

2021-05-01

Vision Zero And The Bay Area Response: Traffic Fatalities And Perceptions Of Pedestrian Safety In Local Politics And Public Policy

Christopher Farrell
University of Texas at El Paso

Follow this and additional works at: https://scholarworks.utep.edu/open_etd



Part of the [Public Policy Commons](#)

Recommended Citation

Farrell, Christopher, "Vision Zero And The Bay Area Response: Traffic Fatalities And Perceptions Of Pedestrian Safety In Local Politics And Public Policy" (2021). *Open Access Theses & Dissertations*. 3249. https://scholarworks.utep.edu/open_etd/3249

This is brought to you for free and open access by ScholarWorks@UTEP. It has been accepted for inclusion in Open Access Theses & Dissertations by an authorized administrator of ScholarWorks@UTEP. For more information, please contact lweber@utep.edu.

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

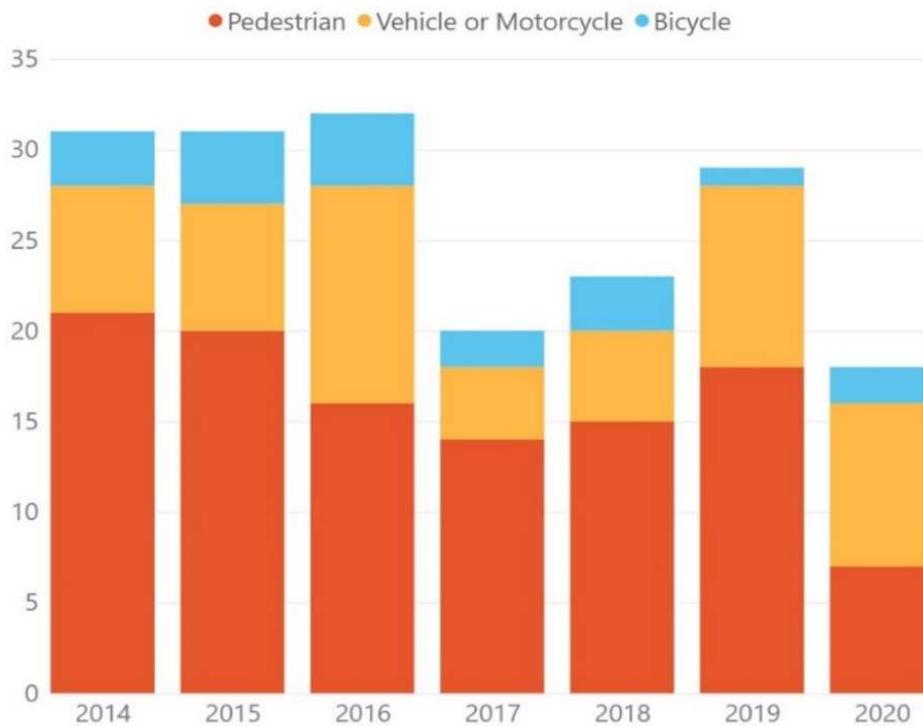


Figure 1. San Francisco Traffic Fatalities (2013-2020)

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).

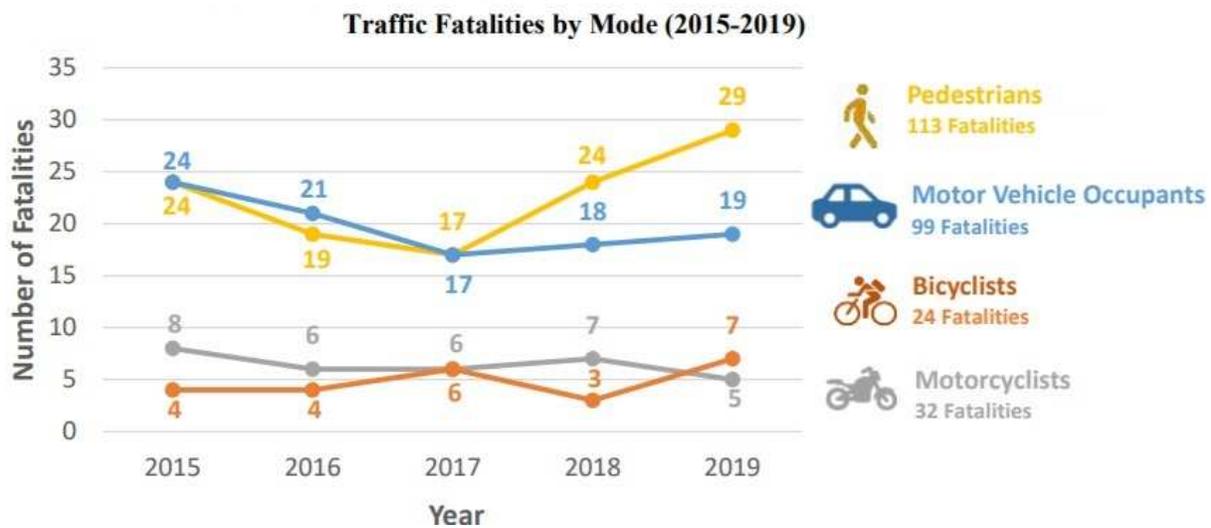


Figure 2. San Jose Traffic Fatalities (2015-2019)

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

success and failure in attempting to reduce the amount of traffic/pedestrian fatalities. While the program itself remains largely the same in name and principle, the American model of Vision Zero requires a special adaptive approach different from the more sweeping application previously seen in Europe—specifically a change in the cultural acceptance of public transportation and reduced use of personal vehicles.

Vision Zero will also have to be adapted differently in the United States due to the nature of federalism as per the shared powers and checks and balances between the federal, state, and local governments. In some of cases traffic regulation may not be controlled by the local municipal government which would influence the way Vision Zero could be implemented given that it is such a locally based policy. It is possible that these policies may have been met with more success in Europe due to a heightened emphasis and cultivated culture around public transportation by European local governments as well as their ability to be given more power and control over traffic regulation.

Framework

I would contend that one of the reasons why Vision Zero appears to be reducing the number of fatalities in San Francisco is because the city has a strong infrastructure for public transportation. San Francisco also maintains significant public support for getting more cars off the road generally as evidenced by public allowance for increasing the tolls on both the bay bridge as well as the Golden Gate Bridge.³ There has also been significant public support for the city supervisors' vote to close sections of Market Street in the downtown area in order for them to be reserved exclusively for bikes and pedestrians. Vision Zero has been implemented with these changes happening in the foreground. As a result, Vision Zero policies for targeted police enforcement of speed limits as well as a general speed limit reduction have been successful and largely so because there has been a culture of strong public backing for such Vision Zero policies. If we compare the developments in San Francisco to San Jose, one can observe that in San Jose there is a more prevalent acceptance of the car culture while the use of public transportation is not as prevalent. If this is the case, then it stands to reason that the rising number of traffic fatalities would be more difficult to counter and require a more intense and sustained effort to change the culture at the local level. Until they develop policies that encourage people

³ My assumption for support of the tolls derives from two areas, a sample poll that was taken in December in 2017 which shows a \$1 toll hike in 2019 won 56 percent support, a \$2 toll hike split between 2019 and 2023 garnered backing from 57 percent, and a \$3 increase, levied in 2019 earned support from 54 percent. After those surveyed were informed of how the newfound toll revenue would be spent, support rose for all three scenarios: to 59 percent for the \$1 increase, 62 percent for the \$2 increase and 59 percent for the \$3 increase. The hybrid phone/Internet survey was conducted between Nov. 27 and Dec. 11 by EMC Research of Oakland. Results were weighted proportionally to represent the demographics of the nine-county electorate. The overall margin of error was 2.6 percentage points (see: <https://www.sfgate.com/bayarea/article/New-poll-shows-broad-support-for-raising-Bay-Area-12446317.php>).

to depend less on their own personal vehicles and embrace alternative modes of public transportation, pedestrian fatalities may continue to rise.

Expectations and Initial Insights

I expect that vision Zero policies are more likely to succeed in cities that already have a culture that embraces public transportation, as well as in those that are moving in that direction. In the form of a general hypothesis, I would expect as follows: As a city experiences an increase in culturally embracing public transportation modes (primarily in this case vis-à-vis embracing the Vision Zero program) and pairing it with complimentary policies that encourage public transportation, traffic fatalities in the community should decrease. This culture would also include policies that would encourage people to ride public transportation through discounted/free fares or penalize taking your own personal vehicle through local/regional tolls. In this case the Golden Gate and Bay Bridge tolls would discourage people from taking their own personal vehicle into San Francisco. By contrast, San Jose does not have a toll bridge, or as extensive a public transportation system. Although the BART (Bay Area Rapid Transportation) had recently reached the Berryessa portion of San Jose, other BART stations are not due to reach downtown for several years. This results in more widespread personal vehicle use and may help explain why Vision Zero policies have not resulted in decreased traffic fatalities in San Jose.

Data Methods

For this Thesis project I intend to use qualitative research methods to determine how local government officials as well as partner organizations, local neighborhood groups, and residents feel about the effectiveness of Vision Zero policies, as well as if they feel safer depending on an increase or decrease of fatalities in a given year. I also intend to gather data on whether they feel their city promotes public transportation and fosters a culture of public transportation that decreases personal vehicle use. As such, my approach is to compare what is already known from observable traffic fatality data to perceptions that have developed overtime

amid the implementation of Vision Zero and in the backdrop of changes in traffic fatality statistics for a given location.

I intend to gather my novel data through in-depth interviews with local government officials as well as partner organizations, local neighborhood groups, as well as residents. Traffic fatality data, as well as public transportation ridership will be shown through a line graph from the 5 years prior to Vision Zero being implemented in each city, until the end of 2020. I believe that doing in-depth interviews with local government officials such as with local council members will provide valuable background information as well as key insights on the reasons why the local government supports these Vision Zero policies and why they are reaching the fatalities that they currently have. Interviewing partner organizations, neighborhood groups, as well as local residents will give insight to whether these individuals feel a shared responsibility towards not only attempting to decrease these fatalities, but also in addressing the effectiveness of the program and attempting to explain why there is an increase in fatalities.

Traffic Fatality Data as a Baseline for Cases

The baseline data for this thesis project will be the traffic fatalities in the years after Vision Zero. Specifically, this thesis will attempt to explain why traffic fatalities have increased or decreased in San Francisco as well as San Jose. The reason why traffic fatality data is a baseline focus is because attempting to decrease traffic fatalities has been the main objective for the Vision Zero policy since its inception. Their main objective has been to reduce the number of traffic fatality levels to zero within 10 years. If this policy is truly effective, we would expect to see Vision Zero policies to have similar effects to traffic fatalities regardless of the city it is implemented in. San Francisco and San Jose were chosen for their region in the Bay Area, similar culture, political culture, as well as similar demographics. In depth interviews with local

politicians, coalition groups, and residents would help examine if Vision Zero policies have had an effect in shaping public preferences regarding the shared responsibility that is described in the readings, the political implications, as well as overall implications regarding the reduction (or increase) in vehicle fatalities.

Key Perceptual Data Measures for Comparison

Another key focus for this thesis project has to do with perceptions relating to the embrace and openness to vision zero values and policies that have been implemented. This can be considered in several different ways; from how it is being embraced on the political level by local politicians as well as local advocacy groups, and the residents themselves and whether they embrace the changes, including speed reduction and traffic calming measures that will have taken place. This will be determined by taking public data of traffic fatalities, as well as using in depth interviews to gain insight on the political and social support from the local government, local coalition groups, and residents. I will also be looking at complimenting local policy that encourages more public transportation ridership, and Vision Zero policies that have been implemented and compare them with the data that has been collected from interview participants and what they perceive as the successful or unsuccessful implementation of these policies.

Other Notable Factors

There are several other notable factors that may account for the successful or unsuccessful implementation of Vision Zero policies in the city. Such factors may include funding for the Vision Zero policies, amount of police officers available to enforce traffic safety, local government response to Vision Zero recommendations on traffic safety, and so on. If there are major discrepancies to the Vision Zero polices between San Francisco and San Jose, these

may also account for the increase or decrease of traffic fatalities in each city. As such, I will take additional factors into consideration for my initial case analyses and consider them for future studies that would apply a more comprehensive, quantitative approach in measuring a wider cadre of variables and their impact on traffic fatalities and the subsequent perceptions that develop from changes in fatality rates.

Limitations

Data will primarily be gathered through in-depth interviews but due to real-world pandemic concerns in 2020, interviews will have to be primarily conducted through a digital medium like Zoom/Skype/Google Hangouts or over the phone. This also limits my ability to witness some of the areas of concern that are referenced in local Vision Zero plans. It is also possible that not all members of the local government or partner organizations may be free to give an interview so this may limit the amount of data I can receive in on the institutional end. Finally, local residents will also be interviewed. This will be administered through Zoom and since it will only be answered by those who agreed to be interviewed this interview will not be a random sample. Even if the sample of residents would not be totally random, it can still provide insight whether residents feel safer with the local Vision Zero policies in place.

San Francisco

Vision Zero was implemented in San Francisco in 2014. The overarching goal of the project has been to reach zero deaths by 2024 (10-year plan). Vision Zero has been adopted in 40 cities in the United States and it should be noted that San Francisco has achieved some of the most notable successes in improving pedestrian safety during this time. San Francisco has ranked fourth lowest nationally with 26 fatalities per 1 million residents, a rate above that of Boston, Seattle, and New York City and below cities including Portland, San Jose, and Los Angeles, as well as Washington DC.⁴

To set the stage for this case, below are several key findings regarding the fatalities seen in San Francisco since 2014 (note that the bulk of the most recent data available pertains to 2019):

- Eighteen people (inclusive of one skateboarder) were killed in 2019 while walking in San Francisco, comprising the largest road user group impacted by traffic fatalities (62%).

- o Compared to 2018's fifteen fatalities, three additional people were killed while walking in 2019, in contrast to a steady decrease in pedestrian deaths seen from 2014-2017.

