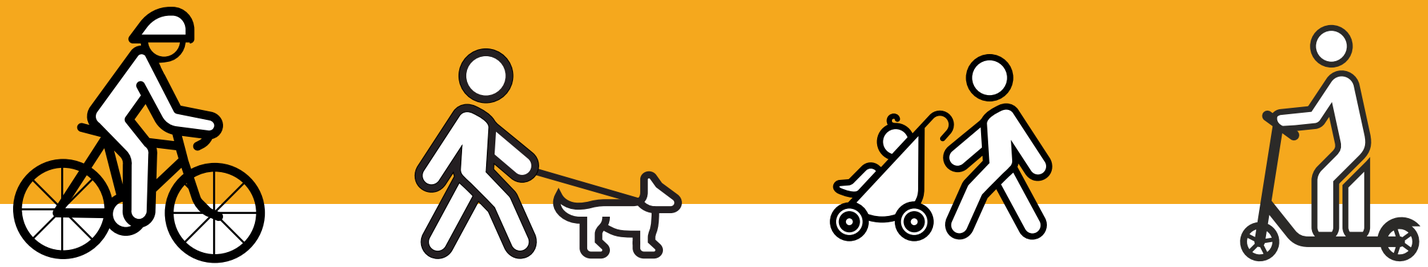
A TURN TOWARD SAFETY



The Safer Intersections Project

VISION ZERO SF

Vision Zero: Our City's Commitment to Ending Traffic Deaths

Every year in San Francisco, about 30 people lose their lives and over 500 more are severely injured while traveling on City streets. These deaths and injuries are unacceptable and preventable, and San Francisco is committed to stopping further loss of life.

Vision Zero is the City's commitment to prioritizing street safety and ending traffic deaths. It is co-chaired by the San Francisco Municipal Transportation Agency (SFMTA) and the Department of Public Health (DPH), with leadership from the Mayor's Office, the Board of Supervisors, and in coordination with local community groups, advocacy organizations and residents.

We're guided by two core principles:

- **Traffic deaths are preventable.**
- **Safety interventions will reduce the likelihood that a collision results in death.**

Vision Zero San Francisco commits city agencies to build better and safer streets, educate the public on traffic safety, enforce traffic laws, and adopt policy changes that save lives. The full program is outlined in the **Vision Zero SF Action Strategy**.

As part of Vision Zero SF, the Safer Intersections project consists of two parts:

- An education campaign funded by a $2 million grant through the California Transportation Commission - Active Transportation Program Cycle 3 Augmentation Grant.
- An on-the-ground Left Turn Traffic Calming Project funded by the SFMTA.

VISION ZERO SF

SFMTA

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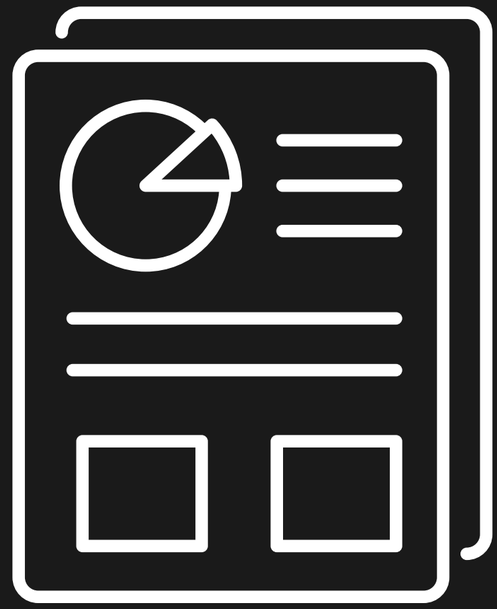
Executive Summary



Executive Summary

One statistic underscores the urgency of what we need to do:

40% of traffic deaths in San Francisco in 2019 were caused when drivers made left turns and didn't see the person in the crosswalk...until it was too late.

Source: Data from San Francisco Department of Public Health. (2020, March). Vision Zero Traffic Fatalities: 2019 End of Year Report.

The danger of left-turn crashes is very clear. With this Safer Intersections Project, we now have proven traffic interventions that can reduce traffic deaths.

Left turn collisions are an intersection design problem, but they are also a driver decision-making problem. So solutions will also need to be multifaceted.

The SFMTA received a grant to encourage safer left turns through a robust education campaign and community outreach process, "**Safety—It's Your Turn**." Separate funding was used to test design intervention treatments at seven high-crash intersections, the Left Turn Calming Project.

Executive Summary

Left Turn Traffic Calming: Engineering Project

Drivers need to judge many factors simultaneously when making a left turn. Given the complex decisions that have to be quickly made in a stressful environment, we can't assume drivers will always make rational decisions when making a left turn. Some may drive too fast and cut corners too closely. **This project created left-turn environments that prompt drivers to drive differently.** In fall 2020, we installed waist-high vertical delineator posts and small rubber speed bumps to enhance the center of the roadway near crosswalks, and used a combination of rubber speed bumps and paint to discourage sharp left turns that would put vehicles into the crosswalk early.

