

VISION ZERO AND THE BAY AREA RESPONSE: TRAFFIC FATALITIES AND
PERCEPTIONS OF PEDESTRIAN SAFETY IN LOCAL POLITICS AND
PUBLIC POLICY

CHRISTOPHER FARRELL, B.A.

Master's Program in Political Science

APPROVED:

José D. Villalobos, Ph.D., Chair

Carlos Algara, Ph.D.

Okan Gurbuz, Ph.D.

Stephen Crites, Ph.D.
Dean of the Graduate School

Copyright ©

By

Christopher W. Farrell

2021

VISION ZERO AND THE BAY AREA RESPONSE: TRAFFIC FATALITIES AND
PERCEPTIONS OF PEDESTRIAN SAFETY IN LOCAL POLITICS AND
PUBLIC POLICY

by

CHRISTOPHER W. FARRELL, B.A.

THESIS

Presented to the Faculty of the Graduate School of
The University of Texas at El Paso
in Partial Fulfillment
of the Requirements
for the Degree of

MASTER OF ARTS

Department of Political Science
THE UNIVERSITY OF TEXAS AT EL PASO
May 2021

Abstract

In this study, I examine how the “Vision Zero” traffic safety plan has been implemented in the cities of San Francisco and San Jose and, employing qualitative interviews, I explore the perceptions of local elected officials and community leaders of local advocacy groups to understand their emergent appraisals of how effectively the policy is working, as well as assess the political implications and impact of the initiative. I find that local elected leaders have a range of perceptions, but the majority of local elected leaders and community leaders agree that getting more cars off the road, improving public transportation, and switching to rapid build model for infrastructure improvements can greatly reduce the number of pedestrian fatalities. There is also a consensus among these interviewees that speed is one of the biggest contributing factors when it comes to reducing traffic fatalities and improvements that would slow vehicles down could save more lives. As an added challenge, there are certain policies that can only be reformed by the state legislature in California such that local level officials must also work with and rely on their state-level counterparts. Moving forward, I argue that reforms giving more power to local municipalities may help improve Vision Zero’s effectiveness in reducing traffic fatalities.

Table of Contents

Abstract.....	iv
Table of Contents.....	v
1. Introduction.....	1
2. Literature Review.....	5
3. Framework.....	17
4. Expectations and Initial Insights.....	19
4.1 Data Methods.....	19
4.2 Traffic Fatality Data as a Baseline for Cases.....	20
4.3 Key Perceptual Data Measures for Comparison.....	21
4.4 Other Notable Factors.....	21
4.5 Limitations.....	22
5. San Francisco.....	23
6. San Jose.....	40
7. Comparing San Francisco to San Jose.....	57
8. Policy Prescriptions.....	67
9. Conclusion.....	77
10. References.....	86
11. Vita.....	92

Introduction

In 2014, San Francisco envisioned a powerful philosophy with respect to public safety and the rising number of traffic accidents taking place within the city. Their perspective was simple, traffic deaths were unacceptable and preventable. This philosophy bore out in implementing a new traffic safety plan known as “Vision Zero” (Vision Zero hereafter) that had been originally created in Sweden in 1997 in its response to rising traffic fatalities. San Francisco’s own traffic safety plan prioritized multiple institutionalized procedures and policies aimed at addressing and reducing traffic fatalities, including: collecting and using key data to understand trends and potential disproportionate impacts of traffic deaths, managing traffic speed to safe levels, and setting a timeline with the ambitious goal of achieving zero traffic deaths and serious injuries.¹ With Vision Zero in place, San Francisco would begin to implement new safety measures throughout the city and gradually work toward a goal of zero traffic fatalities by 2024. Five years into the project, San Francisco had made encouraging progress. Even with the addition of more vehicles on the road, traffic fatalities had declined overall from 2013 to 2018 before a brief increase again in 2019 and a subsequent significant drop in 2020 amid the emergence of the COVID-19 pandemic (see Figure 1).