- One person was killed in 2019 while biking, comprising 3% of all traffic fatalities.

- o Compared to 2018's three fatalities, there were two fewer cyclist deaths.

- One person was killed while riding a motorcycle, comprising 3% of all traffic fatalities.

- o Compared to 2018's two motorcyclist deaths, one less person was killed while riding a motorcycle.

⁴ See: https://www.visionzerosf.org/wp-content/uploads/2020/03/Vision-Zero-2019-End-of-Year-Traffic-Fatality-Report_final.pdf

- Nine people were killed while travelling in a motor vehicle.

- o This contrasts notably with 2018, when three people were killed while travelling in a motor vehicle as a driver or passenger.

Among these patients, San Francisco also did an analysis of the victims themselves:

- Among pedestrian fatalities, ~40% were people age 65 and older yet seniors in this age group comprise ~15% of San Francisco residents.

- ~6% of pedestrians with injuries were admitted to the Zuckerberg SF General Hospital's Trauma Center and were recorded as having a mobility, visual, or hearing disability.

It is possible that if there were crosswalks or more infrastructure to help those with disabilities (including visual and hearing impairment), the number of deaths would continue to drop. Some of the changes that have been proposed in San Francisco include adding high visibility crosswalks as well as crosswalks that audibly cue pedestrians when it is safe to cross and that a red light is currently on a traffic light.

This suggests that the main bulk and danger in traffic fatalities continues to be pedestrian deaths across the city. It was also determined that the great majority of these accidents were determined to be from the driver being at fault. This suggests that while it is possible that individual corrections can reduce some of these fatalities, a policy prescription or targeted city response at reducing the speed of vehicles in the city may have a greater effect in reducing the number of deaths for pedestrians.

In an interview with Kelly Growth (K. Groth, personal communication, 2/04/21), legislative aide to Connie Chan, she described Vision Zero as having multiple stake holders as

well as weighing the positives versus drawbacks for the city. Vision Zero in San Francisco has spurred multiple innovations in the city and has met with some unexpected opposition. Groth has mentioned that one of the more successful measures of Vision Zero with respect to other traffic initiatives has been the public buy-in to make vision zero successful. She acknowledged that communication and implementation go hand in hand and commended groups like “Walk SF” that are advocates for the Vision Zero program. She also described the way that San Francisco has been successful in getting public support and notifying the public during regular neighborhood meetings regarding their progress as well as their regular updates to city supervisor meetings. The advocates for this policy often petition the city for improvements in city infrastructure like high visibility crosswalks in areas where there may be more risk and likelihood in accidents in places like schools and near nursing homes.

Vision Zero has also brought out opponents in certain respects from budget hawks who fear how the transportation costs may expand the city budget or how streets may expand and present a risk for other safety measures. For example, Kelly Groth (K. Groth, personal communication, 2/04/21) explained that there was some opposition from fire fighters because some infrastructure was changing the way some streets were shaped and were having an effect on how fire trucks could maneuver around the city. Obviously in a crisis, every second counts and without wide streets it may be difficult to operate a large vehicle like one of the city firetrucks without proper infrastructure to support it. However, Vision Zero advocates are not necessarily for reducing or expanding a street just for the sake of itself. These are usually guided by the data that vision zero has collected in order to make determinations of what city-wide infrastructure can be improved. The department of transportation try to find targeted locations that they would like to improve on in order to meet vision zero goals and specifications. They

then bring these goals to the city supervisor council and present them for a full vote in order to approve the motion to make an improvement.

Another major hurdle for San Francisco is the inability to control the speed limits. In the state of California, only the state legislature can control what speed limits are placed within the state. What this means directly is that even though Vision Zero is implemented in a city by city basis, only the state authority can determine the speed limits. This has major consequences for implementing vision zero because speed reduction is one of the central tools for reducing the number of fatalities as well as reducing injuries. Some local neighborhood groups in San Francisco have expressed dismay in the city's inability to reduce their own speed. Without being able to reduce the speed themselves, other safety measures often must be taken up in order to compensate for the lack of control. These can include speed bumps, high visibility crosswalks, more police and traffic enforcement around a particular area, as well as infrastructure changes in order to reduce the amount of speed when approaching a turn. It could also be said that many of these compensatory measures to reduce speed can also cost the city a significant amount more than simply putting a blanket reduction on speed across the city. While there may be additional costs in placing new signs across the city, it is significantly cheaper than, for example, creating a high visibility crosswalk that can easily run into a cost of hundreds of thousands of dollars with the combination of the materials necessary to create it, hiring the labor, and hiring the traffic enforcement to ensure that these workers can work safely as they create this new speed barrier.

Although there have been reforms that have been proposed in order to give local municipalities more control over their own speed limits, as of presently there has been no successful piece of legislation that has passed the legislature. As such speed limit policy remains governed by the state authorities.

San Francisco also features many complimentary policies that encourage people to get off the road and take public transportation. The public transit options include the BART (Bay Area Rapid Transit), the MUNI (San Francisco Municipal Railway), the cable cars, bus system, as well scooter systems like Byrd and Lime to help transport people to work. This also includes the VTA (Silicon Valley Transit Agency) in San Jose. Base fares for the MUNI is \$2.50 and allow you up to 2 hours on a single ride. In San Francisco however there are many complimentary policies that allow ease of access for both children and the elderly taking the bus.

San Francisco has passed a policy for the MUNI that allows senior citizens (65 years and older) to ride any MUNI vehicle including the trolley, cable car and bus system for free around through city limits. It also has an initiative to allow any student in the K-12 system in San Francisco to ride any MUNI vehicle including the trolley, cable car and bus system for free in the city up until they turn 18 years of age.

While these complimentary policies may not by itself remove the number of cars off the road necessary to significantly reduce the number of accidents and injuries, it adds to a culture of public transportation in San Francisco that is encouraged by city policy. There are also many employers in the San Francisco area who work with the city to offer reduced fares in exchange for taking public transportation to work. These usually involve a public transportation card (in the bay area it is commonly known as the clipper card) to be funded by an employer's wage before taxes are applied, making their total taxable revenue lower at the end of the year, and providing an incentive for keeping their public transportation option open to traveling to work as well as traveling around the city. This may arrive in a myriad of different ways, including a reduction in speed limits within the city, targeted speed bumps, crosswalks that have high visibility, as well as audio directions and notices for handicapped residents in San Francisco.

There have also been numerous closures of city streets including most notably Market Street. All Private vehicles are banned from Market Street itself from eastbound lanes between 10th and Main Streets and from westbound lanes between Steuart Street and Van Ness Avenue. This part of the city was traditionally heavy in traffic as it contained one of the busiest areas in terms of commerce as well as a multitude of pedestrians crossing back and forth on market.

The city's density in its population has also proved to be a challenging aspect in terms of getting appropriate safety measures in place. Although San Francisco has a lower population than San Jose, it remains the 2nd most dense city in the United States per capita. This is in no small part due to the size of the peninsula itself on which San Francisco is located. Providing safe walkways as well as streets where cars can be driven safely can prove challenging for city planners as well as elected officials.

Although vision Zero is indeed directed at trying to protect the residents of San Francisco from traffic fatalities, residents may not necessarily be engaged with how Vision Zero is being implemented in the city, or whether a new traffic policy and focus has come to pass in the city at all.

In an interview with Julia Templeman (J. Templeman, personal communication, 3/26/21) a resident of San Francisco for 3 years, she was not made aware of the goals, implementation, or neighborhood meetings pertaining to Vision Zero despite being a highly informed resident with respect to San Francisco politics. Julia Templeman has been involved with Next Gen America for 2 years as well as previously working on Tom Steyer's 2020 presidential campaign. She was also heavily involved with local politics through campaign volunteer work.

What was also notable about Templeman was that she took public transportation in San Francisco nearly every day. This high engagement with public transportation is notable in that despite continued and high engagement with public transportation, she did not engage with Vision Zero.

During our interview (J. Templeman, personal communication, 3/26/21) she said she had experienced a near pedestrian collision in the financial district, which is a highly congested area with pedestrians, cars, and muni buses running constantly throughout the financial district. She did not, however, report this which may also lead to the question of how many near accidents happen in the city without any official reporting of incidents taking place afterwards. Since the policy itself is completely data driven, this is another measurement challenge for future studies, and the actions needed in order to stop traffic fatalities before they happen could benefit from a deeper exploration of near fatalities and what scholars can learn from them.

One of the most common factors I have heard in terms of the challenges of improving the safety of traffic conditions within San Francisco and creating a successful program that can reduce traffic fatalities to zero requires a budget that can not only build the type of infrastructure improvements necessary in order to have safe walkways and streets, but also large enough to fund the labor in building it as well as hiring the amount of law enforcement necessary to adequately deal with speeders and other law breakers who would otherwise not listen.

In my interview with Kelly Groth (K. Groth, personal communication, 2/04/21) she described budgetary reasons as one of the most important factors that could determine the success or failure in the implementation of Vision Zero. Likewise, Amy Beinhart (A. Beinhart, personal communication, 2/12/21), the legislative aide for Hillary Ronen, described adequate funding as one of the greatest things measures the city supervisor's office can do to make sure

that Vision Zero is successful. They City Supervisors have a myriad of concerns and transportation remains at the top of the list due to it being one of the costliest. Any transportation project also runs the risk of having delays as well as on project as traffic study sites may have to be factored in.

City Supervisors also have a nuanced view of what has worked and what has not. For example, Norman Yee (N. Yee, Personal Communication 3/31/21), a city Supervisor that has served from 2016 to 2021 and served as president of the city supervisors, doubts that Vision Zero has made as much progress as some people are claiming. In a 1-on-1 interview with him he describes the policy as failing in San Francisco: “I don’t view the policy as successful, so that’s the backdrop. When you look at the number of deaths, we thought we were making some inroads for example but when you look at the last 2 years, it’s been stagnant. Sometimes even trending worse. I am not going to declare we are there. When we look at our implementation, there was a lot of interest in the beginning. There was a lot of buy-in from other departments, and if your strategies are the 3 E’s: Education, Enforcement, and Engineering, I have to say that the Engineering portion is still trying to improve things. Certainly, what I have seen over the last few years, activities done by the MTA or the transportation authority seems to be a lot more activities than before Vision Zero.”

Vision Zero has spurred on some engineering improvements around San Francisco, especially regarding a practice known as daylighting, which places more streetlights at corners and allows drivers to see any pedestrians who may be trying to cross the road especially at night. Norman Yee (N. Yee, Personal Communication 3/31/21) described the improvements like this: “Many of our corners were not daylighted, so a year and a half ago I put a policy through to daylight 500 corners. It took them a while to figure out which corners to daylight and over the

next year and a half, they began the process. It may not sound like much, but for someone trying to cross the street, and there are cars right there, especially for little kids (who may be easy to miss).” He then went on to elaborate on the shortcomings: “I think where we failed in San Francisco was the enforcement area of Vision Zero, and where it dropped off in focus was the Police Department, in terms of traffic enforcement. In that first year or so in terms of traffic enforcements and speeds it shows some positive effects. After about 2 years it seemed to have dropped off and there was a significant drop off. Before I left, I tried to figure out ways to refocus a little bit. I wasn’t sure the reasoning, but I think they said there might be some blame by the public saying that the police were profiling people in traffic stops. I was trying to get a study to see if that was the case. There’s nobody in the political world that would say I am against Vision Zero, it’s a matter of who is really push it. Besides myself there was several supervisors as I was leaving who were saying that they would carry the ball and I’m hoping that that’s going to be the case.”

Enforcement remains one of the central tenets of enrolling Vision Zero successfully and without the adequate enforcement of traffic it will be hard to determine whether speeding can be reduced in an effective and systematic way. San Francisco also appears to be dealing with officers leaving their post in San Francisco in search of other areas. In 2020, In the first six months of the year, 23 sworn officers resigned, Police Department records show. Of those, 19 took jobs at other law enforcement agencies, both in California and elsewhere. By comparison, 26 officers resigned in all of 2019. And only 12 officers resigned in 2018. It should be noted that although these number are higher for the city of San Francisco; they are not as high as compared with other cities in the bay area including San Jose which polices a city with a significantly

higher population. Thus, Police enforcement and traffic enforcement remain an integral part of Vision Zero and whether such program can succeed in the long term.

If the police vacancies continue at the current pace, the SFPD is on track to lose nearly twice as many cops in 2021 as it did in 2020 and close to four times as many as in 2018. Police in San Francisco left for a myriad of reasons. Interviews with officers who have left, or are planning to leave, suggest a combination of reasons are at play. But many cited the frustration of working under Proposition 47, a statewide criminal justice reform measure approved by voters in 2014 that reduced many nonviolent felonies, such as hard drug possession and theft of less than \$950, to misdemeanors that can be cited with little or no jail time.

The high cost of living in San Francisco (it remains one of the most expensive cities to live in the United States) was also a factor for many of the police officers that left. One officer is quoted as saying “I was getting a great paycheck, but 20% went to taxes, Here I got a bigger house, a more affordable lifestyle and a commute that went from two hours each way to 15 minutes.” There were also some political concerns that raised tensions between police officers and residents. California currently has a homelessness epidemic that is sweeping the state, and this has also had an effect on policing the city as well. The police officer was also quoted as saying “It’s also nice working at a place where everyone isn’t mad at you,” the officer said. “In San Francisco, everyone was mad. The homeowners would get mad because you didn’t move the homeless who were sleeping in front of their house. Then, when you tried to help the homeless, someone would start yelling about police brutality.”

One of the other challenges of Vision Zero is that it is so locally based that some of the effects can be offset by travelers, cars, and pedestrians coming from other regions. As mentioned earlier, only 15 percent of pedestrian fatalities were from San Francisco residents themselves. The large majority of them come from outside the region. This is known in the City Supervisors council as well. Norman Yee (N. Yee, personal communication, 3/31/21) is quoted as saying about the situation: “If we only concentrate on San Francisco, to educate drivers, it’s not enough. When we look at the drivers, many of the ones that kill people, they are not from San Francisco. They are coming from other areas in the bay area for whatever reason. So, it cannot be just a local effort. It has to be applied more broadly in the region.”