The result was wider turns, with a 17% reduction in average speed (1.7 mph slower) and a 71% reduction in the likelihood of a car turning left at higher speeds over 15 mph.

During the past few years, peer cities like New York, Portland, and Washington, D.C., have also implemented similar street engineering treatments to reduce left-turn crashes with comparable results.

Safety–It's Your Turn: Education Campaign

The education campaign, which ran from fall 2020 through early 2021, was translated into Spanish, Chinese, and Filipino, the three most commonly spoken languages after English in the City.

We reached over

through digital ads, radio, in-language newspapers, and outdoor billboards and bus shelters.

We also interacted with over 17,000 people. We developed new relationships with navigation and transportation network company drivers and local merchants. We also funded six community-based organizations serving vulnerable populations such as seniors, people with disabilities, non-English speakers, and youth.

Vision Zero education campaigns play an important role in raising public and political support to end traffic deaths, and are best leveraged when used in coordination with other safety interventions. Data suggests the **Safety–It's Your Turn** campaign extended the speed reductions from the Left Turn Traffic Calming Project.

Year-to-year survey results tracking brand awareness as a proxy for public support indicate an increasing number of residents are aware of Vision Zero SF.
Public perception of the dangers of speeding (even just 5 miles above the speed limit) is also trending in the right direction each year, indicating a sustained change in attitudes influenced by education campaigns, enforcement, and engineering.

Key Takeaways

1. **Well-funded and evidenced-based education campaigns** are an important and effective tool in raising public awareness, encouraging safer driving behaviors, influencing policy discussions, and building community support. We reached a greater number of people than our typical campaigns due to the large grant and were able to layer dozens of strategies citywide. We were also able to conduct deep community outreach through the diverse community grants.

2. **The Left Turn Traffic Calming project results** are most promising where existing left-turn speeds are high and/or a significant portion of left-turns are greater than 15 mph. The set of intersection treatments to enhance centerlines and turn pockets should become a standard engineering tool and applied at targeted locations for maximum effectiveness (for example, existing high left-turn speeds, high-crash sites with appropriate street geometry, and high volumes of pedestrians and bicyclists).

The Left Turn Problem

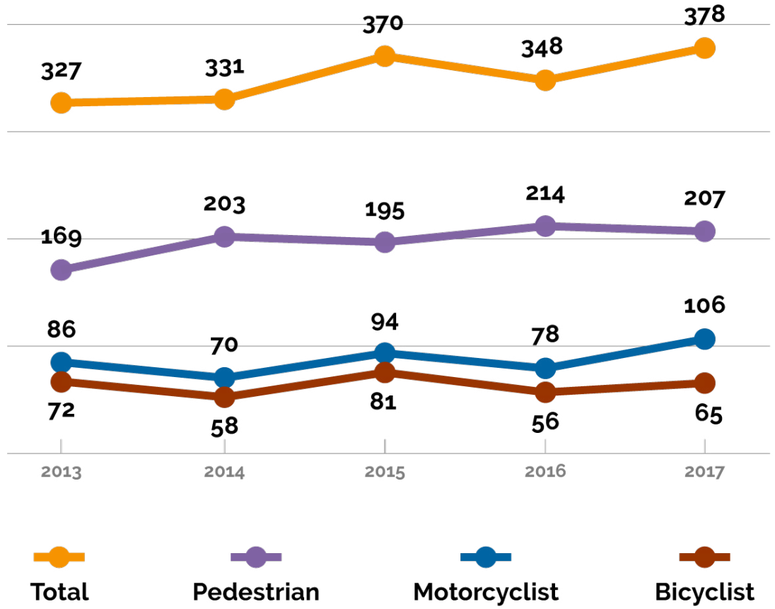
40% of traffic fatalities

in 2019 were caused when SF drivers made left turns and didn't see the person in the crosswalk...**until it was too late.**

Some driving situations cause more stress than others: freeway merges, driving on crowded streets between trucks and buses, and left turns. Unsafe left turns resulting in severe and fatal injuries is a national problem.

In busy cities like San Francisco, left turns are a real challenge. They can also be very dangerous—especially for people crossing the street while cars are turning into their path of travel.

