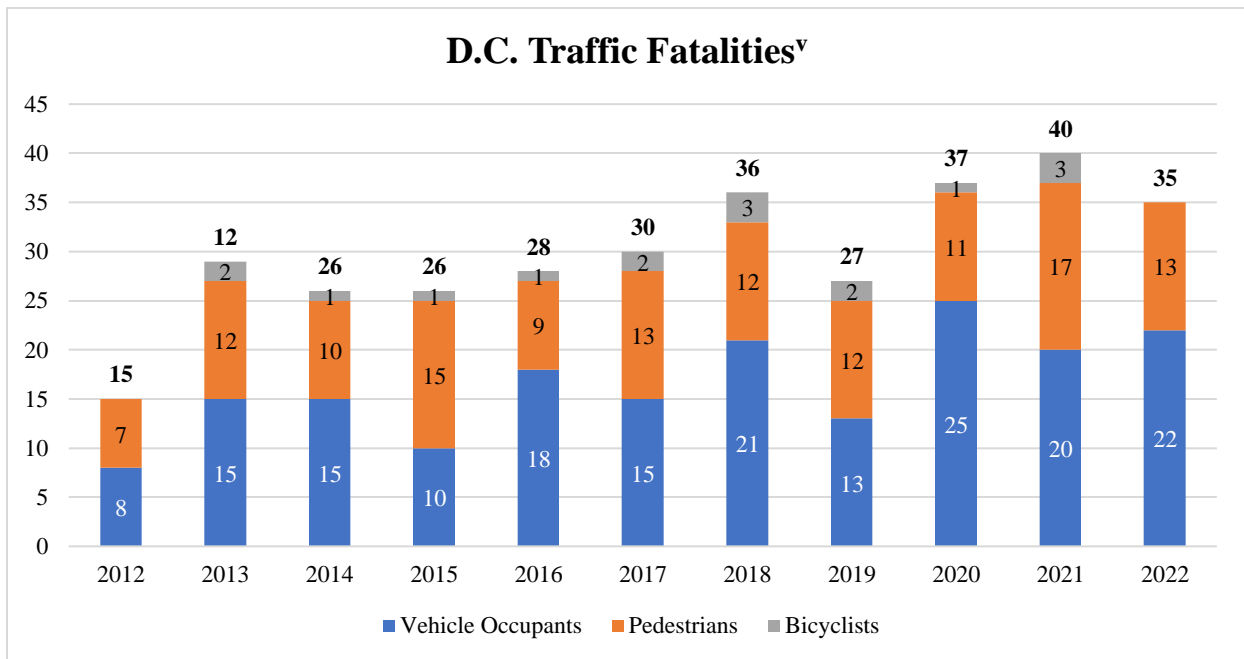
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¹ Please note that information immediately relevant to the memorandum is included as footnotes, but some details on other state actions are included as endnotes.

I. Background on Traffic Injuries and Fatalities

Like other urban areas throughout the U.S., traffic fatalities have been increasing in the District.ⁱ In D.C., such fatalities have been rising since 2012. To provide a sense of scale, 15 traffic-related fatalities were reported in the District in 2012; by 2021, however, 40 people had died as a result of a crash, representing a 167 percent increase over that nine-year period. Almost half of the fatalities in 2021 were pedestrians.ⁱⁱ This aligns with the national trend that traffic fatalities are highest among pedestrians and bicyclists in urban areas.ⁱⁱⁱ In addition to the fatalities noted above, another 423 people in the District were seriously injured in 2021, and 2,521 suffered a less serious injury.^{iv}



Arterial roads and intersections, which carry higher volumes of traffic for longer distances and often via multiple travel lanes, are the most dangerous parts of urban roadways.^{vi} More than 230 (14 percent) of the District’s nearly 1,600 roadways are considered arterial by the Federal Highway Administration.^{vii} Between 2015 and 2019, 66 percent of fatal and injury-inducing crashes in D.C. occurred on an arterial street such as Pennsylvania Avenue or Georgia Avenue.

Stark disparities persist in the rates of fatal traffic accidents experienced by different racial groups. Black, Indigenous, and people of color are disproportionately affected, suggesting structural racism in the U.S. transportation sector.^{viii} Census tracts with greater concentrations of low-income and Persons of Color have measurably higher levels of vehicle traffic and higher speed arterials, which in turn leads to more fatal collisions.^{ix} Black Americans have the highest traffic fatality rate per mile traveled across all modes. Disparities are especially large for pedestrians and bicyclists.^x Nationwide, Black children ages 4 to 15 have the highest fatality rate among pedestrians and other people not in vehicles as a share of all motor vehicle traffic fatalities. In D.C., 74 percent of people who died in traffic accidents from 2016-2019 were Black, Non-Hispanic individuals; only 46 percent of District residents identify accordingly.^{xi}

II. What is an ATE System?

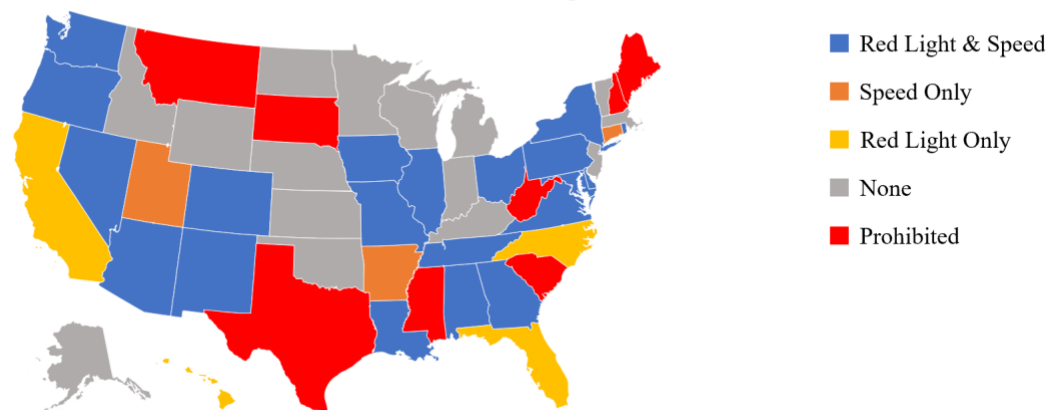
Cities enforce their traffic laws in two main ways: traditional traffic enforcement, with police officers issuing tickets to violators in person; and traffic cameras, or ATE systems, which use automated cameras to capture violations, and which generally mail tickets to the owners of the vehicle. In the District, the vast majority of traffic tickets are issued by ATE systems; in 2022, ATE systems issued 40 times more tickets than police officers. The Metropolitan Police Department (MPD) has refocused its efforts to areas other than traffic enforcement, which could contribute to this difference.^{xii}

ATE systems can address some limitations of traditional traffic enforcement, such as traffic enforcement officers being able to issue citations to only a small portion of violators. ATE systems are primarily used to enforce red light and speed laws. Typically, the ATE system takes a photograph or video of a traffic infraction, including the license plate.^{xiii} Some systems also take photos of the driver or videos of the violation occurring. This evidence is transmitted to the relevant government entity to verify that a violation occurred and then a ticket is mailed to the vehicle's registered owner. Every U.S. jurisdiction with an ATE system requires those found guilty of a violation to pay a fine. Several jurisdictions also assign points against the driver's license. The cameras are typically installed permanently at a particular location, but some jurisdictions, including the District, allow mobile cameras that can be placed on approved government vehicles or in certain locations.

III. Where are ATE Systems Used?

Twenty-seven states and D.C. allow some form of ATE system.^{xiv} Twenty states and D.C. allow both red light and speed ATE systems to be installed by local jurisdictions or state agencies. Arkansas, Connecticut, and Utah only allow ATE systems that capture speeding violations. California, Hawaii, Florida, and Virginia only allow ATE systems that capture red light violations. Fifteen states do not currently have any ATE system and eight states prohibit them.^{xv}

States with ATE Programs



Some states also regulate where and when ATE systems can operate, such as limiting their use to school zones.^{xvi} For instance, Maryland limits speed cameras to: (1) school zones during certain hours; (2) residential districts in Montgomery and Prince George's County; (3) areas in or near institutes of higher education in Prince George's County; and (4) construction zones on expressways or controlled access highways with a speed limit of 45 mph or greater.^{xvii} Virginia's local jurisdictions are limited in the number of red light cameras they can install based on the jurisdiction's population, and the state's speed cameras are restricted to school crossing zones and highway work zones.^{xviii}

IV. Moving Violation Penalties

Fines

All states and D.C. issue fines for red light, speeding, and stop sign violations. The fine amount varies by jurisdiction; the perceived severity of the violation; whether it occurred in a school, work, or other protected zone; and the number of infractions the driver has accumulated.^{xix} While most states that allow ATE systems use the same fines for both police and ATE-issued tickets, eight have established separate fines, typically lower, for ATE-captured violations. Additional court, processing, or other fees may be added on top of these base fines, which can significantly increase the total cost to ticketed individuals.

Demerit Points

Demerit points are points that are assigned to a driver’s license and record for a violation. Demerit point systems have three main goals: deter drivers from committing violations, identify repeat offenders, and correct such behaviors.^{xx} Depending on the jurisdiction and the number of points a driver accumulates, the driver could be required to attend a defensive driving school, have their license suspended or revoked, or face other penalties. Forty states and D.C. issue driver’s license demerit points for certain moving violations, but only four states – Arizona, California, Nevada, and Virginia – attach demerit points to traffic infractions caught on an ATE camera.^{xxi} In addition, Alabama and Missouri give local jurisdictions the discretion to issue points. Except for Arizona, the number of points assigned for speeding violations depends on speed at which the vehicle was travelling. The range of points assigned for stop sign and red-light violations are based on the severity of the violation or whether it resulted in a crash.

