Safe Roads for All

Evidence-Based Strategies for Keeping Our Roadways Safe

ACLU

POLICING PROJECT
NYU SCHOOL OF LAW

Acknowledgments

This report would not have been possible without Thea Sebastian, Executive Director of The Futures Institute, whose leadership and vision enabled this project. Many thanks to Jacob Ali-Wertheimer and Olivia Lombardo, who contributed significant research. Additional thanks to Daniel Bodah, Jiadi Chang, Max Markham, Sunwoo Oh, Patrick Moroney, Charlotte Resing, Leah Shahum, Tiffany Smith, and Lars Trautman for lending their expertise in the development of this report.

Report Authors
Gabrielle Bayness
Quincy Blair
Emily Reina Dindial
Kelly McConney Moore
Scarlet Neath

ACLU POLICING PROJECT NYU SCHOOL OF LAW

ACLU

Contents

Introduction

The current approach to roadway safety in the United States is not serving anyone effectively. Every year, more than 40,000 people lose their lives to preventable crashes and more than 2 million are injured. Meanwhile, millions of people are trapped in inescapable, inequitable cycles of indebtedness, as ticketing practices stress profits over safety. Tragedies like the killings of Philando Castile, Tyre Nichols, Daunte Wright, Patrick Lyoya, and Walter Scott have raised awareness that hundreds of people — especially Black people — are killed by police during roadway stops every year. And police officers who used force during such stops have hurt thousands more.

But more effective approaches are possible. We have the tools and resources to help people navigate their communities easily, affordably, and safely while helping ensure equity for everyone. We need evidence-based solutions as a way to build the political will to make this imagined future a reality.

This white paper is designed to help lawmakers understand how the system evolved, what its consequences are for ordinary people, and which evidence-based strategies can build a more effective, more equitable paradigm for roadway safety. Our goal is to provide a first step, guiding local, state, and federal lawmakers to enact much-needed policy changes that make our roads safer.

Building the Current System: How We Got Here

Our current public health crisis of deadly roads is not inevitable. Intentional policy choices made over decades have prioritized the flow of cars, enabled far-reaching enforcement on the roads, and incentivized local governments to police for profit.

The following section provides context for how our current system came to be — and the outcomes of these decisions.

Car Dependence & Unsafe Road Design

Over the past several decades, U.S. transportation has become fundamentally less safe and less equitable than in peer nations, mostly due to the decisions policymakers made about land use, siting and structuring our roadways, and related policies. Although improvements to vehicle safety, such as seatbelts and air bags, led to declining roadway deaths for decades, fatalities have been on the rise since 2014, making the United States the only G7 nation with an *increase* in recent years. Recent data shows that traffic-related deaths increased by almost 23% from 2013 to 2022.

This section describes why people in the United States are so dependent on automobiles; why our roads became so dangerous and the impact that design decisions have had on communities of color in particular; and relevant failures in car design and regulation.

The Rise of Car Dependency

One key reason that U.S. roadways are so unsafe is that we rely on cars disproportionately more than peer nations while providing fewer transportation alternatives. Today, more than 9 in 10 U.S. households have at least one vehicle, and in many cases, people have no choice but to drive — for work, for family, and for their daily lives. Policy choices involving corporate interests, public investment decisions, and racial discrimination led to our increased reliance on automobiles and the erosion of public transportation that came with this dependency.

The role of corporate interests. Since the earliest days of automobile use, roadways have been a leading hazard to safety in the United States. In the four years following the First World War, for example, automobiles killed over 50,000 people nationwide. To understand and address this growing issue, Secretary of Commerce Herbert Hoover organized the First National Conference on Street and Highway Safety, held in 1924. But the coalition created to tackle this problem and advance roadway safety involved many automobile manufacturers. As a result, the conference laid the groundwork for the Model Municipal Traffic Ordinance in 1928, which severely restricted pedestrians' rights to the road.

The automotive industry complemented this policy shift using propaganda campaigns, such as one creating the concept of jaywalking. At the time, the word "jay" was commonly used to mean a fool. Advertisements described any pedestrian crossing the road — *unless* at a designated crosswalk during a designated time period — as a "fool walking," shaping public perceptions about who owns the road and who is at fault when a pedestrian is hit.

In subsequent decades, automobile companies further increased their influence to necessitate car dependency. In one dramatic illustration of this, the company National City Lines bought control over the transit systems in more than 25 U.S. cities. In Los Angeles, for example, the company decimated the public transit infrastructure, leaving cars as the only alternative. Behind it all, National City Lines was funded by General Motors, Standard Oil, and other businesses that could profit from increasing and exclusive use of private vehicles and gasoline. Although these companies were eventually found guilty of conspiring to create a transportation monopoly, the damage was already done.

The role of public investment decisions and racial discrimination. As automobiles became cheaper and more prevalent, roads were redesigned to accommodate them — and, critically, to privilege cars over all other transportation modes. Nationwide, roads were widened and speed limits increased, even in dense urban areas. In some instances, crosswalks were removed entirely, leaving no legal, practical, or safe way to walk.

By the Second World War, infrastructure was being built almost exclusively to privilege cars. Low-interest home loans through the 1944 GI Bill incentivized millions of families to leave dense urban settings for detached, single-family suburban homes. White families disproportionately benefited from these loans. The low-density land use that defines the resulting urban sprawl and suburbanization, fueled by segregationist practices, makes it inherently difficult for mass transit to serve these communities. As a result, funding shifted away from these systems and toward improving cars' access to cities.

The suburban sprawl that led to car dependency was explicitly racialized through a variety of policies. The most well-known is the practice of redlining. Under this policy, the federal government guaranteed loans that were "economically sound" and then categorically determined that home loans in neighborhoods with Black residents could not be economically sound. This practice devalued Black neighborhoods and effectively blocked homebuyers there from getting these loans. This, in turn, reinforced racialized poverty. Even when minority families *could* purchase a single-family home, neighborhood associations frequently adopted restrictive covenants preventing houses from being sold to people of color in perpetuity. Although *Shelley v. Kraemer* (1948) determined that these racial restrictions were unenforceable, they remained common for several decades.

In 1956, the Federal-Aid Highway Act created the Interstate Highway System, which connected suburban communities to urban centers, disrupting areas that still facilitated car-free living. Many densely populated and walkable areas — especially Black neighborhoods — were completely bifurcated to build these highways, while other neighborhoods were split by high-speed roads enabling highway access. In Syracuse, New York, for example, an extension of I-81 was planned and built through the city's 15th Ward, where almost 90 percent of the Black population resided, leading to the displacement of at least 1,300 families.

Racial discrimination was both a cause and a by-product of Americans' increasing car dependence.

Even though it is now clear that widening highways increases traffic rather than alleviating it, this approach remains the default response to congestion. Increased vehicle traffic that naturally resulted from urban highways has also made above-ground mass transportation options less viable, even within denser zones, because trains and buses must also operate within car-centric roads.

Racial discrimination was both a cause and a by-product of Americans' increasing car dependence.

Even as white flight drove the desire for suburban living and isolated communities, increasing the country's need for personal vehicles, the construction of these segregated areas and the siting decisions for our accompanying highway infrastructure worsened racial disparities nationwide, with consequences that still remain. A 2023 study found roughly "60 percent of Black children live in neighborhoods that lack amenities associated with healthy development, including sidewalks or walking paths." Black and Latino neighborhoods are also less likely to have bike lanes, let alone the infrastructure for protected bike lanes.

Failures in Car Design & Regulation

While the world has seen notable improvements in vehicle safety features, U.S. tests and standards have not kept up. Our federal vehicle safety rating system, operated by the National Highway Traffic Safety Administration (NHTSA), focuses only on *occupants* of vehicles — not pedestrians or cyclists — and doesn't include a range of features that are standard in other countries to protect other drivers and users of the road. Those features include driving monitor systems, forward collision warnings, automatic and emergency braking systems, lane departure warning systems, and speeding warning systems. Originally created to advance vehicle safety standards, NHTSA has a different scope now. Its priorities for improving traffic safety have changed significantly over the decades; the agency now issues hundreds of millions of dollars in grants for enforcement programs to discourage unwanted driver behavior, rather than preventing it from happening. And even with the tests that NHTSA does conduct, critics argue that manufacturers "design to the test," knowing what they must accomplish to pass instead of working toward optimal vehicle safety.

Instead of a focus on improving the safety standards of our vehicles, our government has prioritized speed above all else. Since 1995, when Congress gave the power back to states to increase the maximum speed limit, at least 38 states have raised their speed limits to 70 mph or higher (with 22 of those states having an urban interstate speed limit this high). The conventional way that speed limits are set in the United States is according to the maximum speed of 85% of drivers on a given road, instead of what is safest. Higher speeds have a dramatic relationship to crashes and injuries: A study examining the effects of states raising speed limits in the mid-1990s found that in the following 25 years, an estimated 36,760 traffic fatalities happened that would not have if the speed limit had remained the same.