¹ See: <https://visionzeronetwork.org/about/what-is-vision-zero/>

Year	Pedestrian	Vehicle or Motorcycle	Bicycle
2014	21	7	3
2015	20	7	4
2016	16	12	4
2017	14	4	2
2018	15	5	3
2019	18	10	1
2020	7	9	2

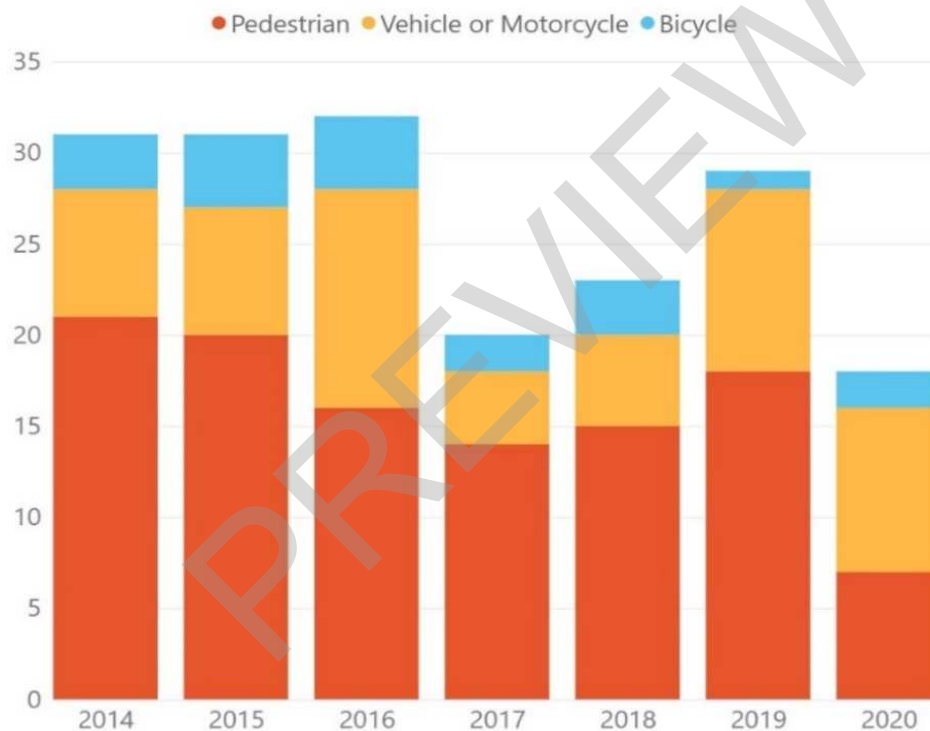


Figure 1. San Francisco Traffic Fatalities (2013-2020)

See: <https://sfgov.org/scorecards/transportation/traffic-fatalities>

As Vision Zero began to be tested in various other cities across the country, it should be noted that although Various vision zero plans had remained universal for each city (e.g.,

processes for recording the data, relying on various speed reduction measures, etc.), the speed at which they implemented some of these measures varied from region to region. This included the neighboring bay area city of San Jose and the progress—or lack thereof—for each new case seemed to vary quite a bit.

Less than 50 miles south of San Francisco, San Jose had also been experiencing a rising traffic fatality rate that was steadily increasing over time. In response to these fatalities, San Jose became the 4th city in the nation to implement Vision Zero. In 2015, San Jose had introduced Vision Zero with the goal of reducing traffic fatalities to zero by 2025. Unfortunately, despite San Jose implementing Vision Zero policies similar to that of San Francisco—such as targeted speed limit reductions and stronger traffic enforcement in problem areas, the city continued to observe an increase in traffic fatalities from 2014 to 2019 (See Figure 2).