States Assigning Points for Both ATE- and Traffic Enforcement-Captured Moving Violations				
State	Speeding Violation Points	Stop Sign Violation Points	Red Light Violation Points	Total Points Needed to Revoke or Suspend a License
Alabama	2 to 5	3	3	12-14 points in a 2-year period
Arizona	3	2 to 6	2 to 6	8 points in 12 months
California	1 to 2	1	1	4 points within 12 months 6 points within 24 months 8 points within 36 months
Missouri	2 to 3	2	1 to 2	8 points in 18 months
Nevada	1 to 5	4	4	12 points in 12 months
Virginia	4 to 6	3 to 4	3 to 4	18 points in 12 months 24 points in 24 months

One of the main reasons states do not issue points for ATE-captured violations is that it is difficult to prove the driver is the same as the registered owner, thereby potentially fining someone for a violation they did not commit.^{xxii} In an effort to address this concern, Arizona and California take a photo of both the driver and the vehicle’s license plate.^{xxiii} Arizona, California, and Virginia also require a law enforcement agency to review the images or video prior to the issuance of a ticket.² Virginia also requires tickets to be issued by law enforcement.^{xxiv} ATE cameras in Nevada must be worn or held by a peace officer, installed within a law enforcement vehicle or facility, or privately owned by a nongovernmental entity contracted by the locality.^{xxv} Some Arizona municipalities allow a ticket recipient who was not driving at the time of the

² Some Arizona municipalities allow a ticket recipient who was not driving at the time of the violation to identify the driver and transfer the ticket to that individual. California and Virginia also allow non-drivers to contact the issuing agency to address this issue.

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V. Safety and Equity Impacts of ATE Systems

Various studies have concluded that ATEs reduce speeding and the number of fatal and injury-causing crashes within ATEs' immediate vicinity. Researchers have also found that ATEs reduce the number of red-light violations and the number of angle (t-bone) collisions within their vicinity but do potentially increase the number of rear-end collisions. This could be because ATE systems increase the likelihood of drivers' stopping at red lights to avoid a ticket and other drivers who are unprepared to stop rear-ending them.^{xxvi} Nevertheless, the evidence for ATE systems' impact on driver behavior farther away from ATE cameras is mixed. Further, ATE programs' impact on racial equity is also ambiguous, with some analyses reporting greater racial equity, while others reporting that their implementation either exacerbates inequity or maintains the status quo.^{xxvii}

Reduce Speeding and the Number of Fatal and Injury Crashes

Speeding increases both the likelihood of being involved in a crash and its severity. The faster a vehicle is going, the more dangerous the crash tends to be.^{xxviii} Speeding is one of the leading causes of traffic fatalities in urban areas, even where the speed limits are low.^{xxix} There is strong evidence that ATE speed cameras deter speeding within 250 meters to 2 kilometers (820 ft to 1.2 miles) on urban freeways, residential streets, school zones, and work zones, depending on various factors. In terms of reducing the proportion of drivers who exceed the speed limit, estimates of the impact of ATE speed cameras range from 14 to 88 percent.^{xxx}

A study comparing speed camera enforcement of D.C. and Baltimore found that average speeds decreased by 14 percent at selected D.C. ATE sites compared to similar sites in Baltimore, which did not have an ATE program.^{xxxi} It also found that the share of vehicles speeding by more than 10 mph also declined by 82 percent in D.C. at such locations as compared to Baltimore. In another study, in Montgomery County, Maryland, the proportion of drivers traveling more than 10 mph over the posted speed limit in the targeted enforcement zone fell by 60 to 70 percent after speed cameras were installed.^{xxxii}

Likely because they moderate speed, ATE systems can also reduce serious accidents in their immediate vicinity.^{xxxiii} Studies have shown that at speed camera locations, fatal crashes decreased by between 17 and 80 percent after the placement of cameras.^{xxxiv} Deployment of speed cameras also results in a decrease in crashes resulting in serious injuries in these same areas.^{xxxv} According to several analyses, these cameras can reduce the number of all types of injury collisions by 10 to 40 percent.^{xxxvi} When New York City deployed speed cameras in school zones, they found a 14 percent decrease in the total number of traffic injuries and an 8 percent decrease in the number of crashes with injuries within those camera corridors.^{xxxvii}

Reduce Red Light Violations and the Number of Certain Collisions

Red-light running happens often and is frequently deadly. It is the most common cause of urban crashes globally.^{xxxviii} Forty-five percent of all fatalities on urban roads happen at or in the vicinity of a junction, such as an intersection or interchange.^{xxxix} In 2020, 15 of the 36 crash fatalities in D.C. happened at an intersection.^{xl}

Studies have found that ATE red light cameras can reduce red light violations at intersections with such a camera by between 36 and 60 percent.^{xli} After Arlington County, Virginia installed red-light cameras in 2010, the odds that a driver proceeded through an intersection with a camera 1.5 seconds after the light had turned red fell by 86 percent.^{xlii} Conversely, when red-light cameras are removed, red-light running increases.^{xliii} For instance, after Arlington County removed red-light cameras, violations tripled.^{xliiv}

While there is strong evidence that ATE systems deter red light violations, the evidence for red-light cameras' impact on collisions and injuries is mixed. One analysis found such ATEs can reduce total collisions and injuries in their vicinity by 12 percent, while other studies have concluded they can increase total collisions in their vicinity by 6 to 15 percent.^{xlv} Several studies have found that red-light cameras reduce all types of crash injuries to vehicle riders within their vicinity by as much as 13 to 20 percent.^{xlvi}

However, a substantial body of evidence shows that red-light cameras reduce right angle collisions and related injuries at intersections with such a camera. Several studies have determined that red-light cameras decrease the number of right-angle collisions by 10 to 24 percent in their vicinity.^{xlvii} These same analyses also report that red-light cameras reduce the number of right-angle crashes resulting in an injury by 29 to 33 percent. Angle crashes are especially dangerous and are generally worse than rear-end crashes. Angle crashes account for 60 percent of speeding-related vehicle-to-vehicle fatal crashes on urban roads, versus 20 percent for rear-end collisions.^{xlviii}

At the same time, the literature suggests that red-light cameras can increase rear-end collisions at intersections with such a camera, with some studies showing an increase as high as 14 to 40 percent.^{xlix} Drivers may change their behavior to avoid entering intersections when the traffic signal is yellow, which in turn may make them more susceptible to being rear ended by more aggressive drivers.¹ Still, some studies found that red-light cameras' impact on rear-end collisions is minimal or inconclusive.^{li} Overall, studies have shown that red light cameras do deter violations and increase safety.

Impact on Driver Behavior at Greater Distances from an ATE Camera

Some studies have found that the reduction of risky driving behavior is confined to the speed or red-light camera's location. Other studies show evidence of a "halo" effect wherein the risky driving behavior declines in the surrounding area too.^{lii} The duration of the halo effect has been found to be as little as 500 meters to as much as 10 km (1,640 feet to six miles).^{liii} This difference is larger than the 250 meters to 2 kilometers (820 ft to 1.2 miles) range for just speed cameras. The halo effect of visible police enforcement has a halo effect of up to 22 km.^{liv}

ATE Systems' Impact on Racial Equity

In terms of whether ATE systems improve racial equity, the literature is mixed. Half of the reports reviewed for this memorandum conclude that ATE programs advance racial equity by eliminating racial bias from enforcement, while the remainder found that they can reinforce or worsen racial inequities.

For one, ATE cameras remove the discretion that law enforcement officers have over which vehicles to pull over. Numerous studies show that Black drivers are pulled over at higher rates than white drivers, and they therefore face greater fines and fees resulting from these stops.^{lv} In 2020, Black adult drivers received 65 percent of tickets issued in D.C. during a traffic stop, even though they represent just 46 percent of the District's population.^{lvi}

Second, shifting traffic enforcement to ATE cameras could address the racial disparities in the likelihood that a routine traffic stop escalates. Nationally, once stopped, Black drivers tend to be searched as much as one and a half to two times as often as white drivers, even though they were less likely to carry drugs, guns, or other contraband. Black drivers are also more likely to be arrested during a traffic stop.^{lvii} Black drivers also account for a disproportionate share of traffic-stop deaths.^{lviii}

Nonetheless, while automation may address some biases in police enforcement, the location of cameras, the volume of tickets issued, and the structure of fines, fees, and forfeiture can reinforce and further racial and economic inequities.^{lix} As articulated below, multiple studies have found that ATE programs can exacerbate racial inequity or maintain the status quo due to the above factors.

In fact, research on both D.C.'s and Chicago's ATE programs shows racial disparities in the likelihood of being ticketed. An examination of D.C.'s ATE program revealed that a driver in a Black-segregated area is over 17 times more likely to receive a moving violation from an ATE than in a white-segregated area.^{lx} Similarly, an analysis by ProPublica found that households in majority Black and Hispanic ZIP codes in Chicago received ATE tickets at around twice the rate of those in white areas between 2015 and 2019. Consequently, residents of Chicago's Black neighborhoods faced more than half a billion dollars in penalties over the last 15 years.^{lxi} One of the principal reasons for this disparity is the higher number of ATE cameras located in areas with predominately Black residents. Racist zoning requirements and highway and road planning also contributed. Such tactics were used to create boundaries between white and Black neighborhoods or to place less desirable infrastructure, such as a busy highway, in Black neighborhoods.^{lxii} Additionally, within the District, Black residents are more likely to commute to work by car, Black and Latinx residents have less access to public transit than other residents, and the areas of the District with the highest proportion of people of color households have the fewest number of grocery stores.^{lxiii}

Driver behavior, and by extension, ATE ticketing rates, can be influenced by the built environment.³ A neighborhood with low population density and broad roadways encourages drivers to travel at faster speeds, which in turn means that ATE cameras in these areas issue more tickets. Conversely, areas with more density, economic activity, and narrower streets signal to drivers that they should slow down. For instance, Chicago residents of low-income census tracts incurred 46 percent of fees incurred on ATE tickets, compared with 17 percent for upper-income tracts.^{lxiv} The same study also found that areas in Chicago with more chain grocery stores have lower levels of red-light camera ticketing, and speed and red-light cameras that are close to freeways also issue significantly more tickets.^{lxv} Some of the same underlying disparities in the built environment in Chicago also exist in D.C.