Loosely regulated consumer trends have also made roadways more dangerous, especially for pedestrians. Pickup truck and SUV sales have

Types of Safety Stops and Non-Safety Stops

Examples of Safety Stops	Examples of Non-Safety Stops
• Speeding	• Single brake light, headlight, or taillight out
• Driving while intoxicated	• Window tint
• Reckless driving	• Expired registration
• Cell phone use	• Failure to display license plates
	• Loud exhaust

been growing faster than any other vehicles in the country — even though, due to their sheer size, they are two to three times more likely to kill a pedestrian in a crash than smaller vehicles are. SUVs typically hit smaller vehicles, and the mismatched size between the vehicles drastically increases the odds of the other driver experiencing serious injury or death. Because they are classified as light trucks, SUVs are not subject to the same safety and size regulations as other cars. Therefore, as they continue to grow in size and become more deadly (because of NHTSA's focus on occupants), SUVs can still be rated as "safe" vehicles.

Enforcement Discretion & Pretextual Stops

A myopic focus on law enforcement as a means of achieving traffic safety, to the exclusion of designing safer roads and cars, has been a failure. Traffic stops are the most common way that police interact with a community member: In 2022, more than 16 million people reported being stopped by the police while in a car. In-person traffic enforcement is a predominately reactive approach which responds to unwanted behavior after it happens and has little deterrent effect. Despite this, many lawmakers look to police enforcement as the only way to prevent crashes, at great expense to traffic safety. Fatal traffic crashes occur in the United States twice as often as in other high-income countries.

We're not just focusing on enforcement over other solutions; we're also enforcing the wrong things. Instead of targeting enforcement of speeding and alcohol-impaired driving, the leading causes of traffic deaths in the country, police frequently make so-called "pretextual" traffic stops for a reason unrelated to traffic safety, like expired registration or a single broken tail light. These stops use a low-level traffic offense as a pretext to stop someone to dig for evidence of a crime. Lawmakers have created hundreds of traffic-related offenses — and police have nearly unfettered discretion about which ones they enforce, as well as the legal ability to search nearly anyone they pull over and suspect of wrongdoing.

But it wasn't always this way. Traffic enforcement evolved over time, moving from a focus on traffic safety toward a hyperfixation on punitive enforcement and the expansion of police power.

History of Traffic Enforcement

The rise of new laws governing driving. The advent of mass-produced cars in the early 20th century and the resulting traffic problems and crashes led local policymakers to enact a flurry of often vague laws to govern driving. At the time, police forces outside of major cities were quite small, but quickly grew larger and more professional to be able to enforce the behavior of the growing number of ordinary citizen drivers, rather than just "criminals."

16 million
people reported being stopped by the police while in a car in 2022

The Constitution's Fourth Amendment protects against unreasonable searches and seizures, meaning that in general, a police officer can't search a person or home without a warrant issued by a judge. But as legal scholar Sarah Seo has detailed, driving has become an exception to this constitutional liberty as the result of court cases, including Supreme Court decisions. In 1925, *Carroll v. United States* created a dramatic exception to the Fourth Amendment, holding that cars do not enjoy the same protections that private homes do: the "automobile exception." The Court held that because cars are mobile and obtaining a warrant is frequently impractical, the police didn't need a warrant to search a person's car, as they typically would for a person's home. Instead, in that case and future ones involving automobiles, an officer's determination of probable cause was enough without convincing a judge first.

In 1996, the Supreme Court unanimously held in *Whren v. United States* that an officer's subjective motivations for making a stop — even racial bias — are irrelevant under the Fourth Amendment, as long as there is reasonable suspicion that a traffic offense has occurred. In most states today, if a driver is suspected of violating any one of hundreds of possible minor traffic laws, they can be stopped by police officers searching for something nefarious.

The expansion of pretextual stops. The practice of pretextual stops amounts to vehicular stop and frisk; it became encouraged and endorsed as a policing tactic early in the war on drugs era. In the 1970s, the Drug Enforcement Administration (DEA), followed by local law enforcement agencies, began using "drug courier profiles" that encouraged profiling based on characteristics including race and gender. In 1986, the DEA launched the "Operation Pipeline" program, training officers to use traffic stops as a drug-fighting strategy. Although aggressive enforcement of recent drunk driving and seatbelt laws had an impact on crashes, those gains subsided after the 1990s. As a result, agencies reinvigorated traffic enforcement with a crime-fighting purpose. Since then, a network of other federal programs that tie frequent traffic stops to drug or crime discovery — some launched as recently as 2008 — have fueled racial disparities in enforcement and eroded Fourth Amendment rights.

The federal government still issues hundreds of millions of dollars in grants to law enforcement agencies as long as they demonstrate that they issue traffic tickets. This incentivizes agencies to make frequent stops, rather than to achieve sustained safety outcomes in high-crash locations. For example, a recent report found that almost 70% of the 156 law enforcement agencies in Alabama issued more warnings than tickets to speeders, but were more likely to write tickets than warnings for administrative offenses like insurance violations. White drivers disproportionately benefited from receiving warnings for speeding, while the tickets for administrative offenses disproportionately burdened low-income people and non-white drivers.

In practice, this example is not an outlier; rather, the entire system of pretextual enforcement disproportionately burdens low-income drivers and drivers of color. Police may be more frequently present in neighborhoods with more Black residents, leading to more opportunities for minor traffic stops in those neighborhoods. Lower-income people may be more likely to drive with equipment failures and administrative lapses because compliance is not financially accessible, thereby creating more opportunities for discretionary enforcement. And bias — whether invidious or implicit — is often credited with playing a role in all of these decisions. Together, the contextual factors surrounding a single pretextual traffic stop work together to not simply authorize disproportionate enforcement in law enforcement, but facilitate it.

Fines, Fees, & Municipal Finance

Our current traffic safety paradigm of car dependence, poor roadway design, and high-volume stops is promoted and upheld in the ways we fund our local governments. Across the United States, many municipalities use traffic fines and

fees to generate revenue, a deeply entrenched pattern. When municipalities do not receive enough money from the state or cannot collect money through taxes or other means, they often view traffic ticketing practices as a critical way to balance their budgets.

This practice can have devastating impacts on public safety. Excessively collecting fines and fees diverts law enforcement resources from crime prevention while deepening cycles of poverty and debt and eroding trust in public institutions. This approach also disproportionately harms low-income people — especially those who are Black and Latino — while failing to improve roadway safety.

The Roots of Ticketing Practices to Generate Revenue

In almost every state, traffic enforcement and municipal budgets are tightly linked because of how we fund and incentivize local governments. The most recent Census data on revenue and spending information revealed that in 2022, close to 20,000 local governments and all 50 states collected a total of $13.9 billion from criminal fines, fees, and forfeitures. At least 43 states spend a portion of their speeding ticket revenue to fund courts or law enforcement agencies. One jurisdiction in Alabama, Cleburne County, even tacked on an additional $30 to the state's traffic fine structure — all to help finance a new jail.

Restrictive municipal finance. Most state governments provide some funding to municipalities using foundational grants that can cover basic services. But these grants are almost always inadequate to cover all local services, and some states cover almost *no* local services. At the same time, states severely restrict how localities can raise money. Fines and fees, including those levied via traffic stops, are often among the few revenue resources that local governments have available. Municipal fines and fees have therefore become a primary element of many local budgets, even though it can cost local governments more to collect this revenue than what they raise from drivers. This dynamic is particularly true in rural areas. For example, the villages of Anacoco, Louisiana, and Linndale, Ohio — each with fewer than 1,000 residents — raised more than 90 percent of their 2022 budgets through fines and fees. Both are located near major highways, spend significant resources on law enforcement, and have been called "speed traps" for their aggressive ticketing.

Researchers have found cities that rely inordinately on fines and fees were "poorer than average, face uncertain economic futures, and appear to have few means of generating substantial revenues." Even when cities' economic conditions take a positive turn, fines and fees often remain a significant source of revenue. This suggests that municipalities either become accustomed to this revenue or face challenges in shrinking the systems that were established to generate it.

Federal grant incentives. The federal government has exacerbated these perverse funding incentives, namely through grants that tie local funding to law enforcement stops and citations. A *New York Times* investigation found that, in 2021, at least 20 states used traffic stop quotas to assess police performance as part of their federal highway safety grants — despite federal officials saying that the grants do not "encourage or require" these evaluations. For example, the Department of Transportation implements the Selective Traffic Enforcement Program (STEP), ostensibly to help law enforcement agencies deter dangerous driving. But according to an Alabama Appleseed Center for Law & Justice report, many agencies receiving STEP funding actually issued more tickets for nonmoving violations than for offenses meaningfully tied to dangerous driving.

Other federal programs further the disproportionate ticketing of high-volume, non-safety violations rather than unsafe behaviors. In the same Alabama study, officers funded through the federal "Click It or Ticket" program issued tickets in 2020 to only 8 percent of drivers not wearing seatbelts and 7 percent of those speeding. But they ticketed 37 percent of drivers with insurance violations and 50 percent of people who had driver's license infractions, even though speeding and not wearing a seatbelt pose far greater safety risks.

The Costs of Our Current System: What's at Stake

Our system of facilitating the flow of cars, relying too heavily on enforcement to change driver behavior, and allowing local governments to fund their services through traffic tickets has a range of adverse consequences, affecting public safety, racial inequity, and poverty. It has also made our roads measurably less safe.

