Fordham Urban Law Journal

Volume 44
Number 4 *Colloquium - Getting There From Here: An Exploration of Regionalism and Transportation in the United States*

Article 2

2017

Traffic Justice: Achieving Effective and Equitable Traffic Enforcement in the Age of Vision Zero

Marco Conner

TRAFFIC JUSTICE: ACHIEVING EFFECTIVE AND EQUITABLE TRAFFIC ENFORCEMENT IN THE AGE OF VISION ZERO

Marco Conner[*]

"No goal is more ambitious than zero [traffic fatalities], but at the same time no other goal is acceptable."[1] *– New York City Mayor Bill de Blasio*

TABLE OF CONTENTS

---

[*] Legislative and Legal Director, Transportation Alternatives. Many thanks to Jacqueline Henke for her research on deterrence theory and my colleagues for their support, expertise, and dedication to making New York City and beyond a safer place to live.

1. N.Y.C. MAYOR'S OFF. OF OPERATIONS, VISION ZERO: YEAR THREE REPORT 2 (2017) [hereinafter VISION ZERO: YEAR THREE REPORT], http://www1.nyc.gov/assets/visionzero/downloads/pdf/vision-zero-year-3-report.pdf [https://perma.cc/NBN9-NMTS].

INTRODUCTION

In 2016, more than 40,000 people lost their lives in traffic crashes in the United States,[2] marking the third consecutive year of increases in traffic fatalities.[3] Many view increased police traffic enforcement and more aggressive prosecution as part of the solution to this violent pandemic,[4] in part because driver actions—like speeding, texting, and driver inattention—contribute to an estimated ninety-four percent of those traffic crashes.[5] At the same time, a recent shift in public discourse has shined a light on decades of racially disparate policing and criminal justice practices.[6] Horrific high-profile killings of African-Americans during police traffic stops reveal only the surface of our troubled race relations and a failed enforcement and criminal justice system in the United States, where Black[7] drivers are far more

---

2. STAT. DEP'T, NAT'L SAFETY COUNCIL, NSC MOTOR VEHICLE FATALITY ESTIMATES 1 (2016), http://www.nsc.org/NewsDocuments/2017/12-month-estimates.pdf [https://perma.cc/KEQ9-QFNE].

3. *See id.*; *Fatality Facts: Yearly Snapshot 2015*, INS. INST. FOR HIGHWAY SAFETY (Nov. 2016), http://www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/overview-of-fatality-facts [https://perma.cc/S6NN-3NAX].

4. *See* CITY OF N.Y., VISION ZERO ACTION PLAN 19 (2014) [hereinafter VISION ZERO ACTION PLAN], http://www.nyc.gov/html/visionzero/pdf/nyc-vision-zero-action-plan.pdf [https://perma.cc/JLN3-E472].

5. *See* NAT'L CTR. FOR STAT. & ANALYSIS, U.S. DEP'T OF TRANSP., CRITICAL REASONS FOR CRASHES INVESTIGATED IN THE NATIONAL MOTOR VEHICLE CRASH CAUSATION SURVEY 1 (2015), https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115 [https://perma.cc/SSA6-N2PL].

6. *See generally* Will Greenberg, *Here's How Badly Police Violence Has Divided America*, MOTHER JONES (Mar. 19, 2017), http://www.motherjones.com/media/2017/03/police-shootings-black-lives-matter-history-timeline [https://perma.cc/VF8T-2LW5]; Matt Pearce, *Activists Come Up With a Plan to End Police Killings. Here It Is.*, L.A. TIMES (Aug. 21, 2015), http://www.latimes.com/nation/la-na-police-campaign-zero-20150821-story.html [https://perma.cc/YTX7-7CQL].

7. This Article uses the terms Black and African-American interchangeably.

likely than White drivers to be stopped by police,[8] even though contraband is possessed less often by those Black drivers,[9] and where "African-Americans are far more likely than whites and other groups to be the victims of use of force by the police."[10]

In recent years, many cities have renewed their efforts to reduce traffic fatalities and serious injuries, some setting the bold goal of eliminating them altogether.[11] In New York City ("NYC") and elsewhere, this goal, named Vision Zero, has become government policy, for which police traffic enforcement is considered a vital component.[12] However, given the racial inequities in our criminal justice system, the disparate stops of Black drivers, and fatal outcomes of traffic stops, cities and transportation planners must ask whether they can defend promoting police traffic enforcement and increased prosecution to achieve their goals of preventing traffic deaths and injuries. Critically, they must ask whether such measures work, and whether there are more effective alternatives to current practices.

This Article examines the role of traffic enforcement, analyzes its efficacy to deter dangerous driving, and suggests a new framework for traffic enforcement suited to the goals of Vision Zero. It argues that the primary goal of Vision Zero-related traffic enforcement must be to create long-lasting general deterrence of dangerous driving behavior if cities are to reduce crashes and eliminate traffic fatalities and serious injuries. Significantly, the Article highlights deterrence theories and concepts of fairness as central to understanding solutions to dangerous driving.

---

8. *See* Sharon LaFraniere & Andrew W. Lehren, *The Disproportionate Risks of Driving While Black*, N.Y. TIMES (Oct. 24, 2015), https://www.nytimes.com/2015/10/25/us/racial-disparity-traffic-stops-driving-black.html [https://perma.cc/3JNL-QXWP]; *see also infra* Section III.A.3.

9. LaFraniere & Lehren, *supra* note 8; *see also* Robin Shepard Engel & Jennifer M. Calnon, *Examining the Influence of Drivers' Characteristics During Traffic Stops with Police: Results from a National Survey*, U. OF CINCINNATI ONLINE MASTER SCI. CRIM. JUST. (2004), http://cjonline.uc.edu/resources/criminal-justice-research/examining-the-influence-of-drivers-characteristics-during-traffic-stops-with-police-results-from-a-national-survey [https://perma.cc/Z5ZK-AG2R].

10. Timothy Williams, *Study Supports Suspicion that Police Are More Likely to Use Force on Blacks,* N.Y. TIMES (July 7, 2016), https://www.nytimes.com/2016/07/08/us/study-supports-suspicion-that-police-use-of-force-is-more-likely-for-blacks.html [https://perma.cc/FDL2-QAER].

11. *See Elevating Efforts in Vision Zero Cities Across the U.S.*, VISION ZERO NETWORK, http://visionzeronetwork.org/about/elevating-efforts-in-vision-zero-cities-across-the-u-s [https://perma.cc/4YQG-TUKA].

12. *See, e.g.*, VISION ZERO: YEAR THREE REPORT, *supra* note 1, at 38.

The enforcement policies advanced in this Article focus on deterring future dangerous driving, in line with the goal of Vision Zero. Therefore, retributive justice, that is, punishment imposed without an extrinsic social purpose, is not discussed. The role of public prosecutors will only be discussed tangentially, even though prosecutor's offices play an important role in enforcing dangerous driving offenses. Additionally, physical changes to road infrastructure, so-called engineering measures, will only occasionally be discussed, even though such measures are critical to changing dangerous driving behavior and mitigating human driver error.[13]

Finally, this Article references several policies and examples from NYC related to traffic crashes and enforcement. The city serves as a useful example of the challenges and possible solutions to address the pandemic of traffic violence in primarily urban and suburban settings. NYC is home to a variety of road users, representing within one jurisdiction the majority of different travel forms used throughout the United States, including driving, walking, bicycling, and public transportation. And in a curious twist of fate, the city that registered the country's first pedestrian fatality in 1899,[14] was also the first U.S. city to adopt the Vision Zero policy in 2014 to address traffic crashes, with a focus on risks to pedestrians and other vulnerable road users.[15] Despite the loss of more than 4500 lives to traffic violence in NYC since 2001,[16] the city has bucked the recent national trend of increasing traffic fatalities since 2014, with drops in traffic fatalities over three consecutive years since 2014, likely due to its Vision Zero-related measures that include re-designing roads, lowering the city-wide speed limit, and operating automated speed enforcement cameras.[17] NYC also has a history of racially disparate policing and

---

13. *See* discussion *infra* Section II.A.

14. Christopher Robbins, *NYC's First Car Accident in 1896 Involved a Bicycle*, GOTHAMIST (May 14, 2012), http://gothamist.com/2012/05/14/nycs_first_car_accident_in_1896_inv.php [https://perma.cc/Z8M5-VUPT].

15. *See* VISION ZERO ACTION PLAN, *supra* note 4, at 19, 22. "Vulnerable road user" is "a term applied to those most at risk in traffic . . . . Pedestrians, pedal cyclists, and motorcyclists are accordingly considered as vulnerable since they benefit from little or no external protective devices that would absorb energy in a collision. They constitute with almost no exception the weak party in a road traffic crash." Aymery Constant & Emmanuel Lagarde, *Protecting Vulnerable Road Users from Injury*, PLOS MED., Mar. 30, 2010, at 1, http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000228 [https://perma.cc/Y9AJ-JLJA].

16. *See Archives of Statistical Summaries*, N.Y. ST. DEP'T OF MOTOR VEHICLES, https://dmv.ny.gov/about-dmv/archives-statistical-summaries [https://perma.cc/PYJ2-KD2L].

17. Emma G. Fitzsimmons, *New York Traffic Deaths Dip Again. It's Not Enough, Mayor's Critics Say*, N.Y. TIMES (Jan. 10, 2017), https://www.nytimes.com/

criminal prosecution practices[18] and has drastically increased its police enforcement of certain traffic-related violations,[19] offering insight into the challenges and opportunities of enforcement in addressing dangerous driving behavior and the U.S. pandemic of traffic violence.

I. THE U.S. PANDEMIC OF TRAFFIC VIOLENCE

Since the beginning of the twentieth century, the man-made pandemic of traffic violence has swept across the United States, killing and injuring people of all ages on highways and city streets. Henry H. Bliss is believed to be the first pedestrian killed in vehicular traffic in the United States; he died after being struck by a motorist on Broadway in NYC in 1899.[20] In that year, twenty-six people were killed in traffic nationwide.[21] A decade later, in 1910, that number had increased to nearly 1600, then in 1925 to nearly 21,000, and, in 1972, the highest year on record, to nearly 55,000 people annually.[22] On average, approximately 42,000 people died in traffic crashes nationwide every year between 1950 and 2009, primarily as motor vehicle occupants in vehicle-on-vehicle collisions or as pedestrians or

---

2017/01/10/nyregion/new-york-traffic-deaths-vision-zero.html [https://perma.cc/63M5-9W8S]; *see* CITY OF N.Y., VISION ZERO YEAR TWO: YEAR END REVIEW 5, 12 (2015), http://www.nyc.gov/html/visionzero/assets/vz-year-end-report.pdf [https://perma.cc/P2VQ-Z87X].

18. *See, e.g.*, Floyd v. City of New York, 959 F. Supp. 2d 540 (S.D.N.Y. 2013) (finding NYC's stop-and-frisk program unconstitutional); *see also* BESIKI KUTATELADZE ET AL., VERA INST. OF JUST., RACE & PROSECUTION IN MANHATTAN (2014), http://archive.vera.org/sites/default/files/resources/downloads/race-and-prosecution-manhattan-summary.pdf [https://perma.cc/U7PJ-NWAX] (summarizing a report showing racially disparate results throughout the prosecution process); Irene Chidinma Nwoye, *Cycling on the Sidewalk: The New Stop-and-Frisk?*, VILLAGE VOICE (Oct. 30, 2014), http://www.villagevoice.com/news/cycling-on-the-sidewalk-the-new-stop-and-frisk-6703521 [https://perma.cc/7RQE-AX67].

19. *See* VISION ZERO: YEAR THREE REPORT, *supra* note 1, at 39.

20. Robbins, *supra* note 14.

21. *See* NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., U.S. DEP'T OF TRANSP., AN ANALYSIS OF THE SIGNIFICANT DECLINE IN MOTOR VEHICLE TRAFFIC FATALITIES IN 2008 27 (2010), https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/811346 [https://perma.cc/FN5B-UKS5].