Further, because ATE violations typically carry a monetary penalty, their financial impacts can be racially inequitable. Traffic enforcement tickets are almost always for a determined amount. For instance, in the District, a ticket for going 10 miles over the speed limit is always \$50.^{lxvi} Flat fines such as these are easy for the state to administer but are by their very nature regressive: they are a larger share of income for someone earning \$20,000 a year, compared to someone earning \$200,000 a year. In the District, as in the entire nation, Black residents are a larger share of the low-income population, and white residents are a larger share of the high-income population, due to historic policies and practices, such as Jim Crow laws, segregation, and housing, education, and wage discrimination. This history has contributed to current economic inequities by limiting the professional opportunities and income of Black workers, making flat fines racially inequitable.^{lxvii}

VI. Safety and Equity Impacts of Demerit Points

Most studies have determined that point systems reduce traffic violations, accidents, injuries, and fatalities.^{lxviii} However, there is mixed evidence of the longevity of these improvements, with some studies suggesting lasting benefits and others finding benefits lasting no more than 18 months after the system is introduced.^{lxix} It should also be noted that several studies detailed the challenges in determining the effectiveness of demerit point systems in isolation as they are typically used with other complementary enforcement, such as police enforcement or public awareness campaigns.

Another important consideration is that most point systems examined are nation-wide systems, whereas D.C. and each of the 40 U.S. states with such a system uses a unique approach. Such country-wide systems require extensive integration, education, and communication across all regions and jurisdictions. While many states will honor points obtained in other states, not all do so, and the number of points assigned to a specific violation are more than likely different. This is also true of the number of points needed for a

³ Anything man-made, including buildings, roadways, parks, etc.

license to be suspended or revoked. For instance, Virginia and Maryland honor the points that result from MPD-issued tickets.^{lxx} Many of the countries examined have stricter education and testing requirements to obtain or regain a license, as well as a different relationship with driving, traffic violations, and enforcement than the U.S.

Violation Deterrence

Research has found that demerit point systems can reduce traffic violations due to drivers wanting to avoid receiving points against their license.^{lxxi} The decrease in traffic violations ranged from 14 percent to 30 percent.^{lxxii} This deterrence increases as a driver gets closer to the limit at which their license would be suspended or revoked and few drivers actually accumulate enough points to have their license suspended or revoked.^{lxxiii} However, several analyses determined that the deterrence effect of point systems is limited.^{lxxiv}

An analysis of Spain's point system showed a 14 percent decrease in traffic offenders over its first three years which the authors were able to tie directly to the system.^{lxxv} The point system resulted in 40 percent fewer speed violations and a 13 percent decrease in violations of disobeying of traffic signals. It should be noted that prior to the system's implementation, the Spanish government launched a significant driver safety and demerit point system information campaign, and mailed notice letters to all registered drivers, which could have increased its success. The use of demerit points in Denmark was also found to improve driver behavior.^{lxxvi} The frequency of traffic violations decreased by 15 to 30 percent depending on the number of points accrued. More car-reliant individuals were also shown to be more responsive to demerit points.

The fact that the number of drivers who have their license suspended or revoked is so small also demonstrates the deterrence effect of the point system. An examination of the Republic of Korea's (South Korea) demerit system found that few drivers accumulate enough points to suspend or revoke their license, while also reducing traffic violations among newly licensed drivers.^{lxxvii} Of the almost 368,000 drivers' histories reviewed, most only committed one traffic violation over a period of 550 days. Only 24 percent had their license suspended and one percent had theirs revoked.

The deterrence effect of the point system also been found to increase as the driver accumulates more points.^{lxxviii} In Denmark, those with at least one point were 11 to 20 percent less likely to commit a subsequent traffic violation.^{lxxix} A Norwegian survey of the deterrence effects of demerit points found that drivers report being less reckless when nearing the limit for license suspension.^{lxxx} A higher number of points was also shown to increase the driver's concern with obtaining more. This was strongest among probationary drivers, or those who have been licensed for less than two years. Drivers without points were also deterred from traffic violations. A study of Spanish drivers found that drivers complied with traffic laws for longer periods between their second and third offenses.^{lxxxi} A 2011 Canadian report noted that as the number of points a driver accumulates increases, they drive more carefully.^{lxxxii}

While such systems have been found to decrease reckless driving, several analyses found the deterrence to be short lived, at no more than 18 months after the system is introduced.^{lxxxiii} However, at least one study found reductions in traffic offenders three years after the system was implemented.^{lxxxiv} A review of the crash rate in Canada found that it does drop but only for about a month after a driver receives demerit points.^{lxxxv} After this, there is no difference in the crash rate. A separate Canadian study also determined that while drivers are more careful after receiving points, this deterrence effect lasts no longer than 18 months.^{lxxxvi} Other studies found that demerit point systems had little impact on improving safe driving. In Al Ain, United Arab Emirates, researchers examined the impact of the point system on speeding when it was implemented in 2008.^{lxxxvii} In the three months after it began, there was no meaningful change in driving behavior. This is attributed to the lack of visible and consistent traffic monitoring systems.

Reductions in Injuries and Fatalities

Most of the relevant reports found that road-related accidents, injuries, and fatalities decreased after the point system's implementation.^{lxxxviii} When road injuries and fatalities are reduced, the resources required to treat or address the aftermath of such accidents can be redirected to other areas. However, the reductions varied considerably between countries and reports. The number of accidents decreased by 3.2 percent to 20 percent as a result of the existence of the point system.^{lxxxix} Injuries were reduced by 15 and 20 percent and fatalities saw a seven to 20 percent decrease.^{xc} A number of studies concluded that such decreases only last between six and 18 months after the system is introduced.^{xc1}

An international review of point systems determined they contribute to a 12 percent reduction in accidents and 17 percent fewer injuries.^{xcii} In the 18 months after Italy implemented its demerit point system in 2003, there was an 18 percent decrease in fatalities and 19 percent fewer injured individuals.^{xciii} The reductions were directly tied to the point system's punishment of dangerous driving. Two studies of the Spanish point system showed an average decrease of 11.3 to 14.5 percent in the number of fatalities.^{xciv}

In the year after Italy's point system began, there were 12 percent fewer emergency room visits, 13 percent fewer hospital admissions, a 16 percent decrease in hospitalizations for road traffic injuries, and fatalities were reduced by seven percent in the Lazio region, which includes Rome.^{xcv} The reductions were more significant outside Rome. However, some of these decreases could be attributed to a long-term reduction in traffic-related injuries and deaths over the previous decades due to increased safety measures such as seat belt and helmet requirements and roadway improvements. Additionally, these positive impacts appear to lessen after the first six months.

An examination of the Spanish point system found a 14 percent reduction in accidents and fatalities and 16 percent fewer injuries, which persisted for two years after implementation.^{xcvi} As a result, the point system was estimated to provide over €946 million in annual benefits. Two studies based in the Republic of Ireland (Ireland) found that decreases in road injuries contributed to reductions of medical resources allocated to traffic accident injuries after the implementation of the point system in 2002.^{xcvii} There was a 36.7 percent decrease in road traffic accident-related cases at the Level 1 Trauma Centre at Cork University Hospital in the 12 months following the introduction of the point system. Among the six Dublin teaching hospitals and Waterford regional hospital there was almost a 50 percent decrease in the number of head and thoracic injuries related to traffic accidents, but the number of limb injuries did not change. While there was no change in the number of spinal fractures, other orthopedic injuries did increase by seven percent after the point system's implementation. However, such injuries from high-speed accidents were reduced by 50 percent.^{xcviii}

Several studies questioned the deterrence duration of point systems, which has been estimated to last between 6 months and 18 months.^{xcix} For instance, Denmark (14 percent), Ireland (1.4 percent), Italy (3.2 percent), and Spain (7.6 percent) saw decreases in the number of crashes in the first year after the point systems' implementation but returned to pre-system numbers after this period.^c A world-wide study found that demerit point systems can reduce traffic violations by 30 percent, hospitalizations and accident and emergency admissions by 50 percent, and decrease accidents, fatalities, and injuries by 15 to 20 percent, but these reductions only lasted 18 months.^{ci} Similarly, while the European Union's standardized criteria for point systems showed a 15 to 20 percent reduction in crashes, fatalities, and injuries, these also began to reverse after only 18 months.^{cii} An examination of traffic accident-related spinal injuries in Ireland after the introduction of the point system revealed that the reduction in such injuries was not maintained two years later.^{ciii} Researchers hypothesize the reversal in crash, injury, and fatality numbers is due to the lack of complementary enforcement to support these measures or the potentially low probability of being caught and therefore issued points.^{civ} Other studies claim that point systems' effectiveness might even contribute to decreases in traffic safety either due to traffic enforcement producing more risk-taking behaviors, such

as hit-and-run crashes or driving without a license, or because there is a decrease in the intensity of police presence. Yet at least one study found longer-lasting reductions. In the 14 years since Ireland began using a point system, the reduction in femoral shaft fractures has been maintained in both urban and rural areas.^{cv}

Points Used to Identify Repeat Offenders

Point systems provide a means to identify repeat offenders and potentially remove them from the road. Serious offenses and high accumulation of points have been shown to be strong predictors of future accidents.^{cv} This is particularly true with young, inexperienced drivers.

A Norwegian study determined that drivers with previous points are more likely to obtain new points than drivers without preexisting points.^{cvii} The researchers also found that drivers with more than four points (eight points results in license suspension) are less likely of obtaining new points due to the impending risk of license suspension. However, no definitive impact on drivers with few or no points could be determined. A warning letter is issued to Norwegian drivers with five or more points to notify them of their point total, which could also be influencing driver behavior. The cost of associated traffic violation fines could also contribute to these findings, as speeding fines range from \$300 to \$1,000 per violation. A study of the South Korean point system also found that accruing one demerit point decreases the likelihood of a driver committing a violation by 11 percent.^{cviii}

The fact that points eventually expire also plays a role in determining the likelihood of a driver accumulating more. A Canadian report examined the impact of both the number of points a driver accrues and when such points expire.^{cxix} It found that drivers may drive more recklessly knowing some or all of their points will soon expire. In the analysis, drivers with 10 points (15 points results in a license being revoked) who will have three points expire are 50 percent more likely to commit a violation. Those with 14 points are 80 percent more likely to commit a violation when three of their points expire.