Public Safety & Well-Being

The current system fails to prevent serious and deadly traffic crashes. From 2013 through 2022, fatal crashes increased 22.5 percent in the United States while declining in 27 other high-income countries. Deadly car crashes in the U.S. peaked in 2021 and have come down only incrementally since then. Pedestrian deaths by cars also reached a 40-year high in 2021. From the 1960s through 2020, cars were consistently the leading cause of death nationwide for children.

Crashes also resulted in 5.1 million injuries requiring medical attention in 2023. These injuries can not only have a severe impact on people's livelihood and well-being but also pose a massive financial burden to our health systems. The same year, injury costs from crashes were estimated to be $513.8 billion.

In addition to injuries and deaths, car emissions affect people's health significantly. A recent study estimates that 53,000 people a year die prematurely due to vehicle emissions in the United States — even more than those who die from fatal car crashes.

The United States' long history of policies that shaped where people live and restricted how they get around has left a racially disparate landscape where minority communities experience greatly increased danger from cars. In particular, past construction of highways left thoroughfares that prioritize speed in urban residential neighborhoods. Compared to white people, Black people are 1.8 times as likely to die by car crash while in a vehicle, 2.2 times as likely to die by car crash when walking, and 4.5 times as likely to die by car crash when cycling. This disparity grows even worse at night. People living in low-income neighborhoods are more than twice as likely to be hit and killed while walking compared to the U.S. population overall.

> **Municipalities that collect a greater share of their revenue using fines and fees resolve violent crimes at lower rates.**

The current system prioritizes profit activities over safety activities. Linking traffic enforcement and revenue generation has been shown to undercut public safety by skewing police priorities. Research has found that in smaller cities, where the courts' capacity is typically limited, pressure to collect fines and fees diverts resources that could have gone toward addressing public safety. One study concluded that municipalities that collect a greater share of their revenue using fines and fees resolve violent crimes at lower rates.

The current system wastes police resources on low-efficacy activities. This approach is not an effective or efficient use of public resources and has few benefits for community safety. In particular, pretextual traffic stops use limited police resources with an *extremely small* return on investment. Multiple studies show that such stops uncover evidence of a serious crime less than 1 percent of the time. For example, a study of 20 million records of traffic stops in North Carolina from 2002 to 2016 showed that just .03 percent of stops led to both the discovery of contraband and an arrest (in other words, the discovery of serious crime rather than minor drug possession). Out of over 11 million traffic stops the Washington State Patrol made from 2009 to 2019, only 0.27 percent led to the discovery of any contraband. And in Los Angeles, officers were found to confiscate firearms in less than 0.05 percent of traffic stops.

Research shows that police make many traffic stops unrelated to road safety (see "Types of Safety Stops and Non-Safety Stops" on page 4) for the alleged purposes of discovering crime, showing "productivity" through frequency of stops made, or both. For example, North Carolina's data show that more than 46 percent of traffic stops were not safety-related. Officers in California's 15 largest local law enforcement agencies reported that in 2019, officers spent approximately 80,000 hours on traffic stops that led to no enforcement action or "discovery of contraband or evidence." And 28,000 of those hours were spent on stops for nonmoving violations. In 2024, less than 11 percent of traffic stops in Maryland were for moving violations. Jurisdictions that prioritize stops in the name of fighting crime instead of roadway safety don't advance either goal.

Enforcement activities aimed specifically at dangerous driving and high-priority locations have the potential to be more effective, but their effects are not long-lasting and come at a high cost. The only in-person enforcement strategy for speeding that NHTSA rates as effective is high-visibility enforcement (HVE). This approach targets certain high-crash locations for increased enforcement with corresponding publicity to drivers. Following a yearlong HVE campaign in San Francisco, for example, reductions in speed diminished just one week after the campaign ended. But many such campaigns do not even produce meaningful results initially. A 2022 NHTSA report examining studies on enforcement and safety outcomes found that 40 percent of the studies on HVE campaigns focused on drunk driving reported an *increase* in either crashes or drunk driving.

Police officers cannot be everywhere at once to deter speeding and other unsafe behavior, especially when many departments face staffing challenges. So it may seem that targeting high-crash locations — just a small fraction of all traffic enforcement — is a logical use of limited resources. But relying too heavily on enforcement in these places instead of more permanent, preventive solutions does not produce *lasting* safety. Because police have incentives to write tickets rather than to reduce drivers' speeds, officer-led enforcement too often has a "whack-a-mole" effect of creating short-lived changes in one place before moving on to another.

The current system undermines trust in law enforcement. Besides diverting resources from other issues, this revenue-focused system weakens trust in law enforcement, making community members less likely to report crimes, serve as witnesses, or cooperate with investigations. Even within police departments, some officers criticize quotas for limiting their decision-making. A police officer in Michigan, for example, described traffic quotas as "a big disservice to the community" that "take attention away from things [officers] should be paying attention to," including emergency calls. Acknowledging the downsides of overenforcement, a recent report by the Police Executive Research Forum acknowledged that "we have learned that indiscriminate traffic enforcement can be as detrimental as not conducting any traffic enforcement at all."

In short, enforcement priorities matter. When police focus on traffic stops for non-safety purposes, they may be neglecting the most significant needs of

the communities they serve. Community members know when police are trying to increase revenue, rather than stop serious crashes. Revenue motives can also lead law enforcement practices to misalign with needed safety investments in longer-term preventive measures — like infrastructure changes, vehicle technologies, or others discussed later.

The current system incentivizes crime to repay debts. In some cases, the burden of paying traffic tickets may even directly prompt more crime. According to a survey of Alabama residents facing court debts, 83 percent of people had forgone necessities like food, car payments, and child support to pay court debts. Of those surveyed, 38 percent admitted to having committed one or more crimes as a way to meet these obligations. And about 20 percent said they had committed serious offenses, including felonies, to pay their traffic tickets.

The current system creates the potential for violent encounters. When traffic enforcement involves armed officers, violent encounters may occur, too often resulting in trauma, severe injury, or death.

From 2017 through 2024, approximately 9 percent of all police killings occurred during traffic stops, resulting in the deaths of over 800 people. These deaths are not equally distributed among groups. As discussed in the next section, Black drivers and other people of color are disproportionately killed during traffic stops. And although violence to law enforcement officers during stops is far less frequent than violence to motorists, at times it is deadly. Six officers were killed[1] in violent encounters during routine stops for traffic violations in 2022. Training that overemphasizes the risks of traffic stops leads police to incorrectly view traffic stops as highly dangerous and may end up perpetuating violence during traffic stops.

Racial Equity

On the whole, evidence shows that traffic enforcement incentivizing quantity over quality and encouraging racial profiling as a cover to search for other crime has devastated communities of color. This section discusses four distinct types of racial inequity.

Discrepancies in police stops. Studies show that across the country, Black drivers are stopped at rates disproportionate to their share of the population, especially for low-level stops. An academic study of nearly 100 million traffic stops throughout the United States showed that Black drivers are pulled over at significantly higher rates than white drivers, even though there is no evidence that they commit driving violations more frequently. This study used a methodology called the "veil of darkness" test to attempt to explain racial bias as a contributing factor to the disproportionate stops of Black drivers. The test measures the difference in the rate of racial disparities in daylight hours — when officers can more easily identify a driver's race — versus non-daylight hours. This study found that Black drivers were stopped more frequently during daylight hours, indicating the presence of racial bias. While the veil of darkness is one of the more robust statistical methods for examining disparities, it does not completely account for other ways officers may be consciously or unconsciously profiling for race, such as vehicle condition and the neighborhoods in which enforcement takes place.

In 16 jurisdictions studied, police pulled over Black drivers more often than white drivers for non-safety-related stops.

Another analysis showed that in each of the 16 jurisdictions studied, police pulled over Black drivers more often than white drivers for non-safety-related stops, such as for equipment or paperwork issues, which were likely either unnecessary or pretextual in nature.

Discrepancies in police searches and detentions. During a stop, police are more likely to search and arrest drivers of color than white drivers. A national study found that the threshold for conducting a search is lower for Black drivers than white drivers, even though white drivers are empirically more likely to be found in possession of contraband such as weapons, counterfeit money, open containers of alcohol, or illegal drugs. And other studies have confirmed this pattern. In Fayetteville, North Carolina, Black drivers were 115 percent more likely to be searched than their white counterparts. In California, out of 36,000 examined traffic stops, Black drivers were 2.5 times more likely to be detained and Latinos were 3.3 times more likely.

Discrepancies in violent interactions. These stops carry significant risks to drivers. In addition to psychological and financial harms, research also shows that police use of force is higher against Black drivers in general, but particularly at non-safety stops and stops that involve a search**.** An analysis of traffic stops by eight agencies in California found that police were more likely to use force at traffic stops if the driver was Black in virtually every circumstance possible, regardless of the reason for the stop, whether it involved a search, whether contraband was found, and whether the encounter led to a warning, citation, or arrest. And a *New York Times* investigation found that Black drivers were disproportionately more likely to be killed by police during these stops. These disparities are compounded for individuals with disabilities, who are at a higher risk of experiencing violence by police.

Discrepancies in policing-for-profit jurisdictions. According to a 2017 study, jurisdictions with more Black residents — and where there is no Black representation in local elected offices — raise more revenue through fines and fees. Municipalities with local deficits tend to arrest more Black and Latino residents on drug and DUI charges. And as evidenced in Chicago and other cities, traffic stops and citations disproportionately target low-income Black neighborhoods.