On a base level, it makes that cities do not feel the effects of their policies in isolation from other regions. If San Francisco is spending its efforts to educate its residents in the city, they might be aware of all the changes that are happening and which problem areas they need to look for. Other residents from Berkeley or Oakland or San Mateo have not received this same information and thus do not have the tools or information needed to adjust to these new traffic safety measures. Cases of the state giving local municipalities the leeway to determine their own speed limits may provide relief when trying to apply some of these changes. The speed limit can determine the outcome of so many potential accidents and can help avoid having to use some of the most unpopular engineering compensations, such as placing speed bumps in front of people’s houses/driveways. It would also avoid the process of having transportation departments from conducting a study on what impact a potential speedbump or crosswalk may have on a particular street or neighborhood and instead look at the broader systematic approach of slowing down regionally. If there are regional partnerships in the bay area to systematically slow traffic down, it may lead to a reduction in traffic fatalities regardless of whether residents came from one

locality or not. These cross regional partnerships may also help educate the public as a whole on what to do if they approach many of the same situations like how to approach a high visibility crosswalk, or when to slowdown and acknowledge when pedestrians are crossing and what to do in situations where the rules of traffic are not being adhered to in a correct fashion.

City officials, however, are not alone in fighting for Vision Zero and traffic safety in general. Walk SF is an advocacy group that aims to make San Francisco the most pedestrian friendly city in the United States. This aligns well with Vision Zero aims in making zero deaths per year making them natural coalition partners. Walk SF has also aligned itself with other advocates calling for significant state action. Its most current campaign aims to support 3 bills that are currently making their way through the state legislator. These bills are known as AB 550, AB 43, and AB 1243. AB 550 is known as the Speed Safety System Pilot Program. The passage of this bill would allow the use of Automatic Speed enforcement devices across San Francisco. Walk SF describes the bill as follows: “San Francisco needs to be able to use every possible proven tool to better protect communities and save lives. Speed is the #1 cause of severe and fatal crashes. Speed safety enforcement systems dramatically shift behavior and can reduce the number of severe and fatal crashes by as much as 58%. More than 100 communities in the United States have already embraced speed detection technology.”⁵

AB 43 is intended to let cities set speed limits to enhance traffic safety. Walk SF claims they need the passage of this bill due to the following: “Other leading Vision Zero cities are showing the power of reduced speed limits, both in bringing down average speeds and especially

⁵ See: <https://walksf.org/2021/04/01/three-state-bills-for-pedestrians-we-must-pass/>

high-risk speeds. There are many streets here in San Francisco that should have lower speed limits, but the City is unable to change them.”⁶

Since speed limits can only be determined by the State, reducing the speed by lowering the speed limits can continue to remain elusive for many cities hoping to get a handle on gaining control of some of these problem corridors. Walk SF goes on to say “Passing AB 43 would give cities greater freedom to set speed limits based on safety. It would require traffic surveyors to take the presence of vulnerable groups, including children, seniors, the unhoused, and people with disabilities when setting speed limits. It would also let cities set lower speed limits than traditionally allowed on those streets with the highest crash rates.”⁷

Finally, AB1238 is known as the Freedom to Walk Act. Walk SF believes that when enforced, jaywalking tickets are disproportionately given to people of color, and these encounters with police can turn life-threatening. There is no evidence that jaywalking laws make streets safer, especially for the most vulnerable pedestrians: children and seniors. They believe that criminalizing “jaywalking is fundamentally flawed and devalues people walking. Those limited resources for traffic enforcement should focus on reckless and deadly driving behavior, not ticketing pedestrians.” With police vacancies continuing to remain stubbornly high it is not hard to see why groups and traffic advocates would not stretch police to thin and create a situation where traffic safety cannot get the full attention from those who may truly need it.

⁶ Ibid.

⁷ Ibid.

I had the chance to speak with the Director of Walk SF, Jodie Medeiros (J. Medeiros, personal communication, 4/10/21), for some questions regarding Vision Zero. Prior to joining Walk SF, Medeiros was Deputy Director at the SF Housing Action Coalition, where her work was critical in passing Home SF, a policy to incentivize building more affordable and family-friendly housing in San Francisco.

Director Medeiros (J. Medeiros, personal communication, 4/10/21), views the effects of the San Francisco implementation of Vision Zero as mixed in several ways. She describes the implementation as follows: “One, we’ve advocated for all the street dollars in the SFMTA budget for Vision Zero projects. There’s money allocated for Vision Zero, granted it is only 10 percent of the budget total which I think is too small to do what we need to do (to make it successful). We’re 6 years in and we haven’t seen a drastic decline like we’ve expected. I think that the city agencies have not done a good job putting benchmarks in and how are we going to meet those benchmarks and it’s been a little haphazard in terms of their approach. They haven’t been focused. They also went out of the gate with very major capital-intensive projects. Which are incredibly resource intensive. Big million-dollar projects. They finally have reached their a-ha moment though that they can use paint and post effectively, so they are using the quick build model instead.”

The quick build model that she is referring to is generally considered one of the most effective ways to quickly address changing conditions on the ground in order to reduce the amount of traffic fatalities. An example she gave was the “Taylor Street project” which was considered a quick build after this new model and was largely considered successful because of the reduction of fatalities and injuries for this corridor. Employing the use of lane reduction and turn pockets by using cheaper materials to build allowed the city to adjust their vision Zero

model by creating quick engineering projects to guard against where the most danger for pedestrians may lie. Other quick build projects that she mentioned were “pedestrian bulb outs” which light the path for pedestrians who are crossing the street at night. Creating these bulbs out make drivers aware of pedestrians crossing which allow them to reduce their speed and ultimately avoid an accident from taking place without this aid.

Medeiros (J. Medeiros, personal communication, 4/10/21), went on to say that “it’s unfortunate that the city wasted 4 years focusing on capital heavy projects and that they instituted the quick build policies in 2019 which she acknowledges could be a game changer in how the city responds to changes that are happening on the ground and whether or not certain corridors need to be addressed.

Kelly Groth (K. Groth, personal communication, 2/04/21) also mentioned that one of these improvements that only needed “paint and post” was improvements made in the Tenderloin neighborhood in San Francisco. The Tenderloin area is identified as one of the neighborhoods with the highest injury corridors. It is suspected because of the high degree of density in the population as well as the area with the highest degree of people experiencing homelessness. In order to reduce the amount of traffic fatalities, the city used a quick build to create more no turn on red signs where cars are more likely to strike pedestrians who are crossing in a highly dense area. Traffic calming measures like reducing the streets to one lane was also employed. Both measures only had to be built using paint and signs to employ these traffic calming measures. Groth (K. Groth, personal communication, 2/04/21) also describes how data driven decisions of fatalities can also stop improvements on streets even if neighbors ask for a change. An example she gave was at 38th and Geary which was considered a high injury corridor. There was a fatality that happened in early 2018 and the SFMTA was able to make a rapid response improvement by

increasing the visibility of the crosswalk in that area to protect pedestrians. Meanwhile, there was an accident resulting in a fatality in the nearby block of 38th and Balboa due to an intersection where only cars coming from the North/South directions had to stop but not the cars going east/west. Neighbors in the area gathered in an effort to request the city make the intersection a 4-stop intersection. There was no data however to confirm the status of this street as a dangerous corridor and as a result there were no improvements that were going to take place as a result. Residents eventually convinced workers from SFMTA to come to the intersection they were at and witness firsthand how many near misses were taking place as a result of this intersection. Sometimes residents requesting a SFMTA member to witness the accidents themselves may work but the vast majority of times for any traffic improvements are a result of data being collected like how many collisions were taking place there as well as the frequency of these collisions. The quick build measure has been effective at saving city resources as well as making data driven responses to high fatalities or high injury rates in dangerous corridors of the city.

There are theories as to why some corridors become high fatality corridors in the city. Kelly Groth (K. Groth, personal communication, 2/04/21) sees a tie between density, lack of transit options and the size of the road themselves: “The Tenderloin is a very dense area and has our highest concentration of collisions. You can also look at Geary Blvd. and Fulton St. and they are also on the high collision network because it is more dense. Transit does go along there, but because it is a wider roadway, it kind of functions as a freeway to get from east to west. So even though transit is very frequent, there is a lot of collisions on there and usually it is in the more dense areas.”

City planning and engineering can play a central role in determining pedestrian safety and in this case, San Francisco in the downtown area would need significant traffic calming

measures like reducing the number of lanes and creating more stop signs and high visible crosswalks to let drivers see very easily where pedestrians may be coming from.

San Francisco was an early adopter of Vision Zero but with current conditions set the way they are they will unfortunately miss their goal of hitting zero fatalities within 10 years. Thus, my initial expectations were overly optimistic to some degree, but San Francisco still stands in relatively better shape than other cities by comparison in terms of its overall progress. Taking the city's successful policy measures into consideration while also looking at what has worked in other cities may be the key to reengineering Vision Zero and creating a more notably safer city for pedestrians.

San Jose

In May of 2015, San Jose had adopted Vision Zero and had become the 4th city in the United states to adopt this new program with the hopes of reducing the amount of traffic fatalities to zero. San Jose is unique in many ways, but one of the most notable differences from San Francisco is the population size and as well as the city sprawl and lower population density.

San Jose stands as the 10th largest city in the United states at roughly 1.028 million residents. It is also home to a large and robust immigrant community, with over 38% of its residents being foreign born. It is also significantly more spread out and subject to city sprawl, which makes car ownership especially prevalent in San Jose. In 2016, San Jose only had 5.1 cars without a vehicle compared with San Francisco which stood at 29.9 percent without vehicles.⁸ As such, the reliance and total amount of cars in San Jose can create significantly more challenges when it comes to reducing the number of vehicles on the road.

It is also noteworthy how San Jose had reached record low revenues during the recession of 2008. During the height of the great recession, the revenue lost was driving San Jose into insolvency. Cuts began to hit everywhere and in all, the city made cuts totaling roughly \$450 million, leaving its municipal workforce and level of services far below what they once were. This had a notable negative effect on the department of transportation, resulting in fewer workers and planners who could assist with making safe roadways for drivers and pedestrians but also fewer police officers to help combat the rise of illegal speeding and unsafe traffic practices.

⁸ See: <https://www.governing.com/archive/car-ownership-numbers-of-vehicles-by-city-map.html>

San Jose also has multiple public transportation methods but is vastly sparser in terms of stop locations and areas traveled to when compared to San Francisco. San Jose has the VTA (Silicon Valley Transportation Agency), which operates throughout the Santa Clara Valley. This includes busses and light rail that travels throughout the city. There is currently one BART (Bay Area Rapid Transit) in the Berryessa neighborhood in district 4 of San Jose, however it did not open until June 2020. There are plans to extend the Bert expansion into downtown and eventually through other districts but at this point those plans have been delayed.

San Jose does offer some complimentary policies to encourage public transit, although not as generous. Its base fare starts at \$2.50 and grants up to 120 minutes on one ride. The VTA also offers discounted rides for folks who are 65 and older as well as youths who are 5 years old to 18 years old. It should be noted that these fare increases were due to the staggering number of deficits that the VTA had been running for years. In 2018, the VTA was running an operating deficit of \$25 million a year which eventually led to painful cuts in bus services. It was also forced to offer voluntary buyouts to workers nearing retirement as well as tie some future fare hikes to inflation. The fare hikes discourage riders who rely on the public transportation to get around which can ultimately lower the revenue even further. Agencies like the VTA who are facing budget crunches amid the lack of revenue are forced to cut routes that are sparsely populated. While the VTA may save money on these routes being cut, they will continue to lose revenue in general and leave residents who are stranded in these public transportation deserts to either walk or get a private vehicle to get to work. The increase in operating costs and decrease in revenue can lead to a sort of death spiral with ridership for agencies like the VTA.

Over the last six years, operating expenses have grown twice as fast as revenues. Sales taxes account for roughly 80 percent of VTA's income, but the rate of growth has slowed while

expenses continue to increase. This has led the city to dipping into its capital reserves in 2018, to \$5 million from \$49.5 million. The BART station that came to San Jose in 2020 required funding for the 10-mile extension from Fremont to Berryessa. This extension also required more bus service and covering the financial needs of the BART link. The savings came from reductions in services which amounted to approximately \$15 million a year \$2 million came from higher fares adjusted for inflation and \$1 million in voluntary buyouts. Other savings came from delaying some projects.

It is also notable that this was not the first budget crisis to hit the VTA. As mentioned above, during the Great Recession in 2008, layoffs, fare hikes and service cuts were deep. Ridership on buses and light-rail trains dropped a significant amount ranging from 23 percent in 2001 to 2016, forcing the VTA to consider its biggest cuts it had at the time. During the 2020 pandemic the VTA was forced to abandon collecting revenue in an attempt to prevent the Coronavirus from being spread to their drivers. It stopped collecting fares from April 2020 to August 2020. Fare collection resumed for buses, light rail, and paratransit. However, rides to or from a vaccination site or other vaccination appointments will be free with proof of appointment slip or vaccination card when they board. VTA was facing a projected budget deficit of up to \$80.7 million in 2021. Ridership was down by 75% since April of 2020. The agency had considered deep cuts of up to 30% to patch up the shortfall, but instead increased services on seven critical bus routes following community outcry and protest (Herrera, 2020).