Limited Impact of Point Systems Alone

Point systems alone are not enough to deter dangerous driving.^{cx} Point systems working in conjunction with more severe punishments, such as fines and license suspension or revocation, have been found to be much more effective than points alone.^{cx} Enforcement is the most frequently given reason for a point system's deterrence effect.^{cxii} If drivers do not think a violation will be enforced or will not have measurable consequences, point systems will not change their behavior.^{cxiii} For instance, An economic evaluation of demerit points found that punishment for reckless driving must be more costly to the driver than the benefit they perceive from violating traffic laws.^{cxiv} The more severe the penalty, the higher the effectiveness at discouraging repeat violators.^{cxv} A survey of Norwegian drivers also showed that nearly 80 percent of respondents felt that only severe fines in conjunction with the loss of the license would be effective enough to change driver behavior.^{cxvi}

Researchers postulate that the 11.3 to 13.9 percent reduction in fatalities in Spain three years after the point system's introduction was due in large part to continual increases in surveillance and fines, as well as media and news interest in road safety.^{cxvii} It should be noted that during the period of the study driving decreased as a result of the 2008 economic crisis, Spain also reformed its penal code, increased enforcement and surveillance of drunk or impaired driving, improved roadways and other infrastructure, developed awareness campaigns directed to risk populations, and mandated the use of seat belts and helmets, all of which could have also positively improved driver safety.

Some researchers have suggested that other associated measures may have a longer period of deterrence or contribute to the deterrence of point systems. Notifying drivers that they are in danger of losing their license or requiring them to participate in a driver education course have been shown to have some deterrence effect.^{cxviii} Such educational courses in the United Kingdom resulted in 57.2 percent of self-reported

participants speeding less in the three years after the course.^{cxix} Experts also encourage jurisdictions to focus more on changing driver attitudes and behaviors related to traffic laws than on traffic law knowledge and driving skills to address repeat offenders.^{cxx} Communication about the point system and possible punishments as well as the existence of consistent enforcement are commonly cited as necessary to the success of such systems.^{cxxi}

The length of time points stay on a driver's record could also influence driver behavior.^{cxxii} Experts agree that a point should not be removed from a record in less than one year and a license suspension should last between three and 12 months. Adjusting the life span of points to match the severity of the violation is also encouraged. Points for more dangerous or more frequent violations should receive a longer life span.

Finally, there is no system or enforcement tool that will deter all reckless drivers. Some drivers are habitually reckless and revoking their license is the only recourse.^{cxxiii} Such drivers are often not sensitive to point accumulation due to their significant disinterest in driving safely. A study of the three-strikes policy in California found that some drivers utilize tricks, such as not driving on highways or roads that are known to have enforcement, to avoid tickets rather than driving more safely.^{cxxiv} Some drivers will continue to violate traffic laws because they have determined the cost associated is less than the benefit they receive from committing the violation.

Attitudes Towards Point Systems

Public support of a point system is important in determining its success. The Norwegian point system is considered successful in deterring many drivers from traffic violations because residents tend to have positive attitudes about the system.^{cxxv} However, it also showed that driver attitudes towards the point system were less positive among those who had accumulated points.

Many people find point systems to be a fair system as the associated punishments increase with the accumulation of tickets.^{cxxvi} This is particularly true if the violation and points are allocated by an ATE system rather than a police officer. To maintain this support, the point system must be transparent and easy to understand. To that end, regular and timely communication on the overall functions and outcomes of the system is vital. This also reminds drivers of the system's existence and the ability to confirm if they have obtained any points and why.

Impact of ATE Programs Issuing Driver's License Points

The impact of adding demerit driver's license points to ATE violations on traffic safety is not well researched. The existing literature has not examined this type of penalty within the U.S., and available studies present contrasting conclusions.

A study of ATEs in Mexico City found that collisions and traffic deaths throughout the city increased by a small amount when fines from ATEs were replaced with driver's license points.^{cxxvii} The authors found that after the policy change, collisions rose by 1.5 percent and traffic deaths rose by 2.7 percent, reversing a downward trend in collisions that had been observed until that point. They concluded that "policies that include high economic penalties for speeding and dangerous behaviors were effective in decreasing traffic mortality while removing economic penalties and replacing them with a point penalty system were associated with an increase in collisions, resulting in injury and mortality."^{cxxviii}

In contrast, a survey of professional drivers (such as taxis or private chauffeurs) in Hong Kong concluded that driving-offense points are more effective at deterring speeding throughout the city than increasing monetary fines.^{cxxix} The authors attribute this to the fact that driving-offense points can lead professional drivers to lose their license and, by extension, their livelihood. The deterrence was strongest for professional drivers who had recently been issued a ticket. The authors noted that simply imposing fines or driving-

offense points might not be enough to reduce aggressive driving habits, and they recommend deploying them in combination with targeted driver educational and training campaigns.

A Congressional Research Service report found that jurisdictions that assign minimal punishments for ATE violations, such as no points and small fines, have higher rates of repeat offenders than jurisdictions that have heavier punishments, like points and higher fines.^{cxxx} Jurisdiction with lighter punishments also had lower rates of speed camera ticket payments than those with more consequential punishments.

VII. License Suspension and Revocation

In addition to the fines associated with a ticket, drivers could have their license suspended or revoked in most jurisdictions if they accrue a certain number of demerit points and/or fines. License suspensions and revocations have consistently been tied to traffic safety benefits resulting from drivers being less likely to commit traffic violations.^{cxxx} However, most drivers who accumulate points do not reach the limit for license suspension or revocation.^{cxxxii}

Since 2018, D.C. drivers cannot have their licenses suspended or revoked for unpaid traffic fines but accruing 10 to 12 points will result in a license suspension or revocation.^{cxxxiii} When this change took effect more than 68,000 drivers' licenses were reinstated. Prior to this change, more than 126,000 licenses were suspended or revoked due to unpaid traffic fines between 2010 and 2017; 80 percent of which were Black drivers.^{cxxxiv} The loss of a license has a much greater impact for a Black household in the District than a white household given the greater likelihood of public transportation access to get to work or access food and healthcare for white households.^{cxxxv} Additionally, Black D.C. households' median income (\$45,072) is more than three times less than that of white District households (\$141,650), making the cost of reinstating a license greater for Black residents.^{cxxxvi} In 2022, the Council also amended the Clean Hands policy to exempt driver's licenses; meaning residents with more than \$100 in debt owed to the District government are still able to obtain or renew their license.^{cxxxvii} However, those with outstanding traffic fines cannot have applications or renewals for certain occupational licenses and vehicle registrations approved.^{cxxxviii} The District government did not collect data on the number of residents who were unable to obtain or renew a license. Thus, ascertaining the number of individuals affected is difficult. One report estimated nearly 60,000 D.C. residents were affected in 2019, approximately 10 percent of the population at the time.^{cxxxix}

Deterrence Effect of License Suspension or Revocation

There are conflicting studies on the impact of license revocation and the frequency of traffic violations. Some studies have found that drivers who have had their licenses revoked are less likely to commit a violation; whereas others have not found significant evidence to support this.^{cxl} Overall, the research has found that the current license suspension or revocation system does not appear to be a meaningful deterrent for the most serious of repeat offenders or significantly increase safety.

Experts have identified two benefits to license revocation due to points: such drivers may need to retake a driving test to reinstate their license, allowing officials to identify those that should not be allowed to do so; and reckless drivers accumulate points more quickly than normal drivers, resulting in fewer unsafe drivers on the road.^{cxli} Research also found that systems that allow drivers to remove points for safe driving increases social welfare.

However, a revoked or suspended license does not prevent people from driving. Approximately 75 percent of drivers that do not have a valid license drive at least occasionally.^{cxlii} Unlicensed drivers have been found to have a slightly higher crash risk than licensed drivers and may be more likely to commit hit-and-runs to avoid being caught.^{cxliii} A review of Taiwanese drivers permanently prohibited from driving found that only about 17 percent fully stop doing so.^{cxliiv} Over 23 percent still drive the same amount as prior to the revocation and just under 60 percent drive less frequently. Elderly and low-income individuals are more

likely to adhere to the lifetime ban, but also more likely to suffer from the license revocation more acutely. A study comparing the impact of license suspension and revocation on potential future traffic violations also found that those who had their license suspended had fewer violations and crashes in the 18 months since regaining their license than those whose license was revoked.^{cxlv} However, the difference between the two groups diminishes over time.

Additionally, the threat of a suspended or revoked license has not deterred repeat offenders. As of 2022, there were 550,000 vehicles eligible for booting in D.C.; 5,000 of which have tickets for speeding at least 21 mph over the speed limit and 150,000 have run a red light.^{cxlvi} According to the D.C. Department of Motor Vehicles (DMV), over 2,100 vehicles have at least 40 outstanding D.C. ATE-issued tickets and about 13,400 have more than \$5,000 in fines and fees and 1,200 have fines and fees of more than \$20,000.^{cxlvii} There is also the issue of fake or expired temporary license plates, which can make it difficult to know the ticket is being sent to the correct address. MPD arrested approximately 1,200 individuals between 2021 and 2022 for using fake or expired temporary license plates.^{cxlviii}

It should also be noted that suspension and revocation have not provided the safety results intended. Maryland and Virginia drivers account for most D.C. ATE-issued tickets but are not barred from re-registering vehicles or renewing licenses in those states for such outstanding tickets.^{cxlix} This is due to the lack of a reciprocity agreement for ATE tickets between D.C., Maryland, and Virginia, meaning they do not issue points to a driver for a D.C. ATE-captured violation. Without Maryland and Virginia agreeing to hold their residents responsible for ATE-issued violations and fines, D.C. has limited options on enforcement, allowing these drivers to continue driving in all three jurisdictions. While D.C. can boot or tow these vehicles, they are often not located in the District or in accessible areas when booting or towing teams are working.^{cl}

Impact of License Suspension or Revocation

While license suspension and revocation help to remove dangerous drivers from the roadways, they also disproportionately affect lower-income and minoritized residents.^{cli} In D.C. more than 60 percent, or \$467 million, of all ATE and police tickets issued between 2016 and 2020 were issued in majority-Black neighborhoods with average median household incomes below \$50,000.^{clii} Whereas, majority-white neighborhoods with average median household incomes above \$100,000, received only \$96 million in such tickets. Fines from tickets also increase the longer they go unpaid, adding to the financial burden.