22. *See id.* However, adjusted for population growth, the traffic fatality rate dropped by ninety percent from 18 per 100 million vehicle miles traveled in 1925 to 1.7 per 100 million vehicle miles traveled in 1997. *See* Ctrs. for Disease Control & Prevention, *Motor-Vehicle Safety: A 20th Century Public Health Achievement*, 48 MORBIDITY & MORTALITY WKLY. REP. 369, 369-70 (1999), http://www.cdc.gov/mmwr/PDF/wk/mm4818.pdf [https://perma.cc/SR23-KKCS].

bicyclists struck by motorists.[23] After several years of overall decline, estimates indicate that traffic deaths increased in 2016 to more than 40,000, marking the second consecutive year of annual increases for the first time in at least fifteen years,[24] with an estimated economic cost to society of more than $432 billion.[25] Although the annual U.S. traffic fatality rate (the number of fatalities as part of the overall population) has declined significantly since the 1970s, Americans are still more likely to die in traffic than from firearms,[26] and as recently as 2010, motor vehicle crashes were either the top- or second-leading cause of injury-related death for every age group aged one year and older.[27]

The context of these deaths tends to differ between dense urban and non-urban environments. On highways and outside cities, most traffic fatalities result from collisions between motorists traveling at high speeds, while within cities, especially in dense urban settings in cities like NYC, the majority of deaths and injuries occur when pedestrians are struck by motor vehicles either traveling at high speeds or when drivers fail to yield to vulnerable road users.[28] In NYC, more than 4500 people have died in traffic crashes since 2001, at least 49,000 have suffered serious injuries (including loss of limbs,

---

23. *See* NAT'L CTR. FOR STAT. & ANALYSIS, U.S. DEP'T OF TRANSP., HIGHLIGHTS OF 2009 MOTOR VEHICLE CRASHES 1 (2010), https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/811363 [https://perma.cc/4RVN-YDE4].

24. *See* NAT'L CTR. FOR STAT. & ANALYSIS, U.S. DEP'T OF TRANSP., EARLY ESTIMATE OF MOTOR VEHICLE TRAFFIC FATALITIES FOR THE FIRST 9 MONTHS OF 2016 2 (2017), https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812358 [https://perma.cc/L7EA-TV6Q]; STAT. DEP'T, NAT'L SAFETY COUNCIL, NSC MOTOR VEHICLE FATALITY ESTIMATES, [hereinafter NSC FATALITY ESTIMATES], http://www.nsc.org/NewsDocuments/2017/12-month-estimates.pdf [https://perma.cc/7JH9-RUUZ].

25. By one measure, "[t]he estimated cost of motor-vehicle deaths, injuries, and property damage in 2016 was $432.5 billion, an increase of 12% from 2015. The costs include wage and productivity losses, medical expenses, administrative expenses, employer costs, and property damage." NSC FATALITY ESTIMATES, *supra* note 24. By another measure, the cost has been estimated to be more than $800 billion. *See Issues*, ADVOCATES FOR HIGHWAY & AUTO SAFETY, http://saferoads.org/issues [https://perma.cc/2BDA-9ST9].

26. *See* Philip Caulfield, *Gun Deaths to Surpass Deaths in Traffic Accidents by 2015: Report*, N.Y. DAILY NEWS (Dec. 19, 2012, 5:37 PM), http://www.nydailynews.com/news/national/gun-deaths-outpace-traffic-deaths-2015-report-article-1.1223721 [https://perma.cc/L8M8-3Q4M] (citing the CDC).

27. *10 Leading Causes of Injury Deaths by Age Group Highlighting Unintentional Injury Deaths, United States–2010*, OFF. OF STAT. & PROGRAMMING, CTRS. FOR DISEASE CONTROL & PREVENTION (2010), https://www.cdc.gov/injury/wisqars/pdf/10LCID_Unintentional_Deaths_2010-a.pdf [https://perma.cc/A3C3-TCDU].

28. *See generally Archives of Statistical Summaries*, *supra* note 16.

traumatic brain injuries, and other life-altering injuries), and more than 618,000 have suffered less serious injuries—all of this in just one U.S. city.[29] Regardless of the setting, U.S. roads and streets pose a high risk of death and injury to all road users.[30]

II. VISION ZERO: A NEW APPROACH TO ADDRESS THE PANDEMIC

Increasingly, policymakers on all levels of government, grassroots organizations, and crash victims and their families are no longer viewing the U.S. pandemic of traffic deaths and injuries as inevitable "accidents," but instead as preventable crashes constituting a public health crisis.[31] Cities across the United States are adopting Vision Zero—a policy and strategy with the goal of eliminating all traffic fatalities and severe injuries, while increasing safe, healthy, and equitable transportation and mobility modes.[32] First implemented in

---

29. *See id.*

30. Compared to other countries with comparable transportation infrastructure and GDP per capita, U.S traffic fatalities are consistently and significantly higher. The population-based traffic death rate in the United States is over three times higher than in the United Kingdom, Denmark, and Sweden, and over twice as high as in France and Germany. *See* WORLD HEALTH ORG., GLOBAL STATUS REPORT ON ROAD SAFETY 2015, 75-256 (2015), http://www.who.int/violence_injury_prevention/road_safety_status/2015/en [https://perma.cc/CMZ2-2G8Z]. Comparing traffic fatality rates by vehicle miles traveled, the differences with these countries tend to shrink but remain significant. *See* INT'L TRAFFIC SAFETY DATA & ANALYSIS GRP., OECD, ROAD SAFETY ANNUAL REPORT 2015 17-18 (2015), http://www.oecd-ilibrary.org/transport/road-safety-annual-report-2015_irtad-2015-en [https://perma.cc/GB6W-25ME]. United States residents are more likely to drive than European residents, a tendency that can be explained by lower retail gasoline prices in the United States and better and more accessible public transportation in many European countries. *See* Ralph Buehler, *9 Reasons the U.S. Ended Up So Much More Car-Dependent than Europe*, CITYLAB (Feb. 4, 2014), https://www.citylab.com/transportation/2014/02/9-reasons-us-ended-so-much-more-car-dependent-europe/8226 [https://perma.cc/J6HD-G25K].

31. *See* Daniel C. Vock, *How a Brooklyn Brewmaster Helped Make New York City Safer for Pedestrians*, GOVERNING (Feb. 17, 2017), http://www.governing.com/topics/urban/gov-vision-zero-pedestrian-deaths-brooklyn-brewery.html [https://perma.cc/VS49-CE6D].

32. Vision Zero strategies differ somewhat between countries and between cities, states, and federal governments. For example, Sweden does not have a timeframe within which to achieve zero deaths. *See* ARNE KARYD, SWEDEN'S VISION ZERO: THE LEAST MOURNED TRAFFIC CASUALTY (2001), http://www.kawi.se/visionzero.pdf [https://perma.cc/SB8S-BTRF]. By contrast, NYC has set a timeframe to achieve zero traffic fatalities and serious injuries by 2024. *See* David Meyer, *Taking Stock of Vision Zero Three Years In*, STREETSBLOG NYC (Feb. 23, 2017), http://nyc.streetsblog.org/2017/02/23/taking-stock-of-vision-zero-three-years-in [https://perma.cc/KPD3-NE7Y]; *see also* VISION ZERO ACTION PLAN, *supra* note 4, at 7. The U.S. Department of Transportation's "Road to Zero" strategy has a timeframe of thirty years but only for traffic fatalities, not serious injuries. *See U.S. DOT, National Safety Council Launch Road to Zero Coalition to End Roadway*

Sweden in the 1990s, Vision Zero is now being applied in several U.S. cities, including Austin, Chicago, Fort Lauderdale, New York City, Portland (Oregon), San Francisco, Seattle, and Washington, D.C.[33] Each city's Vision Zero plan sets a year by which traffic deaths and serious injuries must be eliminated.[34] In 2016, the U.S. federal government announced its own Vision Zero-inspired "Road to Zero" program, declaring a goal of reaching zero traffic deaths nationwide within thirty years.[35]

A. What Is Vision Zero?

Vision Zero differs from past traffic safety efforts that have focused on achieving moderate year-over-year reductions in injuries and fatalities and have applied certain measures—often referred to as the three "E's:" engineering, which includes road infrastructure designs and technical changes;[36] education, typically driver awareness and training;[37] and enforcement, typically police traffic enforcement.[38] Vision Zero adds several critical new elements: first, the program

---

Fatalities, U.S. DEP'T TRANSP. (Oct. 5, 2016) [hereinafter *National Safety Council Launch Road to Zero Coalition*], https://www.transportation.gov/briefing-room/us-dot-national-safety-council-launch-road-zero-coalition-end-roadway-fatalities [https://perma.cc/4KPA-36M3].

33. *See National Safety Council Launch Road to Zero Coalition*, *supra* note 32; Angie Schmitt, *10 Cities Chosen to Help Model Vision Zero Policy in the U.S.*, STREETSBLOG USA (Jan. 27, 2016), http://usa.streetsblog.org/2016/01/27/10-cities-chosen-to-help-model-vision-zero-policy-in-the-u-s [https://perma.cc/F3D2-ZU7E].

34. *See* Schmitt, *supra* note 33. *See generally Vision Zero Cities Map*, VISION ZERO NETWORK, http://visionzeronetwork.org/resources/vision-zero-cities [https://perma.cc/5QD7-LE49] (last updated Mar. 2017).

35. *National Safety Council Launch Road to Zero Coalition*, *supra* note 32.

36. Engineering measures include expanded pedestrian curb space, protected bike lanes, speed restrictions, simplified vehicle movements including left-turn restrictions, traffic signals with leading pedestrian intervals that eliminate turning conflicts between vulnerable road users and motor vehicles, pedestrian islands, narrower road lanes, speed bumps, wide sidewalks, mid-block cross-walks, high visibility painted crosswalks, "daylighting" treatments that remove parking at and near street corners to ensure that motorists can have a clean line of sight and can see pedestrians as they are turning, as well as motor vehicle features, including airbags, collision detection warnings, and more. *See* NAT'L ASS'N OF CITY TRANSP. OFFICIALS, URBAN STREET DESIGN GUIDE (2013), http://nacto.org/publication/urban-street-design-guide [https://perma.cc/CUT6-V24Z]; Transp. Alternatives, *The Vision Zero Street Design Standard*, VISION ZERO STREETS, https://www.visionzerostreets.org [https://perma.cc/LR5W-3J89]; Nicole Schneider, Executive Director, Walk San Francisco, Vision Zero and the Three E's: Engineering, Enforcement, Education, Designing Cities Conference: San Francisco 2014 (Oct. 25, 2014) [hereinafter Vision Zero and the Three E's], http://nacto.org/event/designing-cities-2014-vision-zero-and-the-three-es-engineering-enforcement-education [https://perma.cc/6PS7-75WK].

37. *See* Vision Zero and the Three E's, *supra* note 36.

38. *See id.*

includes a goal of zero as the only acceptable number for traffic fatalities and serious injuries, compared to a modest year-by-year percentage reduction. Second, Vision Zero creates urgency and measurable accountability by setting a date by which to achieve the goal of zero. Measures applied by policymakers as part of Vision Zero tend to include redesigning streets, lowering speed limits, implementing impactful behavior change campaigns, and enhancing data-driven traffic enforcement.[39] Third, Vision Zero also incorporates a multidisciplinary approach, bringing together diverse stakeholders and government agencies to address the many causes of traffic crashes, including local transportation departments, police, prosecutors, public health departments, municipal vehicle fleet management, and, as has become unique to U.S. Vision Zero efforts, non-government actors including advocacy organizations, traffic victims, and their families—who are often the ones advocating for government adoption of Vision Zero.[40]

Finally, Vision Zero marks a shift in transportation planning priorities. Transportation planning over the past sixty years has prioritized what is known as "level of service," a term traditionally used by engineers and transportation planners to indicate how many motor vehicles could be moved through a given stretch of road.[41] The more vehicles a stretch of road could accommodate per hour, the greater the level of service.[42] One way greater levels of service were achieved was by increasing vehicle travel speeds, including raising speed limits and adding and widening road lanes.[43] However, more vehicles traveling at higher speeds on wider roads lead to significantly more dangerous and lethal road conditions for all road users, including motorists, bicyclists, and pedestrians.[44] Wider roads and

---

39. *What is Vision Zero?*, VISION ZERO NETWORK, http://visionzeronetwork.org/about/what-is-vision-zero [https://perma.cc/PWL7-6TWA].

40. Founded in 2014 in New York City, the group Families for Safe Streets consists of individuals who have either lost someone to traffic violence or have been injured themselves. The group advocates for safer streets and provides a peer support network and resources for others with similar experiences. *See generally Families for Safe Streets*, TRANSP. ALTERNATIVES, https://www.transalt.org/getinvolved/familiesforsafestreets [https://perma.cc/WU5P-4J7F]. Similar groups using similar names have since been established in several other cities in North America.