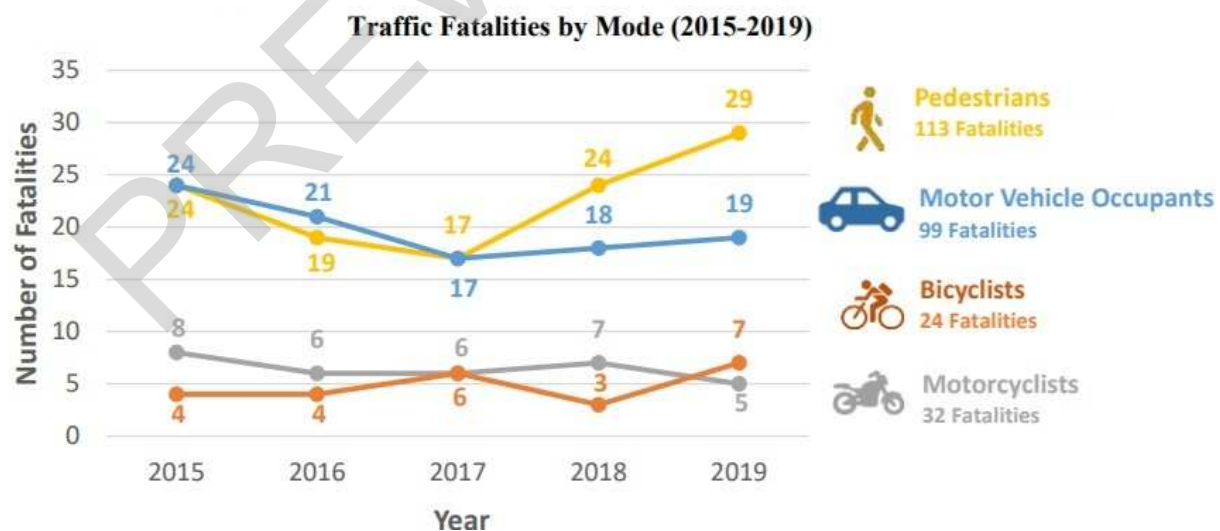


Figure 2. San Jose Traffic Fatalities (2015-2019)

See: <https://www.sanjoseca.gov/home/showdocument?id=67710>

Such results leave us with an important social-scientific puzzle to address: what is the utility of the Vision Zero traffic safety plan in terms of changes in fatality rates and subsequent perceptions of its implementation across cases?

This thesis will address this puzzle by examining the relationship between the implementation of Vision Zero and its impact in specific locations—both with respect to changes in traffic fatalities and key perceptions of the program, namely by exploring and comparing key cases in San Francisco and San Jose, California. Therein, I intend to unearth which factors have most notably contributed to the increases versus decreases in traffic fatalities within these two cities and how people have reacted to such developments. Data for these in-depth case studies will be gathered through qualitative measures and in-depth interviews with various stakeholders to the Vision Zero policy, including with local government leaders, city staff, traffic-centered nonprofits and organizations, and local residents. In doing so, I aim to provide an important contribution to the literature and public policy by setting a foundation to help scholars and policymakers alike better understand how Vision Zero can best be implemented with maximized results at the city level—all with the overarching goal of helping to reduce traffic fatalities in the name of public safety. This approach should thus be applicable and helpful for additional geographic locations in future studies.

Literature Review

Traffic safety scholars and political scientists both contend that government has a central role in prioritizing traffic safety (Durant,1993). While bureaucrats and transportation department heads can make recommendations as to the flow of traffic and the various safety measures that can be implemented, local government ultimately sets the agenda for which policies and traffic safety measures will be implemented. This can be influenced by a myriad of factors including local businesses, community-oriented organizations, and residents.

Strong political will can also have a major effect on the actions that a local government may propose regarding what traffic safety measures are ultimately implemented. Political will can attain what otherwise remains neglected or unenforceable by local government departments. For instance, enforcement of a compulsory policy for the wearing of helmets and seat belts is commonly met with local resistance. However, if there is strong political will and public buy-in on the importance of wearing safety equipment, we can expect an increase in participation of these safety measures from the public and as a result lower then number of injuries and fatalities from increased safety equipment use. Open transparency with regards to traffic data can also alleviate fears of corrupt influence. For example, in the case of bike safety, residents may suspect that local government officials may only want to push helmet use because of the money and influence from a local helmet distributor. However, if there is evidence paired with the reduction of bike fatalities/injuries due to increased use of bike helmets, it provides legitimacy to the requirement that protects against criticism that may include allegations of biased influence affecting the political arena and/or policy decisions. We can also see this political will working in other traffic safety measures, such as in raising the drinking age from 18 to 21 and creating DUI laws across the country to lower the amount of traffic fatalities due to drunk driving.

Although there may have been initial resistance to increasing the scrutiny on drinking while driving, organizations like Mothers Against Drunk Driving (MADD) helped generate awareness and public support for these laws as well as to help increase political will to push these laws through state legislatures across the country.² Vision Zero also relies on a model of public support, public adherence, and political will in local government to implement these types of initiatives in a comprehensive manner. Vision Zero is unique in traffic safety plans in that it creates a shared responsibility model for implementing its strategy.