Victims By Road User of Left Turn Collisions in San Francisco 2013-2017



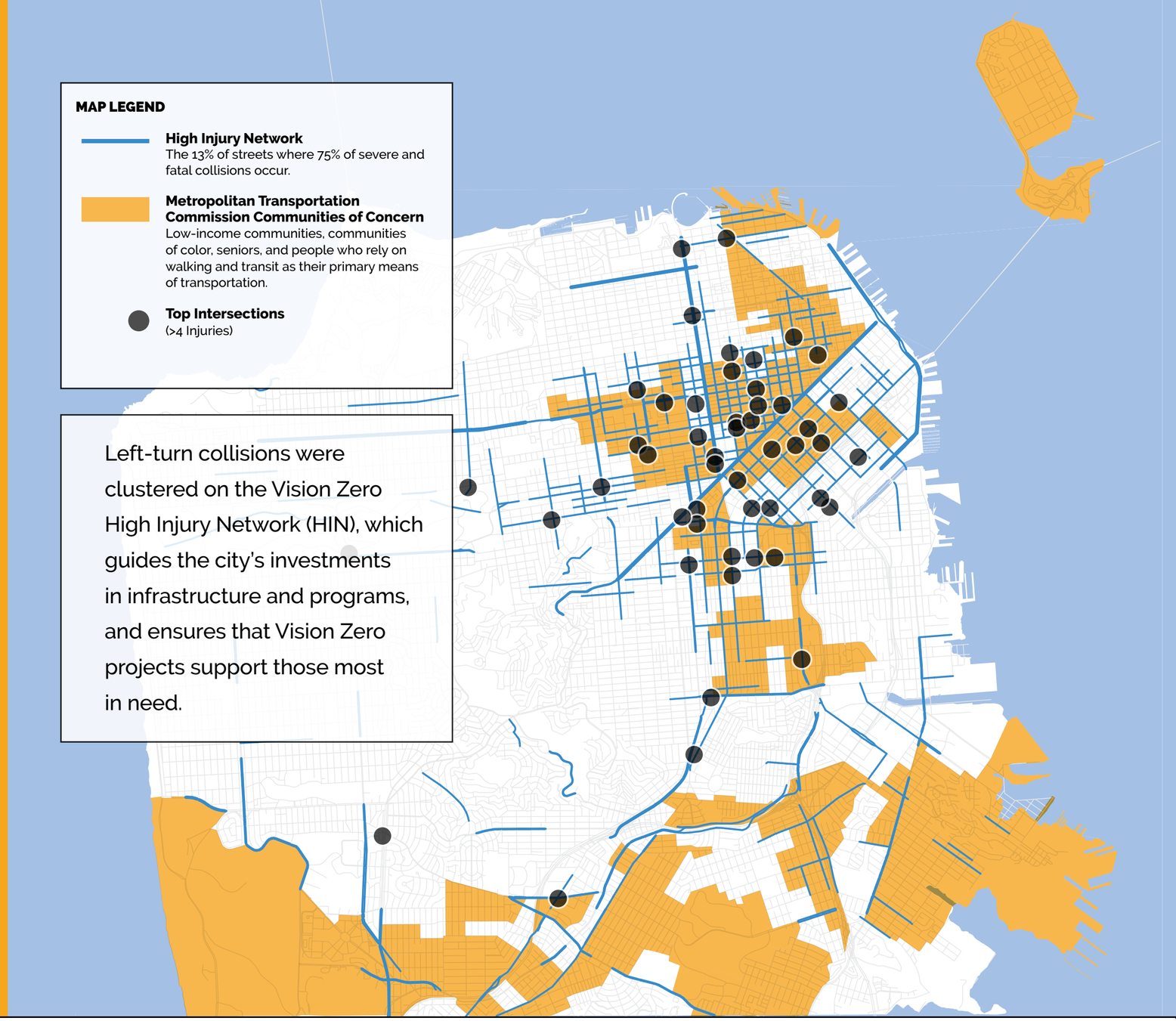
Consistently through the years, over half of those killed in collisions have been pedestrians.

Source: Data from the San Francisco Office of the Medical Examiner and SFPD

Over 71% of left turn crashes

are on the City's High Injury Network

In San Francisco, the danger of left-turn crashes is very clear. They're happening on our major streets; 67% of left-turn collisions occurred at intersections with traffic signals. They're happening to our vulnerable seniors; 31% of pedestrians killed were 65+ years old. And they're happening on our High Injury Network (HIN); we've mapped out that 71% of left-turn crashes were on just 13% of the City's streets, and many of those streets are in communities of concern.