41. *See* Joe Linton, *Report: "Multi-Modal Level of Service" Metrics Not Quite Up to the Challenge*, STREETSBLOG LA (Oct. 17, 2014), http://la.streetsblog.org/2014/10/17/report-multi-modal-level-of-service-metrics-not-quite-up-to-the-challenge [https://perma.cc/Y39P-UCL3].

42. *See id.*

43. *See id.*

44. *See Lane Width*, *in* URBAN STREET DESIGN GUIDE, *supra* note 36.

travel lanes also mean greater crossing distances for pedestrians, thus increasing their risk of exposure to lethal vehicles.[45] Further, the average motor vehicle traveling at twenty miles per hour has a stopping distance of forty feet, and a pedestrian's risk of death when struck is five percent.[46] By comparison, a vehicle travelling at forty miles per hour has a stopping distance of 118 feet, and the risk of pedestrian death jumps to eighty-five percent.[47] And starting at fifty miles per hour the risk of death upon impact is considered to be nearly one hundred percent.[48] Transportation planners and policy makers throughout the country continue to prioritize high vehicle speeds in an effort to increase the level of service, but do so at the expense of human lives. High vehicle speeds are a significant reason why tens of thousands continue to die in U.S. traffic every year.[49] In contrast to traditional traffic planning, Vision Zero seeks to prioritize safety for all road users over the movement of vehicles and high vehicle speeds, by implementing and enforcing lower speed limits, narrowing road lanes to discourage speeding, and implementing physical objects and traffic signaling to reduce dangerous turning behavior by motorists, among several other measures.[50] In NYC, police have significantly increased enforcement of certain Vision Zero violations, principally speeding and failure to yield to a pedestrian.[51]

The additional measures that set the era of Vision Zero policies apart from prior eras are often summarized as the two new E's, evaluation and equity,[52] in addition to the traditional three E's of engineering, education, and enforcement. These new E's have

---

45. *See* Dewan Masud Karim, *Narrower Lanes, Safer Streets*, RESEARCHGATE (2015), https://www.researchgate.net/publication/277590178_Narrower_Lanes_Safer_Streets [https://perma.cc/ZZ44-KMXH].

46. *See Design Speed*, *in* URBAN STREET DESIGN GUIDE, *supra* note 36.

47. *Id.*

48. *See* WORLD HEALTH ORG., WORLD REPORT ON ROAD TRAFFIC INJURY PREVENTION 77-78 (Margie Peden et al. eds. 2004), http://apps.who.int/iris/bitstream/10665/42871/1/9241562609.pdf [https://perma.cc/M2AH-V3H9].

49. *See Safety on the Road*, NAT'L SAFETY COUNCIL, http://www.nsc.org/learn/pages/nsc-on-the-road.aspx [https://perma.cc/X3QB-RAZZ].

50. *See What is Vision Zero?*, *supra* note 39. For several other measures, outside the scope of this Article, used to address dangerous driving and traffic fatalities in the United States, see *2016 Fatality Estimates*, NAT'L SAFETY COUNCIL, http://www.nsc.org/learn/NSC-Initiatives/Pages/Fatality-Estimates.aspx [https://perma.cc/GKU7-HLR8].

51. VISION ZERO: YEAR THREE REPORT, *supra* note 1, at 38.

52. *See* CITY OF L.A., VISION ZERO LOS ANGELES: THE FACTS, http://visionzero.lacity.org/wp-content/uploads/2015/08/LA_VisionZero_FactSheet.pdf [https://perma.cc/76CH-M6X5].

become core tenets in many Vision Zero policies and are often deemed necessary to reach zero.[53] Evaluation is necessary to establish accountability for the progress made—or lack thereof—on the measures needed to reach the goal of zero; while achieving equity is necessary to maintain the support for those measures by stakeholders and to allocate resources to the locations and population groups disproportionately affected by traffic violence, primarily Black and Hispanic and lower-income populations, in order to rectify historical inequities and higher rates of injuries and fatalities among those groups.[54]

B. Equity in Vision Zero

Equity in Vision Zero is the fair and just implementation of transportation safety measures across all populations, including race, age, gender, geography, and socio-economic status, and involves engineering, education, and enforcement measures, considering both past and current inequities.[55] Where inequities exist, so do the greatest and most disproportionate rates of traffic deaths and injuries. For example, in U.S. cities, eighty-nine percent of high-income communities have sidewalks, while only forty-nine percent of low-income communities do.[56] At the same time, African-Americans, Native Americans, and Hispanic Americans, who live in low-income communities at higher rates than White Americans, are at least twice as likely to be killed while walking.[57] These deaths are not "accidents" but the foreseeable result of inadequate and inequitable engineering and transportation policy decisions.[58] Inequities are also prevalent within traffic enforcement, particularly in the form of racial

---

53. Marco Conner, *Racial Inequity in Traffic Enforcement*, VISION ZERO CITIES: INT'L J. TRAFFIC SAFETY INNOVATION, at 12, 14 (Mar. 2016), http://www.visionzerocities.org/journal/dl/Vision_Zero_Cities_2016.pdf [https://perma.cc/5DJX-86EP].

54. *See* Mike Maciag, *Pedestrians Dying at Disproportionate Rates in America's Poorer Neighborhoods*, GOVERNING (Aug. 2014), http://www.governing.com/topics/public-justice-safety/gov-pedestrian-deaths-analysis.html [https://perma.cc/DF6V-VDQQ].

55. *See, e.g.*, SARA ZIMMERMAN ET AL., SAFE ROUTES TO SCH. NAT'L P'SHIP, AT THE INTERSECTION OF ACTIVE TRANSPORTATION AND EQUITY 14-21 (2015), http://www.saferoutespartnership.org/sites/default/files/pdf/At-the-Intersection-of-Active-Transportation-and-Equity.pdf [https://perma.cc/K77M-G6JJ] (providing an in-depth discussion on the vast number of transportation inequities faced by low-income people and people of color).

56. Maciag, *supra* note 54.

57. *See* Angie Schmitt, *The Inequitable Toll of Pedestrian Deaths*, STREETSBLOG USA (May 7, 2013), http://usa.streetsblog.org/2013/05/07/the-inequitable-toll-of-pedestrian-deaths [https://perma.cc/J66M-K9YK].

58. *See* Maciag, *supra* note 54.

disparities in who is stopped, searched, and ticketed.[59] Additionally, several studies have shown that drivers are significantly less likely to stop for African-American and Hispanic adult pedestrians solely because of the pedestrians' race, thereby suggesting deep implicit racial biases.[60] Increasingly, Vision Zero stakeholders are recognizing that addressing these inequities is a just and moral requirement that is also necessary to achieve Vision Zero.[61]

III. RACIAL DISPARITIES IN POLICE TRAFFIC ENFORCEMENT

To provide a basis for exploring the extent of racial inequities and disparities in U.S. police traffic enforcement, it is necessary to examine the different types of enforcement and ways that police interact with drivers and other road users.

A. Understanding Police Traffic Enforcement

Police traffic enforcement can be categorized into three major categories: traffic injury responses, traffic safety violations, and discretionary traffic stops.[62] Additionally, there are two broadly defined stages to all enforcement: first, the initial police response up to, but not including, arrest or ticketing of the driver (the first enforcement stage), and second, from the decision to arrest or ticket the driver, including subsequent prosecution, adjudication, and penalty imposition (the second enforcement stage).

1. Traffic Injury Responses

In traffic injury responses, a victim has been harmed, frequently by a driver who made a dangerous driving choice, and police have

---

59. *See infra* Part III.

60. *See, e.g.*, Courtney Coughenour et al., *Examining Racial Bias as a Potential Factor in Pedestrian Crashes*, 98 ACCIDENT ANALYSIS & PREVENTION 96, 96-100 (2017), http://www.sciencedirect.com/science/article/pii/S000145751630361X [https://perma.cc/PDX6-9W62] (examining the potential for racial bias in driver yielding behaviors at midblock crosswalks in low and high income neighborhoods located in Las Vegas, Nevada); OTREC, *Study Examines Racial Bias at Crosswalks*, PORTLAND ST. U. (May 19, 2014), https://www.pdx.edu/clas/news/study-examines-racial-bias-crosswalks [https://perma.cc/G859-4WWG] (examining recent findings that "black pedestrians were passed by twice as many cars and waited nearly a third longer to cross than white pedestrians"); *see also* Schmitt, *supra* note 57 (providing more information about racial bias and traffic crash disparities based on age, gender, and race).

61. *See* Laura Bliss, *Vision Zero's Troubling Blind Spot*, CITYLAB (Sept. 1, 2016), http://www.citylab.com/commute/2016/09/black-lives-matter-and-vision-zero/497495 [https://perma.cc/553R-YLMX].

62. *See* CHARLES R. EPP ET AL., PULLED OVER: HOW POLICE STOPS DEFINE RACE AND CITIZENSHIP 59 (Univ. of Chi. Press 2014) (distinguishing traffic-safety and investigatory stops).

responded by pursuing a crash investigation and possible ticketing and arrest. Because the police-response is precipitated by a crash typically not witnessed by the police, racial bias by police is highly unlikely to occur initially; indeed there is little, if any, evidence of racial disparities within the first enforcement stage of traffic injury crash responses.[63] However, bias may occur in the second enforcement stage when drivers are subject to criminal misdemeanor and felony charges, as Black and Hispanic people are far more likely to be arrested and receive less favorable plea offers and harsher punishments than similarly situated White people.[64] Black and Hispanic people are also subjected to use of force by police at higher rates, even after controlling for other extralegal and legal characteristics such as income, education, and prior offenses.[65] Research that isolates traffic-related policing is needed to determine the extent and nature of racial disparities specifically in the second enforcement stage of traffic injury responses.

2. Traffic Safety Violations

Traffic safety violations are driving-offenses that are clearly defined and inherently dangerous, like texting while driving, speeding, drunk driving, and failing to yield to a vulnerable road user. For drivers caught committing traffic safety violations, there is little racial disparity in ticketing by police. Because such violations and their penalties are clearly defined, there is little room for subjectivity, giving police officers less discretion. Indeed, "the driver's race (and gender) has no relevance to the likelihood of being stopped" for a traffic safety violation; rather, it is driving behavior that determines police enforcement of most traffic-safety laws with clear connections to dangerous driving.[66] However, as with traffic injury responses, new research is needed to assess whether racial disparities exist specifically in the second enforcement stage of traffic safety violations, where drivers have been ticketed and may dispute their charge, and in other

---

63. As of March 2017, the author identified no research confirming racial disparities within the first enforcement stage of traffic injury responses by police in the United States.

64. *See* KUTATELADZE ET AL., *supra* note 18, at 3; *see also* DAVID A. HARRIS, ACLU, DRIVING WHILE BLACK: RACIAL PROFILING ON OUR NATION'S HIGHWAYS (1999), https://www.aclu.org/report/driving-while-black-racial-profiling-our-nations-highways [https://perma.cc/8K4C-CTYT] ("Today, blacks constitute [just] 13 percent of the country's drug users; [but] 37 percent of those arrested on drug charges; 55 percent of those convicted; and 74 percent of all drug offenders sentenced to prison.").

65. *See* Engel & Calnon, *supra* note 9.

66. *See* EPP ET AL., *supra* note 62, at 72.

ways engage with courts and administrative agencies in the adjudication of their alleged offense.

3. Discretionary Traffic Stops

In contrast to traffic safety violations and traffic injury responses, discretionary, or investigatory, traffic stops exhibit widespread racial disparities. Discretionary stops are typically police stops for relatively minor violations like driving too slowly or failing to signal a vehicle's turn, or for when drivers fit a certain profile or otherwise raise the suspicion of a police officer. They differ from stops for traffic safety violations by the high level of subjectivity and discretion police officers have in deciding whether, and how, to carry out a stop. "[V]irtually all of the wide racial disparity in [police traffic enforcement] is concentrated in one category of stops: discretionary stops for minor violations of the law."[67] Several studies show that Black drivers in the United States are more likely than White drivers to be searched during stops, even though those Black drivers are less likely to possess contraband,[68] and account for a "disproportionate share of traffic-stop deaths," often instigated using racially based pretexts.[69] One study found that Black men aged fifty or older are as likely as twenty-five-year-old White men to be stopped for a minor offense and investigated while driving, despite a much lower likelihood of criminal activity.[70] These disparities and police practices have been documented for several decades,[71] and in numerous cases

---

67. *Id.*

68. *See* LaFraniere & Lehren, *supra* note 8; Kia Makarechi, *What the Data Really Says About Police and Racial Bias*, VANITY FAIR (July 14, 2016, 3:09 PM), http://www.vanityfair.com/news/2016/07/data-police-racial-bias [https://perma.cc/V5ZD-FC8A] ("In San Francisco, 'although Black people accounted for less than 15 percent of all stops in 2015, they accounted for over 42 percent of all non-consent searches following stops.' This proved unwarranted: 'Of all people searched without consent, Black and Hispanic people had the lowest 'hit rates' (i.e., the lowest rate of contraband recovered).' In 2015, whites searched without consent were found to be carrying contraband at nearly two times the rate as blacks who were searched without consent.").