San Jose has claimed that the way it will ultimately eliminate traffic fatalities will be through a sustained, long term commitment to giving significant resources to provide more rigorous data and more rigorous and systematic data analytics, delivery of corridor-based safety projects, engagement and education of the community to build awareness of Vision Zero, and

expanded enforcement activities. The priority actions include the following strategic areas: build robust data analytics tools, form a Vision Zero Task Force, increase traffic enforcement and prioritize ksi (killed or seriously injured)- reduction strategies, increase community outreach and engagement to build culture of safety and implement quick build data driven safety improvements, and finally equity: focus resources on high ksi corridors and districts.⁹

Vision Zero has identified about 17 corridors that are of major concern regarding traffic fatalities.¹⁰ Some interesting things to note is these corridors range from the busy streets of downtown to the outskirts of south San Jose. One of them features the downtown street of Santa Clara St. This area features some of the most significant foot traffic in San Jose because downtown area which has businesses ranging from bars to convention centers. This area has some of the most public transportation options as well, but because of the heavy foot traffic as well as heavy use of personal vehicles in this area the risk for pedestrian fatalities remains higher than usual. What is interesting to note though is the outskirts where some of these accidents occur. In the southern part of San Jose Capitol expressway remains a higher risk area for traffic fatalities. This could be the case because of the lack of high visibility cross walks and speed that some cars approach without a significant amount of law enforcement.

In an interview with Councilmember Lan Diep (L. Diep, personal communication, 3/30/21) of San Jose, he suggests that culture and individual action may contribute a larger factor than many realize. Lan Diep counted some of the biggest challenges to make Vision Zero successful in San Jose included both funding as well as public sentiment: “Vision Zero is about not having anybody lose their life in a traffic fatality, but it is also about getting people to change

⁹ See: <https://www.sanjoseca.gov/home/showdocument?id=51859>

¹⁰ See: <https://www.sanjoseca.gov/your-government/departments-offices/transportation/safety/vision-zero/maps-data>

their behavior, in terms of how they drive, what speed they go at, whether you are going to allow mechanisms that are going to slow people down when they want to be able to cut through a corner, get somewhere quicker, or have more lanes-less bike lanes. Share the road. So, people like the ideas of nobody dying, but when it means that they have to get somewhere slower and not be able to move through traffic as efficiently as they are accustomed to and we move the focus away from cars to humans, people don't like that.”

Diep (L. Diep, personal communication, 3/30/21) also mentions that pushback from residents relating to Vision Zero is usually to improvements or changes that were happening to areas in their district. This is where political will and neighborhood meetings would prove helpful in providing residents with a chance to air their concerns before transportation agencies create changes that may leave residents angry.

One example in San Jose is what was known as the Charcot extension in District 4. The Charcot overpass was a controversial North San Jose highway overpass proposal that has been a part of the city's growth blueprint for decades. The Charcot Avenue extension has been in the works since 1994, when it was approved as part of the San Jose 2020 General Plan. The project aims to extend Charcot Avenue from Paragon Drive to Oakland Road by way of an overpass that arcs across I-880. But the largely industrial neighborhood has evolved since those plans were set two-plus decades ago, most notably with the addition of Orchard Elementary School on nearby Fox Lane. With the addition of the school, many parents feared that this broadening of the road would prove dangerous for students who must frequently cross the street in order to attend school. The local residents were also wary of a road expansion that would eat into their neighborhood as well invite more traffic into the area.

The transportation agency, however, maintained that safe speed limits would be applied and that there would be infrastructure changes to accommodate increased traffic as well as the pedestrians attending the school. Despite these claims there was furious push back from both the school as well as parents. In the end, the transportation agency floated a couple of alternatives that were created due to some of the neighborhood meeting they had regarding this expansion.

Instead of the draft design recommended by city officials, the council opted for one of the eight alternatives, which eliminates one of the two proposed left-turn lanes from northbound Oakland Road to westbound Charcot Avenue. That would make the intersection at Charcot Avenue and Oakland Road three lanes instead of four. The council approved this measure in hopes of finding compromise between advocates of the school and traffic safety advocates. This dynamic continued to exist for vision Zero projects in San Jose which were often brought upon to local neighborhood groups with the aim of educating the public on why a particular area was a problem for traffic fatalities, what the city thought the most efficient and cost effective way to improve the numbers of reducing traffic fatalities could be, and finally how they could effectively find compromise solutions for residents who also had other concerns on how these changes to the traffic infrastructure may affect their personal lives.

Diep (L. Diep, personal communication, 3/30/21) also described some of the challenges for promoting Vision Zero policies included staggeringly low amount of neighborhood and resident turnout. He mentioned that were many meeting with neighborhood groups when traffic improvements were being proposed and went on to note as follows: “We’re going to put a bulb out at this curb because we want to have safer islands for pedestrians to stand and cross the street, these are the type of things that are brought to community meetings, and I’m sure people from the city went to promote Vision Zero, it wasn’t just a banner then figure out what Vision

Zero is. But we also realized in a neighborhood of thousands, you would have maybe 20 people show up to these monthly neighborhood meetings, It's not huge. Of course, you might post something about it on NextDoor (a neighborhood based social media site) or something, but those posts tend to be long and I don't know who reads them.”

This shows the extent of the problem many city officials have when trying to promote these kinds of traffic safety initiatives and it also illustrates the challenges faced in trying to change the culture of San Jose by encouraging public transportation, as well as bike lanes and bicycle travel in an attempt to get more cars off the road. Diep expressed that no one will say out loud that they would like more people to die during traffic fatalities, but people are hesitant to have infrastructure changes that may change and slow down people's methods of faster transportation in San Jose. This is especially so if you live in an area that is outside the downtown area and where public transportation may be lacking in either areas where there are not as many locations where public transportation can pick them up or lacking in frequency with busses not returning for 30 minutes or an hour.

Another challenge of trying to build improved infrastructure for is the cost, time, and regulation that must take place before any improvements can occur. Diep (L. Diep, personal communication, 3/30/21) described the process as taxing mentioning: “I don't understand why, but it costs 60,000 dollars to build a crosswalk. That's paint, concrete and human time/union labor. I don't understand why it costs so much for paint and concrete, but it does. 60,000 dollars at least, on the low end. On the high end, when you want the flashing lights, and you want the bulb outs and safety things where people can stand in the middle of the road it can cost 100,000 dollars. I don't understand the breakdown of why that is. But if it costs 100,000 dollars per cross walk and you're fighting because there is so much in the budget, for parks, or for streetlights,

police officers, community centers, you're going to get maybe 2 crosswalks a year (per district), but it's not going to be at the pace you want." Thus, one of the most common challenges that is shared with all councilmembers is on how this relates to their budget as well as outreach.

It is also understood that the department of transportation often must conduct studies to research what possible infrastructure may impact traffic as well as safety. Any kind of improvement like a cross walk or speed bump can possibly take months to finish. Restructuring a road itself took 10 years in the case of the Charcot expansion due to not only the studies, but the public input, as well as what the rest of the city budget looks like and whether there would be possible alternatives placed in to appease some public sentiment about how this expansion would be treated. After all those items are approved, there still must be a vote on the council itself which also takes political will and partnerships with the councilmember and mayor. Without sufficient political support, it is possible that the City council would ignore the findings made by the transportation department in order not to lose their own seat or give a possible election opponent an edge in an upcoming election.

Another Challenge that Councilmember Pam Foley's office has identified has been legal speeding. Speed remains an important facet to how vision Zero is implemented and as it stands today there is no legal way for local municipalities to control or lower the speed limits unilaterally. Kyle Laveroni, a staffer for Councilmember Pam Foley (K.Laveroni, personal communication, 2/09/21) says that: "One huge issue that the Vision Zero task force, and our staff has identified is actually legal speeding. The posted speed limits are often too high, and we don't really have an ability to lower them."

In order to make up for not having the ability to lower speed limits is using other enforcing infrastructure or speed-reducing infrastructure. One of the ways they can compensate

is what they call traffic calming treatments. These include radar speed signs which are one of the easiest and cheapest alternatives that the City Council can enact. They are also looking at these radar speed signs double as a way to collect more data regarding which hotspots are in town for speeding and possible traffic accidents. Another technique they often employ to try and reduce speed is what is known as a “Road Diet.” A typical road diet technique is to reduce the number of lanes on a roadway cross-section. One of the most common applications of a road diet is to improve safety or provide space for other modes of travel. Restricting a road by a lane will often cause cars to slow down in order to accommodate the number of cars that now have to squeeze together in order to successfully navigate through the road. The San Jose department of transportation has also been experimenting with paint and plastic bollards to visually narrow the roadways so that motorists feel like the lane is narrower and will slow down to compensate even if the lane is the same size. Speed humps are not as readily employed because they can cause issues with emergency vehicles which often have to get to a destination in a very short amount of time. Speed humps are also often expensive and politically charged in the way they must be placed. As explained by Kyle Laveroni, residents often like speed humps being placed in their neighborhood but not necessarily in front of their house. However, speed bumps are nevertheless very popular with residents and have often requested the council office to place a speed hump to be placed in their neighborhood. However, the city often needs permission from the property owner who is adjacent to where the speed bump will be located. The council office finds that people are generally in favor of having speed bumps on their street but not if it is right in front of their driveway. In such cases, a new location would have to be chosen for placement that still makes sense to mitigate the speed in the area that is needed.

Both councilmembers expressed the challenges of trying to pass and enact measures for Vision Zero included the public sentiment for vision Zero itself. Most people support Vision Zero overall because they support the efforts to bring the causalities to zero. The broad effort though can lose its favor with the public if it is specifically located in their neighborhood or placed in a way that slow down or impede their normal route to their workplace. One example was given by the staffer from councilmember Pam Foley's office (K.Laveroni, personal communication, 2/09/21). He described a situation where a median was going to be built in the Hillsdale neighborhood in their district: "Hillsdale is kind of weird in that you've got what seems like kind of an arterial street with residential units on it, so if we put in the median, residents who are used to going in the middle lane to make a left turn to their house can no longer do that, So we're expecting some blowback from that."

Laveroni (K.Laveroni, personal communication, 2/09/21) also described a road diet being placed on Lincoln avenue where a lane was reduced, and cars now had to pile in on one lane instead also got some complaints from businesses who were concerned about the reduction of customers and making it harder to patronize their businesses in the area. This kind of balancing act in San Jose can make it difficult to find areas that are politically viable to place these infrastructure improvements without upsetting local residents even if it is located in an area that has been identified as a possible problem location by data as to where a significant increase in accidents can occur.

Enforcement is also another facet for Vision Zero that continues to remain a problem for San Jose to this day. During the great of recession of 2008 and an economic downturn in 2012, San Jose lost a significant amount of their police workforce. This drop continued with 650 vacancies in the 2017-18 fiscal year with an average of 7,000 employees, a decrease from the

850 vacancies in 2016-17 with about the same number of total employees. In 2019, the city has about 570 vacancies, excluding vacancies in the police department, with a total workforce of about 7,600 employees.¹¹ This reduction in the cities police force can make it difficult to enforce speed measures at problem corridors and where speed needs to be reduced in order to reduce the number of fatalities. When Vision Zero was first being implemented in 2014 the seriousness of the police vacancies was acknowledged as a challenge: “It is acknowledged that due to a current high vacancy rate of San Jose police officers, dedicated staff for traffic enforcement has been reduced. As an offsetting measure, patrol officers have been cross trained to perform traffic enforcement services. As a cost effective and educational measure to address speeding issues, SJPD deploys seven mobile “Your Speed” sign trailers and is purchasing five more for a total of twelve speed feedback trailers. With grant funds provided by the California Office of Traffic Safety, SJPD implements occasional sobriety checkpoints to enforce and deter intoxicated driving. San Jose has continued to see traffic safety in school zones steadily improve over the past decade. SJPD administers the City’s Adult Crossing Guard program which staffs 122 intersections with safety guards that provide support to nearly 100 schools. Additionally, DOT has a team of 10 parking and traffic control officers that are deployed to support safe school zone drop-off and pick-up activities.”¹²

One of the main factors why San Jose has a problem recruiting and holding onto police officers seems to be the pay for the police themselves. In 2017, city data showed there were 608 resignations. External new hires — workers being employed by the city for the first time and not promoted from within — were 655. The city’s turnover rate was 8.1 percent in 2017-18 and the

¹¹ See: <https://sanjosespotlight.com/san-jose-has-nearly-600-job-openings-but-its-an-improvement/>

¹² See: <https://www.inist.org/library/2015-04.Liccardo%20et%20al.Vision%20Zero%20San%20Jose.San%20Jose%20DOT.pdf>

vacancy rate was 11.1 percent. Its turnover rate was 14.07 percent and vacancy rate were 12.07 percent the year prior. In neighboring Oakland, the turnover rate was 6.52 percent in 2018 and the vacancy rate was 16.69 percent. San Diego had a 10 percent turnover rate.

Robyn Zamora, executive board member of AFSCME (the American Federation of State, County and Municipal Employee union) Local 101 is quoted as saying “Employee retention is the biggest problem the city faces,” and until salary and benefits are made “competitive again,” she said employees will continue leaving for smaller cities with better pay and less work. Until then, Zamora added, San Jose remains a “training ground” for those employees.¹³ Police enforcement is only one part of the Vision Zero implementation, but without this basic tenet being met. It is improving however, and if police are increasingly being used effectively and driven by data decision, we should expect to see a drop in traffic fatalities moving forward.

The Education policy focus of Vision Zero is unique in how it is being implemented in San Jose. Councilmember Lan claims that Information and awareness are being spread through a myriad of ways with both ads and billboards being taken out to explain what Vision Zero is and what it could mean for residents of San Jose. He also mentions that many residents do not know what these advertisements mean by themselves and that this could be negatively affecting the traffic fatality rate if the residents themselves do not adjust their own personal driving behavior and what someone can do to reduce the fatality rate on an individual level. As Lan states, “We put up banners in different neighborhoods in different languages. I thought it was good attempt, but the banners are too small. Not legible, you can’t read it from far away if you’re driving. How do you convey a policy to people on a banner? So, I was on the council, and by virtue of that I understood what Vision Zero was, because I had staff tell me. But if I’m just going down the

13 See: <https://sanjosespotlight.com/san-jose-has-nearly-600-job-openings-but-its-an-improvement/>

street trying to go to the movies with my girlfriend, or get to the grocery store, and there's a banner that says let's move toward Vision Zero. I'm going to be like what the hell is Vision Zero?"