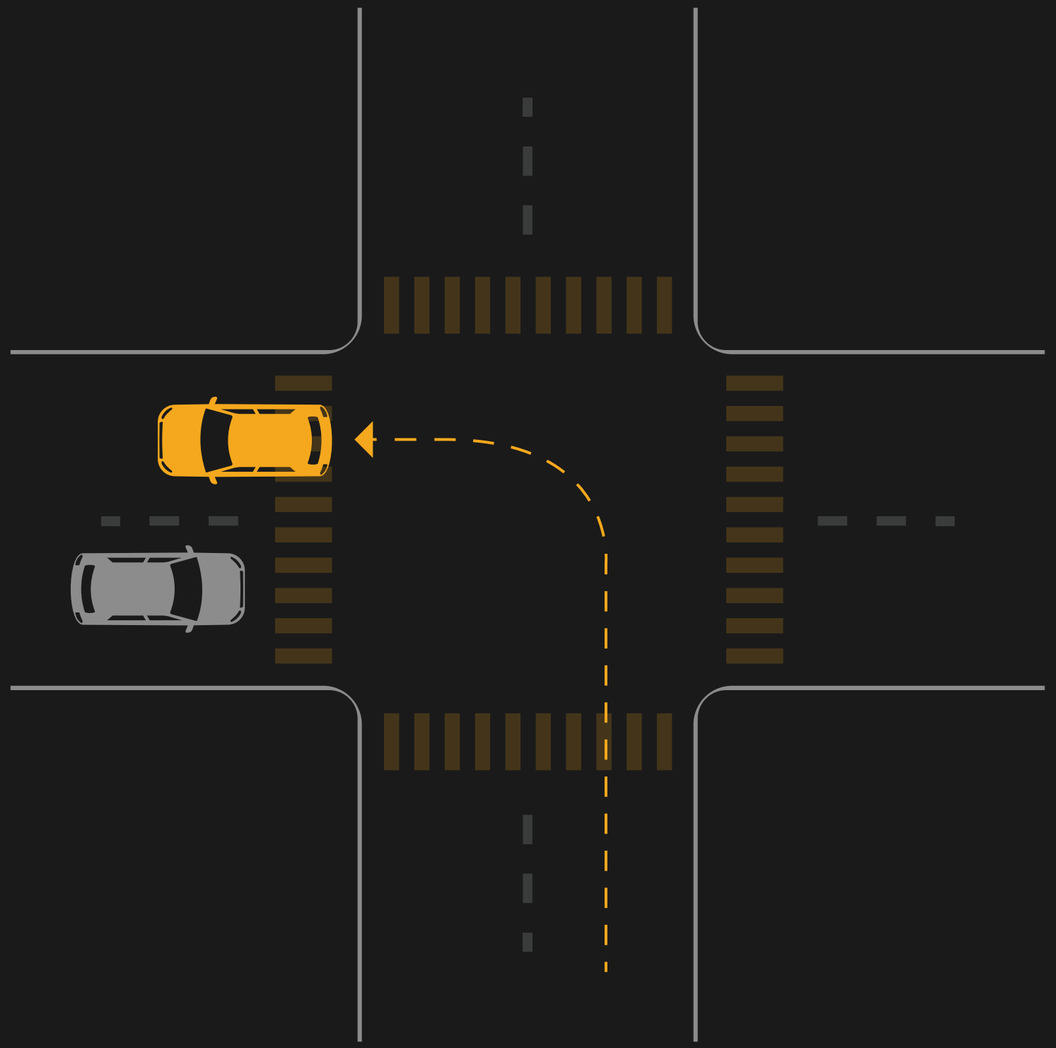
Left-turn collisions were clustered on the Vision Zero High Injury Network (HIN), which guides the city's investments in infrastructure and programs, and ensures that Vision Zero projects support those most in need.

Let's Turn That Around

During the past few years, peer cities like New York, Washington D.C., and Portland have implemented promising street engineering treatments to reduce left-turn crashes. Their pilot programs used a combination of paint on the street, vertical delineators, and small speed bumps to slow driver speeds and encourage safer left turns for both people in the crosswalks and opposing traffic.