These disproportionate policing practices can affect all racial and ethnic groups. A study of policing from 2001 through 2012 in Missouri, where Black drivers have been subject to over-policing and inordinate traffic stops, found that budgetary needs also increase citation and arrest rates for white drivers. This suggests that when Black drivers are already facing a high level of traffic enforcement, police shift to citing white drivers, who may be presumed to have higher incomes and thus better able to pay their fines. In short, Black drivers are disproportionately targeted during routine traffic enforcement, while white drivers become targets when a jurisdiction's revenue needs increase.

Poverty, Debt, & Their Social Costs

The country's current approach to roadway safety also has significant consequences for income inequality and poverty, namely by creating cycles of debt and poverty that many people can never shake.

Transit affordability. Because of extensive car dependency in the United States, owning a vehicle creates a financial burden that the vast majority of people have no choice but to pay. While transportation is typically the second-highest household expense after housing, the related costs are relatively more onerous for people with lower incomes, especially for those who own or lease cars, Black workers are three times as likely as white workers to have no vehicle — and 40 percent of Black workers who use public transit spend more than two hours a day commuting, compared to 33 percent of white workers. The financial burden that cars pose on lower-income people can be

the difference between accumulating debt and having savings, renting a home and becoming a homeowner, or struggling for work versus starting a business.

Regressive impact of fines and fees. As flat fines, traffic tickets have a disproportionate effect on low-income people already confronting unaffordable car-related costs, roads less likely to facilitate safe driving, and, often, increased police presence. A $50 ticket means something extremely different for a millionaire, compared to an individual making minimum wage. And most courts don't assess people's ability to pay fines and fees before issuing them or if they haven't paid (despite legal precedents that no one should be punished solely for poverty). People end up with court debt they cannot afford — and too many are never offered payment plans, community service, reduced amounts, or other alternatives. Even when courts conduct "ability to pay" assessments, these processes may not be standardized or screen all defendants.

Cyclical poverty. If a person is unable to pay a $50 or $500 fine, they can face an escalating series of consequences — first late fees, then related punishments like license suspension or even jail time, which can disrupt employment, family, and health care. Fines and fees are often directed at those who are least able to pay, due to where enforcement resources are channeled and even where traffic cameras are located. As a result, already vulnerable people become trapped in debt and incarceration cycles that are exceedingly difficult to break, while racial and economic inequalities increase among neighborhoods. When this happens, community safety declines.

Social costs of traffic policing. As the Vera Institute has reported, involvement with policing can result in a wide range of social costs, including physical and behavioral health impacts and deleterious effects on education, employment, housing, and civic engagement. For example, simply experiencing a traffic stop substantially reduces turnout for non-Black voters and somewhat reduces Black voter turnout — although the effects for Black voters are magnified when a stop is close to an election. These outcomes make sense from a procedural justice standpoint: When young people were stopped for reasons they perceived as unreasonable, they were highly distrustful of police's motivations.

How We Move Forward: Strategies for Making Safe Roads for All

Strategy #1: Prioritizing Safety in Public Spaces

The first step toward creating safe, equitable roads is to implement street design and policies that prioritize the safety of roadway users over the speed of cars. Reducing speeds, investing in public transportation, creating dedicated and protected pathways for cycling and walking, using zoning to increase density, and doing targeted assessments of community needs are all actionable evidence-based ways to enhance safety.

SOLUTION #1

Reduce speeds and crashes using roadway redesign and speed reduction policies. Research shows that drivers' speeds have a major impact not only on the likelihood of a crash but also on the severity of crashes when they occur. Hitting a person at 35 mph increases the likelihood of their death by five times when compared to a collision that happens at 20 mph. To address this issue, both policy and infrastructure changes have important roles to play.

Local policy change can help reduce speeding significantly. Research finds that decreasing city speed limits to 20 mph can prevent roughly 40 percent of deaths caused by crashes. Lowering the speed limit results in a significant difference in the car crash fatality rate, with people having a 90 percent chance of surviving being hit by a car going 20 mph. After New York City lowered its speed limit from 30 mph to 20 mph in 2014, research showed an estimated 62 percent reduction in fatal crashes.

"Traffic calming" measures can also slow speeds significantly by making roads self-enforcing, meaning that they deter unwanted driving behavior before it happens. For example, narrowing lanes can lead to a considerable decline in crashes as drivers reduce their speed and move more cautiously when the road is less wide. Narrowing roads provides another notable benefit: It reclaims space that can be used

Roundabouts may reduce speeds by as much as 20 mph

for protected bike lanes, rail lines, or safer walkways for pedestrians. Compared to other intersections, roundabouts may reduce speeds by as much as 20 mph. Given that nearly a quarter of all fatal crashes happen at or near an intersection, converting junctions to roundabouts can reduce injury-inducing crashes by 40 percent and fatal crashes by 65 percent. Since Carmel, Indiana installed more than 150 roundabouts — more than any other U.S. city — it has experienced 80 percent fewer crashes with injuries. Speed humps are also very effective, particularly on low-speed roads, as they can reduce driver speed by almost 10 mph.

SOLUTION #2

Increase density to reduce transportation needs. Given that low-density sprawl is one of the defining causes of car dependency (and the resulting number of crashes that occur), it is necessary to increase density where appropriate. In most large counties, car crashes are responsible for the majority of resident deaths. But in communities with more mixed-use and higher-density developments, modes of transportation such as walking, cycling, and public transportation lead to less reliance on cars and therefore increased safety. New York City, the least car-dependent

Justifying Investment in Infrastructure

Although infrastructure changes to install preventive traffic calming measures are often perceived as more expensive and time-consuming than reactive measures like enforcement, they do not have to be, especially with strong leadership. "Quick builds" offer an alternative to costly designs. These use low-cost materials such as paint, signs, pavement markings, plastic bollards, and movable planters to tighten intersections, narrow travel lanes, calm traffic, and create more space and visibility for people walking and biking. Speed humps, for example, typically cost $2,000 to $4,000; a raised crosswalk costs about $4,000 to $8,000. In South Bend, Indiana, a demonstration project tested chicanes and bump-outs, low-cost traffic circles and installations that narrow lanes. These measures, made with traffic cones and other temporary materials, reduced speeds and helped generate community buy-in for permanent projects. And rather than install expensive red-light cameras, some cities have adopted innovative signal retiming. In Portland, Oregon, lights default to red at night for intersections with a history of red-light running, then change to green when a car is detected. And in Albuquerque, green lights turn to red when excessive speeding is detected along two avenues.

Jurisdictions can also use regularly scheduled infrastructure maintenance to implement traffic calming. In New Jersey, the city of Hoboken is a leader in achieving Vision Zero, with no recorded traffic deaths since January 2017. It does not have speed cameras or excessive enforcement but instead used lower speeds and made citywide infrastructure improvements. Whenever a road needs to be repaved, the city also implements "daylighting," or improving the visibility of people crossing intersections by removing parking spots, widening curb areas, shortening crosswalks, or some combination. Similarly, every time Seattle does maintenance on a crosswalk signal or installs a new one, the city installs "leading pedestrian intervals," which extend the walk signal to start a few seconds earlier than green lights do for cars, making walkers more visible.

city in the U.S., has a crash fatality rate roughly one-third of the national average. Eliminating single-family zoning does not prevent the creation of single-family detached homes should they be desired. Instead, it liberates developers from being restricted to building for the lowest density and allows them to build according to the needs and desires of communities. Unfortunately, dated zoning codes in many areas — especially single-family zoning — make it impossible to provide any alternatives to sprawl. In California, a study published in 2024 found that 95.8 percent of the state's residential land was zoned for nothing but single-family detached homes.

Bike lanes in New York City typically reduce injury-inducing crashes by 40%

SOLUTION #3

Develop and fund multiple modes of transportation. People are much more likely to take up cycling as an alternative mode of transportation if there is infrastructure in place to keep them away from cars. Cities with high rates of bicycling are safer for all road users, not just cyclists. Much of this can be attributed to the construction of separated and protected lanes for cyclists. Protected bike lanes in New York City typically reduce injury-inducing crashes by 40 percent for all road users. In creating protected bike lanes, some level of physical infrastructure, such as a barrier, is often necessary to prevent drivers from crossing or parking in the lanes. After the first protected bike lanes were installed in Washington, DC, use of the protected lanes grew seven times faster than for the city's other bike lanes.

As with biking, people are more likely to choose walking as their mode of transportation when sidewalk access is available. In denser commercial areas, officials should also consider fully pedestrianized streets. Pedestrian streets are inherently safe from car crashes and tend to improve sales at the businesses located nearby.

Research also indicates that traffic safety increases when public transportation is prioritized and improved. Public transit–oriented communities have just one-fifth of the per capita traffic casualty rate as communities oriented around cars, and crash rates decline as usage of public transportation increases, making the road safer for drivers as well. According to the National Safety Council, in 2023, traveling in passenger vehicles — cars, light trucks, vans, SUVs, and taxis — was 74 times deadlier than traveling by bus. In addition to bus passengers, pedestrians and cyclists on the bus routes are also much safer.