On a basic level, this suggests that the average person would not know what the policy is or where they would receive more information on where they could learn more about the policy itself and what changes are being made. Councilmember Diep (L. Diep, personal communication, 3/30/21) went on to say "Vision Zero to me does not communicate zero fatalities. Like if I went on Wikipedia and I took the time to find out what is Vision Zero, I could maybe find some stuff about it. But the common person, like a soccer mom taking her kids home from school Vision Zero doesn't mean anything. So, you can put up the banner and say let's move toward Vision Zero, but without some sort of larger campaign like the this is your brain on drugs type PSA or in YouTube ads or wherever it is streaming, the words Vision Zero is meaningless."

In San Jose while there are community meetings, it is true that there is not a centralized campaign that is promoting the virtue of vision zero and gaining public support or awareness of what the changes that Vision Zero is bringing. You can see the results of this compared with other programs that the city is implementing like the "Tiny Homes" (Tiny Homes hereafter) campaign that the city has focused on to house the homeless. For the Tiny Homes campaign that was being built in the Berryessa neighborhood of San Jose, there were staff and volunteers that routinely tried to spread the word about the tiny homes being made available to people experiencing homelessness to both homeless camps in the city, as well as residents who live near the site itself. The result of these outreach efforts was that Tiny Homes were filled quickly and that not only were the residents around were engaged with the current campaign but were

routinely updated on the progress of the site being built as well as the impacts of the site housing these residents. It stands to reason that if Vision Zero had a similar campaign built around educating the public about Vision Zero as well as some of the practices. More individuals may be more respectful of the new policy changes to the city and take action to ensure its success.

Vision Zero is sometimes still debated within the City of San Jose in its aims and whether it can achieve the goals it can through systematic changes. Councilmember Lan Diep (L. Diep, personal communication, 3/30/21) is quoted as saying: “I also want to say that it shouldn’t require the infrastructure (to be successful) at the end of the day it really boils down to human education and human behavior. If I approach a cross walk and I see the flashing lights I should slow down (and stop if need be). Some people just drive through it, so the pedestrian doesn’t know if this driver is going to yield or not. Like there is no inherent culture necessarily. Some people just expect that I have the right of way, I’m the pedestrian and I can walk through it, and the car is going to have to stop. And that’s how it is legally, but some people, maybe people who are new drivers or drivers who came from other countries or just got their license at 17 they don’t understand that.”

This view holds driver education to be the key to stopping unsafe driving practices and downplays the amount that traffic slowing measures can achieve. It should be noted that cities like San Francisco do address this in some local policies like educating its workforce on how to drive larger trucks. At the time of this writing San Jose has yet to propose a policy initiative like this to educate its drivers.

The density and walkable nature of San Jose could be a factor as well in getting people to stop using their private vehicles and begin using public transportation, walking, or bicycles. When it comes to the walkable nature of San Jose, Diep (L. Diep, personal communication,

3/30/21) describes it as follows: “We have different cities all over America and some places are more urban than others. Some cities are more accustomed to being a pedestrian city. New York (for example) is a walkable city. San Jose is arguably getting there. But I wouldn’t consider it a walkable city. For example, the core of Austin (TX) downtown by the capital is walkable, but if you get further out by Zilker Park or the suburbs it’s not. So, when you have places where cars expect people, they’re going to be more alert to watch out for people, people are going to know how to interact better with cars. If you’re just crossing the street though where there is no cross walk, or you’re in your neighborhood just trying to get to the grocery store and it’s not built in a way that’s really for pedestrians and you’re cutting through 4 lanes of traffic trying to get there because it’s the most direct route, people are going to be like what the heck, and accidents are going to happen.”

You can see with this statement how highly local leaders stress the importance of city planning and road engineering which can have a power outcome on what we think a pedestrian safe city would look like. The walkable planning for a city which may include safe and walkable lanes could greatly influence how safe pedestrians feel and how alert drivers can be in finding pedestrians.

Diep (L. Diep, personal communication, 3/30/21) was also concerned about the push for public transit in the city. He is quoted as saying: “There definitely is a push to use bicycles, we are building out our bicycle network. We do encourage people to use the public transit more. Part of that is controversial because public transit is two things. It’s breadth of coverage and it’s regularity of service. So for San Jose or the County of Santa Clara the options we have are do you want coverage all over the city with the bus, but if you do that, it’s going to be like one bus every 1 to 3 hours or you build a network where the bus and the BART come every 15 minutes

and it's all downtown." This trade-off is something that policy makers think about constantly and part of the reason why some residents are reticent to use public transportation in general because the regularity of service will not bring them to work on time, or they live in the out skirts of town where the public transportation system is just harder to get through.

Finally, some councilmembers like Lan Diep hold a more traditional view of traffic safety where individual action and behavior may hold a stronger role in reducing the amount of traffic fatalities in the city. He describes one of the biggest challenges for Vision Zero is to adjust human behavior in driving. Diep (L. Diep, personal communication, 3/30/21) is quoted as saying: "Culture is a part of it (the solution), but I would say it's human behavior that this the biggest challenge. For the extent of cultures part, I think there's something called the Pittsburgh's left turn, where you would go ahead and make the left turn (without stopping) and people expect that. If you are in Pittsburgh, you know it. But if you are in Pittsburgh for a meeting, you're going to be like what the hell and you're going to hit somebody. You're going to think you had the right of way and the other guy so going to be like you're in Pittsburgh. And so, peoples signals are not just meshing. "

His view that human behavior and culture may play a bigger role is important but notably is a more traditional approach to traffic safety. To reach the goals of Zero causalities like what was originally intended by the framer of Vision Zero, there would have to be systematic change and new policies that would coerce drivers into slowing down and make safer decisions as well as traffic calming measures as well as enforcement that could compel drivers to slow down. There would also have to be systemic change in the way speed limits are set up as well as enforced.

Comparing San Francisco to San Jose

Enforcement

One of the markers of key differences between San Jose and San Francisco is the enforcement factor, particularly when it comes to making sure that would be offenders are informed of the policy changes in Vision Zero. While both cities had a significant economic downturn during the great recession that connected to vacancies, San Jose reportedly had larger vacancies in its police force.

San Jose police Vacancies

In 2014, former Mayor Chuck Reed (Campbell, 2014) was quoted as saying that one of the factors making it harder to recruit more cops is that San Jose's overall compensation package is “not as competitive as other agencies.” He maintained that the POA “is actively encouraging” recruits not to apply to the academy and “encouraging officers to leave” the force. The city itself sets higher standards than other cities for those it selects into the police academy, including the equivalent of a minimum of two years of college, because “our goal is to have a quality police force,” he said.

The combination of having higher standards to be initially hired while also paying lower wages for the police officers themselves could have a strong effect on attempting to retain (and likely losing) officers as well as retaining officers with little previous experience looking for a chance to begin and gain experience on the job. The results of this lack of retention means that there are fewer officers who have focused on traffic calming measures as well as other patrol officers having to share responsibilities. Speed remains an integral part of Vision Zero and

without the enforcement arm of the police or citations being issued the danger of residents ignoring the legal speed limit or without any repercussions.

Even with vacancies fully staffed the police would not be able to cite all would be speeders across both cities. The City of San Jose and the City of San Francisco both have automatic red-light cameras as well as speed trailers that can remind residents what the actual speed limits are in the neighborhood or city zone that they are currently driving in.

Enforcement priorities

Enforcement aims for San Francisco include the following: “Don’t block the box, Focus on the five, and parking control enforcement. Don’t Block the Box is an initiative that aims to prevent the almost half of all injuries to people that occur in crosswalks. When drivers block crosswalks, they cannot clear an intersection in time, and they put people walking at greater risk. Don’t Block the Box is a campaign to cite drivers who block intersections and prevent pedestrians from crossing safely. Focus on the five means Using multi-year collision data, the San Francisco Police Department (SFPD) is focusing on enforcing the five violations that are most frequently in collisions with people walking. Finally, with parking control enforcement, The SFMTA Parking Control Officers (PCOs) enforce several parking violations to advance Vision Zero policy including double parking, blocking bicycle lanes, blocking sidewalks, and intersection gridlock.”¹⁴

For San Jose, the department of transportation provides the police department with the top 5 known violations that contribute to fatalities and severe injuries. The data includes locations and hours for enforcement. It also has a particular focus on illegal speeding within San

¹⁴ See: <https://www.visionzerosf.org/vision-zero-in-action/enforcing-traffic-laws/>

Jose, particularly around the problem corridors that it has identified. Automated speed enforcement (ASE) has been introduced in New York City as well as Seattle but as of right now, ASEs are not currently granted access to California cities. San Jose is currently engaged with state officials to allow ASE in the state to assist with speed reduction in the state.¹⁵ We can see that even with these priorities, San Jose has aimed to use more state related functions and mechanisms to help fight the amount of illegal speeding that is happening across the state. While San Francisco traffic enforcement is focusing on what they currently have, San Jose is hoping that a change in the state law can help assist with deterring more residents from speeding. Some of the obvious drawbacks of this plan is that it does not address the residents that are illegally speeding now. It also does not take into consideration how long moving a bill like that through the state house would take, leaving San Jose to languish in present day plans. Both cities appear to be focusing on enforcement measures that seek to reduce the 5 most common violations that end with traffic fatalities. This focus is directed by the Department of Transportation in San Jose and the San Francisco MTA and Transportation Authority, respectively. We can see the influence of Vision Zero as a data driven policy initiative in both cases.

Education and Awareness

Both cities have a myriad of education and safety initiatives. To help facilitate the education and awareness of residents, San Jose has put the following action plans in place. San Jose plans to hire a planning and marketing consultant to craft an outreach strategy. In advance of an anticipated 2020 procurement process, in late 2019 the department of transportation hired a CORO NorCal research fellow to contact other Vision Zero cities and prepare a visual report of

¹⁵ See: <https://www.sanjoseca.gov/home/showdocument?id=67710>

media strategy and campaigns. The city is planning to collaborate with county partners and other cities on the safety messaging effort. To fund design, focus groups, production, placement/distribution of outreach strategies is estimated to cost them about \$300,000.

San Jose is also planning to have their Department of Transportation reach thousands of school children through the city's "Walk and Roll" traffic safety education program. As a result of these measures, injury crashes involving children ages 5-14 have declined 35% from 2009 to 2018. San Jose had also received a grant from the California Office of Traffic Safety to do engagement work with senior pedestrians. They are currently planning to have this program expand to unhoused neighbors in the city. Finally, they are focusing on the city's senior population. In 2018 alone 24 pedestrians died. Among the pedestrians, 9 were considered older adults (65 and older) and consisted of 38% of pedestrian deaths. This awareness campaign consists of getting banners and messaging to the corridors with the most fatalities. The Senior safety messages are also being deployed on VTA stations, VTA bus tails, as well as streetlight poles.¹⁶

San Francisco's education aspect of Vision Zero includes several educational programs to implement.¹⁷ They include Safe Routes to School, Safe Speeds SF, Large Vehicles. Safe is a program that has Expanded to 40 schools in 2014, the SF Safe Routes to School Partnership promotes and supports safe walking and bicycling to elementary, middle and high schools throughout the city. Safe Speeds is described by San Francisco as Speed is the leading cause of death and severe injury in San Francisco, the Safe Speeds SF campaign aims to inform people of driving over the speed limit in order to reduce speeds that result in people dying.

¹⁶ See: <https://www.sanjoseca.gov/home/showdocument?id=67710>

¹⁷ See: <https://www.visionzerosf.org/vision-zero-in-action/educating-the-public/>

Finally, Large vehicles account for 4 percent of collisions with people walking and bicycling but 17 percent of the fatalities from those collisions. The city developed a first-of-its-kind training program for drivers of large vehicles. Companies that do business with the SFMTA will now be required to provide this training to their large-vehicle drivers.

Engineering

The engineering aspect of a vision zero plan relies on several factors to implement, including the data that Vision Zero collects as a regular occurrence. For San Jose, this data and engineering plan is factored in several ways. San Jose is trying to implement what are known as “quick build” projects. These projects are typically rapid response quick builds that are intended to respond to community input for possible infrastructure improvements, as well as the data that is collected pointing to potential problem areas and high traffic fatality areas. In order to rapidly build these improvements, the city of San Jose is choosing to use relatively inexpensive materials to build safety projects quickly. They claim that using the quick build approach to lower crashes and injuries based on data priorities and compare before/after crash and injury data is an efficient way to check whether these intended improvements are working. Cities also look for year to year improvements in reducing traffic fatalities, so the rapid response quick builds are a natural match for Vision Zero improvements. The city is currently applying for grants to fund quick build to capital project conversions and continue to condition developments to fund nearby safety improvements. It is currently estimated that \$20 million is needed to improve 56 miles on the 15-city controlled priority safety corridors. The most recent example of what a quick build project looks like is the “Better Bikeways” project which was built downtown. This created new pathways for bikes to be ridden safely in the downtown area with new paths and dedicated bike lanes for biker’s safety. Ultimately the Department of Transportation is working to create a new

citywide bike plan that calls for completing a bike network that is accessible regardless of age or biking abilities. On top of the biking plan, the Department of Transportation is also working to build a new pedestrian master plan. This new pedestrian plan will also make efforts to apply for more infrastructure related grants more likely to be approved. Largely however, district improvements are still requested by the districts councilmember and brought to the Department of Transportation for a request to study the improvement or an approval followed by work to begin the project. The scope of these projects ultimately begins with the budget that is set aside for each individual district.

San Francisco has several initiatives for engineering improvements. These include city wide data driven projects, the “Walk First” project, and “Bicycle Safety” project. First, 70% of severe and fatal collisions occur on just 12% of San Francisco streets. Vision Zero SF aims to tame streets with higher collision rates and prevent tragedy when people make mistakes. Engineering projects in support of Vision Zero incorporate effective safety improvements like protected bike lanes, wider sidewalks and reduced traffic speeds. The goal is to calm traffic, enhance visibility, and improve the organization of the streets.