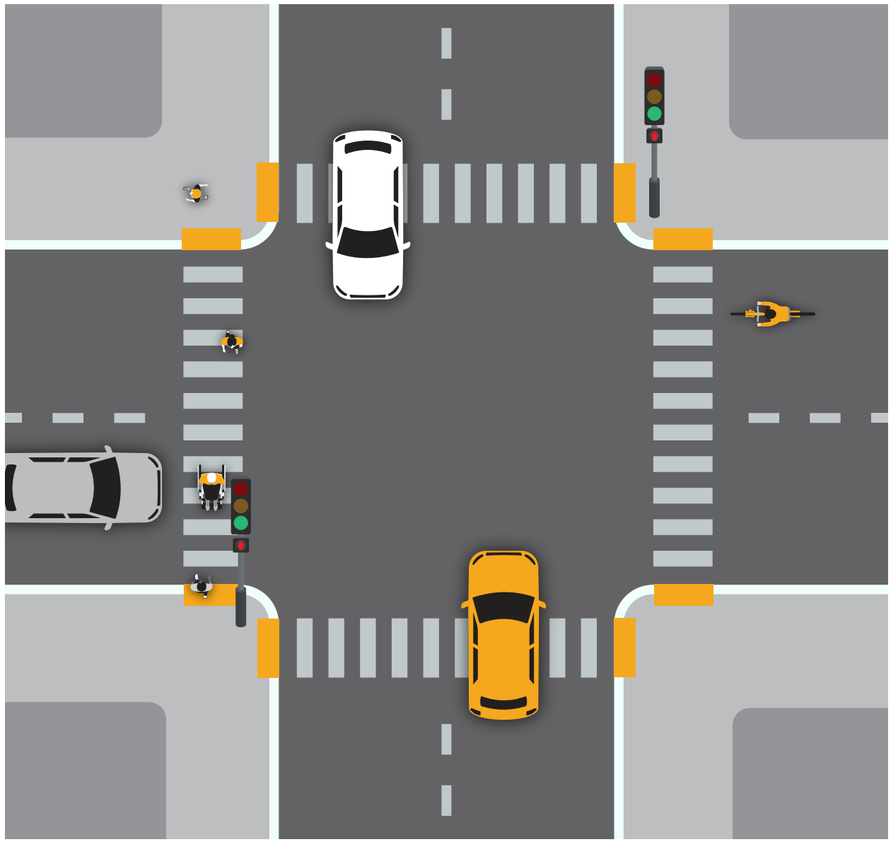
San Francisco's multilayered project combined engineering treatments in seven intersections—called The Left Turn Traffic Calming Project—with an education campaign called "Safety—It's Your Turn." The engineering and education results point to progress we can make in the future toward meeting our Vision Zero goals.

Anatomy of a Left Turn



What makes left turns such a stressful and crash-prone maneuver?

It's a combination of vehicle design, the complex judgments drivers need to make, and the environment around them.



Vehicle Design

In most vehicles, the front pieces of the car frame that hold the windshield in place and support the roof also have to be strong enough to withstand a rollover and sometimes contain airbags. They're called the A-Pillar. As safety standards have increased, so have the size of the A-Pillars. Research shows drivers could see more outside their vehicles in 1980 than they can now.

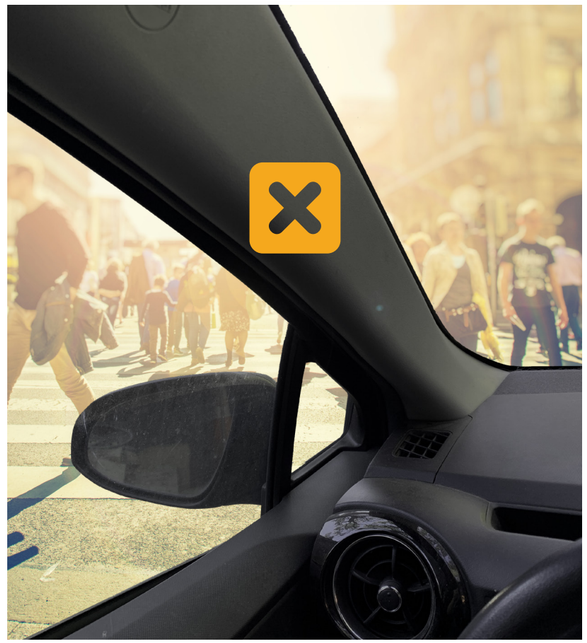
Judgments

Drivers need to judge many factors simultaneously, including the timing of oncoming traffic and motorcyclists or bicyclists, oncoming cars making right turns, people in the crosswalk going in both directions, and the status of the signal light.

Environmental Stressors

Drivers are affected by additional stressors like vehicles behind them pushing forwards and sometimes honking or going around them, and construction and lane closures that might be going on in the area.

Test the A-Pillar



Try sitting in your car's driver seat and have someone walk back and forth on the driver's side of your car. You might be surprised at how many locations they could be in without you being able to see them very well.

Four Phases of a Left Turn

1

Approaching the Intersection

As they approach, drivers must decide if they are going to turn left. This requires thinking about whether the left turn will get them to their destination, whether they can legally turn left, and if there is a left turn lane and/or left turn signal arrow.

2

Gathering Information

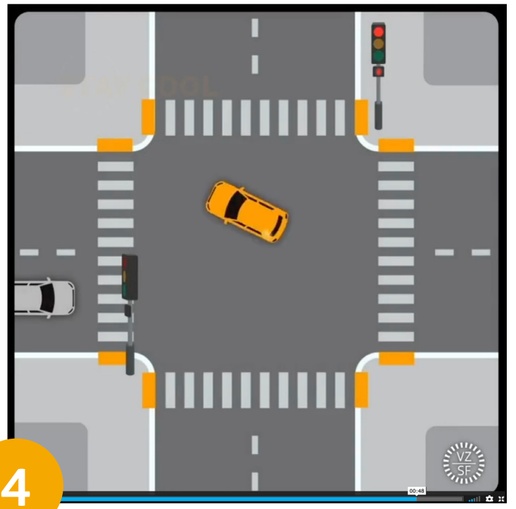
Decision made, the driver scans the intersection to gather information. They're looking at the traffic signal and their right-of-way, oncoming traffic (both vehicles and bicycles) in their line of sight, oncoming cars turning right, and pedestrians crossing the street in both directions.