Figure 3. Vision Zero Ethical Platform Model

See: <https://visionzeronetwork.org/about/what-is-vision-zero/>

² See: <https://www.madd.org/history/>

Accidents have been traditionally understood to be random chance occurrences typically beyond the control of average people. Vision Zero emphasizes that traffic fatalities are not random and instead can be prevented through good government policy that benefits from public input, support, and adherence once those policies have been approved and implemented. This ultimately creates a coordinated program that relies on both government actors as well as individual action to be successful. What is novel about Vision Zero's recalibration of political responsibility is that it assigns more political responsibility for traffic injuries to individual road users. In the traditional model of road safety, road users' political responsibility for road safety called on them to have safe behavior and to obey rules. In Vision Zero, road users are still responsible for following rules and protecting themselves and others, but above and beyond their responsibility for safe behavior they are also morally responsible for "making clearly-stated and powerful demands on the designers of the system" (Tingvall 1997, 42).

The Vision Zero model benefits most when active citizens lobby decision makers in local government to reduce fatalities through local ordinances in problem areas where traffic/pedestrian fatalities regularly occur. From there, transportation experts can make recommendations as to what tools can be implemented (including but not limited to: speed bumps, stop signs, lowering speed limits, speed traps, crosswalks, and overall traffic enforcement). This creates an ecosystem of coordination between both public and private actors/sectors. This synergy between citizen advocates can shed light on problems that may occur in the future and give city officials the chance to catch some of these problems before they become an issue down the road.

City officials are not always so keen on sharing power and responsibility to residents or citizen-controlled panels. For instance, according to Bethea (1958, 24), in organizing for safety,

“The resistance of some officials to organized citizen support is prompted largely by the fear that a support group will attempt to usurp official authority. No chief of police relishes being told where his squad cars must patrol, and no traffic engineer wants laymen locating new traffic signals.” She also describes the more successful organizing efforts for traffic safety of having these components:

1. Promotion of safe and efficient movement of traffic on the streets and highways.
2. Conduct of a public safety education program to inform people about the accident problem and to encourage the public to accept responsibilities for the safety of others, thus reducing the untimely deaths, crippling injuries, and economic losses caused by accidents.
3. Co-operation with government officials in the building of sound programs for accident prevention and traffic control.
4. Focusing of public attention on major traffic safety needs, and the development of support for official action to meet these needs.
5. Provision of the means for voluntary co-ordination, of the planning and execution of projects of the many groups interested in the traffic problem.
6. Maintenance of the continuity of effective accident prevention programs during changes of administration.

Vision Zero shares many of these same values by encouraging its local residents to become politically and civically minded. When community meetings are held across cities it is with the expectation that residents will be able to voice their concerns about newer traffic safety techniques that are being used as well as the engineering projects that are being proposed.

They also give the city the chance to spread education about safe driving techniques, how important speed is for saving the lives of pedestrians, what are some of the municipal programs that are being set up for keeping pedestrians and drivers safe, as well as the process for how residents can request an improvement to their neighborhoods and streets for an engineering request especially if they happen to live on a problem corridor.

Bethea (1958 pg.30) states the importance of having the public and local official working together by claiming “officials and citizen leaders are realizing that the safe and efficient movement of traffic is largely a community achievement rather than the accomplishment of outside agencies and authorities. State agencies and national organizations may supply technical help such as traffic engineering service, but in the final analysis this advice must be accepted and applied by the community.” Ultimately the community is the one who routinely drives and knows the roads and experiences the danger of unsafe roads and drivers who take these routes in an unsafe manner. With local government making an effort to learn what the community wants, and the community advocating the local government to take action we would expect to see rapid responses to areas that could be a hotspot for accidents and pedestrian fatalities.

Driver education is also a key factor since drivers are often overconfident in their abilities to drive and avoid accidents. According to the President’s committee for traffic safety, “Some time ago, a study was conducted in motorists were asked to rate their own abilities either as much above average, average, average, below average, or much average. As you might expect, practically respondents considered themselves above or much above average. This illustrates the colossal conceit that seems to affect motorists everywhere and makes them think: ‘It can’t happen to me’” (Hearst 1960). The report goes on to note the importance of citizen panels which work in tandem with elected officials to reduce the number of fatalities on the road and work

together to find a way to push traffic safety that is accessible for the general public. The presidents committee also notes that “What can the public official do in the face of this over-confidence? Only a limited amount unless he has firm citizen support” (Hearst 1960).