SOLUTION #4

Implement targeted plans for high-risk communities. While improvements can and should be made to virtually every area of this country, it is essential to identify and invest in the communities that are most impacted, have been historically ignored or wronged, and are in the greatest need of assistance when it comes to traffic safety.

High Injury Networks are mapping tools that identify the areas with the greatest risk and can provide additional insight about the communities most negatively affected by unsafe roads. A High Injury Network map of Philadelphia revealed which roads were the most dangerous and that lower-income neighborhoods were three times as likely to experience crashes with fatalities or serious injuries. When analysts collect and map this road safety data, they should also identify the locations where police stops are occurring most frequently. (This may not correlate with the places where the most dangerous driving behavior is happening, but instead may reflect where people are disproportionately burdened by policing as a response to unsafe roads or other factors). Identifying these high-risk areas enables more precise and targeted investments to help ensure change that is meaningful and efficient.

The history of highway construction, zoning, systemic underfunding, and other problems have left minority communities, especially Black communities, at substantially increased risk of roadway injuries and fatalities while providing few alternatives to car dependency (or none at all). Investing in and protecting the communities at greatest risk is essential to reducing future risk — as well as compensating for prior, unjust harms. Similar to policies that require a percentage of new housing to be affordable, a portion of infrastructure investments should go toward strategies that don't involve cars and are allocated to high-risk areas so that, ideally, these neighborhoods are never neglected again.

Strategy #2: Reforming Municipal Finance

As discussed previously, municipal budgets are designed in a way that forces many local governments to raise their own revenue, often through traffic stops. To dismantle this system, actors at the federal, state, and local levels should address these incentives directly, both by making sure local governments have access to alternative revenue and capping the amount that officials can raise through ticketing practices.

SOLUTION #1

Restrict ticketing practices and/or potential revenue from ticketing practices. In many cases, jurisdictions derive little revenue from fines and fees, in part because low-income people — who are disproportionately caught in these systems — often lack the ability to pay those financial obligations. So practices that significantly restrict the imposition of fines and fees may ultimately have little impact on local treasuries, contrary to what some people fear. When San Francisco courts stopped suspending people's driver's licenses to compel payment and made changes that include assessing the ability to pay, the total revenue collected for traffic tickets *increased*.

Given the regressive effects of court fees, local jurisdictions should take steps to eliminate them entirely, and to ensure that any fines, including traffic tickets, operate on a "day fines" model that explicitly ties ticket prices to individual income. Using this approach, people with higher incomes pay higher fines, while people with lower incomes pay reduced amounts or have nonmonetary alternatives to fines. A related strategy is to cap the amount a jurisdiction can raise from fines and fees when measured as a percentage of its budget or size. For example, Alabama's Public Act 2022-419 limits revenue from traffic fines and penalties to 10 percent of a municipality's budget, with any excess revenue going to the state.

SOLUTION #2

Reduce or end incentives for non-safety stops. Another strategy is to ban formal and informal ticket quotas that incentivize revenue-driven policing, and to end productivity measurements that reward ticketing.

In many jurisdictions, police leadership may implicitly or explicitly endorse enforcement quotas, which tell officers that they must complete a certain number of enforcement actions within a specific period. Although quotas are "designed to boost productivity and community safety," this approach often has the opposite effect: It pressures officers to prioritize simple low-level offenses because their supervisors require these engagements in order to be seen as "productive" — even when there is no meaningful road or public safety need for them. As of 2022, at least 26 states had laws prohibiting these quotas (among them Iowa, Mississippi, Montana, Nevada, and Virginia), as did the District of Columbia. But even in jurisdictions without quotas, law enforcement leaders may insist on a minimum level of enforcement actions, even if there are no mandatory citations. This, too, should be curtailed.

As of 2022, at least 26 states had laws prohibiting these quotas.

Similarly, lawmakers can prevent tying law enforcement "productivity" to revenue generation, especially from traffic stops. To that end, officials can review internal policies to ensure that officer productivity is never measured by ticketing or stop rates. Such reexaminations may involve looking at performance evaluation criteria, reporting procedures, and departmental goals, as well as potential biases in data collection and analysis. Rather than quotas emphasizing mere numbers of citations or stops, new measures would take a more balanced approach, including assessments of community engagement, nonpunitive intervention, and sustained safety outcomes.

SOLUTION #3

Fund vouchers for equipment repairs. Many low-level equipment stops stem from drivers being unaware of the problem or unable to afford the repair. Surveys indicate that more than half of drivers are putting off current vehicle maintenance needs, such as a cracked windshield or broken headlight, due to the inability to afford them. These kinds of violations barely have an impact on roadway safety; NHTSA data show that, over a five-year period, only 0.2 percent of crashes involved equipment violations as a possible contributing factor.

In response to these realities, fixing vehicle equipment problems has become the focus of some nonprofit and law enforcement initiatives. The most prominent equipment repair voucher program is Lights On!, a creation of the Twin Cities–based nonprofit MicroGrants. The program started after Philando Castile was fatally shot during a traffic stop in 2016 and replaces traffic tickets with vouchers to help drivers get their vehicles fixed at no cost to them. Lights On! has partnered with more than 150 police departments and over 430 auto shops in 23 states. Most agencies give out vouchers after a traffic stop, but some mail the vouchers instead, so no stop takes place. At least one partner agency provides vouchers during community events without any traffic stops involved. Participating agencies could expand these distribution approaches, and could also partner with civilian traffic enforcement programs. These programs could also broaden their scope to include non-equipment violations that are ultimately related to affordability, such as issuing vouchers for a car seat — and not tickets — to promote children's safety.

Since the program began in 2017, people have redeemed nearly 14,000 Lights On! vouchers. Of those who received vouchers, one in five people

surveyed said they would have been unlikely or "very unlikely" to repair their equipment without a voucher. Police also support the program, viewing it as a way to build community relationships, achieve safety, and help the people who need it most.

SOLUTION #4

Reform municipal finance to ensure that local governments can fully fund their critical services without using fines and fees. The most ambitious solution to municipal finance is also the most potentially transformative. Cities and counties need money to fund critical services such as road maintenance, courts, emergency rescue, and public infrastructure like libraries, parks, and more. To make sure local governments have sufficient revenue — without turning to traffic enforcement as a moneymaker — states should fully fund localities using their general funds, while minimizing the amount that local governments can take in through financial obligations such as fines and fees.

Unlike municipal revenue that often derives from fines and fees, state revenue comes primarily from income tax, sales tax, property tax, and corporate taxes — income sources that have a more equitable base overall, one that does not draw disproportionately from low-income residents. States could change their budgeting priorities to make sure local governments have sufficient money for basic services, principally by increasing the basic grants they give to cities, counties, and even regional governments. This policy change would mean that localities no longer depend on fines, fees, and other financial obligations to balance their budgets.

States could also reverse counterproductive restrictions on how localities can raise money. Most states now limit or forbid local governments from levying property taxes, income taxes, or any tax with graduated rates. These limitations incentivize local jurisdictions to use traffic stops and other fines — one of their only viable funding sources — as a way of filling these gaps. States could remove this incentive by letting localities levy the types of taxes currently forbidden. State and federal lawmakers could further support localities in reducing their reliance on fines and fees, including by helping jurisdictions do two things: develop alternative sources of funding, including models that tie government payments to medium- or long-term savings; and monitor the progress made to rely less on such penalties.

Strategy # 3: Addressing Enforcement Discretion

Even with reforms that address policing for profit and revenue generation, creating safe, equitable roadways will require policy changes that directly affect pretextual stops and racial bias. This means restricting the considerable discretion now given to police officers.

SOLUTION #1

Limit non-safety stops. Some jurisdictions have passed legislation or adopted policies that limit which types of offenses are enforced or prosecuted, in part because of racial disparities and the near impossibility of proving that a stop is racially motivated. And though some agencies and jurisdictions have banned racial profiling, such restrictions alone do not curb racial disparities in stop rates. Restricting stops for certain offenses, in addition to prohibiting racial profiling, has the added benefit of improving policing efficiency and directing resources toward the types of stops that have the greatest effects on safety. The offenses that are subject to a non-safety stop ban vary from jurisdiction to jurisdiction, depending on how enforcement is practiced in a given community. This approach is yielding some encouraging results, with academic evidence so far finding either a reduction in crashes or no change following the reforms.

For example, in 2020, Virginia passed the first statewide law limiting police enforcement of several non-safety violations, such as one broken taillight

or brake light, objects hanging from the rearview mirror, and dark window tints. Officers in the state are no longer able to make a traffic stop for solely these reasons; if they do, any evidence collected during the stop is inadmissible in court. Following the reform, equipment violations declined from 11.5 percent of all stops in 2021 to 8.4 percent in 2024, and the share of traffic stops involving a search dropped from 3.8 percent to 1.9 percent. Many cities have also legislated to limit low-level stops. In 2021, Philadelphia's City Council passed a similar local ordinance, the Driving Equality Act, which lists eight violations that are no longer enforced. After the city implemented the changes, non-safety-related stops dropped by 54 percent. Traffic stops of Black drivers for minor violations also decreased by 54 percent.