Individuals with a suspended or revoked license could struggle to maintain their job or lose it entirely, increasing not only their difficulty in paying the ticket but also their housing and food costs. In 2019, 64 percent of D.C. residents relied on a car to get around and only a third of jobs in the region could be reached by public transit within 90 minutes.^{cliii} Wards 7 and 8, both of which are majority Black (nearly 90 percent) and have high rates of poverty (about 30 percent), have little access to grocery stores and fewer public transit options than other wards, resulting in more residents relying on driving.^{cliv} This exacerbates the cycle of poverty in the District. Several studies found that between 42 to 50 percent of individuals who lost their driving privileges lost their jobs and nearly all saw a reduction in income.^{clv} The financial impact is not limited to the driver. Phoenix, Arizona saw a \$150 million increase in its gross domestic product and \$87 million in additional wages with the reinstatement of 8,000 licenses.^{clvi}

VIII. Alternative Approaches

Enforcement Alternatives

Some jurisdictions have moved away from police traffic enforcement. Berkeley, California has prohibited its officers from stopping people for minor traffic offenses. Instead, unarmed representatives are sent to address certain traffic incidents.^{clvii} The city also seeks to create the first civilian traffic enforcement unit in the country, but that change is dependent on the California legislature passing Senate Bill 50, which would, among other things, allow local jurisdictions to conduct traffic enforcement by non-police government employees.^{clviii} Philadelphia adopted a New Zealand model, which uses unarmed public safety officers who work for the city's transportation department for minor traffic violations.^{clix} The Philadelphia police department has been supportive of civilians assuming this role as it increases their forces, although as of November 2022, the city has only allowed civilian traffic enforcement in the busy center of the city and five streets with high rates of injury. Cambridge, Massachusetts; St. Louis Park, Minnesota; and Montgomery County, Maryland have also explored similar proposals.^{clx}

The Los Angeles transportation department also determined that most traffic enforcement should be conducted by non-police entities, along with 'self-enforcing infrastructure', such as narrower streets, bike lanes, and more visible crosswalks.^{clxi} The L.A. police department is supportive of handing these responsibilities off to another city agency.

The District's Police Reform Commission also proposed transferring enforcement of traffic violations that are not imminently dangerous to the public from MPD to the District Department of Transportation (DDOT).^{clxii} These proposed violations do not include speeding or running a red light or stop sign.

Flat Fine Alternatives

While D.C. allows drivers with outstanding fines and fees to renew their driver's license, such debts can still create issues and stress. Finding alternative ways to allocate and pay fines can help low-income drivers avoid further financial struggles.

In Finland, traffic fines are based on the violator's annual income and the type of violation committed.^{clxiii} To calculate the fine, often referred to as a 'day fine', the daily spending money of an individual is estimated and then divided by two. A scale was established to determine how many days is reasonable for the person to go without that amount based on the type of violation and severity. For instance, speeding 15 mph over the limit would result in a 12-day multiplier and 25 mph over would be a 22-day multiplier. The maximum multiplier is 120 days, but there is no cap on the actual fine. Police have access to the federal taxpayer database to verify incomes. Most traffic violations result in a total fine of about €400 or €500 but increase in proportion to the wealth of the violator. The majority of Finns support the sliding scale fines. Many find this method to be more equitable than flat fines, as wealthier violators pay larger fines than those with lower incomes. Austria, Denmark, France, Germany, Sweden, and Switzerland also utilize sliding scale fines in certain instances. Staten Island and Milwaukee have also experimented with such fines. Experts from the Fines and Fees Justice Center (FFJC) also presented testimony to the D.C. Council supporting a similar fine structure.^{clxiv} However, there are concerns that proportional fines could create disparities in the incidence of reckless driving and would require providing law enforcement unprecedented access to tax databases.

Another alternative to fines is community service. Community service provides individuals without the financial means to pay a fine a way to address it without accumulating fees or having a financially detrimental impact. The amount of community service hours would be tied to the severity of the violation.^{clxv} FFJC has supported such an alternative and noted that community service should have a broad definition, including educational or employment opportunities, job training, life skills training, drug

rehabilitation, and social service programs, among other options. It should also be flexible to allow the individual to still go to work and take care of their family. The specific type of community service assigned should also be chosen with the individual's abilities in mind. Several states and local jurisdictions already allow individuals found guilty of a variety of crimes to use community service to pay off or reduce their fines. For example, Charlottesville, Virginia allows inmates to reduce their debts in such a manner.^{clxvi} For each hour an inmate works, the city removes \$7.25, Virginia's minimum wage, from their debt. Picking up trash, cleaning graffiti, clearing trails, maintaining parks, and other jobs for city agencies are examples of eligible activities. The program has saved the city more than \$900,000 since 2012 by not having to hire individuals to do the work. Michigan also allows eligible drivers to participate in ticket payment alternatives, including workforce development programs and community service, in addition to payment plans.^{clxvii}

Other Alternatives

Research has determined that the frequency of enforcement is more important in reducing violations than the severity of the penalty.^{clxviii} Additionally, a higher chance of being caught, coupled with lower fines, has a higher deterrence effect than a low probability of being caught and a high fine. Currently, only one percent of D.C. streets have ATEs, resulting in a low likelihood of being caught.^{clxix} Also, many drivers slow down while passing ATEs but then accelerate after they pass.^{clxx} To address both issues, some experts have proposed 'safety zones' as an alternative approach to traditional traffic enforcement and ATEs. A safety zone is a series of smaller ATE cameras along a particular stretch of road, often an area with a high incidence of violations.

A safety zone would operate in conjunction with a notification system that would send a notice, or a 'nudge', of the violation and associated fine to the driver's cell phone. To be considered a 'nudge', the action must be simple and inexpensive to avoid. Behavioral economists have found that gentle nudges are more effective at altering individuals' behavior than harsh legal or monetary punishments.^{clxxi} These nudge fines would be minimal, but frequent, fines to drivers who commit moving violations. While a traditional ATE ticket could take weeks to arrive in a driver's mailbox, a safety zone could deliver almost instantaneous violation alerts via a cellphone application. Additionally, those that commit multiple violations over a certain period could receive higher fines than those that commit just one or two. A more comprehensive and dispersed ATE system could lower enforcement disparities, reduce the need for police to conduct traffic stops, decrease the financial burden for drivers, while also increasing the predictability, geographic area of enforcement, and the collection of detailed data on driver behavior and safety.

IX. The District's ATE System

The District began using ATEs in the early 2000s.^{clxxii} The ATE Program was under the authority of MPD until Fiscal Year (FY) 2022, when it was moved to DDOT, which now administers the program and is responsible for the placement and maintenance of all ATE equipment.^{clxxiii} DDOT is expanding photo enforcement from speeding, red light, and stop sign violations to include bike and bus lane and oversized commercial vehicle enforcement.^{clxxiv}

When a District ATE camera captures a suspected infraction, an image of the rear of the vehicle is transmitted to DDOT for review. Currently, an ATE camera only captures speeding violations of 11mph or more over the speed limit, a threshold set by DDOT.^{clxxv} DDOT subsequently transmits verified infractions to the D.C. Department of Motor Vehicles (DMV). The DMV then sends the notice of the ticket to the vehicle's owner through an outside contractor. The DMV issues nearly all tickets for moving violations in the District (compared to tickets issued by MPD) and collects fine payments, including all tickets for ATE-captured violations.^{clxxvi} Ticket adjudication, when an individual requests that their ticket be reviewed by the relevant authority and possibly dismissed, is also conducted through DMV.^{clxxvii} An ATE-captured violation notice must be sent within 25 days following the violation. Recipients have 30 days from the date

the ticket notice was mailed to respond. If the recipient does not pay the ticket or apply for adjudication within 30 days, the fine doubles.^{clxxviii} Currently, even if a vehicle owner was not the driver responsible for a violation, they are liable for the ticket payment.^{clxxix} Liability is not transferred to the driver.

Violations caught by newly installed ATE cameras are issued warning citations during the camera’s first 30 days of operation.^{clxxx} After that, tickets are issued. A red light-violation may not be issued if the vehicle was part of a funeral procession, was avoiding an emergency vehicle, or was directed by a police officer.^{clxxxi}

D.C. has reciprocity agreements with Maryland and Virginia to require drivers to pay for tickets issued by police officers, but not for ATE-issued tickets.^{clxxxii}

Number of ATE Cameras and Locations

As of November 2023, 109 ATE cameras were capturing violations of posted speed limits throughout the District, 29 ATE cameras were capturing red light violations, and seven ATE cameras were capturing stop sign violations.^{clxxxiii} The District plans to install 342 new ATEs in FY 2024.^{clxxxiv} Currently, under one percent of the District’s 13,754 blocks are covered by an ATE camera.^{clxxxv}

Ward	Number of ATE Cameras by Ward as of November 2023			
	Red Light	Stop Sign	Speed	Total
1	1	0	3	4
2	4	1	5	10
3	3	1	11	15
4	5	3	14	22
5	6	0	28	34
6	4	0	6	10
7	6	1	26	32
8	0	1	16	17
Total	29	7	109	145

Penalties for ATE Violations

Both ATE-issued and MPD-issued tickets require the payment of a fine. However, under current law, only MPD-issued tickets result in points being assigned to a driver’s license. Additionally, an individual’s license cannot be suspended for an ATE-detected violation even if the individual does not respond to the violation notice or pay the fine in a timely manner. The below table outlines the financial penalties issued by the District for traffic infractions and points if cited by MPD.