69. *See* Wesley Lowery, *A Disproportionate Number of Black Victims in Fatal Traffic Stops*, WASH. POST (Dec. 24, 2015), https://www.washingtonpost.com/national/a-disproportionate-number-of-black-victims-in-fatal-traffic-stops/2015/12/24/c29717e2-a344-11e5-9c4e-be37f66848bb_story.html [https://perma.cc/ZB4S-MLCV].

70. *See* EPP ET AL., *supra* note 62, at 67.

71. *See, e.g.*, *id.* at 155 (finding that Black drivers in Chicago were 270 percent more likely than White drivers to be subjected to an investigatory stop). *See generally* Kathleen M. O'Day, Comment, *Pretextual Traffic Stops: Protecting Our Streets or Racist Police Tactics?*, 23 U. DAYTON L. REV. 313 (1998) (discussing

such discretionary traffic stops by police turn deadly for the driver. In April of 2015, Walter Scott, age fifty, was shot in the back in North Charleston, South Carolina, after being stopped by a police officer for a broken taillight.[72] Three months later, Samuel DuBose, age forty-three, was shot in the head after being stopped in Cincinnati, Ohio, for lacking a front license plate on his car.[73] And in July of 2016, Philando Castile was shot and killed by a police officer near St. Paul, Minnesota, with his girlfriend and her four year old daughter in the car, while allegedly reaching for identification.[74] According to police radio transcripts, the officer stopped Mr. Castile because he believed Mr. Castile looked like a suspect in a robbery due to his "wide-set nose."[75] All three victims were African-American.

The shooting deaths of Walter Scott, Samuel DuBose, and Philando Castile represent the most tragic outcomes of discretionary traffic stops. But even when traffic stops do not turn fatal, their consequences are widespread and long lasting. Discretionary traffic stops mimic stop-and-frisk tactics common in major U.S. cities, and are part of a policy of so-called "quality of life" or "broken windows" policing, where minor offenses are targeted under the theory that this prevents major crimes.[76] Such traffic stops have become known as "broken taillight policing," where a violation relatively insignificant to safety is aggressively and subjectively enforced.[77] These practices contribute significantly to the disparate stops of African-American

---

pretextual stops based on race and instances where police practices have been documented as discriminatory).

72. *See* Mark Berman, *South Carolina Police Officer in Walter Scott Shooting Indicted on Murder Charge*, WASH. POST (June 8, 2015), https://www.washingtonpost.com/news/post-nation/wp/2015/06/08/police-officer-who-shot-walter-scott-indicted-for-murder [https://perma.cc/BTP9-H6QJ].

73. *See* Tana Weingartner, *Campus Cop on Trial for Shooting Death During Routine Traffic Stop*, NPR (Oct. 25, 2016, 4:37 AM), http://www.npr.org/2016/10/25/499224917/campus-cop-on-trial-for-shooting-death-during-routine-traffic-stop [https://perma.cc/ME5Z-JWPU].

74. Andy Mannix, *Police Audio: Officer Stopped Philando Castile on Robbery Suspicion*, STAR TRIB. (July 12, 2016, 7:55 PM), http://www.startribune.com/police-audio-officer-stopped-philando-castile-on-robbery-suspicion/386344001 [https://perma.cc/8XZ7-YU7H].

75. *Id.*

76. *See* Nick Pinto, *NYPD Watchdog Shatters Bratton's 'Broken Windows'–Now What?*, VILLAGE VOICE (June 28, 2016, 9:30 AM), http://www.villagevoice.com/news/nypd-watchdog-shatters-brattons-broken-windows-now-what-8796746 [https://perma.cc/A5PD-G87L].

77. *See* Jamelle Bouie, *Broken Taillight Policing*, SLATE (Apr. 8, 2015, 2:53 PM), http://www.slate.com/articles/news_and_politics/politics/2015/04/north_charleston_shooting_how_investigatory_traffic_stops_unfairly_affect.html [https://perma.cc/6VX8-FVUK].

pedestrians, bicyclists, and motorists. In Tampa, Florida, almost eighty percent of bicycle-related tickets issued by police during a three-year period were to African-Americans, even though African-Americans made up only twenty-five percent of the population.[78] Similar disparities in enforcement against bicyclists exist throughout New York City.[79]

Despite significant racially disparate results, our courts have explicitly validated some of the practices that cause the disparities. In the 1996 case *Whren v. United States*, the Supreme Court decided the constitutionality of pretextual traffic stops, where police stop and search vehicles based on actual or alleged minor traffic infractions.[80] The Court held that "any traffic offense committed by a driver was a legitimate legal basis for a stop, regardless of the officer's subjective state of mind."[81] The American Civil Liberties Union ("ACLU") was highly critical of the ruling and stated that:

> In practice, the *Whren* decision has given the police virtually unlimited authority to stop and search any vehicle they want. Every driver probably violates some provision of the vehicle code at some time during even a short drive, because state traffic codes identify so many different infractions. For example, traffic codes define precisely how long a driver must signal before turning . . . . Vehicle equipment is also highly regulated. A small light bulb must illuminate the rear license plate. Tail lights must be visible from a particular distance . . . . And all equipment must be in working order at all times. If the police target a driver for a stop and search, all they have to do to come up with a pretext for a stop is follow the car until the driver makes an inconsequential error or until a technical violation is observed.[82]

---

78. *See* Alexandra Zayas & Kameel Stanley, *How Riding Your Bike Can Land You in Trouble with the Cops–If You're Black*, TAMPA BAY TIMES (Apr. 17, 2015, 3:46 PM), http://www.tampabay.com/news/publicsafety/how-riding-your-bike-can-land-you-in-trouble-with-the-cops---if-youre-black/2225966 [https://perma.cc/SBR7-5P9M].

79. *See* Harry Levine & Loren Siegel, The Marijuana Arrest Research Project, Presentation at CUNY School of Law Event, Summons: The Next Stop and Frisk (Apr. 24, 2014), http://marijuana-arrests.com/docs/Criminal-Court-Summonses-in-NYC--CUNY-Law-School-April-24-2014.pdf [https://perma.cc/9MFF-SFLE]. In New York City, between 2008 and 2011, an estimated twelve of the fifteen neighborhoods with the most summonses for riding on the sidewalk were predominantly Hispanic or African-American, while fourteen of the fifteen with the fewest were primarily White. *Id.*

80. 517 U.S. 806, 813-14 (1996).

81. *See* HARRIS, *supra* note 64.

82. *Id.*

Still, despite the Court's validation of pretextual stops, many police practices related to discretionary stops have been found to violate the First Amendment (including police action punishing people for "talking back to officers" and "recording public police activities" in connection with stops), the Fourth Amendment (including police using excessive force, stopping and detaining people without reasonable suspicion, or arresting people without probable cause, in other words, failing to legally perform so-called *Terry* stops),[83] and the Fourteenth Amendment (including police exhibiting racial bias in stops).[84] Moreover, widespread use of discretionary stops and broken taillight policing by police has no proven traffic safety benefit.[85] It likely does nothing to deter dangerous driving or reduce the carnage of traffic fatalities and injuries on U.S. roads. The ACLU argues that, for the related policing practice of stop-question-and-frisk, "[n]o research has ever proven the effectiveness of New York City's stop-and-frisk regime, and the small number of arrests, summonses, and guns recovered demonstrates that the practice is ineffective."[86] The ALCU goes on to argue that crime data also does not support the claim that the practice has made New York City safer: "While violent crimes fell 29 percent in New York City from 2001 to 2010, other large cities experienced larger violent crime declines without relying on stop and frisk abuses: 59 percent in Los Angeles, 56 percent in New Orleans, 49 percent in Dallas, and 37 percent in Baltimore."[87]

The results of these discretionary and investigatory stops are the disparate stopping, ticketing, and arresting of African-American drivers, bicyclists, and pedestrians, which "erode individual liberty, undermine democratic equality, and divide local communities by

---

83. *See* Arizona v. Johnson, 555 U.S. 323, 330 (2009) (describing the Court's framework for assessing the constitutionality of investigatory stops). *See generally* Terry v. Ohio 392 U.S. 1, 24 (1968).

84. *See* CIVIL RIGHTS DIV., U.S. DEP'T OF JUST., INVESTIGATION OF THE FERGUSON POLICE DEPARTMENT 16, 24, 63 (2015), https://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/03/04/ferguson_police_department_report.pdf [https://perma.cc/CV48-7ZU5] (finding violations of the First, Fourth, and Fourteenth Amendments by the Ferguson, Mo. Police Department).

85. *See infra* Section IV.B.

86. *Stop-and-Frisk Myth Busters*, NYCLU (Aug. 30, 2012), https://www.nyclu.org/sites/default/files/Mythbusters_08.30.12.pdf [https://perma.cc/A6L5-XEMC]. For a detailed analysis of broken taillight policing, see HARRIS, *supra* note 64.

87. *See Stop-and-Frisk Myth Busters*, *supra* note 86. For additional information showing the lack of crime-reduction from stop-and-frisk practices, see Michael P. Venutra et al., *Donald Trump Touted the Merits of Stop-and-Frisk. Here Are the Facts*, DNAINFO (Nov. 3, 2016, 4:59 PM), https://www.dnainfo.com/new-york/20160927/east-harlem/donald-trump-stop-and-frisk-hillary-clinton-unconstitutional-donald-trump-presidential-debate-nypd [https://perma.cc/82U9-92XC].

income, race, and ethnicity."[88] Discretionary stops, where a police officer decides to stop a driver based on physical characteristics like a "wide-set nose",[89] or because a person is bicycling in a predominantly African-American neighborhood, contribute to what is known as race-making practices.[90] These practices reinforce racist stereotypes about who is likely to engage in illegal activity, and signal to Black residents that they should stay away from certain predominantly White and higher-income neighborhoods. Broken taillight policing criminalizes non-violent and non-criminal behavior, and has the perverse effect of making drivers feel less safe and, far too often, ends an individual's life instead of saving a life.

From a public traffic safety perspective, the consequences of widespread discretionary traffic stops are that enforcement resources are spent on unwarranted stops, vehicle searches, and arrests, which do little, if anything, to deter dangerous driving, and leave fewer resources to respond effectively to traffic crashes involving injuries and to perform traffic safety violation stops for more serious dangerous driving offenses like drunk driving, speeding, failing to use due care, failure to yield, and texting while driving. These offenses are chronically under-enforced[91] and result in the deaths and injuries of thousands every month across the United States.[92] They are also the most prevalent factors among the group of driver actions that, when combined, contribute to ninety-four percent of U.S. crashes.[93]

---

88. EPP ET AL., *supra* note 62, at 159.

89. The police officer who stopped and eventually shot Philando Castile described Mr. Castile's "wide-set nose" as looking like that of a robbery suspect. Mannix, *supra* note 74.

90. *See, e.g.*, Raygine DiAquoi, Dir. of the Office of Diversity Culture & Inclusion & Assistant Professor of Clinical Sociomedical Scis., Mailman Sch. of Pub. Health, Address at the Columbia University Food for Thought Seminar, Symbols in the Strangefruit Seeds: What the Talk Black Parents Have with Their Sons Tells Us About Racism (Oct. 5, 2016), https://livestream.com/mailman/events/6428228 [https://perma.cc/CB98-4JQQ].