One of the first commitments to advance Vision Zero was to complete 24 priority projects in 24 months; San Francisco has made significant investments as the city surpassed that target and completed 30 priority projects in 24 months. Walk First was a two-year public process that identified the 6% of San Francisco streets that are responsible for 60% of pedestrian collisions and developed solutions to help eliminate fatal collisions at over 170 intersections. Finally, The SFMTA implements bicycle safety improvements across San Francisco, helping growing numbers of people to bike safely and comfortably across the City. In 2014, the SFMTA implemented 10 miles of new and upgraded bikeways in the city.

When comparing both cities, it is not hard to see that San Francisco has a significantly higher amount of funding and greater ability to complete traffic projects on a wider scale. It also has a significantly smaller population so the infrastructure improvements that are made can easily have a stronger effect on its residents per capita. As Councilmember Lan Diep (L. Diep, personal communication, 3/30/21) mentioned for traffic projects in San Jose, Crosswalks by themselves can easily cost 60,000 for just a standard crosswalk. When you add the high visibility lights and other improved features, these crosswalks can go over 100,000 dollars and quickly eat into the budgets. Councilmembers use the data collected by Vision Zero to direct where to build infrastructure improvements. They are also directed by their constituents when they receive calls and emails about a particular intersection or corridor that needs to be reviewed. Community meetings also serve as a powerful tool to learn where in the community are more improvements needed. In this case San Jose Councilmembers are often swayed by political concerns by their constituents if they continue to push for a specific infrastructure improvement, even if there is not necessarily a data driven push behind the proposed project. San Francisco also has a community input and political concerns from their constituents in community meetings as well as City Supervisor meetings. There are also coalition partners who are very organized in San Francisco who routinely have their members advocate for certain improvements in infrastructure and can have a powerful effect in turning public opinion as well as advocate for residents' concerns. One of the more power advocate groups in San Francisco is the Bike Coalition which has advocated for the closure of certain city streets. The city did respond to this by allowing market street to be closed to private use vehicles making the use of bicycles more prevalent in the downtown area of San Francisco and allowing for more safety more bikers as well as pedestrians.

Complimentary Public Transportation Policies

San Francisco features several policies that encourage people to take public transportation. These include the “Muni” that allows senior citizens (65 years and older) to ride any Muni vehicle including the trolley, cable car, and bus system for free around through city limits. It also has an initiative to allow any student in the K-12 system in San Francisco to likewise ride any Muni vehicle including the trolley, cable car, and bus system for free in the city up until they turn 18 years of age. There are also public and private employers in the San Francisco area that offer reduced fares in exchange for taking public transportation to work. These allow “clipper” cards to be funded by an employer’s wage before taxes are applied, making their total taxable revenue lower at the end of the year, and providing an incentive to keeping their public transportation option open to traveling to work as well as traveling around the city. By comparison, San Jose has the VTA which offers discounted rides for folks who are 65 and older as well as youths who are 5 years old to 18 years old. Public employers like the city of San Jose also allow their employees free public transportation on the VTA.

Although both cities have policies to encourage public transportation, San Francisco clearly has an advantage with more generous policies that encourage a large portion of their residents to ride for free. Generally, there are also more options to take public transportation in San Francisco than in San Jose. Although there are portions like the Presidio neighborhood in San Francisco that can take an extended period in order to have a muni bus show up, the city itself is generally denser and has many more areas that are accessible vis-à-vis public transportation. While San Jose does have public transportation with the VTA the city is very large and one of the most common complaints is both the areas that it will not reach in terms of places you can ride the VTA, the lack of stops in particular neighborhoods. The Alviso

neighborhood is an example of a large area of San Jose that was annexed into the city in order in the hopes of receiving more city services, but unfortunately is so far away from the downtown area, that it could be reasonably difficult to send the amount of public transportation with high frequency between rides in order to adequately serve the residents in the area. Often residents in these parts of the city have very little choice but to take their own private vehicles in order to accommodate the amount of city sprawl in the city.

What both cities have in common with their Vision Zero implementations is that speed is a major component of both cities plans. Ultimately, they both use their plans in Education, Engineering, and enforcement in order to reduce the amount of speed that vehicles are traveling. They also lack necessary authority in order to reduce the amount of speed limits.

One of the largest problems with speed in both cities is the frequency with both legal and illegal speeding in the city. Vision Zero is a municipally focused policy and yet neither city can control their own speed limits. Many of the infrastructure changes that have been proposed by the City Council of San Jose or the City Supervisors of San Francisco are a work around to lower the speed limit in highly populated areas or in known problem corridors where there is a high frequency of speeding. The California State legislature in this case has the power to grant some more power to local municipalities to set lower speed limits. These cities can use the data that they are already collecting in order to make targeted speed limit reductions that would both save lives and make long term systematic changes to how people drive in the area. Both cities are also currently requesting automatic speed enforcement from the state authority which would go a long way to help a police force that is already stretched thin. While both cities are experiencing difficulties in retaining an adequate police force, San Jose in particular is having trouble in both recruiting and maintain a high number of police positions filled as a consequence of the lack of

law enforcement, there are some corridors across the city that are underserved in terms of enforcement of speeding. Installing these automatic speed enforcing devices would relieve the burden on police so they can better tend to other law enforcement matters as well as have a greater presence on all problem corridors across both cities without the need for breaks or changes in shifts.

Policy Prescriptions

Vision Zero remains a powerful policy plan to implement with respect to reducing traffic fatalities, but it has been handicapped by several factors in San Francisco and San Jose. The lack of authority in reducing speed limits, the lack of enforcement in some problem corridors in the cities, and easing public transportation and service to discourage the amount of private vehicle use.

State Legislative Action

First, it is important to understand that the base line for all Vision Zero initiatives is to reduce speed. San Francisco acknowledges in their safe speeds campaign that driving even over 5 mph over the legal speed limit is twice as likely to kill someone. They also acknowledge that speed is responsible for 10 times the number of pedestrian injuries in San Francisco as driving under the influence. San Jose not only acknowledges that illegal speeding is a problem but through several interviews, councilmembers suggest that legal speeding is also a problem. Speed limits remain high in areas of the city that remain dense, but they are especially high in areas where there is a high frequency of pedestrian deaths due to traffic collisions. The most direct action either of these cities can take is to lower the speed limit themselves which would directly and systematically lower the speed in both cities and reduce the number of pedestrian deaths. Local municipalities in California, however, lack the authority to unilaterally lower speed limits in the city and thus must resort more extensively on compensatory actions to reduce speed further. These include traffic calming measures like reducing lanes, building infrastructure like high visibility crosswalks, creating safety islands, speed bumps, and relying on traffic enforcement to deter drivers who would continue to drive in a reckless manner. These other

measures can and do slow down traffic but lowering the speed limits remains the strongest course of action a city can do in order to slow down traffic in a systematic way.

It is possible that the state legislature can keep and apply these lower speed limits themselves however, there are several problems with this proposal, first while the state legislature can choose to unilaterally and uniformly lower speed limits across cities in California this may have the effect of targeting locations where it would not only slow down traffic and possibly create gridlocks but might not even be needed. With Vision Zero in place, the municipally based data collection can pinpoint where these lower speed limits can benefit the city the most and reduce the number of hot spots for collisions and pedestrian fatalities. Second, with the Vision Zero policy in place at a local level it is easier for residents of these cities to lobby and petition the local government to make changes in their neighborhoods and community areas. It is also easier to attend community meetings where residents can learn more about the policy itself as well as give their input to the local transportation staff. Local politicians also feel more empowered to take ownership of traffic safety as well as feel political pressure on the local level to show positive results or possibly feel the wrath of voters at the polls. Finally, having Vision Zero based on the local level allows local governments and local city departments to readily react to changing conditions on the ground whereas state authorities may have trouble initially trying to effectively combat traffic fatalities and how to respond quickly.

The easiest and most effective action the state legislature could take is to transfer some power to local municipalities in order to lower speed limits in problem corridors and around city limits in order to effectively reduce the amount of traffic fatalities in the city. It could be a range lower by 10 mph which is acknowledged to save lives. Cities can create new zoning laws and apply these new speed limits to these corridor areas where they are most needed.

The State legislature also has the power to approve of automatic speed enforcing devices in city municipalities which would both affect San Jose and San Francisco in no small part. Both cities have had trouble maintaining full vacancies for their police force. This would allow these ASEs a chance to cover more of the city and catch would be speeders without the fear of stretching the police force which is already experiencing shortages in both cities. This would also be relatively less expensive in the long run with police wages having to be paid as well as more constant surveillance of problem corridors which could theoretically lead to increased revenue from citations issued by the ASE. Finally, these ASE would be power machines for collecting data. If there is consistent data which could be reported to the Department of Transportation for both cities, it could give insight if certain corridors need structural improvement or whether it could benefit from a police officer being stationed at that spot.

Both issues are being handled separately by two different bills in the state legislature. They are known as AB 550: Speed Safety System Pilot Program, and AB 43: Setting Speed Limits to Enhance Traffic Safety. If these bills pass through the state legislature AB 550 would give California cities power to finally pilot speed safety enforcement systems on the busiest streets with the highest crash rates. AB 43 would give cities greater freedom to set speed limits based on safety. It would require traffic surveyors to take the presence of vulnerable groups, including children, seniors, the unhoused, and people with disabilities when setting speed limits. It would also let cities set lower speed limits than traditionally allowed on those streets with the highest crash rates. The quick passage of these bills would allow cities to implement these changes as soon as possible and depending on how fast cities could move to implement these changes could help San Francisco and San Jose a chance to meet their goal of having zero pedestrian deaths within 10 years.

Zoning

San Francisco and San Jose do have the power right now to change zoning laws to affect speed limits that are in place currently. San Jose has been experimenting with changing school zones in order to accommodate a larger area that systematically slow the speed limits around San Jose. Both cities should take this zoning power to expand school zones immediately in the neighborhoods around in order to systematically slow private vehicles around them and keep students safe.

Rerouting Larger Vehicles

Large vehicles tend to account for a sizable portion of traffic fatalities. It is possible that large vehicles make it harder for drivers to see where pedestrians are located. San Francisco currently has its own training program to help with drivers working in the San Francisco area this program could be expanded to San Jose as well which also ships many products from Silicon Valley. I would propose that both municipalities work with companies like google, Waze, and Apple Maps to redirect traffic for larger trucks to less populated areas away from problem corridors where hitting a pedestrian may be more likely. Redirecting these large vehicles will keep both the drivers, pedestrians, and the company depending on the safe passage of deliveries better off with fewer deaths.

Education and Outreach

For both cities, a common refrain I heard from both Councilmembers in San Jose as well as City Supervisors in San Francisco is that the education portion of Vision Zero was lacking in its capacity to really to reach folks who did not know what Vision Zero was prior. Although they put ads up around their respective cities, it did not explain what the policy was itself, and how it

applies to everyday residents. A fix that we could do is explain clearer in these ads about what the policy is and how it can help average pedestrians. This is only marketing however around the city and must enter the digital, cable, and radio sphere as well. This will expand the scope of the advertisements as well as reach audiences within the city who may have not heard of the policy through print media or billboards. Digital advertisements on YouTube and social media for example can reach a much younger audience. Furthermore, Cities should invest in education that does not just include advertising on billboards and actually has an organized campaign at letting the public know.

One of the concerns by City Councilmembers in San Jose was that the city would help pay for these billboards to inform the public but no other outreach methods would go beyond that. As Councilmember Lan Diep (L. Diep, personal communication, 3/30/21) noted, he thinks that only around 20 people show up to these meetings in a neighborhood of thousands. If vision Zero had a dedicated organizing team and outreach effort aimed at not only making ads but doing outreach by showing up to other community meetings, reaching residents through their churches, schools, clubs. Recruiting volunteers and working with collaborative partners like Walk SF and the bicycle coalition in order to combine their volunteer workforce and make the greatest impact in their communities. A dedicated outreach staff could go a long way with reaching out to residents and making them feel as though this policy is affecting their personal lives as well as their community.

Regional Partnerships

Although Vision Zero is applied to local municipalities and focused on a local level the effects of traffic negligence and safety is not regulated to any single city. Multiple city officials from both cities are aware and cognizant of the fact that drivers and pedestrians do not solely

come from their city alone and in many cases, traffic fatalities may end up with either the driver or the pedestrian with being from another city in the bay area. There is nothing stopping other residents from other cities coming over to San Francisco nor should there a mechanism to stop them. San Francisco and San Jose should, however, make regional partnerships with other cities to make sure that neighboring cities who are also enacting Vision Zero are working together to make sure that the totality of its residents are being kept safe and informed. These partnerships can start out with shared events promoting traffic safety, the importance of slowing down, as well as any information about how Vision Zero is being implemented in their city. With these events that are partnered with different cities, they can ensure that vision Zero education is being shared with some of the residents that may affect their own traffic fatalities.

This partnership could also be facilitated by the coalition advocacy organizations like Walk SF or the Bicycle Coalition which have experience working in other cities as well as working with educating residents and spreading the message outside city limits which the local government may not have jurisdiction to reach other citizens.

Complimentary Public Transport Policies

Both San Jose and San Francisco have their own complimentary policies that encourage public transportation, but these policies can be enhanced in a few ways. First, there are sticks and carrots that can be used to encourage public transportation. In San Francisco they have free rides for the elderly and children who live in the city however, Free rides on the muni can be extended for public employees to help subsidize the cost of taking the public transportation. It is also possible with more funding going to the SFMTA, to lower the fares associated with the MUNI in order to increase the number of riders using public transportation. There is also the method of

just generally making public transportation free however this is admittedly costly and hard to administer given current municipal budgets.