Fines

Speeding violations result in a fine of \$50 to \$500 depending on the speed recorded and the location of the violation. Running a red light or stop sign or failing to come to a complete stop results in a fine ranging from \$50 to \$150. Fines in school and work zones are double the regular penalty.^{clxxxvi}

If a recipient does not respond to the ticket within 90 days, it is sent to the Office of Finance and Treasury’s Central Collection Unit (CCU) to begin the collections process, which, due to additional fees charged by the collection agencies, could be more costly for the recipient.^{clxxxvii} If it continues to be unaddressed, the vehicle becomes eligible to be booted and impounded, and the value of unpaid tickets can be deducted from the driver’s D.C. income tax returns.^{clxxxviii} Eligible D.C. residents can set up installment payments for traffic violation fines.^{clxxxix}

D.C. Schedule of Fines and Points for Red Light, Speeding, and Stop Sign Violations ^{exc}		
Violation	Fine	MPD-Issued Points
Speeding up to 10 mph over	\$50	0
Speeding 11 to 15 mph over	\$100	3
Speeding 16 to 20 mph over	\$150	4
Speeding 21 to 25 mph over	\$200	5
Speeding 25 mph or more over on controlled access roads	\$400	5
Speeding 25 mph or more over on non-controlled access roadways	\$500	5
Running stop sign	\$100	2 - 3
Running red light	\$150	2 - 3
Running flashing red light	\$50	2 - 3
Violation of no turn on red sign	\$100	2 - 3
Failure to come to a complete stop before turning (right on red)	\$100	2 - 3

Points

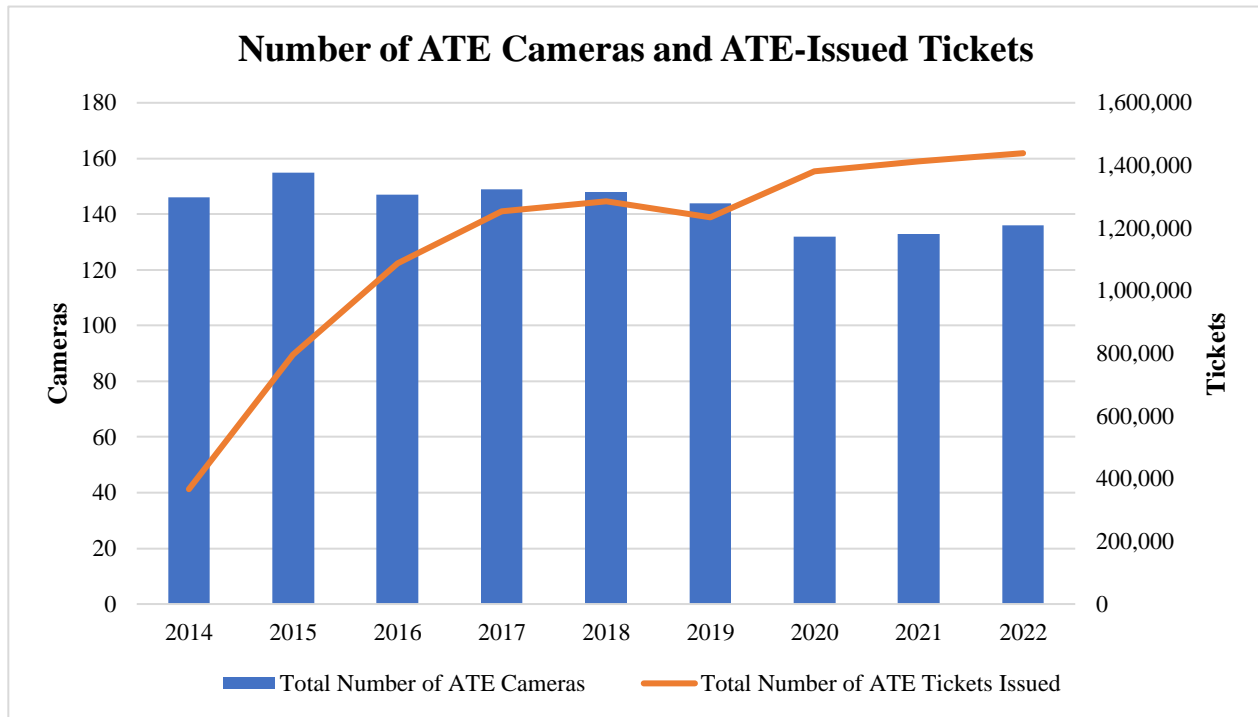
As previously noted, the District does not assign points for ATE-captured violations. However, points can be assigned for a citation given by a law enforcement officer of one of the approximately 27 entities permitted to issue citations in D.C.^{excj} Points are assigned against a driver's license if that driver pays a ticket, is found liable at a hearing, or fails to pay a ticket within the required 60 days.^{excii}

Speeding violations result in three to five points being assigned to a driver's license depending on the speed recorded. Running or failing to come to a complete stop for a red light or stop sign results in two to three points being added to a driver's license. For moving violations received out-of-state, DMV assesses points according to the point system for the same or similar violation in the District.^{exciii} A driver's license is suspended for 90 days if the driver obtains 10 or 11 points.^{exciv} If a driver obtains 12 or more points, their license is revoked until the DMV reinstates it at least six months after revocation. Points remain on a driver's record for two years.^{excv}

Certain drivers may be eligible for a DMV-approved online defensive driving course to have points removed from their record.^{excvi} Prior approval from a DMV Hearing Examiner is required before taking the course to have points removed. A driver may only contest the ticket by adjudicating it by mail to receive approval for traffic school from a hearing examiner. In the adjudication request, the driver must request that the points be waived. Once approved by a DMV hearing examiner, a driver has 15 calendar days to pay the fine and 30 calendar days to successfully complete the course.

ATE Ticket Statistics

Approximately 87 percent of all ATE-captured events in D.C. result in tickets being issued, with the remaining 13 percent not resulting in a ticket being issued.^{cxvii} Violation images that the DMV could not find the vehicle owner name and address accounts for the largest share of unissued tickets. Illegible tags, vehicle make mismatch, unidentifiable vehicle make and model, and images that are too dark. Between FY 2014 and FY 2022, the number of ATE-issued tickets increased by 300 percent, from 366,610 to more than 1.4 million.^{cxviii} Of the 1.4 million ATE tickets issued, the majority were for speeding violations. The total amount of associated fines was more than \$112.8 million.^{cxix}

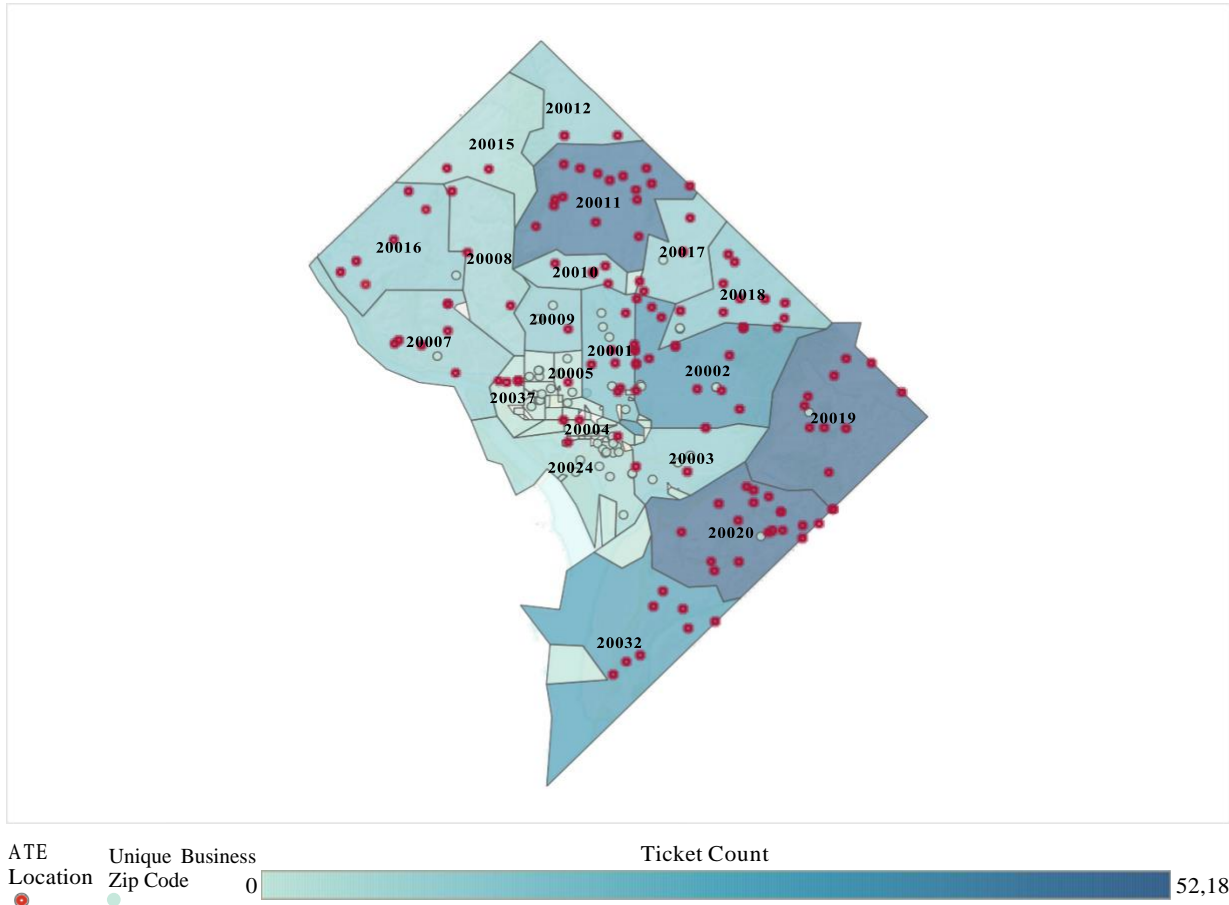


According to a DMV representative, between 18 and 22 percent of all ATE-issued tickets are dismissed and 10 percent are adjudicated;⁴ therefore, approximately 70 percent of ATE-issued tickets in the District – or approximately 21 percent of all ATE-captured events – are associated with an uncontested fine. Most tickets qualify for dismissal for one of three reasons: the ticket is at least 15 years old (85.7 percent); the driver presents a legal defense (13 percent); or for poor image (1.3 percent).^{cc} In FY 2022, the DMV received 330,254 ATE-related adjudication requests, 22 percent of which were upheld. Historically, more adjudicated tickets are upheld than dismissed. However, not all uncontested fines are actually paid.

⁴ A ticket is dismissed when someone responds to a ticket noting that it is not their car, or a violation did not occur and the DMV review of ATE photos or videos supports this. A person adjudicates a ticket when they admit to a violation but offer an explanation in an effort to have the ticket dismissed or to reduce the associated fines or points.