91. For under-enforcement of texting while driving, see Editorial, *Adults Need to Turn off the Phone While Driving*, DAY (June 22, 2010, 5:42 AM), http://www.theday.com/article/20100622/OP01/306229963 [https://perma.cc/K8UR-A3NJ]. For under-enforcement of alcohol-impaired driving, see LAURENCE H. ROSS, CONFRONTING DRUNK DRIVING: SOCIAL POLICY FOR SAVING LIVES (1994), and Laurence H. Ross, *Social Control Through Deterrence: Drinking-and-Driving Laws*, 10 ANN. REV. SOC. 21 (1984) [hereinafter *Social Control Through Deterrence*]. For under-enforcement of other vehicular offenses, see TRANSP. ALTERNATIVES, JUSTICE DENIED: NEW YORK CITY'S DISTRICT ATTORNEYS PLEAD OUT OF VISION ZERO 11 (2015), https://www.transalt.org/sites/default/files/news/reports/2015/Justice_Denied_report.pdf [https://perma.cc/9PCF-KX2U].

92. *See supra* Part I.

93. *See* NAT'L CTR. FOR STAT. & ANALYSIS, *supra* note 5.

The inefficiencies and racial disparities in current traffic enforcement practices require a new approach. In order to achieve the Vision Zero goal of eliminating traffic fatalities and serious injuries, traffic enforcement must focus solely on responding efficiently to all injurious and fatal traffic crashes and on the traffic safety violations that cause the most physical harm.

IV. DETERRENCE AND DANGEROUS DRIVING

A. Mothers Against Drunk Driving: Inspiration for Effective Enforcement

Despite the deep inequities that result from certain police enforcement, traffic enforcement can, when used appropriately, contribute significantly to the cultural change necessary to reduce dangerous driving behavior, traffic fatalities, and injuries. The effort in the United States to eliminate drunk and alcohol impaired driving provides a useful example. Since the early 1980s, the annual number of drunk driving deaths in the United States has decreased from approximately 25,000 to nearly 10,000 in 2013.[94] This is attributed to increased frequency and certainty of apprehension for drunk driving and the public perception of increased risk of apprehension. It involved new legal sanctions, a lower maximum blood alcohol content allowed, high visibility enforcement such as sobriety checkpoints, repeated declarations by police and prosecutors that drunk driving was not tolerated, public awareness campaigns, and victims-based advocacy.[95] The cultural change was led by the group Mothers Against Drunk Driving ("MADD"), born out of tragedy after founder Candace Lightner's thirteen year old daughter, Cari, was

---

94. *Compare* NAT'L CTR. FOR STAT. & ANALYSIS, U.S. DEP'T OF TRANSP., TRAFFIC SAFETY FACTS 1993: ALCOHOL (1993), https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/93F1 [https://perma.cc/9CVP-3365], *with* NAT'L CTR. FOR STAT. & ANALYSIS, U.S. DEP'T OF TRANSP., TRAFFIC SAFETY FACTS 2013: ALCOHOL-IMPAIRED DRIVING (2014), https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812102 [https://perma.cc/46GU-K6TR].

95. *See infra* Section IV.B. In addition to these measures, MADD has called for the following measures to end alcohol impaired driving, which contributes to approximately twenty-five percent of U.S. traffic fatalities: in-car breathalyzers for all drunk drivers to prove they are sober before their car will start; mandatory blood alcohol testing for death and serious injury crashes; open container restrictions in vehicles; enforcement of underage drinking laws; and development of a nationwide legal limit of .08 blood alcohol content while operating a motor vehicle. *See MADD's Campaign*, MADD, http://www.madd.org/drunk-driving/campaign [https://perma.cc/RS54-U7Z4?type=image].

killed by a drunk driver.[96] Formed in 1980, MADD helped make drunk driving socially unacceptable. The cultural change was also facilitated by several different level government entities across the United States that became involved and made repeated public admonishments against drunk driving.[97] Despite criticism by some that MADD increasingly focused on excessively punitive penalties,[98] the efforts to eliminate drunk driving, still led by MADD today, and the remarkable reduction in drunk driving deaths since the 1980s can provide insight into how enforcement measures can deter other types of dangerous driving.

A 2016 survey by the National Safety Council showed that "[a]lthough 83% of drivers surveyed believe driving is a safety concern, a startling number say they are comfortable speeding (64%) [and] texting either manually or through voice controls (47%)," whereas far fewer (10%) say they are comfortable driving after they feel they've had too much alcohol.[99] This indicates that, while drunk driving has become socially unacceptable, most other forms of dangerous driving have not.

B. Understanding Deterrence

To understand the factors that have contributed to the reduction of drunk driving-related deaths by over fifty percent since 1980,[100] and how they may be augmented and applied to other types of dangerous driving, this Section will examine deterrence theory and the factors known to create both individual and general public deterrence of harmful and illegal acts.

Deterrence can be understood as the threat or expectation of undesirable consequences discouraging individuals from certain behavior.[101] Such consequences range from a civil monetary fine, to

---

96. *See May 03 1980: MADD Founder's Daughter Killed by Drunk Driver*, HISTORY.COM (May 3, 2009), http://www.history.com/this-day-in-history/madd-founders-daughter-killed-by-drunk-driver [https://perma.cc/7BGV-FJYM].

97. *See, e.g., Drunk Driving*, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., https://www.nhtsa.gov/risky-driving/drunk-driving [https://perma.cc/66V7-AJSW]; *Safety Report on Eliminating Impaired Driving–Frequently Asked Questions*, NAT'L TRANSP. SAFETY BOARD (May 14, 2013), https://www.ntsb.gov/news/events/Pages/2013_Impaired_Driving_BMG-FAQs.aspx [https://perma.cc/E6VM-N5MX].

98. *See, e.g.*, *MADD Struggles to Remain Relevant*, WASH. TIMES (Aug. 6, 2002), http://www.washingtontimes.com/news/2002/aug/6/20020806-035702-2222r [https://perma.cc/NYQ3-UGBB].

99. *2016 Fatality Estimates*, *supra* note 50.

100. *See supra* note 94 and accompanying text.

101. *See Deterrence*, MERRIAM-WEBSTER, https://www.merriam-webster.com/dictionary/deterrence [https://perma.cc/S6V5-43KY].

incarceration, to points on your driver's license and to being viewed negatively by other people—particularly family and friends.

1. Initial vs. Residual Deterrence and Specific vs. General Deterrence

When assessing the efficacy of deterrence measures, we distinguish between initial and residual deterrence, and between specific and general deterrence. Initial deterrence is achieved when the threat of legal consequences temporarily discourages potential offenders from an illegal act, while residual deterrence is achieved when such threat discourages potential illegal acts over a longer period of time.[102] Specific deterrence, also known as individual deterrence, is when the threat of future legal consequences discourages an individual, who has already experienced legal or other forms of undesired consequences, from re-committing a particular act, in other words, from re-offending; by contrast, general deterrence is achieved when the threat of mainly legal consequences discourages numerous individuals who have never experienced such consequences, typically the general public, from committing an offense.[103] The least effective deterrent outcome is when a policy measure achieves only initial specific deterrence—impacting a single person for a short period of time—and the optimal outcome is achieving residual general deterrence where the general public is disincentivized for a longer period of time from committing a harmful act.[104]

2. Perceptions of Likely Apprehension and Legal Consequences

According to basic deterrence theory, individuals are more likely to be deterred when legal or other negative consequences are likely, administered swiftly after an illegal act, and severe enough to outweigh the rewards of that illegal act; individuals are less likely to be deterred when legal consequences are unlikely, remote in time, and their severity is tolerable by that person.[105] However, individuals sometimes act irrationally, impulsively, and emotionally,[106] have

---

102. *See generally* Lawrence W. Sherman, *Police Crackdowns: Initial and Residual Deterrence*, 12 CRIME & JUST. 1, 2-3 (1990).

103. *See* Mark C. Stafford & Mark Warr, *A Reconceptualization of General and Specific Deterrence*, 30 J. RES. CRIME & DELINQUENCY 123, 123 (1993).

104. *See* Sherman, *supra* note 102.

105. *See* Daniel S. Nagin, *Deterrence: A Review of the Evidence by a Criminologist for Economists*, 5 ANN. REV. ECON. 83, 85 (2013).

106. *See* Alex R. Piquero et al., *Elaborating the Individual Difference Component in Deterrence Theory*, 7 ANN. REV. L. & SOC. SCI. 335, 335, 356 (2011) (providing a more context-based analysis of the rational choice model with regards to deterrence).

different moral inhibitions,[107] and often misjudge the actual legal consequences of illegal activity,[108] making basic deterrence theory less reliable. Ultimately, whether individuals are deterred depends not on the potential legal consequences, such as a fine or incarceration, but on their perceptions of such consequences, as well as their mental state at the time of an act, their moral inhibitions, and their social bonds. Individuals construct their risk assessments of consequences based on public threat communication (e.g., public sanction awareness campaigns and police visibility) and on personal and vicarious experiences, including family and friends—which means individuals are heavily influenced by what is considered socially acceptable.[109] Most importantly, empirical research shows that perceived "certainty of apprehension [and legal consequences], not the severity of the ensuing legal consequence, is the more effective deterrent."[110] Indeed, increased perceived certainty of apprehension and legal consequences has consistent general deterring effects on drunk driving, speeding, and running a red light,[111] whereas increased severity of legal consequences has no reliable deterring effects.[112] Methods to achieve such perceptions may include publicized police checkpoints, publicized and frequent police enforcement actions, speed and red light cameras, and high profile public awareness campaigns about the consequences of dangerous driving.[113]

Additionally, the fact that optimal deterrence depends primarily on the perceived certainty of apprehension and legal consequences "has important policy implications, among which are that lengthy prison

---

107. *See* Alex Piquero & Raymond Paternoster, *An Application of Stafford and Warr's Reconceptualization of Deterrence to Drinking and Driving*, 35 J. RES. CRIME & DELINQUENCY 3, 3 (1998).

108. *See* Bill McCarthy, *New Economics of Sociological Criminology*, 28 ANN. REV. SOC. 417, 420 (2002).

109. *See* Piquero & Paternoster, *supra* note 107.

110. Daniel S. Nagin, *Deterrence in the Twenty-First Century*, 42 CRIME & JUST. 199, 199 (2013), http://www.journals.uchicago.edu/doi/pdfplus/10.1086/670398 [https://perma.cc/W4V9-BYAF].

111. *See* William DeJong & Ralph Hingson, *Strategies to Reduce Driving Under the Influence of Alcohol*, 19 ANN. REV. PUB. HEALTH 359, 364-65 (1998); Bryan E. Porter et al., *Turning Off the Cameras: Red Light Running Characteristics and Rates After Photo Enforcement Legislation Expired*, 50 ACCIDENT ANALYSIS & PREVENTION 1104, 1110 (2013) (showing how deterrent effect of red light cameras that had been turned off decreased as time passed and awareness of lack of enforcement increased).

112. *See* Dieter Dölling et al., *Is Deterrence Effective? Results of a Meta-Analysis of Punishment*, 15 EUR. J. ON CRIM. POL'Y & RES. 201, 210-12 (2009); Nagin, *supra* note 110.

113. For discussion and more examples, see *infra* Section V.A.

sentences and mandatory minimum sentencing cannot be justified on deterrence."[114]

3. Legitimacy: Justice as Fairness[115]

In addition to perceptions of apprehension and legal consequences, people's perception of a policy as just and legitimate is also critical to achieve optimal deterrence. Legal consequences that the public feels are unjust can erode trust in the legal system and result in non-enforcement.[116] For example, the New York Police Department ("NYPD") has largely ignored jaywalking in NYC for decades despite its near universal prevalence. And when then Mayor Rudolph Giuliani instructed police officers to actively enforce jaywalking, a statutory offense, many officers simply refused to comply, as did the public at large.[117] Penalizing jaywalking in NYC was and is generally considered unjust and unfair by New Yorkers; consequently, the attempt to do so failed. Perceived unjust legal consequences can also result in more "not guilty" pleas, more requests for jury trials, court backlogs, lower conviction rates, and greater strains throughout the criminal justice system.[118]

Finally, a powerful predictor of compliance with a policy or law is whether such measure is viewed as legitimate. Procedural justice, as shown by Professor Tracy L. Meares, is the most important indicator of that perceived legitimacy or illegitimacy.[119] Four factors determine whether a police traffic stop or enforcement policy is viewed as procedurally just and, by extension, as fair and legitimate. The first is

---

114. Nagin, *supra* note 110. A need exists for research to determine if there is a minimum level of penalty, in the form of incarceration or monetary sanctions, below which a lesser general deterrent effect is achieved or individual re-offending increases, and above which any further increase has no additional deterring effect.