When one city prioritized safety stops over low-level stops, traffic fatalities dropped 28 percent.

Other jurisdictions have curtailed pretextual traffic stops through police agency policies. These directives can enact changes quicker and with more police buy-in than legislation, but they have the drawback of being easily reversible by the next law enforcement leader in power. In 2013, the city of Fayetteville, North Carolina, began emphasizing safety stops in order to direct resources toward crash prevention rather than low-level stops. Researchers found that the share of safety stops increased from 30 percent to 80 percent. This not only led to improved enforcement but saved more lives. Traffic fatalities dropped 28 percent and total crashes dropped 13 percent. Unfortunately, this policy was reversed in 2016 after a change in the chief of police.

SOLUTION #2

Limit incentives for pretextual stops. In addition to directly limiting non-safety stops, jurisdictions can also limit incentives for pretextual stops. As discussed in an earlier section of this report, when local governments rely less on traffic ticket payments as a primary source of income — or not at all — they can lower quotas and incentives to make high volumes of non-safety stops. Two other changes can also reduce the motivations for police to conduct pretextual stops in order to uncover evidence of a crime.

First, prosecutor declination policies aim to shift police enforcement of traffic stops by limiting which offenses district attorneys will prosecute as a result of those stops. In 2021, the Ramsey County Attorney's Office in Minnesota announced that they would not continue to prosecute cases stemming solely from certain non-safety stops. The new policy was directly in response to the deaths of Philando Castile and Daunte Wright, both killed by police during traffic stops. Four police departments in the county agreed to work with the prosecutor's office to support and implement the policy. Following these changes, stops for the targeted non-safety offenses declined by over 90% and stops of Black drivers for vehicle equipment violations fell by 66 percent, the largest decrease for any racial or ethnic group in the county. Another study found no negative effects of the policy on several measures of safety: 911 calls, traffic crashes, gun seizures, and gunshot victims. Similar declination policies have been implemented in California, Massachusetts, Michigan, and Vermont.

Second, consent search bans help curb pretextual stops by limiting officers' ability to fish for contraband without a specific reason. Consent searches typically require only the verbal consent of the individual being searched and are *technically* optional. But in practice, drivers —particularly Black drivers — often feel coerced to agree to a consent search even if they do not want to comply. When consent searches are restricted, officers

can still conduct searches if they have sufficient legal grounds to believe a specific crime is taking place (as they would need for conducting a search outside a vehicle). Rhode Island and Connecticut have restricted consent searches through state legislation. And New Jersey, Oregon, and Minnesota have limited consent searches stemming from minor traffic violations through state supreme court rulings.

Lawmakers look to police enforcement as the only way to prevent crashes, at great expense to traffic safety.

It is important to remove motivations for pretextual stops *and* restrict non-safety stops; obviously some pretextual stops are made for safety-related offenses (such as failure to signal) and non-safety stops are made for reasons other than racial bias.

Strategy #4: Piloting Models of Civilian Enforcement

Although traffic enforcement has been done almost exclusively by law enforcement officers to date, it is not necessarily an intuitive or ideal way of approaching the problem. When cars became prevalent and local governments first enacted traffic laws, police did not have the responsibility of enforcing them. What's more, police did not want the task of traffic enforcement and preferred to focus on addressing crime. Flash-forward 100 years, and scholars are still urging Americans to "stop and think about whether we want to use people trained primarily in force and law to do this work." Because other professions with more targeted training and clear incentives to focus on safety may be better fit to handle aspects of traffic enforcement, jurisdictions have explored relying on nonpolice agencies to do it.

Most Americans are already familiar with one model of nonpolice enforcement of roadway safety. In many cities, parking enforcement is done by civilian responders. In some places, including Philadelphia, nonpolice municipal personnel enforce parking laws and regulations; in other places, such as New York City, they may be unsworn civilian police employees. One commonality is that civilian parking enforcement personnel are not authorized to make arrests or use force and rarely carry weapons.

SOLUTION #1

Reexamine approaches to crash response *and* investigation. An uncommon but growing practice in the United States is deploying civilian responders for minor traffic crashes. In Colorado, North Carolina, and New Orleans, civilian employees of law enforcement agencies are the first responders for traffic crashes. In North Carolina, bipartisan legislation to allow for civilian crash investigation followed a study showing that a large proportion of officer time was spent on non-injury traffic collision calls. One sergeant in a department using civilian crash responders said that "the biggest bonus" of the program was that it allowed "uniformed officers to handle higher priority calls." High priority calls include crashes with injuries; reducing response time for them is associated with fewer fatalities.

Civilian crash investigators are new, but early evidence indicates that they are effective. After introducing civilian crash responders, the Denver Police Department cut the average response time to minor crashes from over 90 minutes to under 15 minutes. In Wilmington, North Carolina, which has been using civilian crash investigators since 2008, each investigator responds to more than 1,000 non-injury crashes a year. In Polk County, Florida, civilian responders handled minor traffic crashes in addition to a host of other duties, resulting in reduced salary costs of nearly half a million dollars per year. And in New Orleans, a nonpolice agency contracted to conduct traffic crash response reported that it handled 10,000 calls in 2024, or 35

percent of all traffic 911 calls, saving approximately 24,000 police officer hours.

Shifting to a nonpolice model for crash investigation may help align investigations with safety rather than punishment. For the most part in the U.S., the goals of police-led investigations are to determine whether legal transgressions caused crashes, to determine fault, and to prosecute anyone who has criminal liability. Similarly, the data that officers typically record about crashes focuses on individual-level factors like right-of-way — and not systemic causes, like road design, that could be addressed to prevent future incidents. But investigations "are more likely to be biased or incomplete if their ultimate goal is not prevention." Jurisdictions in the United States might learn from Finland, which uses a non-retributive, prevention-focused model to investigate all its fatal road crashes. This approach collects approximately 500 pieces of data for each crash and does not assign guilt.

After introducing civilian crash responders, the Denver Police Department cut the average response time to minor crashes from over 90 minutes to under 15 minutes.

SOLUTION #2

Reexamine traffic enforcement of moving vehicles. Unlike the two previous models described, civilian-led traffic enforcement of moving vehicles is not currently used in the United States. But New Zealand enforced non-moving and minor moving traffic violations through a nonpolice government agency for over 60 years. Traffic enforcement ultimately shifted back to police not because of road safety concerns but because of financial considerations, as the agency was staffed with "transferred" police officers rather than civilians. During the tenure of this program, police still had authority to enforce traffic laws, particularly when an incident involved a drunk driver or personal injury. Civilian enforcers rarely gave out tickets, as they were more concerned with road safety than meeting ticket quotas. Although information on the program's efficacy is limited, a study from 1971 comparing traffic enforcement in New Zealand and Australia found that largely removing police from that function improved relationships between communities and the police.

A variety of jurisdictions across the country are making efforts to pave the way for some types of civilian traffic enforcement, including through legislation. For example, in 2020, the city council in Berkeley, California, passed measures to create a local department of transportation, BerkDOT, that would take over traffic enforcement, including hiring unarmed civilians to make traffic stops. But the agency has not been created and proposed programs have not been implemented yet. Similar efforts are underway in Oakland and Brooklyn Center, Minnesota. In 2022, the city of Philadelphia reached an arbitration deal with the police union to "civilianize" roles including traffic enforcement. City officials took this step to free up sworn officers to address violence and other crime.

SOLUTION #3

Address barriers to civilian response. One of the reasons Berkeley was unable to move forward with its plan is that it ran into a legal roadblock: Civilian employees may not have legal authority to make stops in California. This is a question of preemption, when state law prevents local action on an issue. Municipalities have varying degrees of autonomy depending on their state's laws; in some places, localities are either not permitted to legislate

on roadway safety or cannot act without running afoul of existing state-level laws. But in most states, the authors of bills can draft around the preemption issue. Scholars suggest that municipalities looking to reform the role of law enforcement can mitigate preemption concerns by making it clear that a proposed ordinance is about narrowly altering the stop authority of local police departments (while leaving other avenues of enforcement open) and is not aiming to abandon enforcement of state traffic laws. ChangeLab Solutions and other advocacy organizations have developed resources, including a toolkit, to help localities with concerns about preemption.

Funding is another frequently cited barrier to implementing civilian enforcement. New programs can come with price tags that dampen enthusiasm. In Charlotte, North Carolina, for example, the civilian crash investigation unit cost $1.2 million in its initial year. The price may be misleading, though, because these programs are cheaper to run than crash investigation by police. Many police leaders acknowledge that moving to civilian staffing whenever possible is a cost-saving measure.

Political will can also be a barrier to civilian enforcement. As one former police chief put it, "Politicians would rather say 'We added 20 cops' than 'We added 20 civilians.' " But once rolled out, civilian enforcement programs are popular. Police leaders working with these programs have heard enthusiastic community support. Coupled with the reduced risk that civilian responders pose to community members, support may grow as more people become familiar with these programs.

SOLUTION #4

Address safety considerations. Critics of civilianization often point to the risks of violence during traffic stops as a reason to keep police involved. But the numbers are extremely low: In 2022, the odds of an officer being intentionally killed in a traffic stop was one in every 2 million. And though that is too high, traffic stops are much more dangerous for motorists; in 2022 they were more than 14 times likelier to be intentionally killed in a traffic stop than officers were.