There are also the punitive measures a city government can impose like continuing to close down streets so that people driving private vehicles can no longer reach these areas, raising the tolls on the Bay Bridge and Golden Gate Bridge. Also, raising the fees in parking tickets and other means may be used to discourage people from taking their private vehicles to work and school. I should be noted that these punitive measures can only go so far. The use of private vehicles is still the most convenient way someone can go to and from home. There are businesses as well as residents who depend on private vehicles for both business and personal use.

Build on What Works

Building on the work that has already been completed will take diligence and focus. Tools like the rapid response build model are already starting to take effect and could really improve the amount of time it takes to respond to high collision corridors as well as other improvements that could be made. The data that is being collected can be used to target where potential hotspots are but also where potential hot spots may pop up in the future. When these data points arrive, it is important to respond in a quick and efficient matter. These quick build rapid response projects allow the city to respond to accidents and collisions immediately before they can affect more residents. One of the biggest advantages is that these quick build projects employ cheap materials and projects so that it does not end up taking a district's whole budget for only a few projects. In situations like in San Jose, councilmembers will request a project from the transportation department, and they will lay out the approximate cost from some of these traffic improvements and typically ask the councilmembers about the priority of each of the

projects they would like completed. This can lead to very fierce competition in the community as well as political pressure for the councilmember in question since some of these projects may not be necessarily data driven but instead provided to appease constituents in granting them a request. Given the savings from rapid response projects, councilmembers could be more emboldened to use funds for a wider array of projects that are primarily data driven instead of being brought before the council by a small group of residents.

This does not mean, however, that resident concerns should not be taken into account. Kelly Groth (K. Groth, personal communication, 2/04/21) had mentioned how resident concerns are valid and can sometimes pick up on what the data collection misses sometimes. Community meetings can be used to gauge community concerns about a particular corridor or intersection that does not fall under a corridor. These would normally be missed and would have a small chance of being responded to by the city. These quick build projects however allow for a wider range of projects to be worked on and resident concerns or insights into creating new traffic improvements at a site can be responded to quickly before formally becoming a corridor for fatalities and injuries. These rapid response projects are also wide ranging when it comes to traffic calming measures. With just posts and paint, cities can engineer signs to prevent cars from going the wrong way, reduce lanes to one lane which entice drivers to slow down, make crosswalks easier to see by painting and outlining crosswalks, and install more bike lanes as well as setting down more lights so that pedestrians are easier to see at night.

These types of improvements also take significantly less time to be approved then, say, a crosswalk or a speed bump. For these large-scale engineering improvements, it takes the Department of Transportation months to study the impact of the improvements on both traffic as well as the impact on pedestrians. The amount of time taken to study the impact of this

improvement, and the amount of time it could take to build these large capital-intensive improvements can leave the city to languish with a high number of pedestrian deaths and injuries without any change for the foreseeable future. If projects are long enough, they also remain in danger to being vulnerable to budget cuts. This may eventually impede a project from continuing into the future and leave the corridor to be unchanged.

Enforcement

One of the central planks for an effective Vision Zero program is having a robust enforcement aim at stopping would be speeders as well as enforce safe traffic practices. Both San Francisco as well as San Jose have had trouble keeping their police force from leaving the city and leaving vacancies open. Without these police positions and traffic enforcement positions filled, people will feel emboldened to keep pushing beyond the speed limit and seriously affect the safety of pedestrians.

There are a couple of effective policies that San Francisco and San Jose could offer to incentivize officers to stay in the city. First the clearest and the most immediate change that could take place is to offer police officers higher pay. The most common complaint made by police who have left the force is to say that they are not being paid well enough for the job they are doing. This is also compounded by the cost of living in the bay area itself, which remains one of the highest in the United States. San Francisco is rated the number 1 most expensive place to live, followed close behind by San Jose at number 2. For a family of 4 in San Francisco it costs approximately \$11,165 dollars a month and the monthly cost of living for a single adult is \$5,194 dollars. In San Jose, the monthly cost of living for a family of 4 is \$10,720 and the monthly cost of living, single adult is \$5,117. The cost of living in other states combined with the higher salary and generous benefits that police officers are offered in other parts of the country continue to

remain competitive for San Francisco and San Jose. Increasing the salary for police officers will slow the reemergence of vacancies for both cities.

Challenges

Admittedly the pandemic from 2020 going into 2021 will leave city revenues and budgets in tatters. Providing more funding for traffic improvements as well as funding for increased education materials and traffic enforcement can and will prove difficult. Federal and state funding is needed to help repair the amount of damage that has been wrought by economic collapse. If Vision Zero is to remain an effective policy, significant resources will be needed to make possible the engineering changes, education outreach, and hiring of more traffic enforcement in order to make sure that proper speed limits and other safety precautions are being adhered to.

Conclusion

Vision Zero will continue to play an important role in reducing traffic fatality rates. Based on my personal interviews and data collected (see Summary Tables 1 and 2 below), while San Francisco has had more relative success with Vision Zero than San Jose from the onset, the bigger question remains whether Vision Zero can develop and succeed in a measurable and sustainable way for both cities in the long haul. At this current rate, even with improvements, neither city will reach their target goals without more serious and substantive shifts in reform. Ultimately, although Vision Zero is locally focused, it will require state-level intervention in order to make the policy plan more viable in the future and successful in its goals. The three pillars of Vision Zero which include education, enforcement, and engineering are all aimed at reducing speed. Reducing speed is such a crucial part of Vision Zero and yet neither city can accurately nor effectively control its own speed limits. While both cities can make compensatory policies to help regain some control of being able to slow the public down, what is ultimately missing is the strongest action a city can take to control the speed within its city limits, and that entails lowering the speed limit unilaterally.

Summary Table 1: Personal Interviews with Key Personnel	
Person I interviewed	What was the central idea I took away from this interview?
Julia Templeman San Francisco Resident, Activist	Julia Templeman is a very politically active person and very plugged into local politics but still was unaware of Vision Zero.
City Supervisor Norman Yee	Does not believe Vision Zero can be declared a success in San Francisco; Infrastructure improvements are welcome but enforcement is lacking.
Amy Beinhart – Hillary Ronen	Adequate funding is one of the key factors the city supervisor’s office can address to make

	sure that Vision Zero is successful. The city supervisors have a myriad of concerns and transportation remains at the top of the list due to it being one of the costliest.
Kelly Groth – Legislative aide to Supervisor Connie Chan	Data-driven decisions are important but can also overlook some of the possible fatality markers that may be missed by the data including near misses and wreck less driving.
Councilmember Lan Diep	The cost of infrastructure improvements and the political implications for supporting these changes; Explained how road diets and infrastructure improvements may help compensate for lack of control of speed limits as well as pedestrian safety.
Kyle Laveroni – Legislative aide to Pam Foley	Legal and illegal speeding both remain a large problem for cities as well as how road diets and infrastructure improvements may help compensate for lack of control of speed limits.
Jodie Medeiros Executive Director - SF	The rapid build model has significantly contributed to the infrastructure traffic improvements needed as well as the need for cities to lower their own speed limits.

Based on the interviews I have conducted, while it is clear that San Francisco has had a slight advantage over San Jose since the beginning of the life cycle of Vision Zero, they both have begun to plateau even in the face of the pandemic. Considering most people were sheltering in place, one would expect the fatality rate to significantly drop but instead we saw the traffic fatality rate did not significantly change even with less people on the road from previous year. This suggests that the number of cars could theoretically reduce the amount of traffic fatalities but speed seems to have a greater effect on traffic fatalities within local municipalities.

For each plank of the Vision Zero plan, there remain significant challenges to overcome (see Summary Table 2 below). Both cities have started to address these concerns through incremental policies, but it may take far more beyond the standard goals in order to achieve such breakthroughs.

Summary Table 2: San Francisco and San Jose Comparative Findings

San Francisco	San Jose
<p>Enforcement:</p> <ul style="list-style-type: none"> ▪ Don't Block the Box: Almost half of all injuries to people walking occur in crosswalks. When drivers block crosswalks because they can't clear an intersection in time, they put people walking at greater risk. Don't Block the Box is a campaign to cite drivers who block intersections and prevent pedestrians from crossing safely. ▪ Focus on the Five: Using multi-year collision data, the San Francisco Police Department (SFPD) is focusing on enforcing the five violations that are most frequently cited in collisions with people walking. ▪ Parking Control Officer Enforcement: The SFMTA Parking Control Officers (PCOs) enforce several parking violations to advance Vision Zero policy including double parking, blocking bicycle lanes, blocking sidewalks, and intersection gridlock. 	<p>Enforcement:</p> <ul style="list-style-type: none"> ▪ During the great of recession of 2008 and an economic downturn in 2012, San Jose lost a significant amount of their police workforce. This drop continued with 650 vacancies in the 2017-18 fiscal year with an average of 7,000 employees, a decrease from the 850 vacancies in 2016-17 with about the same number of total employees. In 2019, the city has about 570 vacancies, excluding vacancies in the police department, with a total workforce of about 7,600 employees ▪ "It is acknowledged that due to a current high vacancy rate of San Jose police officers, dedicated staff for traffic enforcement has been reduced. As an offsetting measure, patrol officers have been cross trained to perform traffic enforcement services. As a cost effective and educational measure to address speeding issues, SJPD deploys seven mobile "Your Speed" sign trailers and is purchasing five more for a total of twelve speed feedback trailers.
<p>Education:</p> <ul style="list-style-type: none"> ▪ Safe Routes To School: Expanded to 40 schools in 2014, the SF Safe Routes to School Partnership promotes and supports safe walking and bicycling to elementary, middle and high schools throughout the City. ▪ Safe Speeds SF :Speed is the leading cause of death and severe injury in San Francisco, the Safe Speeds SF campaign aims to inform people of driving over the speed limit in order to reduce speeds that result in people dying. ▪ Large Vehicles :Large vehicles account for 4 percent of collisions with people walking and bicycling but 17 percent of the fatalities from those collisions. The City developed a first-of-its-kind training program for drivers of large vehicles. Companies that do business with the SFMTA will now be required to provide this training to their large-vehicle drivers. 	<p>Education:</p> <ul style="list-style-type: none"> ▪ San Jose is also planning to have their Department of Transportation reach thousands of school children through the cities' "walk and roll traffic safety education program. ▪ The priority actions include the following strategic areas: build robust data analytics tools, form a Vision Zero Task Force, increase traffic enforcement and prioritize ksi (killed or seriously injured)- reduction strategies, increase community outreach and engagement to build culture of safety and implement quick build data driven safety improvements, and finally equity: focus resources on high ksi corridors and districts.
<p>Engineering:</p> <ul style="list-style-type: none"> ▪ Rapid Build model for infrastructure improvements ▪ WalkFirst was a two-year public process that identified the 6% of San Francisco streets that are responsible for 60% of pedestrian collisions and developed solutions to help eliminate fatal collisions at over 170 intersections. ▪ The SFMTA implements bicycle safety improvements across San Francisco. In 2014, the 	<p>Engineering:</p> <ul style="list-style-type: none"> ▪ San Jose is trying to implement what are known as "quick build" projects. These projects are typically rapid response quick builds that are intended to respond to community input for possible infrastructure improvements, as well as the data that is collected pointing to potential problem areas and high traffic fatality areas. In order to rapidly build these improvements, the city of San Jose is choosing to use relatively

<p>SFMTA implemented 10 miles of new and upgraded bikeways in the City.</p>	<p>inexpensive materials to build safety projects quickly. They claim that using the quick build approach to lower crashes and injuries based on data priorities and compare before/after crash and injury data</p>
<p>Complimentary policies:</p> <ul style="list-style-type: none"> ▪ There have also been numerous closures of city streets including most notably Market Street. All Private vehicles are banned from Market Street itself from eastbound lanes between 10th and Main Streets and from westbound lanes between Steuart Street and Van Ness Avenue. This part of the city was traditionally heavy in traffic as it contained one of the busiest areas in terms of commerce as well as a multitude of pedestrians crossing back and forth on market. ▪ San Francisco has passed a policy for the MUNI that allows senior citizens (65 years and older) to ride any MUNI vehicle including the trolley, cable car and bus system for free around through city limits. It also has an initiative to allow any student in the K-12 system in San Francisco to ride any MUNI vehicle including the trolley, cable car and bus system for free in the city up until they turn 18 years of age. ▪ 	<p>Complimentary policies:</p> <ul style="list-style-type: none"> ▪ San Jose does offer some complimentary policies to encourage public transit, although not as generous. Its base fare starts at \$2.50 and grants up to 120 minutes on one ride. The VTA also offers discounted rides for folks who are 65 and older as well as youths who are 5 years old to 18 years old ▪

For education there remains a significant challenge in outreach and informing the public vis-à-vis a myriad of platforms. Although both cities are using traditional advertising with billboards, yard signs, and advertisements on public transportation, as well as city literature and community meetings, there remain more opportunities to educate larger portions of the public through digital media and an organized campaign to recruit volunteers and hold events with coalition partners that support the Vision Zero mission.

Regarding enforcement, the most powerful policy that could be enacted would be instituting automatic speed enforcement devices that could cover most of the corridors needed to reduce the amount of traffic fatalities. This would also get around with the reduction of the police force as well as the open vacancies still needed to be filled for each city.

Finally, with engineering, both cities have experienced a large amount of projects that can be very capital intensive and take a significant amount of time to allocate resources as well as a significant amount of time to study and institute the changes. Both San Francisco and San Jose have started implementing a new change in engineering a rapid build project. This includes using materials that are cheaper and easier to implement to make such changes. These materials allow the city to quickly respond to changing conditions on the ground where a particular corridor might be experiencing a sudden change with respect to zoning, speed limit changes instituted by the state, or a new housing project being built in the area which may bring new residents as well as new vehicles in the area.