115. The Rawlsian concept of justice as fairness stipulates that every individual has an equal right to basic liberties, and without such fair and equal rights justice cannot be realized. *See generally* JOHN RAWLS, A THEORY OF JUSTICE (original ed. 1971).

116. *See Social Control Through Deterrence*, *supra* note 91, at 33.

117. *See* Kit R. Roane, *Police Balk at Crackdown on Jaywalkers by Giuliani*, N.Y. TIMES (Feb. 8, 1998), http://www.nytimes.com/1998/02/08/nyregion/police-balk-at-crackdown-on-jaywalkers-by-giuliani.html [https://perma.cc/Z3GV-W6XA].

118. *See generally Social Control Through Deterrence*, *supra* note 91, at 30-32.

119. *See* Tracey Meares, *The Legitimacy of Police Among Young African-American Men*, 92 MARQ. L. REV. 651, 659 (2009); Tracey L. Meares, Professor, Yale Law Sch., Procedural Justice: The Secret Ingredient?, Address at Community Justice 2014 (Apr. 23, 2014) [hereinafter Procedural Justice: The Secret Ingredient?], http://www.courtinnovation.org/research/procedural-justice-secret-ingredient-tracey-l-meares-community-justice-2014 [https://perma.cc/6VT4-9FKP]; *see also* POLICE EXEC. RESEARCH FORUM, LEGITIMACY AND PROCEDURAL JUSTICE: A NEW ELEMENT OF POLICE LEADERSHIP (Craig Fischer ed. 2014), http://www.policeforum.org/free-online-documents [https://perma.cc/88KP-UXAJ].

voice—whether affected communities have been able to play a formative role in the development of the policy, and whether individuals who are stopped have an opportunity to express to the officer the circumstances of their actions preceding the stop.[120] The second is decision neutrality and fairness—whether the stop, ticketing, arrest, or adjudication are performed fairly and without bias.[121] The third is respectful treatment—whether individuals believe they are treated with dignity and respect when stopped.[122] And the fourth is trustworthiness—whether stopped individuals perceive the officer or other enforcement agent as trustworthy.[123] Policing that meets these four criteria can generally be described as procedurally just and should be the goal of all enforcement agencies that seek to increase compliance with traffic safety laws and reduce dangerous driving. Research shows that when individuals perceive an enforcement encounter and adjudication as fair and legitimate, they are more likely to comply and follow that law in the future, regardless of the outcome of their initial case or ticketing.[124]

V. ACHIEVING EFFECTIVE AND EQUITABLE TRAFFIC ENFORCEMENT IN THE AGE OF VISION ZERO

"Policing cannot be judged only by an absence of crime, it must be measured by the presence of justice."[125]

For cities and jurisdictions that have adopted Vision Zero, and for those who share its goals, traffic enforcement should primarily be devoted towards achieving the greatest long-lasting and general public deterrence against dangerous driving, in order to eliminate traffic fatalities and serious injuries. Additionally, jurisdictions must recognize that unconstitutional and illegitimate policing, and racial disparities in discretionary traffic stops, are both morally unacceptable and counterproductive to deterring dangerous driving. Having explored lessons of police traffic enforcement and deterrence in Part IV of this Article, this Part will advance ways of applying such lessons in the traffic enforcement context and argue that these

120. *See* Procedural Justice: The Secret Ingredient?, *supra* note 119.
121. *See id.*
122. *See id.*
123. *See id.*
124. *Id.*
125. *See LAPD Chief Charlie Beck's Testimony: President Obama's Task Force on 21st Century Policing*, L.A. CMTY. POLICING, http://www.lacp.org/2015-Articles-Main/020615-ChiefBeck-on21stCenturyPolicing.htm [https://perma.cc/5VST-49M5] (last visited Apr. 22, 2017).

methods must be the focus of Vision Zero if its goals are to be achieved.

A. Achieving Effective Traffic Enforcement: Deterrence Lessons Applied

As discussed in Part IV, lengthy prison sentences and mandatory minimum sentencing laws are unlikely to deter dangerous driving. Instead, optimally effective deterrence measures must create the public perception that apprehension for illegal activity is likely, that enforcement is consistent and sustained, that legal consequences for criminal activity are probable, and that enforcement policy, legal sanctions, and interactions with enforcement agents are just, legitimate, and fair. Deterrence measures must also consider the resources and abilities of police and other enforcement entities to impose legal sanctions. Indeed, "[enforcement] should be highly visible, sustained and widespread. If enforcement is not consistent and visible, drivers will revert to dangerous behavior."[126]

In applying these lessons, enforcement agencies should significantly increase high-visibility deterrence measures, including sobriety checkpoints to address impaired driving, high-profile enforcement actions against reckless driving preceded and followed by media campaigns, "pre-enforcement" actions such as widespread distribution of informational palm cards that educate drivers about dangerous driving choices,[127] and vocal admonishment by agency leaders against dangerous driving, which includes using press conferences, public statements, and media dissemination to raise general public awareness of legal consequences. These measures must be widespread, consistent, and sustained, which means they must be applied as part of routine hourly and daily traffic enforcement, as opposed to occasional seasonal actions, and at similar high levels of application by adjacent police precincts and jurisdictions in order to create a uniform and broad perception of

---

126. TRANSP. ALTERNATIVES, PROVEN TACTICS, BETTER ENFORCEMENT: HOW TO SAVE LIVES ON NYC STREETS 11 (2013), https://www.transalt.org/sites/default/files/news/reports/2013/Proven_Tactics,_Better_Enforcement_Report.pdf [https://perma.cc/9UWH-YA8P]; *see also* Jeremy D. Davey & James E. Freeman, *Improving Road Safety Through Deterrence-Based Initiatives*, 11 SULTAN QABOOS U. MED. J. 29 (2011), http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3074684 [https://perma.cc/TRD7-E9KA].

127. *See NYC Steps Up Pedestrian Safety Efforts*, OCCUPATIONAL HEALTH & SAFETY (Oct. 28, 2016), https://ohsonline.com/articles/2016/10/28/nyc-steps-up-pedestrian-safety-efforts.aspx [https://perma.cc/49QX-NXYR].

likely apprehension for dangerous driving.[128] Unarmed enforcement agents typically tasked with issuing only parking-related tickets, should be empowered to enforce non-felonious traffic safety offenses like speeding and failing to yield. Automated enforcement technology, like speed cameras, discussed later in this Article, may be the most effective tool to achieve widespread and consistent traffic enforcement and should be applied broadly.

To ensure these measures are legitimate and perceived as just by drivers and the general public, enforcement agencies should involve the public through public service announcements and awareness campaigns that explain the safety aspects of relevant measures, and should precede select enforcement actions with warnings, giving drivers the opportunity to self-adjust behavior. To achieve optimal legitimacy, enforcement agencies should be highly transparent and share aggregate case data and enforcement procedures publicly online as frequently as possible. Above all, traffic enforcement must be data-driven, targeting the most dangerous actions that contribute to the most crashes. This means targeting offenses like speeding, drunk driving, failing to yield, and texting by drivers, and focusing far less on bicycling on the sidewalk, tinted windows, and other offenses relatively insignificant to traffic safety.[129] It also involves severely reducing and possibly eliminating so-called quality-of-life and broken taillight enforcement.[130]

For police responding to traffic injury crashes, achieving swift adjudication and legal consequences should be prioritized for

---

128. *See* TRANSP. ALTERNATIVES, DEATH, DANGER AND IGNORING THE DATA: HOW THE NYPD IS GETTING VISION ZERO WRONG 5, 10 (2016), https://www.transalt.org/sites/default/files/news/reports/2016/Death_Danger_and_Ignoring_the_Data_How_the_NYPD_is_Getting_Vision_Zero_Wrong_2.pdf [https://perma.cc/8J34-TE8C]; *see also* NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., U.S. DEP'T OF TRANSP., HIGH-VISIBILITY ENFORCEMENT ON DRIVER COMPLIANCE WITH PEDESTRIAN RIGHT-OF-WAY LAWS 30 (2013), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/811786.pdf [https://perma.cc/WL35-YR76]; NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., U.S. DEP'T OF TRANSP., THE EFFECT OF HIGH-VISIBILITY ENFORCEMENT ON DRIVER COMPLIANCE WITH PEDESTRIAN RIGHT-OF-WAY LAWS 1, 17-18 (2017), https://one.nhtsa.gov/staticfiles/nti/pdf/812364_HighVisibilityEnfDriverCompPeds4YearFollowUp.pdf [https://perma.cc/4EPJ-XQDK] (indicating that high visibility enforcement continues to have a deterring effect on dangerous driving four years after enforcement, with no similar enforcement during the interim).

129. *See* N.Y. STATE DEP'T OF MOTOR VEHICLES, SUMMARY OF MOTOR VEHICLE CRASHES 4 tbl. 7 (2015), https://dmv.ny.gov/statistic/2014-nyscrashsummary.pdf [https://perma.cc/4ZM8-J2CM] (showing the negligible effect tinted windows have on traffic crashes, injuries, and fatalities).

130. See *supra* Section III.A.3 for a discussion about the role and impacts of quality-of-life and broken taillight enforcement.

maximum deterrence, even at the expense of seeking more severe penalties; resources that are freed up as a consequence should be redirected to achieve more widespread enforcement. Agencies should consider expedited and far more frequent drivers' license suspensions and revocations, especially against people repeatedly convicted of dangerous driving offenses.[131] Police should also increase the capacity to quickly investigate traffic injury crashes to improve the ability to penalize drivers, and to raise the expectation of swift apprehension and legal consequences.[132]

B. Automated Enforcement Technology

Despite positive deterrence effects from widespread and high visibility traffic enforcement, the likelihood of apprehension for driving offenses is limited by the size and resources of the police force.[133] Even during police crackdowns, the likelihood of apprehension for speeding, drunk driving, red light running, and unlicensed driving remains low. For example, one study estimated that approximately thirteen million violations occurred in one year across the United States by drivers failing to stop when a school bus stop-arm was engaged, with the vast majority of those violations unenforced.[134] Additionally, the likelihood of apprehension for driving offenses is limited by the willingness of police to apprehend dangerous drivers, officers' considerations of disruptions to traffic flow, safety issues related to stopping a driver, and responsibilities related to ticketing a driver, in the form of paperwork and potential

---

131. Enforcement agencies should also consider requiring the surrender of vehicle registration and license plates from repeat unlicensed driving offenders, given that unlicensed drivers are more than two-and-a-half times as likely to be involved in a fatal crash compared to licensed drivers. *See* Albert Sabat, *Highest Fatality Rates from Unlicensed Drivers in California*, ABC NEWS (Jan. 17, 2013), http://abcnews.go.com/ABC_Univision/News/unlicensed-drivers-higher-rates-fatal-crashes-california/story?id=18239481 [https://perma.cc/6BNQ-LZ3V]. Moreover, approximately half of the drivers who leave the scene of a fatal crash are unlicensed to drive. *See* AAA FOUND. FOR TRAFFIC SAFETY, UNLICENSED TO KILL 14 (2011), https://www.aaafoundation.org/sites/default/files/2011Unlicensed2Kill.pdf [https://perma.cc/97QM-2UEW].

132. *See, e.g.*, VISION ZERO: YEAR THREE REPORT, *supra* note 1, at 42 (discussing how the NYPD is considering expanding the criteria for when their Collision Investigation Squad responds to traffic injury crashes and conducts an investigation).

133. *See generally* Bruce L. Benson et al., *Can Police Deter Drunk Driving?*, 32 APPLIED ECON. 357, 357-64 (2000).