Tragically, the presence of an officer with a gun may make things worse, not better. Officers in the United States are trained in ways that overstate the risk of vehicular stops. Viewing every stop as a potential life-or-death scenario may lead police to unnecessarily ratchet up the tension during stops and can create a self-fulfilling prophecy. The greatest risk on the roadside is not from violence but from vehicles, affecting armed sworn officers and civilian responders equally. But even this risk is relatively low — in 2025, 36 responders were struck and killed among 6 million police-reported crashes and other roadway safety incidents — and the presence of an armed officer certainly cannot eliminate that risk. Traffic Incident Management training can help make roadside response safer and could easily be offered to civilian responders.

Civilians may be well equipped to handle the job functions of a traffic stop. Throughout the country and the world, civilians handle report-taking, documenting, and ticketing functions in places other than cars. Many nonpolice government workers, from building inspectors to social workers, routinely write tickets or have enforcement interactions at people's homes and elsewhere in the community.

Strategy #5: Incentivizing Vehicular Safety & Safe Driving

Another strategy for safe roadways is to provide incentives to vehicle manufacturers and motorists to make better choices voluntarily. The United States trails peer nations in vehicular safety standards, but local policymakers can still act, even while awaiting federal action.

A major barrier to road safety is drivers' inability to pay for better options. This can lead people to drive impaired because they can't afford to hire a ride. Reducing financial barriers to those resources

could lead drivers to make safer choices. A different approach is one that flips traffic enforcement on its head: Instead of catching drivers doing dangerous or illegal activities and punishing them, our system could catch people driving safely and reward them for it, as one county in Iowa has done. Taking these steps could move the needle toward safer roadways.

SOLUTION #1

Increase vehicle safety standards. The United States pioneered vehicle safety standards, becoming the first in the world not only to rate vehicles' crash performance and overall safety but to provide that information to consumers. But now the country lags behind many of its peer nations in making vehicles safer. The European Union has imposed stringent standards on vehicle manufacturers to improve crash survivability and other safety measures for pedestrians. Similarly, in 2024, the National Highway Traffic Safety Administration proposed a rule to require new vehicles to be designed with passenger safety test procedures, but it has not been implemented. Lack of regulation, which permits increasingly large vehicles, is understood to be one of the leading contributors to the United States' rise in serious and fatal crashes, which is unique among its peers.

In the absence of nationwide standards, states do have options. Many states have programs that offer vouchers to trade in high-emission vehicles for electric ones, for example, a model that could be replicated for safety standards. California has long had more stringent emission standards than the rest of the country and these standards have been upheld by a federal appeals court. The state legislature appears ready to take similar strides on vehicular safety, sending a bill to Governor Gavin Newsom in 2024 that would have required intelligent speed assistance (or ISA, discussed more below) on every vehicle sold in the state by 2030. While the governor vetoed the bill, a new version of the bill may be filed in 2026.

SOLUTION #2

Use signage to encourage safe speeds. A lot of speeding happens unconsciously and is not necessarily affected by people's perception of risk. Even the federal government's leading guidance on addressing speed acknowledges that drivers are not always aware of the speed limit — and that many factors, including road conditions, shape their behavior. Therefore, it concludes, "many speeding episodes may occur unintentionally or incidentally."

Research shows that drivers are most likely to obey speed limits when signage reminds them of it more frequently. When Seattle lowered its speed limits to 20 or 25 mph citywide, they increased signage (at a cost of approximately $4,000 to $5,000 per mile) and did not rely on increased enforcement or marketing: The result was 22 percent fewer crashes. Similarly, driver feedback signs, which notify drivers of their speed in real time without accompanying fines, are effective at reducing speeding and crashes over time. For example, a 2022 study found that drivers were 78% to 92% less likely to go over the speed limit with a feedback sign present. At $2,000 to $11,000 per sign, this approach may be more cost-effective in the long term than either police or automated enforcement.

A 2022 study found that drivers were 78% to 92% less likely to go over the speed limit with a feedback sign present.

SOLUTION #3

Fund vouchers for rideshares. Law enforcement agencies use a variety of methods to try to prevent impaired driving, especially around holidays associated with increased alcohol consumption.

Agencies often step up efforts to catch impaired drivers and other unsafe motorists through high visibility enforcement (HVE), also discussed earlier. This method includes tactics like enhanced patrols, checkpoints, mobile breath alcohol testing, electronic message boards and road signs, and other coordinated enforcement visible to the public. Although these efforts have a short-term impact on roadway safety, HVE is also quite costly.

An alternative to HVE is free or subsidized rides that companies like Uber and Lyft provide in partnership with governments or nonprofits. Government partners may include law enforcement agencies, highway safety offices, and prosecutors. While these have most often been used on days and nights with typically high levels of impaired driving, it is feasible to expand voucher programs to include more days or even on-demand availability. Other longer-standing programs (such as safe ride shuttles, designated driver programs, and accessible and/or reduced-cost public transportation or taxis) may accomplish similar goals. Data indicates that rideshare voucher programs are effective at reducing rates of impaired driving, and that usage of these programs depends on community buy-in, awareness, and reduction in barriers.

Strategy #6: Leveraging Technology

Manufacturers could build a myriad of technologies into new cars to advance road safety without relying on punitive enforcement, but deploying these changes at scale would require federal action. Because some of these solutions demand political will, time, and investment to implement, intermediate measures such as intelligent speed assistance, ignition interlock programs, and speed safety camera programs can serve as viable approaches so long as data and privacy protections are in place.

SOLUTION #1

Use technology to modulate speeds. Managing speed effectively through enforcement hinges on setting appropriate speed limits and helping ensure that drivers always follow those speed limits, including through signage. One alternative, extremely effective solution to mitigate the dangers of speeding is Intelligent Speed Assistance (ISA), which is already a standard safety feature in Europe. Unlike traditional methods that address speeding after the fact, ISA prevents vehicles from significantly exceeding speed limits and has proven effective in reducing speeding among drivers using the system.

ISA devices work by alerting drivers when they exceed designated speed limits. Devices use GPS data in conjunction with "digitally mapped speed limit data" and/or video cameras that recognize speed limit signs and can warn drivers to adhere to safe speeds. There are two types of ISA devices: passive and active. Passive ISA systems might simply display speed limits or offer visual and audible alerts when limits are breached. As described earlier, California lawmakers passed a bill, ultimately vetoed by the governor, that would have made passive ISA standard in all new vehicles manufactured or sold in the state, in line with European standards.

Active ISA, on the other hand, directly prevents speeding from occurring. These devices are used for certain high-risk drivers and have gained more momentum in the U.S. This approach has

The vehicles drove over 1 million miles with ISA and had 99 percent compliance with speed limits and a 37 percent reduction in hard braking.

the benefit of reducing reliance on punitive measures such as stops, tickets, and drivers' license suspensions, all of which can amplify racial and economic inequalities without stopping the unwanted behavior. In New York City in 2022, over 250,000 vehicles received more than five speeding tickets from automated cameras, showing the limitations of the status quo approach.

New York City recently piloted active ISA in 300 municipal vehicles. The results were promising: The vehicles drove over 1 million miles with ISA and had 99 percent compliance with speed limits and a 37 percent reduction in hard braking. Since this pilot, New York State has proposed legislation requiring repeat violators to install active ISA, limiting those drivers to speeds no more than 5 mph over the limit for a year. In 2024, the District of Columbia Council passed the first legislation to install active ISA in the vehicles of drivers who have been convicted of traffic offenses while traveling more than 20 mph over the speed limit. In 2025, Virginia became the first state to pass a similar measure, followed by Washington.

SOLUTION #2

Use alcohol detection devices to reduce drunk driving. In 2021, crashes involving alcohol-impaired drivers claimed over 13,000 lives in the United States, more than a 14 percent increase from the previous year. One potential solution is alcohol ignition interlock devices, which prevent vehicles from starting unless the driver provides a breath sample below a specified alcohol concentration.

All 50 states allow interlocks to be used for at least some people with DUI offenses; 34 states and the District of Columbia mandate them for anyone convicted. These devices require users to blow into a mouthpiece, and if alcohol is detected, the vehicle remains inoperable. To help ensure compliance, retests are required periodically to prevent drivers from circumventing the system, such as drinking while driving or allowing someone else to start the car. Data logs can record the driver's breath alcohol concentration at each test, so that a probation officer can monitor the person's drinking and driving behavior.

Alcohol detection devices have significantly reduced recidivism rates among people required to use them, as well as alcohol-related crashes and fatalities. For the most part, as a driver's blood alcohol content increases, so does the probability of a crash. States mandating devices for all people with DUI offenses report 26 percent fewer alcohol-related fatal crashes than states without interlock laws. According to one study, wider implementation could potentially save an estimated 2,600 lives every year.

But the devices are imperfect. Some crashes have been attributed to people needing to interact with the devices while driving, and they have also triggered false positives. The device's benefits often diminish once it is removed, highlighting the need for supplementary measures, such as substance use programs, to sustain safe driving practices. A study in Florida found that people with an interlock who participated in treatment "had one-third lower DWI recidivism" after the interlock was removed than was true of people who had only the interlock.