3

Final Decisions

Paying attention to the cues in Step 2 gives drivers the information they need to take action. To execute the turn, drivers will have decided (consciously or not):

- When they should turn; the intersection is clear of oncoming traffic and pedestrians
- How fast they should drive through the turn
- Where they should start the actual turn



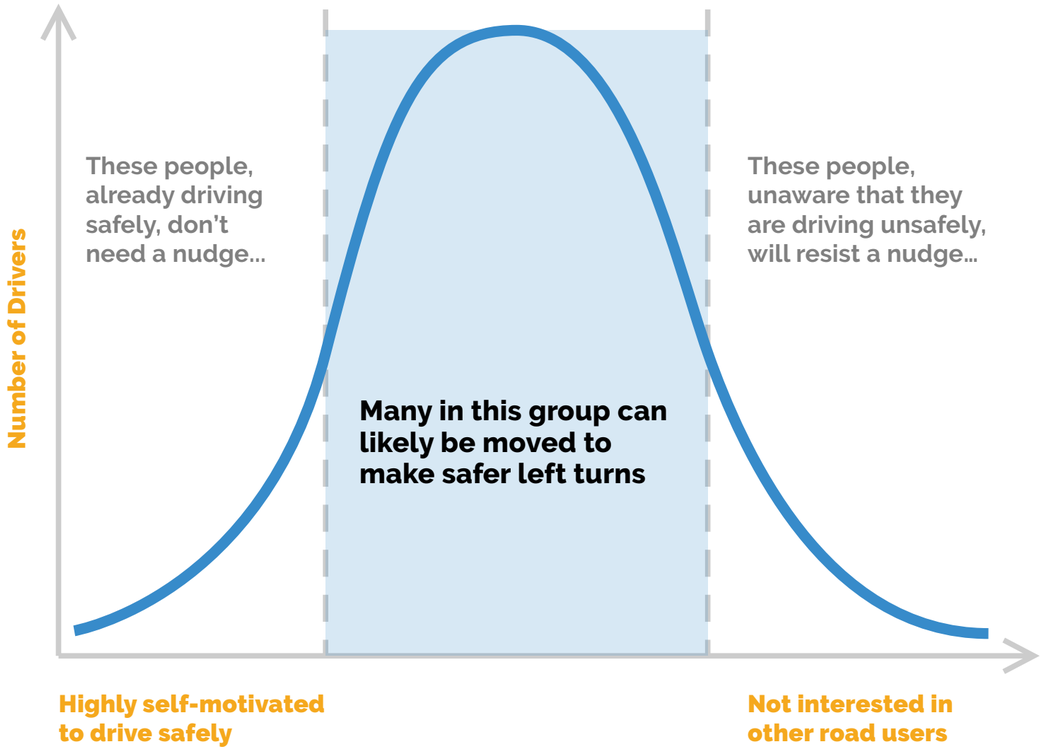
4

Completing the Turn

The driver is now committed to the turn. At this point, drivers are less likely to stop but might need to make last-minute adjustments; they might need to brake or adjust mid-turn if new cars, bicyclists or pedestrians enter the intersection or crosswalk, or if an oncoming car suddenly speeds up to make the light.

The Mind of a Driver: Applying Behavioral Science

Which Drivers Can Be Nudged?



Source: Behavioral Insights Team, Behavioral Insights for Safer Left Turns: Target + Explore Recap, Sep. 2018

Left-turn collisions are an intersection design problem, but they are also a driver decision-making problem. So solutions will also need to be multifaceted.

SFMTA is reengineering many intersections to install structural elements such as left-turn lanes and signals. Because of space, street geometry, crash history, and funding, it's not feasible to do this at every intersection throughout the City. But we can apply behavior science concepts to develop effective solutions beyond hard infrastructure.

Behavioral science is the study of how humans make decisions and behave. While traditional models of decision-making emphasize people rationally assessing alternatives, evidence shows that people often make decisions in other ways. Rational assessment requires time and effort, and people often—especially when they're distracted, rushed, or under stress—operate more automatically, relying on mental shortcuts or "rules of thumb" based on past experiences. It's why we eat the same breakfast every day or drive the same route to work every day, often without consciously making any decisions. An "autopilot" routine usually works well for us. But, it can sometimes have harmful consequences.

Given the complex decisions that have to be quickly made in a stressful environment, we can't assume drivers will always make rational decisions when making a left turn.