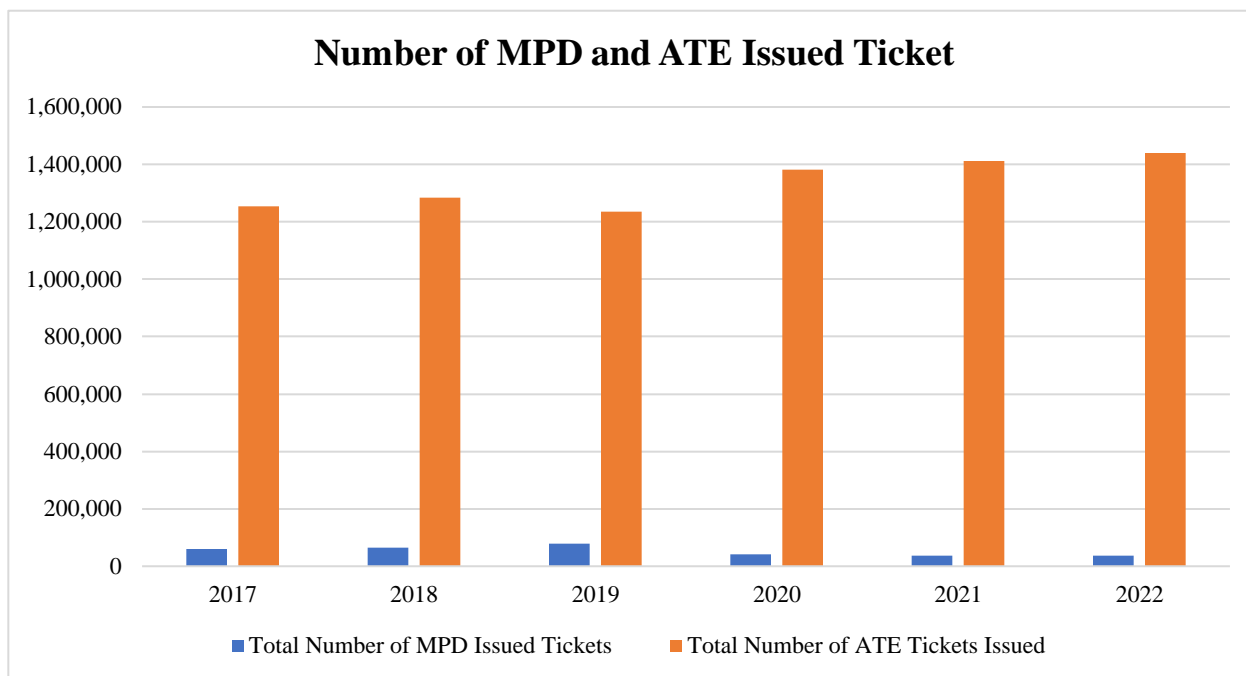
While the number of ATE-issued tickets has increased in recent years, the number of cameras has stayed relatively flat. However, in FY 2024, this number will increase by 342.

FY 2022 ATE Issued Tickets by Driver Zip Code



ATE and MPD Tickets

Historically, the volume of ATE-issued tickets drastically exceeds the volume of MPD-issued tickets for moving violations.^{cc1} Almost every year, the number of ATE tickets issued on an annual basis have been at least 20 times higher than the number of MPD-issued tickets. This gap has continued to grow. In 2022, the number of ATE-issued tickets (1.4 million) was nearly 40 times higher than the number of MPD-issued tickets (36,949) for traffic violations. Moreover, since 2020, the number of MPD-issued tickets has steadily decreased as the number of ATE-issued tickets has increased. MPD stated that primarily due to the pandemic, it refocused department priorities away from traffic enforcement to other responsibilities.^{cc2} This refocusing resulted in the number of MPD-issued tickets to drop by almost half between 2019 and 2020. As with ATE-issued citations, speeding violations typically account for the highest number of MPD-issued tickets.



ATE Tickets Issued to District Residents

District residents received 304,719 ATE-issued tickets in 2022, totaling over \$27 million.^{cciii} However, certain areas of D.C. receive a disproportionate number of ATE tickets. Since ATE tickets are mailed to the address tied to the vehicle’s registration it is more accurate to use zip codes rather than wards. Zip codes are determined by the U.S. Postal Service based on geography and administrative capabilities and not by population.^{cciv} Additionally, eligible businesses can obtain a unique zip code that is only for their business. The address the ticket is sent to is often the driver’s residence, but this is not always the case. For instance, if a driver moves while the registration is still valid, they may not update it or if a company vehicle receives an ATE ticket, it would be sent to the company’s address not the driver’s home.

Three zip codes’ addresses received less than 1,000 FY 2022 ATE tickets. Five zip codes received between 1,000 and 10,000 ATE tickets. Nine zip codes had between 10,500 and 18,000 ATE tickets. Five of these zip code addresses received over 30,000 FY 2022 ATE tickets.^{ccv} The zip codes with the fewest ATE tickets also have the fewest ATE cameras and relatively few car-dependent residents, and those with the highest number of tickets have the most ATE cameras.

The three zip codes with the lowest number of FY 2022 ATE tickets also have the fewest ATE cameras and the lowest total fines and penalties. The total number of ATE tickets and fines and penalties of zip code 20006 is well over 200 times lower than those of 20019, the zip code with the highest total.

D.C. Zip Codes with the Fewest FY 2022 ATE Tickets			
Zip Code	ATE Count	ATE Tickets Received	Total Fines and Penalties
20006	0	224	\$39,760
20004	1	227	\$32,680
20036	0	931	\$154,690

All three zip codes with the lowest number of ATE tickets and fines and penalties are all primarily located within Ward 2, but zip code 20004 does cover a few streets in Ward 6 as well. Ward 2 is 66 percent white and has a median household income of \$118,000.^{ccvi} The poverty rate of Ward 2 is 12.3 percent, one of the lowest in the District. Residents of Ward 2 are some of the least car dependent and have access to a variety of public transit options. More than 30 percent of Ward 2 residents walked to work, 20 percent used public transit, and 23 percent work from home. Only 18 percent drove to work.

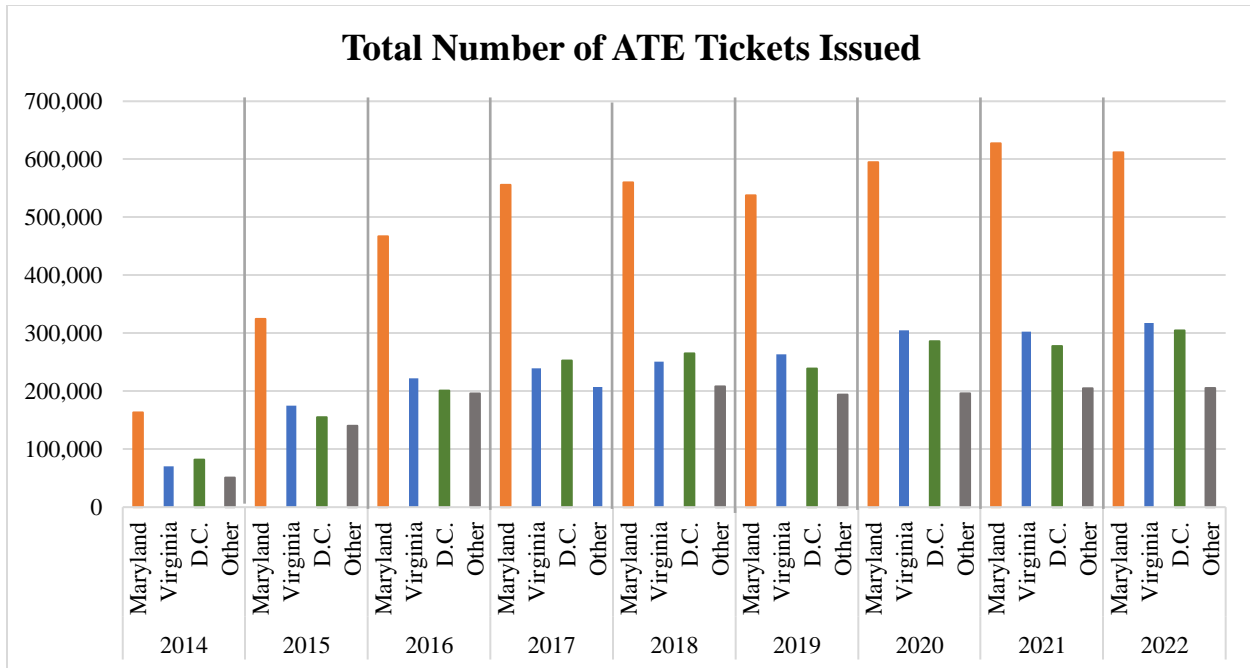
Zip codes 20002, 20011, 20019, 20020, and 20032 have the highest number of FY 2022 ATE tickets, ATE cameras, and total fines and penalties. All three totals are significantly higher than all other zip codes. Even comparing these totals to the next highest zip code, 20001, which had 17,743 ATE tickets and \$3.3 million in fines and penalties, shows that it is nearly half of zip code 20032’s 31,768 tickets and two times lower total fines and penalties.