Even with these changes put into place it is worth noting that without state action, traffic fatality levels remain in danger of stagnating (rather than falling) or perhaps even rising. The most effective policy that could make the traffic fatality level drop in both San Francisco and San Jose would be significant state intervention as well as regional partnerships to take place. This also has implications for other cities on looking to institute Vision Zero as well. No city can act as an island. The cities around them as well as the state they are living in will affect the success or failure of the policy. Federalism as it is implemented in the United States has deep implications for transportation policy across the country and local municipalities must be able to rely on state intervention for funding as well as delegation of regulation and control of speed limits.

Moving forward, it would also be useful to look at how cities that are dominated by one party or share power between multiple parties are tackling traffic issues on the local and state level. On the municipal level, San Francisco and San Jose are both dominated by Democrats in the city council as well as the city supervisors' chambers. During the time of my interviews all

city supervisors in the city of San Francisco were Democrats and all city councilmembers in San Jose were either registered Democrats or registered Independents. This did not mean, however, that there was perfect agreement when it came to local issues. Coalitions formed on the council most often through the prism of business and labor. Councilmembers for the city of San Jose would base some decisions on the city budget and their constituents, but also through the prism of how it affected local businesses in the city. Transportation measures and infrastructure improvements would often be included in this if it could significantly impact traffic going to and from businesses. In some cases, if a new road or public transport stop were being proposed that would bring more commerce and patrons to local businesses, you may see the business community as well as business-friendly councilmembers support such measures. On the other hand, if there was a safety infrastructure improvement being proposed such as a road diet or speed bump that could significantly prevent patrons from reaching a business comfortably, you may see business-friendly councilmembers fight against these changes. In some ways, you can see this parallel with the housing issues in California which has its own share of problems ranging from zoning to infrastructure to availability of affordable housing. Transportation issues can lead similar debates and viewpoints when it comes to reducing the number of private vehicles. Private vehicles are often the most convenient way to work but it is most available to those who have the credit and can afford to make the monthly payments for a vehicle. Public transportation is more widely available to the public but also less convenient, especially when it comes to trying to go from one business to the other.

At the state level, party dynamics may still be a dominant force, but if there is a coalition of like-minded cities that approve of a similar policy initiative, that could prove decisive to getting a policy change approved. In California, the state legislature is dominated by Democrats

so they might find solace that most of the major cities in California are dominated by Democrats as well. These party dynamics could prove useful for cities that are lobbying the state for assistance.

Citizens may also be better organized into forming stronger coalitions to pressure city officials if they are informed about Vision Zero from city communication channels. This information cannot come just from billboards or on the sides of busses however, it should also come multiple modern sources as cable, social media, and digital advertising. It should also include a sustained campaign to have organizers do outreach to residents so they can improve the attendance of community and receive the community input needed in order to make Vision Zero effective. Partnering with non-governmental organizations and traffic safety advocacy groups can boost the chances of success by organizing residents to advocate for Vision Zero policies on the local and state level.

At this point, it is also important to circle back and reassess in hindsight the original assumption made by traditional traffic safety scholars: that random chance occurrences may have a larger role in traffic accidents and pedestrian fatalities. While it is true that random chance occurrences can play a role in accidents, systematic approaches to changing the factors that enter into accidents like education, enforcement, and engineering can play a large role in reducing traffic fatalities. Since Vision Zero was introduced in San Francisco in 2014, pedestrian fatalities have significantly dropped. Even when there was a slight increase in pedestrian deaths in 2018 and 2019, they have never reached the levels where they were in 2014. We can attribute this to the systematic approaches that were made to keep pedestrians safe. Data driven approaches told city leaders where these accidents were taking place, which residents were being affected, and from there city leaders could make the changes necessary to save lives in the future. If random

chance was simply the culprit, we would expect these fatality numbers to stay fairly steady regardless of what changes take place, but there has been a steady decline because of the actions taken so it can be determined that systematic approaches may be more successful in preventing death. These proactive steps and data driven procedures are key to understanding how local government can use the tools it has to reduce traffic fatalities and can shed insight into how these safety measures can be reproduced in other cities.

In Sum, implementation of the Vision Zero program can be done successfully by a given city, but based on my findings for San Francisco and San Jose, a more substantive, positive outcomes will first require significant reform and action by the state and serious action to effectively slow down drivers and reduce the amount of traffic fatalities. Looking forward, this research can be extended by exploring, among other things, local public sentiment and using survey data as well as resident panels to understand how residents are feeling on a deeper level. Ultimately public opinion in the form of appraisal perceptions can greatly help determine whether Vision Zero is deemed successful and if there exists enough public support to maintain the program in duration. Researchers may also find further value in gathering additional statistical data and using quantitative analysis across cities to explore key determinants affecting Vision Zero outcomes, which may include factors such as changes in the speed limits, changes in levels of traffic, raising or lowering of bridge tolls, increases or decreases on public transportation fares, attracting more police enforcement, or creating infrastructure that can effectively slow traffic down as well as keep pedestrians safe. Finally, comparing Vision Zero in the United States to that of its implementation Europe, including in exploring more deeply how differently federalism in the U.S. may affects policies connected to traffic fatalities could also be worthwhile. Such comparative approach could help determine more clearly which types of

governments may be best adept at implementing key Vision Zero traffic policy reforms for the sake of greater public safety.

References

- Bethea, J. W. (1958). Organizing for Safety. *Sage Publications, Inc. in Association with the American Academy of Political and Social Science*, 320, 122–131.
<https://www.jstor.org/stable/1032023>
- Cabanatuan, M. (2016, March 28). Deaths in S.F. traffic not falling despite Vision Zero efforts. *San Francisco Chronicle*. <https://www.sfchronicle.com/bayarea/article/Deaths-in-S-F-traffic-not-falling-despite-Vision-7182486.php>
- Cabanatuan, M. (2021, January 26). More than 200 killed, 20,000 hurt in S.F. traffic incidents since 2014. *San Francisco Chronicle*. <https://www.sfchronicle.com/bayarea/article/S-F-has-seen-more-than-200-killed-20-000-hurt-15892033.php>
- Campbell, P. (2014, February 25). *An Interview with Mayor Chuck Reed*. San Jose Inside.
https://www.sanjoseinside.com/opinion/03_10_11_chuck_reed/
- Cedar, A. (1983). Relationships between road accidents and hourly traffic flow — II. Probabilistic approach. *Journal of Safety Research*, 14(3), 138.
[https://doi.org/10.1016/0022-4375\(83\)90029-4](https://doi.org/10.1016/0022-4375(83)90029-4)
- Chandran, A., Kahn, G., Sousa, T., Pechansky, F., Bishai, D. M., & Hyder, A. A. (2012). Impact of Road Traffic Deaths on Expected Years of Life Lost and Reduction in Life Expectancy in Brazil. *Demography*, 50(1), 229–236. <https://doi.org/10.1007/s13524-012-0135-7>
- Durant, R. F., & Legge, J. S. (1993). Policy Design, Social Regulation, and Theory Building: Lessons from the Traffic Safety Policy Arena. *Political Research Quarterly*, 46(3), 641.
<https://doi.org/10.2307/448951>

- Garrett, T. A., & Wagner, G. (2007). Red Ink in the Rearview Mirror: Local Fiscal Conditions and the Issuance of Traffic Tickets. *SSRN Electronic Journal*. Published.
<https://doi.org/10.2139/ssrn.947831>
- Graf, C. (2020a, August 23). Speed Cameras Could be Key to Achieving Vision Zero Goals. *The San Francisco Examiner*. <https://www.sfexaminer.com/news/speed-cameras-could-be-key-to-achieving-vision-zero-goals/>
- Graf, C. (2020b, October 21). San Francisco Not on Track to Meet Vision Zero Goals by 2024. *The San Francisco Examiner*. <https://www.sfexaminer.com/news/san-francisco-not-on-track-to-meet-vision-zero-goals-by-2024/>
- Graf, C. (2021, February 8). SFMTA Board Presses Agency for Vision Zero Results. *The San Francisco Examiner*. <https://www.sfexaminer.com/news/sfmta-board-presses-agency-for-vision-zero-results/>
- Harris, P. (2020). Subjectivity in Road Safety and Traffic Engineering. *Journal of Road Safety*, 31(4), 62–64. <https://doi.org/10.33492/jrs-d-20-00261>
- Hearst, William Randolph. (1960). “The Traffic Accident Problem and the U.S. President’s Committee for Traffic Safety.” *The Journal of Criminal Law, Criminology, and Police Science*, 51(1), 90. <https://doi.org/10.2307/1140820>
- Herrera, S. (2020, November 10). Residents Rally Against VTA’s Proposed Service Cuts. *San José Spotlight*. <https://sanjosespotlight.com/residents-rally-against-vtas-proposed-service-cuts/>
- Kim, E., Muennig, P., & Rosen, Z. (2017). Vision Zero: A Toolkit for Road Safety in the Modern Era. *Injury Epidemiology*, 4(1). <https://doi.org/10.1186/s40621-016-0098-z>

- Li, S. (2009). Traffic Safety and Vehicle Choice: Quantifying the Effects of the “Arms Race” on American Roads. *SSRN Electronic Journal*. Published.
<https://doi.org/10.2139/ssrn.1446982>
- Lorence, S. (2020, July 23). With Traffic Deaths on the Rise, San Jose Renews Focus on Safety. *San José Spotlight*. <https://sanjosespotlight.com/with-traffic-deaths-on-the-rise-san-jose-renews-focus-on-safety/>
- Matirnez, A., Mántaras, D., & Luque, P. (2013). Reducing Posted Speed and Perceptual Countermeasures to Improve Safety in Road Stretches with a High Concentration of Accidents. *Safety Science*, 60, 160–168. <https://doi.org/10.1016/j.ssci.2013.07.003>
- McAndrews, C. (2013). Road Safety as a Shared Responsibility and a Public Problem in Swedish Road Safety Policy. *Science, Technology, & Human Values*, 38(6), 749–772. <https://doi.org/10.1177/0162243913493675>
- Mercury News. (2014, October 17). San Jose Police Recruit: Union Told Class to Quit Right Away for Good of the Department. *The Mercury News*.
<https://www.mercurynews.com/2014/10/17/san-jose-police-recruit-union-told-class-to-quit-right-away-for-good-of-the-department/>
- Moench, M. (2020, November 14). What Will Stop S.F. Traffic Deaths? Politicians Push Street Changes, Outreach to Vulnerable. *San Francisco Chronicle*.
<https://www.sfchronicle.com/bayarea/article/What-will-stop-S-F-traffic-deaths-Politicians-15718181.php>
- Monitoring Local Government Traffic Safety Performance by Using Multiple Indicators: Invited Comments on the Paper by Bailey and Hewson. (2004). *Journal of the Royal Statistical*

- Society: Series A (Statistics in Society)*, 167(3), 519–521. <https://doi.org/10.1111/j.1467-985x.2004.a2055.x>
- Morency, P., Archambault, J., Cloutier, M. S., Tremblay, M., & Plante, C. (2015). Major Urban Road Characteristics and Injured Pedestrians: A Representative Survey of Intersections in Montréal, Quebec. *Canadian Journal of Public Health*, 106(6), e388–e394. <https://doi.org/10.17269/cjph.106.4821>
- Nguyen, C. (2020, January 16). San Jose Police Department Sees Recruitment Success. *ABC7 San Francisco*. <https://abc7news.com/san-jose-police-department-pd-recruitment-sjpd/5854180/>
- Nordfjærn, T., Şimşekoğlu, Z., & Rundmo, T. (2012). A Comparison of Road Traffic Culture, Risk Assessment, and Speeding Predictors between Norway and Turkey. *Risk Management*, 14(3), 202–221. <https://doi.org/10.1057/rm.2012.5>
- Peltzman, S. (1976). The Effects of Automobile Safety Regulation: Reply. *Accident Analysis & Prevention*, 8(2), 139–142. [https://doi.org/10.1016/0001-4575\(76\)90005-1](https://doi.org/10.1016/0001-4575(76)90005-1)
- Reese, M. (2021, February 16). Santa Clara County Cuts Hundreds of Jobs to Reduce Deficit. *San José Spotlight*. <https://sanjosespotlight.com/santa-clara-county-cuts-hundreds-of-jobs-to-reduce-deficit/>
- Risa, A. E. (1994). Adverse Incentives from Improved Technology: Traffic Safety Regulation in Norway. *Southern Economic Journal*, 60(4), 844. <https://doi.org/10.2307/1060424>
- Sanjeev, S. (2005). Road Traffic Safety: Cost of Government Neglect. *Economic and Political Weekly*, 40(16), 16–22. <https://www.jstor.org/stable/4416498>

Shahum, L. (2017). “Safe Streets: Insights on Vision Zero Policies from European Cities.”

German Marshall Fund of the United States, 3–21.

https://www.jstor.org/stable/resrep18873#metadata_info_tab_contents

Sundar, S., & Ghate, A. T. (2013). Accidents and Road Safety: Not High on the Government’s

Agenda. Economic and Political Weekly, 48(48), 77–83.

Wipf, C. (2021a, February 2). Search for San Jose’s Police Chief Halts to Recruit More External

Candidates. *San José Spotlight*. <https://sanjosespotlight.com/search-for-san-joses-police-chief-halts-to-recruit-more-external-candidates/>

Wipf, C. (2021b, April 2). With Nine Deaths in 2021 So Far, San Jose Seeks to Reduce Traffic

Deaths. *San José Spotlight*. <https://sanjosespotlight.com/with-nine-deaths-in-2021-so-far-san-jose-seeks-to-reduce-traffic-deaths/>

Vita

Christopher Farrell joined the University of Texas El Paso (UTEP) as a graduate student in the fall of 2013. During his studies he was an intern for Congressman Beto O'Rourke and served as the Vice President for the University Democrats. Before graduating he also was working professionally as a campaign organizer for the Colorado Democratic Party in 2016 as well as several campaigns in Texas, Maryland, and political actions committees based in San Francisco, CA. Most recently he served as a Constituent liaison for the San Jose City Council which he worked while attending UTEP online for graduate studies. After graduation, Christopher will pursue a job in public policy.

Contact information: Cfarrell1@live.com