Instead, we should find ways to make the easy choice the safe choice—by influencing drivers' automatic thinking or by physically prompting them through street design.

Just a Little Nudge

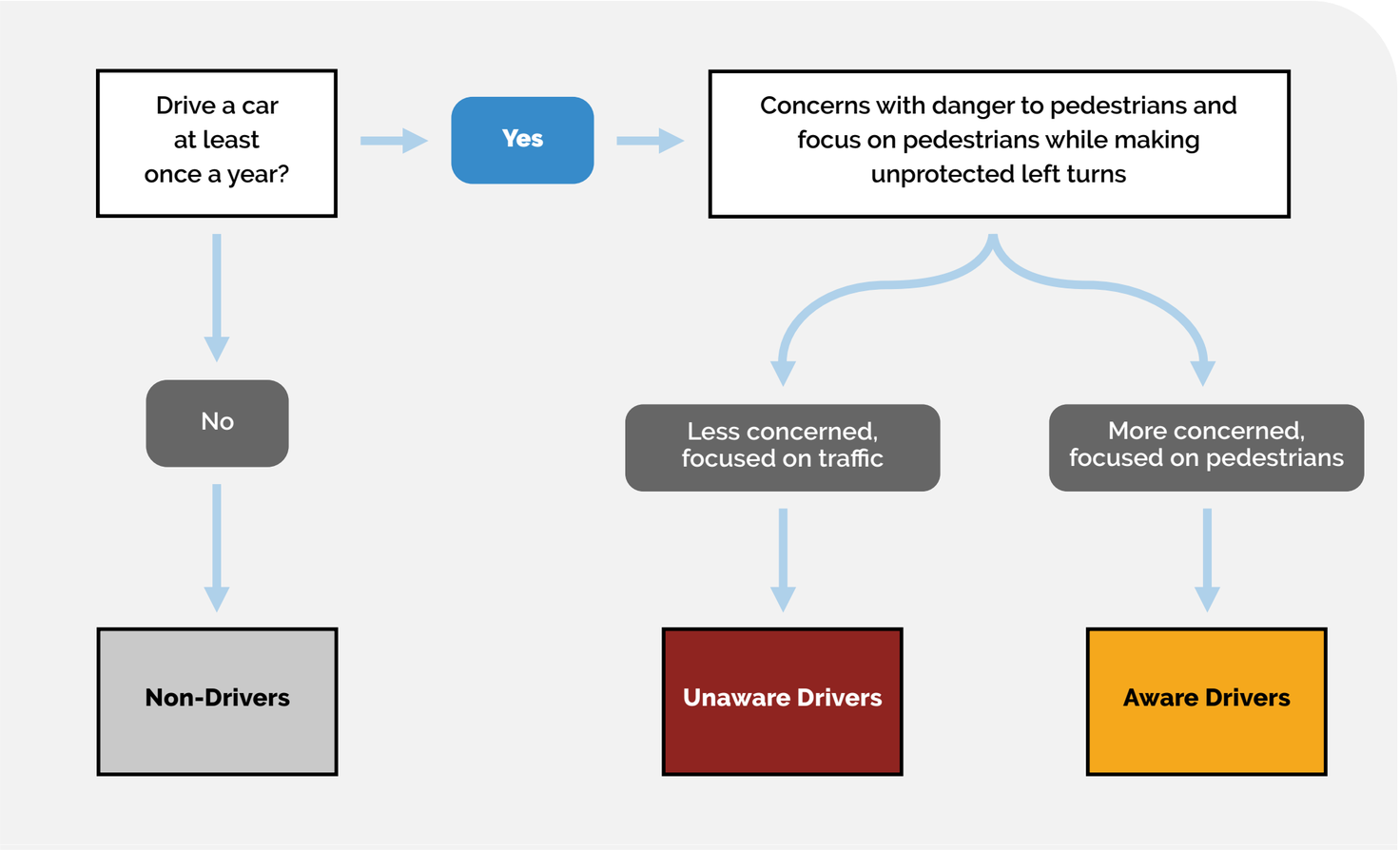
Today, maybe you chose to eat a salad for lunch instead of a burger. Why? You might have been nudged. A “nudge” is any small feature in the environment that attracts our attention and influences our behavior. Maybe you went into your cafeteria or a restaurant that had a salad bar, and you had to pass by that bar on the way to the grill. It attracted you and you changed your lunch choice.

To increase safety, traffic engineers can also offer nudges. For example, Lake Shore Drive in Chicago has a dangerous “S” curve where many drivers crash. The City painted horizontal lines across the roadway. As you drive closer to the “S” curve, the lines are painted closer and closer together, which gives drivers the visual cue that they are speeding up and encourages them to tap the brake and slow down. They were nudged.

Who Is Making a Left Turn?