This citizen support is crucial for local officials to share responsibility with the drivers for themselves. Such shared responsibility between driver and elected official can positively affect residents by helping them take ownership and affecting them on a psychological level. The committee also explains that that “aside from actively supporting public officials in their efforts, the group-by its very existence-tends to make other citizens alter their thinking about traffic safety. I don’t mean that the formation of citizen safety organizations brings an overnight change in everyone’s attitude toward driving. But the idea of civic leaders and just plain people working hand in hand with public officials does bring home to the average citizen that there may be something to this traffic safety stuff after” (Hearst 1960).

The shared responsibility aspect is crucial to the success of vision Zero such that education is featured as a key plank in the Vision Zero mission statement. The mission statement notes that without the cooperation of the public and informed contributions from residents regarding which areas need to be improved, many city departments would have little idea on where to create traffic improvements or how to use their targeted approach to decrease the number of traffic fatalities and traffic injuries. Education is nevertheless just one potential benefit to consider in having citizen panels or community lead advocates take ownership of traffic safety.

Private advocate groups in general are unconstrained by the politics that many local elected leaders are vulnerable to or the even the Department of Transportation is subjected to by proxy. While elected leaders are subject to elections and campaigns, advocate groups must rely

on their ability to push public opinion in a way that is favorable for them. Many coalition organizations who advocate for traffic safety or Vision Zero itself have the chance to lobby the residents for these policy changes as well as gain their trust, support, and possibly recruit them so they can grow as an organization and have a larger influence on affecting changes within the city. Coalition groups also do not have to worry about the political considerations of proposing projects and instead can focus advocating for the residents and the changes needed to affect real change for the protection of pedestrians.

Vision Zero is also a primarily data-driven approach to traffic safety. For Vision Zero policies that have been initiated within the United States, data is used to determine where to place speed obstructing objects like speed bumps, stop signs, and speed traps, and where traffic enforcement by local police should be placed in order to implement these new speed measures. This creates specific and unique measures to respond to a city's particular problem areas effectively, provides transparency to the public where problem areas are, and helps ensure that there are not any institutional biases affecting how traffic and pedestrian safety measures are enforced.

This differed from past approaches to engineering improvements in several ways. First, engineering improvements were not necessarily data focused with solutions proposed to fix them. In many cases, engineering projects may be brought about in response to community concerns or after a particularly bad accident may have occurred. Residents could band together to petition the local government to bring a traffic safety measure to change a particular intersection or street but there was no data collected to determine if this area were a real danger or not. It could be a group of concerned parents for example who are concerned that their children who attend a local school may be in danger of a traffic collision due to the way an intersection is set

up or, say, how construction for a new transportation project may affect the students that are attending that school. Whether or not a lot of accidents or any actual hard data of traffic collisions have occurred on this corridor may be less relevant if there is significant public pressure on a local official to deliver on a certain promise or request for action. Without the data to clearly show whether a project was needed it is possible that only the loudest residents may receive their projects to be built rather than the possibility that data will create a priority list for reducing the amount of traffic fatalities overall. Another consideration pertains to local politicians who may have a bias and how that may influence which projects are created, particularly those pertaining to their districts. For example, if one is a councilmember, they will fight hard to see that the largest portion of the budget is spent in their district (though other councilmembers and/or activists could likewise object to such efforts). Thus, a risk remains that project decisions may not necessarily correspond with the safety or need for a change in that district. Using data that is collected from the department of transportation, however, allows the city to parse out where these engineering and speed reducing projects need to happen and in which district, which can affect debate between councilmembers and other local politicians. Thus, political pull, while still advantageous for local politicians, is not the only consideration that wins the benefit of receiving a new traffic safety-oriented project.