D.C. Zip Codes with the Most FY 2022 ATE Tickets			
Zip Code	ATE Count	ATE Tickets Received	Total Fines and Penalties
20032	8	31,768	\$7,086,792
20002	17	35,674	\$6,704,452
20011	17	46,475	\$7,828,415
20020	19	51,435	\$11,233,856
20019	12	52,180	\$11,506,665

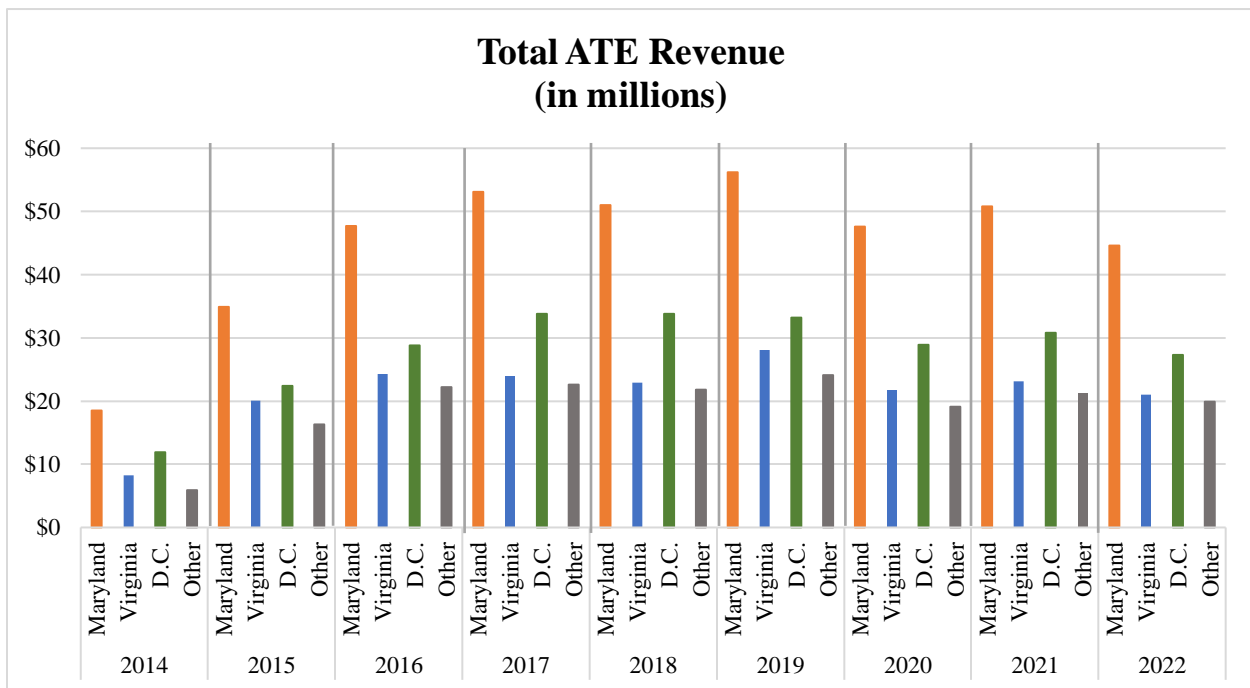
Three of the five zip codes (20019, 20020, and 20032) with the most ATE tickets are located in Wards 7 and 8, which disproportionately impacts Black drivers and puts additional pressure on residents who are already facing financial struggles due to structural racism. Wards 7 and 8 have the largest share of Black residents, lowest median household incomes, and the highest poverty rates in the District.^{ccvii} Ward 7 is 86 percent Black, has a median household income of \$56,044, and a 25 percent poverty rate. The median household income for Ward 8 is \$42,697 and 84 percent of residents are Black. Ward 8 has the highest poverty rate in D.C., at 28.7 percent. Residents of these wards are also more car dependent than other wards. More than 50 percent of Ward 7 and 8 residents drive to work and between 28 and 34 percent use public transit.^{ccviii} Wards 7 and 8 also have the lowest rate of employees who can work from home. Zip code 20011 includes parts of Wards 4 and 5 and zip code 20002 covers most of Ward 5 and parts of Wards 6 and 7.

ATE Tickets Issued to Non-D.C. Residents

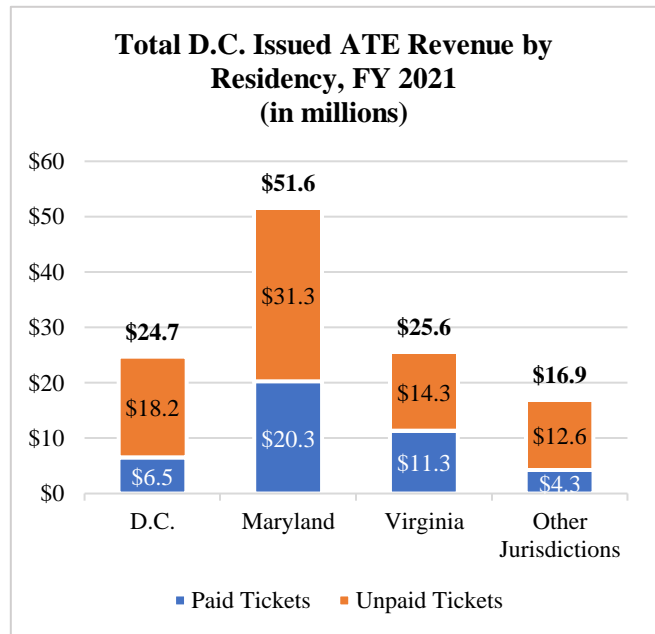
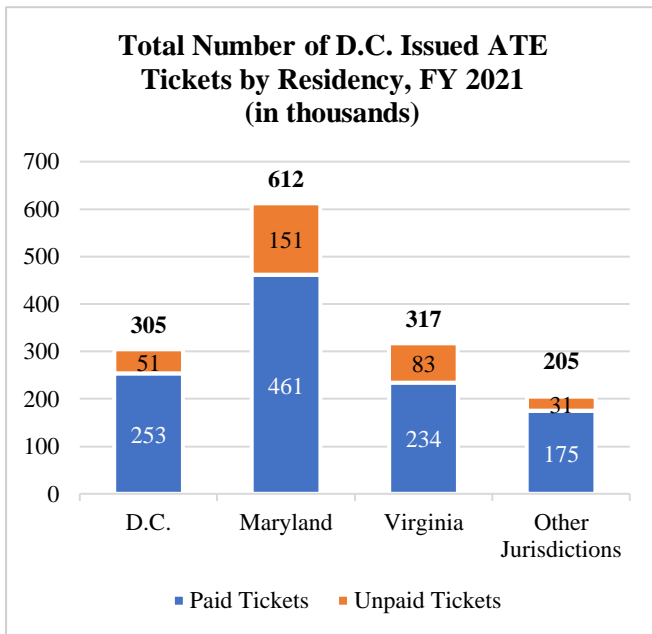
D.C. is one of the few jurisdictions, if not the only jurisdiction, where the majority of its ATE-issued tickets are received by drivers in other jurisdictions. Since 2014, Maryland drivers have accrued the most ATE violations in D.C., nearly doubling those issued to D.C. drivers every year since 2016.^{ccix} Since 2017, when the volume of ATE-issued tickets began stabilizing, Marylanders have received an average of 581,000 ATE tickets from D.C. cameras annually. This figure far exceeds the annual average for tickets issued to District residents, at 271,000 per year. Virginia drivers have also received more ATE tickets in D.C. than District drivers every year except 2014, 2016, and 2017. Virginia drivers averaged approximately 280,000 ATE tickets annually between 2017 and 2022. Drivers from states outside of Maryland, D.C., and Virginia account for the lowest share of D.C. ATE tickets issued, at 202,000 tickets per year on average.



A similar trend is apparent in the revenues generated by these ATE tickets. Historically, Maryland drivers have paid significantly more in associated fines than residents of any other jurisdiction, including D.C.^{ccx} Since 2017, Maryland drivers have paid an average of \$50 million annually in ATE fines. During the same period, Virginia drivers paid less than half that amount, averaging \$23 million annually. Meanwhile, D.C. drivers paid an average of \$34 million in annual ATE fines. Tickets issued to drivers from all other jurisdictions averaged \$22 million annually.



Since January 2000, more than three million ATE-tickets, totaling \$841 million in fines and penalties, are outstanding.^{ccxi} While Maryland drivers pay the most in ATE fines, they are also responsible for the largest share of unpaid ATE tickets. In total, approximately 21 percent (315,172) of the 1.5 million ATE tickets issued in D.C.’s FY 2021 had not been paid by the end of that fiscal year.^{ccxii} These outstanding fines totaled around \$42.4 million, or approximately 22.5 percent of all ATE fines. Maryland drivers had the largest number of outstanding ATE tickets and fines, at 150,510 outstanding tickets and \$20.3 million in unpaid fines. Virginia had the second highest number of outstanding ATE tickets and fines, at 82,681 and \$11.3 million, respectively. In comparison, D.C. drivers had only 51,227 outstanding ATE tickets, which were associated with \$6.5 million in unpaid fines. Other jurisdictions had a combined total of 30,754 outstanding ATE tickets, totaling \$4.2 million.



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^{xvi} Georgia and Rhode Island restrict ATE cameras to school zones and only allows them to operate during specific times. Connecticut and Delaware limit ATE speed cameras to work zones. Connecticut only allows three ATE systems to operate at any one time. Pennsylvania ATE speed cameras can only be used in work zones and in Philadelphia. Arkansas only allows ATE speed cameras in school zones or at railroad crossings. Colorado limits ATEs to school zones, residential neighborhoods, construction zones, and streets that border a municipal park. Illinois only permits speed cameras in construction, maintenance, school, or park zones. Tennessee only allows ATE speed cameras to be used in a school zone and on certain S-curves. Utah only allows speed cameras in school zones and areas with a speed limit of 30 mph or less. Additionally, Colorado and Utah require an officer or other approved government employee to be present at the time of the speeding violation to issue a ticket. Arkansas also requires an officer to be present in certain situations. ATE cameras in Nevada must be worn or held by a peace officer, installed temporarily or permanently within a law enforcement vehicle or facility, or privately owned by a nongovernmental entity. Ga. Code Ann., § 40-14-18; R. I. Gen. Laws 1956, § 31-41.3-4; C.G.S.A. § 13a-262; Delaware Department of Transportation Restore the Corridor (2022). Delaware Electronic Speed Safety Program (ESSP) Frequently Asked Questions. Retrieved from https://restorethecorridor.com/images/updates/notifications_brochures/Delaware_Electronic_Speed_Safety_FAQ.pdf; 75 Pa.C.S.A. § 3369; 75 Pa.C.S.A. § 3370; A.C.A. § 27-52-110; C.R.S.A. § 42-4-110.5; 625 ILCS 7/10; 625 ILCS 5/11-208.8; T. C. A. § 55-8-198; U.C.A. 1953 § 41-6a-608; C.R.S.A. § 42-4-110.5; U.C.A. 1953 § 41-6a-608; A.C.A. § 27-52-110; and N.R.S. 484A.600.

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