134. *See* Bryan J. Katz, Camera Enforcement of School Bus Stop Arm Violations, Presentation at the NHTSA Symposium, School Transportation Safety: Thinking Outside the Bus (Dec. 1, 2016), https://one.nhtsa.gov/nhtsa/symposiums/december2016/assets/Camera_Enforcement_School_Bus_Stop_Arm_Bar_Violations_Presentation.pdf [https://perma.cc/W3KJ-CSVC].

court appearances.[135] Finally, implicit racial bias and use of force with potential lethal consequences are inherent risks of police traffic stops.[136]

Automated enforcement technology provides a highly effective solution to address the challenges and limitations of traditional traffic enforcement.[137] Today, speed and red light enforcement cameras are the most common automated enforcement technologies, while more recent types include cameras that detect offenses for failing to yield, illegally occupying a bus lane, and failing to stop for a stopped school bus with students boarding or exiting.[138] The safety benefits from these technologies are significant. In cities in Washington State with speed enforcement cameras, speeds dropped by thirty percent during the first year of a school zone speed safety program and violations decreased by eighty-two percent in the first six months.[139] In NYC, the typical speed enforcement camera reduces speeding violations by fifty percent within its first year of operation,[140] and reduces injury crashes within five hundred feet of a fixed speed camera by over

---

135. *See* Laurence H. Ross, *The Neutralization of Severe Penalties: Some Traffic Law Studies*, 10 LAW & SOC'Y REV. 403, 412 (1976); Joseph A. Schafer & Stephen D. Mastrofski, *Police Leniency in Traffic Enforcement Encounters: Exploratory Findings from Observations and Interviews*, 33 J. CRIM. JUST. 225, 226 (2005).

136. *See supra* Section III.A.3.

137. *See generally* KATHY LINDQUIST, WASH. STATE DEP'T OF TRANSP., AUTOMATED ENFORCEMENT SYSTEMS: SYNTHESIS (2007), http://www.wsdot.wa.gov/NR/rdonlyres/A5E3943E-5C43-4966-89ED-E0F12EE2A7FA/0/AutomatedEnforcementSynthesisTrepanier605.pdf [https://perma.cc/749S-BPAY] (a synopsis of several studies showing reductions in dangerous driving following the implementation of automated enforcement systems).

138. *See Law Enforcement–Vision Zero*, N.Y.C., http://www.nyc.gov/html/visionzero/pages/law-enforcement/law-enforcement.html [https://perma.cc/5PT8-TX95]; *Vision Zero*, AM. TRAFFIC SOLUTIONS, https://www.atsol.com/vision-zero [https://perma.cc/67TM-S47C]. For other types of increasingly popular technologies capable of detecting and reporting dangerous driving, including so-called in-vehicle "black boxes" and applications using mobile phone sensors, see N.Y.C. TAXI & LIMOUSINE COMM'N, VEHICLE SAFETY TECHNOLOGY: SECOND REPORT (2016), http://www.nyc.gov/html/tlc/downloads/pdf/second_vehicle_safety_technology_report.pdf [https://perma.cc/VRW8-DS48].

139. *See* CITY OF DES MOINES, SCHOOL SAFETY PROGRAM: 2012 ANNUAL REPORT, http://desmoineswa.gov/DocumentCenter/View/3009 [https://perma.cc/WHN8-U3T9]; Nicholas Deshais, *Spokane to Test Speed Cameras in School Zones*, SPOKESMAN-REV. (Dec. 11, 2014), http://www.spokesman.com/stories/2014/dec/11/spokane-to-test-speed-cameras-in-school-zones [https://perma.cc/HHB7-SN7Z].

140. *See Mayor Bill de Blasio Announces 2015 Was Officially the Safest Year Ever on New York City Streets*, N.Y.C. (Jan. 19, 2016), http://www1.nyc.gov/office-of-the-mayor/news/069-16/mayor-bill-de-blasio-2015-was-officially-safest-year-ever-new-york-city-streets [https://perma.cc/4TMA-SG7F].

thirteen percent.[141] Other cities which use speed enforcement cameras have reduced their fatal and serious injury crashes by thirty to forty percent.[142] Red light cameras have reduced the number of injury and fatal crashes by thirty percent, even though their effect on the number of total crashes is uncertain.[143] Part of the reason for these significant reductions is that automated cameras can identify far more violations than individual enforcement officers. In 2016, speed enforcement cameras in NYC caught ten times as many speeding drivers as police officers did, issuing 1.37 million tickets compared to the 137,000 issued by police officers,[144] a difference compounded by the fact that state law only allowed the operation of a small number of cameras during limited days and hours—restrictions that are common in the United States, where automated enforcement has faced political opposition in some jurisdictions.[145] These numbers show that speeding is a widespread and constant occurrence, with police officers likely catching less than one percent of all speeding violations.[146]

---

141. *See* Jason Mick, *Cash Grab or Life Saver? NYC Speeding Ticket Cameras Scrutinized in New Report*, DAILYTECH (Feb. 25, 2015, 5:04 PM), *http://www.dailytech.com/Cash+Grab+or+Life+Saver+NYC+Speeding+Ticket+Cameras+Scrutinized+in+New+Report/article37198.htm* [https://perma.cc/65X9-NGAA] (data comparing the last four months of 2014 and the same period of 2013).

142. Cecilia Wilson et al., *Do Speed Cameras Reduce Road Traffic Crashes, Injuries and Deaths?*, COCHRANE (Nov. 10, 2010), http://www.cochrane.org/CD004607/INJ_do-speed-cameras-reduce-road-traffic-crashes-injuries-and-deaths [https://perma.cc/3XRE-EG43].

143. Amy Aeron-Thomas & Stephane Hess, '*Red-light Cameras' Cut Casualty Crashes at Junctions with Traffic Lights*, COCHRANE (Apr. 20, 2005), http://www.cochrane.org/CD003862/INJ_red-light-cameras-cut-casualty-crashes-at-junctions-with-traffic-lights [https://perma.cc/RK95-Z7Q8]. For a more recent discussion on the benefits of red-light cameras, see Ben Fried, *There Is No Doubt That Automated Traffic Enforcement Saves Lives*, STREETSBLOG NYC (Feb. 20, 2014), http://nyc.streetsblog.org/2014/02/20/there-is-no-doubt-that-automated-traffic-enforcement-save-lives [https://perma.cc/VD7Z-WC5Y].

144. Brad Aaron, *Cuomo Can Save Lives by Unshackling NYC's Speed Camera Program*, STREETSBLOG NYC (Jan. 27, 2017), http://nyc.streetsblog.org/2017/01/27/cuomo-can-save-lives-by-unshackling-nycs-speed-camera-program [https://perma.cc/W5PB-XAM7].

145. For information on the opposition to and support of automated enforcement cameras, see Joe Sharkey, *The Collision over Traffic Cameras*, N.Y. TIMES (July 4, 2011), http://www.nytimes.com/2011/07/05/business/05road.html [https://perma.cc/U3N7-U7V4].

146. This calculation was made by the author, based on a hypothetical situation with at least four speed enforcement cameras in each NYC school zone, using conservative numbers of 1200 school zones, and two million speeding violations registered for every 140 school zones, totaling to approximately seventeen million speeding violations by cameras in one year, compared to 137,000 (or 0.8%) by police officers, further assuming that cameras capture only a fraction of the actual speeding violations that occur. However, police officers can likely achieve a degree of visible

Because of cost and personnel limitations, automated enforcement may be the only viable tool currently available to achieve the type of widespread, uniform, and sustained enforcement necessary to deter the most prevalent and dangerous traffic safety violations, and allow police resources to be redirected towards other public policy measures.[147]

Additionally, automated enforcement technology is an indispensable tool to prevent the racial disparities and potentially lethal use of force that are inherent risks of traffic stops by police officers. Enforcement cameras wholly avoid interaction between the driver and officer, which can benefit all parties, and they can be operated in ways that eliminate any possibility of racialized bias or targeting.[148] Some cities operate their speed and red light enforcement programs without any involvement from police, which may increase the trust in the programs by communities exposed to illegitimate policing. To further ensure that automated enforcement technology is considered legitimate, cities should ensure that resulting fines are kept low, devote all net revenue to traffic safety measures, maintain robust procedures to appeal tickets and ensure due process, educate the public about the safety benefits of the technology, and issue only warnings to drivers during the initial period of operation.[149]

---

enforcement that cameras cannot, which is a critical component in deterring dangerous driving.

147. *See* ANDREW HOOKE ET AL., HOME OFFICE POLICE RESEARCH GRP., PAPER NO. 20, COST BENEFIT ANALYSIS OF TRAFFIC LIGHT & SPEED CAMERAS 41 (1996), http://www.forensictv.net/Downloads/scientific_studies/cost_benefit_analysis_of_traffic_light_and_speed_cameras_by_hooke_et_al.pdf [https://perma.cc/39NW-7J83].

148. First, laser sensors can ensure that cameras are only triggered when a motorist speeds or runs a red light. Second, the cameras can be positioned to capture only the license plate and other necessary vehicle characteristics, but not the physical features of the driver. Third, records can be kept for a short period of time with access limited to only the person ticketed and other narrowly defined government entities and agents—primarily the government ticketing authority and its narrowly defined agents, and police and prosecutors only with a warrant when camera footage or other data may support a claim of criminality based on probable cause.

149. For more information on best practices for enforcement cameras, see *Research Suggests Guidelines for Credible Camera Enforcement*, INS. INST. FOR HIGHWAY SAFETY (Nov. 20, 2012), http://www.iihs.org/iihs/sr/statusreport/article/47/9/2 [https://perma.cc/W4UX-Q798]. For more information about opposition to speed and red light cameras, including the U.S. states that have prohibited the technology, see Emmarie Huetteman, *Traffic Cameras Draw More Scrutiny by States*, N.Y. TIMES (Apr. 1, 2013), http://www.nytimes.com/2013/04/02/us/traffic-cameras-draw-more-scrutiny-by-states.html [https://perma.cc/9EYR-QSJG]. However, despite opposition, courts have upheld the constitutionality of camera programs, stating that "[camera] enforcement policies neither burden a fundamental right nor target a suspect class." *See* Dixon v. District of Columbia, 666 F.3d 1337, 1339 (D.C. Cir. 2011); *see also Federal Appeals Court Embraces DC Speed Cameras*,

Finally, automated enforcement technology likely provides the optimal solution to address the racial inequities that result from the negative socioeconomic effects of traffic-related penalties, and the race-based disparities of who is struck, injured, and killed in traffic incidents. For example, although penalties in certain cities for violations caught by cameras are similar to those caught by police officers, some cities' speed enforcement camera programs issue fines as low as fifty dollars without regard to the rate of speed in excess of the limit, and result in no punitive points on a driver or vehicle owner's record, including their insurance record.[150] This is in contrast to tickets issued by police officers for speeding, which can result in fines up to six hundred dollars, imprisonment, and punitive points on driving records and insurance records.[151] As a result, for Black and Hispanic drivers, who are disproportionately low-income, the economic impact of a speeding ticket tends to be far less harmful when issued using automated enforcement technology rather than when issued by a police officer. Moreover, a poll from 2016 found that Black, Hispanic, and lower-income New Yorkers are far more likely than other groups to support the introduction of more speed enforcement cameras.[152] This shows that those disproportionately struck, injured, and killed in traffic, namely Black, Hispanic, and lower-income residents, also desire automated enforcement to

---

THENEWSPAPER.COM (Dec. 22, 2011), https://www.thenewspaper.com/news/36/3670.asp [https://perma.cc/Z68Q-482J].

150. For a concise overview of different cities' automated enforcement camera programs, including different fee schedules, see OFF. OF THE CONTROLLER-CITY SERVS. AUDITOR, CITY & CTY. OF S.F., AUTOMATED SPEED ENFORCEMENT IMPLEMENTATION: SURVEY FINDINGS AND LESSONS LEARNED FROM AROUND THE COUNTRY (2015).

151. *See* N.Y. VEH. & TRAF. LAW § 1180(h)(1) (McKinney 2016); *About the NYS Driver Point System*, N.Y. ST. DEP'T OF MOTOR VEHICLES, https://dmv.ny.gov/tickets/about-nys-driver-point-system [https://perma.cc/93KS-AAP4].

152. *See* Brian Zumhagen, *NYC Voters Overwhelmingly Back Speed Safety Cameras for #EverySchool*, TRANSP. ALTERNATIVES (Feb. 8, 2017), https://www.transalt.org/news/releases/10089 [https://perma.cc/52HE-U4XM] (poll conducted by Penn Schoen Berland in November 2016). Several other studies show widespread and strong public support for speed and red light enforcement cameras. *See, e.g.*, *D.C. Residents Agree Red Light Cameras, Speed Cameras Make Streets Safer in Nation's Capital, IIHS Survey Reveals*, INS. INST. FOR HIGHWAY SAFETY (Apr. 25, 2013), http://www.iihs.org/iihs/news/desktopnews/d-c-residents-agree-red-light-cameras-speed-cameras-make-streets-safer-in-nations-capital-iihs-survey-reveals [https://perma.cc/8LSC-SK8B]; *Most Drivers Favor Red Light Cameras, a New Survey of 14 Big U.S. Cities Finds*, INS. INST. FOR HIGHWAY SAFETY (June 30, 2011), http://www.iihs.org/iihs/news/desktopnews/most-drivers-favor-red-light-cameras-a-new-survey-of-14-big-u-s-cities-finds [https://perma.cc/XGX6-EKG8].

address those risks, more so than White and higher-income residents who are less likely to be harmed in traffic incidents.