Prior to its implementation in the United States, Vision Zero was successfully applied in key places in Europe and those additional cases can serve to provide additional informative insights for our purposes here. One notable case study of Vision Zero pertains to Sweden. Vision Zero was started in the Swedish Parliament and adopted in 1997. Vision Zero shifted transportation policies in Sweden by proclaiming that no one should die or be seriously injured while using the road transportation system and that “system designers”—including members of

the motor vehicle industry, road traffic planners, road safety engineers, police, health professionals, educators, and road users—have a shared responsibility to ensure that the transportation system protects all travelers, even when they make mistakes and are at fault (Tingvall 1997; Sveriges Riksdag 1997). This policy has come to represent a “Scandinavian model” of road safety. While advocates posited that this policy was a significant shift in the approach to traffic safety policy for the region, others have been skeptical that Vision Zero truly represents a fundamental change to status quo approaches. Hagson (2004) examined Swedish traffic planning and street design concepts from the 1960s to the present and concluded that the design ideas that have arisen from Vision Zero do not inherently change, but rather extend, the mobility paradigm that has guided Swedish planning through the decades. Elvebakk (2007) has interpreted the roles and responsibilities of various actors in the road transportation system under Vision Zero, focusing on the implications of applying system safety ideas from highly controlled systems, such as aviation, to the road transport system. Elvebakk argues that applying system safety ideas to road transport has enabled experts to exert more control over road users who have traditionally been relatively autonomous in their travel.

For Europeans, the type of traffic designs which were implemented to make vision Zero successful was created under the guidelines of certain driving values. The values for these new improvements underlined a set of key guidelines and goals (Kim et al., 2017, 3):

1. Vulnerable road users, such as pedestrians or cyclists, should not be exposed to vehicles at speeds over 30 km/h (18.6 mph). If separation is not possible, then reduce the vehicle speed to 30 km/h. Cyclists can reach these speeds, particularly on descents, and should also be separated from pedestrians or slowed.

2. Car occupants should not be exposed to other vehicles at speeds over 50 km/h (31.07 mph) in 90° crossings. If this is not possible, separate, reduce the angle (thereby altering the vector of force of the collision such that it reduces severe injury or death), or reduce the speed to 50 km/h.
3. Car occupants should not be exposed to oncoming traffic at speeds over 70 km/h (43.5 mph) if vehicles are about the same weight. If vehicles are of different weight, speeds should not exceed 50 km/h. If this is not possible, then separate traffic, balance automobile weights or reduce speeds according to the maximum differential in vehicle weight.
4. Car occupants should not be exposed to the side of the road at speeds over 70 km/h, or 50 km/h if there are trees or other potentially dangerous objects. If this is not possible, separate cars from the side of the road or reduce speeds to 70 km/h or 50 km/h (according to roadside conditions).

It should be noted that with the United States having a much more local-level focus, many of these traffic improvement values tend to vary from city to city. Usually, a city's Department of Transportation will work with the Vision Zero team to begin working on a personalized plan for the city itself and many of the improvements may come in different forms to meet these goals. European laws may also differ significantly as far as, for example, how much driver education is needed to attain a permit, the speed at which cars can travel in different zoning areas, and the type of enforcement and tactics that police officers may have to resort to in order to become successful in upholding safe traffic practices.

These road conditions would achieve certain objectives. Namely, the first and foremost objective was to make pedestrians safe. This could be achieved by creating infrastructure that would make it easier for drivers to see pedestrians. It would also make improvements that even

without the reduction of speed limits, would force drivers to take precautions to protect their vehicle by slowing down and adhering to the rules of the road.

Besides shifting responsibility by including individual actors, the institution of the program also shifted responsibility to various organizations and local government to take on a bigger role in ensuring traffic safety. Early Vision Zero policy statements emphasized shifting more political responsibility for traffic-related injuries to the system designers. It argued that government agencies, nongovernmental organizations, and markets together are responsible for designing the system and regulating and monitoring road users. These system designers “bear the responsibility to do everything in their power to make the system as safe as possible” (Tingvall 1997, 55). Local elected leaders take ownership of this issue politically and are regularly looking for ways they can get traffic improvements done in their respective districts so they can make the majority of their voters and constituents happy.

One particular way that Vision Zero tries to shift more responsibility to system designers is by expanding the field of experts to include a more diverse set of actors. This is the idea of shared responsibility for road safety. Instead of holding only transportation safety experts responsible for road safety, Vision Zero also offers shared responsibility to educators, public health professionals (e.g., in the fields of emergency medicine, epidemiology, and community health), car designers, and manufacturers. This wide range of experts from multiple fields of research allows political actors to buffer against any claims of a solely top-down approach, as well as buffering against any claim of bias or undue influence on the decision makers.

After the successful implementation of Vision Zero in Europe, it eventually reached the United States. It was implemented in multiple cities across the country including ranging from New York City to Austin, Texas. As previously mentioned, it has been met with various rates of