Additionally, although these programs are widespread, they are not always affordable. Only about 42 percent of people with a DUI conviction have an interlock.[2] An individual typically bears the costs of installing, calibrating, maintaining, and removing the device. Initial installation costs can range from $70 to $150, with monthly maintenance fees of $60 to $90. Those costs are prohibitive for some people.

Two states have made an effort to address these financial barriers in their legislation. In Washington, an ignition interlock company can waive the costs of installing, removing, and leasing a device if the person is indigent — or the state can reimburse the company. Similarly, in Tennessee, upon ordering the use of an ignition interlock device,

the court must require the person to pay only the reasonable cost of leasing or buying, monitoring, and maintaining the device, and is permitted to establish a payment schedule.

SOLUTION #3

Deploy speed cameras equitably. Speed cameras can detect and document speeding vehicles much more comprehensively than in-person enforcement through photographic or video evidence. The cameras can be stationary, cover multiple locations to calculate average speeds, or be mobile units. In New York City, for example, radar and laser technology measures the speed of vehicles, capturing images of them and their license plates if they exceed the limit by over 10 mph. A trained technician then reviews the violation to verify the footage and issue a notice.

Speed cameras can effectively deter speeding. International studies have found that cameras typically reduce speeding by 10% to 35%, and serious crashes by 30% to 40%. Beyond reducing speeding, cameras have the potential to decrease the chance of dangerous and even fatal encounters for drivers during in-person police encounters, interactions that disproportionately affect Black and Latino drivers, who are more likely to be stopped and searched.

Importantly, although many jurisdictions are also implementing a host of other automated traffic enforcement technologies, including red light cameras, only speed cameras are backed by robust evidence to support their widespread use for addressing safety concerns. And even speed cameras are not without their challenges, including their reliability. Atlanta, Chicago, and other jurisdictions have found that their cameras were issuing false tickets.

With cameras, as with other strategies, citations can impose heavy fines and fees, disproportionately affecting low-income families and creating a tempting incentive for governments to develop programs for profit rather than for safety. Reliance on cameras for revenue can disproportionately impact low-income people and communities of color — and without careful safeguards, this undermines the program's goals. In 2024, Chicago balanced its budget with a projected increase of $348 million, in large part from traffic-related fees and fines. But if these programs were achieving their goals of safety, revenue would fall. To avoid this perverse incentive model, funds should be used to cover the administrative cost of the program and benefit areas that have historically lacked sufficient investment, funding, or both. A pilot program in California requires jurisdictions to use revenue not only for administrative costs but for traffic calming measures within three years. If a municipality has not taken steps to plan or implement this goal by the third year, it will no longer have access to the excess revenue generated.

Some states have used various fine structures to mitigate the potential for financial strain on drivers. Research shows that higher fee amounts do not affect the likelihood of a future offense. Minnesota's program issues a warning instead of a fine for the first offense. New York City's speed program uses a flat $50 fine, whereas California employs a graduated fine structure, with fines increasing as the severity of the violation increases.

Speed camera programs also carry the potential for disparate deployment, raising serious equity concerns. Historically marginalized communities often bear the brunt of high-speed, high-injury streets. Lack of investment in adequate infrastructure like streetlights and sidewalks has led to high rates of pedestrian fatalities in these communities. Consequently, simply placing cameras ad hoc at high-speed, high-injury locations — or worse, high-citation locations — can lead to excessive enforcement and exacerbate financial disparities in those communities. Jurisdictions choosing to adopt speed camera programs should use an equity-minded safety analysis to screen an entire jurisdiction for crash risk factors (such as high speeds and uncontrolled intersections) while taking geographic and socioeconomic diversity

into account. For example, Connecticut's camera program requires written justifications considering crash history, traffic stop history, community poverty rate, and other factors.

To be clear, speed camera programs should not be the default approach jurisdictions take to create safer environments. Though cameras can help deter dangerous speeds, communities seeking long-term, equity-minded solutions should prioritize upstream approaches. Studies show that simply using signs to alert people of their speeding, without a penalty, also effectively reduce speeds. Implementing self-enforcing roads, lowering speed limits, redesigning arterial roads, and other measures can reduce reliance on punitive enforcement that most harshly impacts low-income people and communities of color. Detailed recommendations on implementing speed safety cameras as an interim measure and prioritizing equity are in this Vision Zero Network report.

Conclusion

The COVID pandemic and associated reductions in enforcement corresponded with increased speeding, serious crashes, and road fatalities nationwide, leading many to call for increased traffic stops as a primary solution to this public health epidemic. However, the relationship between enforcement and safety is nuanced, and the path forward to safe roads includes a number of strategies. Achieving safer roads for all is not a matter of guesswork. The evidence-based strategies outlined in this report offer a more effective and equitable paradigm for safety. By calling on policymakers across all levels of government to take these steps, we can begin to shift away from the current system's shortcomings and build toward a future where roadways account for predictable human errors by design, multimodal transportation is the standard, and police enforcement is the exception rather than the rule. To achieve this, we recommend the following:

Local Government:

- **Prioritize infrastructure fixes, starting with easy wins**. Implement quick-build projects using low-cost materials. Reduce city-wide speed limits. Implement more frequent speed limit signs and driver feedback signs.
- **Adopt long-term design interventions**. Follow the lead of cities like Hoboken and Seattle by automatically installing safety features whenever routine road maintenance occurs. Invest in proven design interventions like roundabouts and daylighting at intersections. Designate non-car transportation paths like protected bike lanes and pedestrian streets.
- **Identify and resource high-risk areas**. Create High Injury Network maps that incorporate data on police stops, and allocate transportation resources to prioritize more impacted zones.

- **Reprioritize police enforcement**. Direct local law enforcement to prioritize safety stops and require documentation about why any non-safety stops are made. Root out any quotas or productivity incentives based on numbers of stops. Encourage local prosecutors to consider declination policies for charges arising from non-safety stops.
- **Increase density through zoning changes**. Reduce or eliminate single-family zoning in favor of mixed-use or higher-density residential zoning.
- **Pilot civilian enforcement**. Use civilians for crash response and investigations, and consider expanding their purview to moving violations.
- **Use technology strategically**. Follow the lead of New York and require active intelligent speed assist in fleet vehicles. Use speed cameras as an interim measure and complement to other safe roadways solutions; place them with an eye toward equity.

State Government:

- **Limit pretextual stops**. Enact legislation that prohibits stops for non-safety-related issues, like expired registration or a single broken tail light. Reduce incentives for non-safety stops by eliminating any hidden quotas. Legislatively prohibit consent searches during non-safety stops.
- **Fix the disproportionate financial burden of traffic enforcement**. Eliminate fines and fees where possible. Ensure that fines do not trap low-income drivers in cycles of debt by requiring standardized ability-to-pay assessments and alternatives to fines. Mandate day fines models that peg fines to income or wealth.
- **Alter municipal finance to disincentivize citation-based revenue**. Reform municipal finance laws to ensure local governments are not forced to rely on traffic fines for survival. Authorize new municipal revenue sources. Fully fund localities through state general funds.
- **Create allocations for equipment repair vouchers**. Create programs where community groups or law enforcement can distribute vouchers for needed equipment repairs without the need to make a stop.
- **Fund alternatives to driving**. Prioritize mass transit in state budgets. Create pilots for rideshare vouchers or safe ride programs.
- **Eliminate barriers to civilian enforcement**. Ensure that any statutes preempting local governments' ability to use civilians in traffic enforcement are rolled back or modified. Allocate funds for civilian enforcement pilots.
- **Increase vehicle safety standards**. If the federal government does not impose responsive safety standards, states should do so themselves. Consider vouchers for drivers who trade in less-safely-designed vehicles for better options.
- **Set standards for equitable speed camera deployment**. Pass statewide regulations specifying how citing decisions should be made, setting parameters for fines and uses of revenue, and providing for transparency and accuracy audits of speed cameras.

Federal Government:

- **Modernize vehicle safety**. Direct NHTSA to expand safety ratings to include the protection of those outside the vehicle, and regulate the dangerous size and features of modern SUVs and trucks.
- **Reform federal grant programs**. Restructure grants like STEP and "Click It or Ticket" to remove incentives for high-volume non-safety ticketing. Instead reward jurisdictions for sustained reductions in fatalities.
- **Incentivize safety technology**. Support the widespread, equitable adoption of vehicle technologies like ignition interlocks, intelligent speed assist, and similar features.

We can build a system where roadway safety is the default by design, rather than a chance. If lawmakers at every level choose to embrace evidence-backed reforms, we can achieve much safer and more equitable roads.

Endnotes

1 See the FBI's Uniform Crime Reporting Report on Felonious Killings of Law Enforcement Officers for 2022.

2 Insurance Institute for Highway Safety – Highway Loss Data Institute, "Alcohol Interlock Laws," January 2026, https://www.iihs.org/topics/alcohol-and-drugs/alcohol-interlock-laws-by-state; and U.S. Centers for Disease Control and Prevention, "Increasing Alcohol Ignition Interlock Use," April 24, 2024, https://www.cdc.gov/impaired-driving/ignition-interlock/?CDC_AAref_Val=https://www.cdc.gov/transportationsafety/impaired_driving/ignition_interlock_states.html.