C. Achieving Constitutional and Just Traffic Enforcement: Lessons Applied

As discussed in Part III of this Article, racial disparities are common in discretionary police traffic stops, as shown by the high rates of African-American drivers stopped, searched, and subjected to use of force, and are also likely to exist for traffic-injury responses and traffic safety violations in the second enforcement stage of arrest, adjudication, penalties, and sentencing. Some of the most tragic outcomes, including the deaths of African-American drivers Philando Castile, Walter Scott, and Samuel DuBose, occurred in connection with discretionary police traffic stops. The worst possible outcomes of such stops could be avoided through procedurally just policing.

To address racial disparities in traffic enforcement, police departments must focus enforcement on the most dangerous safety violations and drastically reduce pretextual discretionary stops. Officers must undertake frequent anti-racism, subconscious bias, and de-escalation training and education throughout their careers to help overcome individual race-making practices.[153] To further address racial disparities and unconstitutional practices in discretionary and pretextual traffic stops, police leadership must institutionalize the rule that the only acceptable standard for a traffic stop is a specific and articulable danger or violation connected to a specific driver which is based on reasonable suspicion,[154] and must require that consent-based searches become the norm, unless an officer possesses a

---

153. This Article discusses race-making practices in Section III.A.3. For a discussion on the benefits of training officers, see Laura Bliss, *LAPD's Police Reforms and the Legacy of Rodney King*, CITYLAB (May 1, 2015), http://www.citylab.com/politics/2015/05/lapds-police-reforms-and-the-legacy-of-rodney-king/392000 [https://perma.cc/689A-D8CQ]; Elizabeth Chuck, *Can 'Implicit Bias' Training Stop Police Officers from Acting on Hidden Prejudice?*, NBC NEWS (Oct. 1, 2016), http://www.nbcnews.com/news/us-news/can-implicit-bias-training-stop-police-officers-acting-hidden-prejudice-n656071 [https://perma.cc/23WH-4D4G] ("The training can move the needle on implicit bias temporarily. But the research shows for long-term impact, there needs to be ongoing engagement . . . ."); C. Munsey, *Training Helps Police Officers Overcome Racial Bias*, AM. PSYCHOL. ASS'N (Sep. 2007), http://www.apa.org/monitor/sep07/traininghelps.aspx; Marcus Wod, *How Science Is Helping America Tackle Police Racism*, WIRED (Jan. 21, 2015, 6:45 AM), https://www.wired.com/2015/01/implicit-bias-police-racism-science [https://perma.cc/L348-CK2Q].

154. *See* EPP ET AL., *supra* note 62, at 161-62.

warrant or has probable cause.[155] Further, individuals who are stopped should receive a card with written information about the stop, how to obtain more information about the incident and their rights, and how to file a complaint about their stop and search.[156] Finally, automated enforcement technology should be used extensively to limit interactions between armed police and drivers,[157] and the use of body cameras by police officers should be explored. These measures are necessary to achieve procedurally just policing, which also results in greater compliance with traffic safety laws.[158]

To create agency accountability and help set a strategic plan to overcome decades of institutional racism, cities should commission third-party assessments on the role that race and the use of force play in enforcement, and should establish permanent independent community oversight of police empowered with significant investigatory and disciplinary abilities.[159] To help identify racial disparities and measure progress to address them, police departments must also significantly increase transparency and provide aggregate non-personalized demographic and case outcome data online to the public.[160] All minor offenses that are not significant causal factors in traffic injuries and fatalities, such as biking on the sidewalk, should be decriminalized so that such offenses result only in warnings, monetary fines, or minor civil sanctions. Finally, police departments should help establish local restorative justice programs for drivers convicted of dangerous driving and offenses that caused a fatality or serious injury. Such programs have been shown to reduce recidivism and achieve greater levels of procedural justice.[161]

---

155. *See Right to Know Act*, COMMUNITIES UNITED FOR POLICE REFORM, http://changethenypd.org/RightToKnowAct [https://perma.cc/JZ45-MARL] (legislation to prevent discriminatory and abusive policing and improve communication and accountability between NYPD and New Yorkers)

156. *See id.*

157. *See* discussion *supra* Section V.B.

158. *See* Meares, *supra* note 119, at 657.

159. *See* Barbara Attard, *Oversight of Law Enforcement Is Beneficial and Needed–Both Inside and Out*, 30 PACE L. REV. 1548, 1557 (2010).

160. *See generally* OPEN DATA POLICING, https://opendatapolicing.com [https://perma.cc/87VX-93LL].

161. For research on reduced recidivism from restorative justice practices, see PUB. SAFETY CAN., RESTORATIVE JUSTICE AND RECIDIVISM (2003), https://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/jstc-rcdvs/jstc-rcdvs-eng.pdf [https://perma.cc/US2B-YBX6]. For research on achieving procedural justice (with high levels of satisfaction from program participants) through restorative justice, see Jeff Latimer & Steven Kleinknecht, *Gaps in Our Knowledge Base*, *in* THE EFFECTS OF RESTORATIVE JUSTICE PROGRAMMING: A REVIEW OF THE EMPIRICAL 17, 17 (2000),

D. Beyond Police Traffic Enforcement As We Know It

The changes to police training, policies, and oversight, as outlined in Section V.C, have been applied with positive effects in some jurisdictions and are necessary steps for all cities seeking to address racial disparities and unconstitutional practices in traffic enforcement.[162] There is strong evidence, however, that such changes will be insufficient to address those problems.[163] Some analysis suggests that the commitments by agencies and "the most prominent proposals for addressing racial disparities in police stops will not work."[164] For example, a 1999 class action lawsuit, *Daniels v. City of New York*, challenged the NYPD's practice of conducting stop-and-frisks without the reasonable suspicion required by law.[165] Upon settling the case in 2003, the NYPD agreed to train all existing and future police officers about the "legal and factual bases for conducting and documenting stop, question, and frisk activity" and in cultural diversity, integrity, ethics, and professionalism.[166] Following this settlement, the number of stop and frisks exploded from 97,296 in 2002, of which eighty-two percent of people stopped were not arrested or ticketed, to a high of 685,724 in 2011, of which eighty-eight percent were not arrested or ticketed and eighty-seven percent involved Black or Hispanic individuals, even though those two groups made up only fifty-two percent of the city's population.[167] In effect, eight years after the 2003 settlement and a commitment to agency-wide trainings intended to address the alleged unconstitutional stops, the NYPD conducted more of such stops with even higher disparities. This led to yet another class action suit, *Floyd v. City of New York*.[168]

---

http://www.justice.gc.ca/eng/rp-pr/csj-sjc/jsp-sjp/rr00_16/rr00_16.pdf [https://perma.cc/WP45-M3HS].

162. *See generally* Munsey, *supra* note 153 (noting that "training helped [police officers] overcome that bias and make the correct decision, as compared to a control group").

163. *See generally* Sarina Trangle, *Are Cops Biased? New NYPD Training Says Everybody Is*, CITY & STATE N.Y. (July 25, 2016), http://cityandstateny.com/articles/politics/new-york-city/are-cops-biased-new-nypd-training-says-everybody-is.html [https://perma.cc/RX8A-VAES] ("Some social psychologists have questioned the efficacy of implicit bias training . . . .").

164. *See* EPP ET AL., *supra* note 62, at 160.

165. *See* 138 F. Supp. 2d 562 (S.D.N.Y. 2001).

166. *See* Stipulation of Settlement at 7, Daniels, et al. v. City of New York, No. 99 Civ. 1695 (S.D.N.Y. Sept. 24, 2003), https://ccrjustice.org/sites/default/files/assets/Daniels_StipulationOfSettlement_12_03_0.pdf [https://perma.cc/Y988-BS8J].

167. *See Floyd, et al. v. City of New York, et al.*, CTR. FOR CONST. RIGHTS [hereinafter CTR. FOR CONST. RIGHTS], http://ccrjustice.org/home/what-we-do/our-cases/floyd-et-al-v-city-new-york-et-al [https://perma.cc/6VT3-NFB7].

168. *See* 959 F. Supp. 2d 540, 556 (S.D.N.Y. 2013).

A remedial order in that case by the United States District Court for the Southern District of New York in 2013 found that the NYPD had violated the Fourth Amendment, by conducting unreasonable searches, and the Fourteenth Amendment, by systematically conducting stops and frisks in a racially discriminatory manner.[169] Only in 2014, eleven years after the first settlement, did the number of stops fall below the 2002 levels.[170] Moreover, in 2015 the NYPD's Inspector General reported that the NYPD has "historically . . . failed to discipline officers who use force without justification,"[171] and a federal district court described the NYPD as an agency that had become "accustomed to disregarding" court orders.[172]

The history of the NYPD's stop and frisk practices indicates that racial disparities and unconstitutional policing practices will persist in traffic enforcement, even after local governments commit to and implement changes in police training, policy, and oversight. The lack of substantial improvement indicates that the problem is institutional and entrenched throughout police departments. As a consequence, police departments should devote nearly all traffic enforcement resources to crash responses and investigations, and to high-visibility enforcement against the most dangerous and frequent traffic safety violations. Police should also prohibit pretextual discretionary traffic stops "except when justified by an overriding public safety exigency,"[173] and should empower unarmed traffic enforcement agents, in place of armed police officers, to enforce most dangerous

---

169. *See id.* at 654-58. The City of New York, under then-Mayor Michael Bloomberg, appealed the case to the United States Court of Appeals for the Second Circuit which granted the City's motion to stay the remedial opinion and remanded the case to District Court to be heard by a new judge. The case was, however, never heard again, as the City, under new Mayor Bill de Blasio, decided to drop the appeal and implement changes in accordance with the relief sought by plaintiffs. *See* CTR. FOR CONST. RIGHTS, *supra* note 167.

170. *See Stop-and-Frisk Data*, NYCLU, https://www.nyclu.org/en/stop-and-frisk-data [https://perma.cc/X7VY-G86K]. Even though the number of stops dropped, racial disparities persisted at similar levels. *See id.*

171. OFF. OF THE INSPECTOR GEN. FOR THE NYPD, N.Y.C. DEP'T OF INVESTIGATION, POLICE USE OF FORCE IN NEW YORK CITY: FINDINGS AND RECOMMENDATIONS ON NYPD'S POLICIES AND PRACTICES 2 (2015), http://www.nyc.gov/html/oignypd/assets/downloads/pdf/oig_nypd_use_of_force_report_-_oct_1_2015.pdf [https://perma.cc/RZ4H-9TUF].

172. *See* Matt Apuzzo & Adam Goldman, *Judge Rejects Settlement over Surveillance of Muslims by New York Police Department*, N.Y. TIMES (Oct. 31, 2016), https://www.nytimes.com/2016/11/01/nyregion/nypd-muslim-lawsuit-settlement.html [https://perma.cc/TRX5-ZGX5] (discussing a court order disapproving of a proposed settlement in Handschu v. Special Services Division, No. 71 Civ. 02203 (S.D.N.Y. Oct. 31, 2016)).

173. EPP ET AL., *supra* note 62, at 161.

driving offenses. Finally, local governments should apply widespread automated enforcement technology, operated and controlled by non-police agencies, to target dangerous driving offenses.

CONCLUSION

Vision Zero can only be achieved if cities fully embrace the two new E's: equity and evaluation. Engineering, education, and enforcement must be guided by data-driven, intersectional, and inclusionary analyses that consider age, gender, geography, and socio-economic condition, as well as race and historical inequities in each area. Cities must target the most dangerous common driving offenses by making enforcement highly visible, uniform, widespread, and sustained, vastly expanding automated enforcement, and eliminating nearly all discretionary police stops. This will help achieve the greatest public deterrence against dangerous driving and avoid the worst outcomes of racially biased, unconstitutional, and illegitimate policing. Not only is just policing a moral obligation, it is a requisite tool for optimal deterrence, efficient use of public resources, and fostering vital public trust and engagement. Without fully addressing racial biases and disparities in traffic enforcement, we will never be able to reach Vision Zero.