SFMTA, SF Department of Public Health (DPH), and our partner Behavioral Insights Team (BIT), along with EMC Research and MIG, applied behavioral concepts to making a left turn to determine what influences behavior, and how both education and design interventions might change that behavior—nudging drivers to safer left turns.

Based on survey research, we built specific target audiences, focusing on the group of "unaware" drivers who could be moved to make safer left turns; they want to drive safely and usually do, but haven't connected how their direct actions can increase safety for people walking, biking, and riding motorcycles. About 40% of this cross-section of San Francisco residents were "unaware" drivers, in the blue section of the bell curve. These are the drivers we hope to nudge.



Source: EMC Research, Web and Intercept Survey of San Francisco Residents Safer Intersections Survey, May 2021

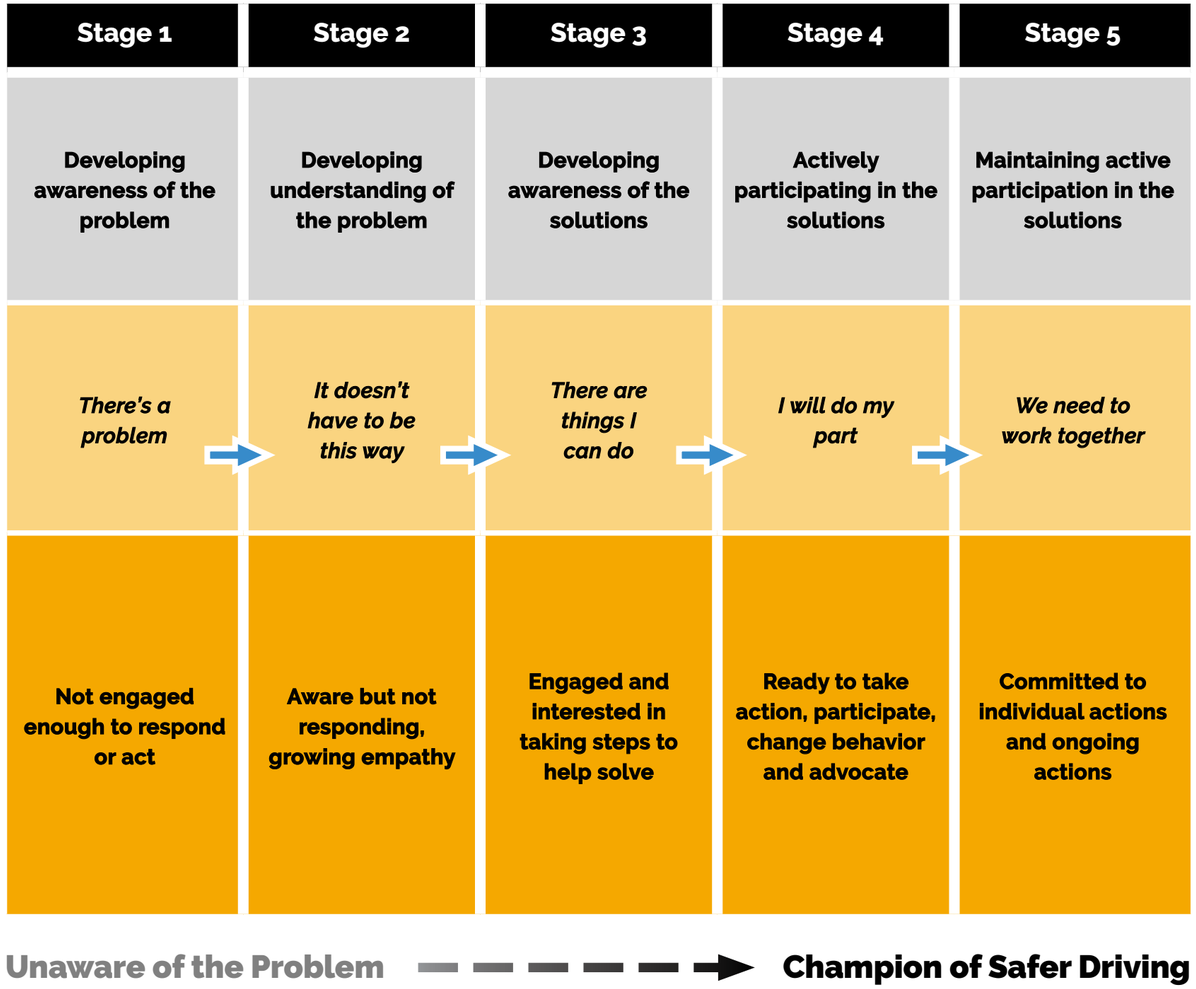
Creating Traffic Safety Champions

While it's unlikely we can change the behavior of those on the far right of the bell curve, the largest group—the 40% of unaware drivers—are open to nudges through messaging and interventions.

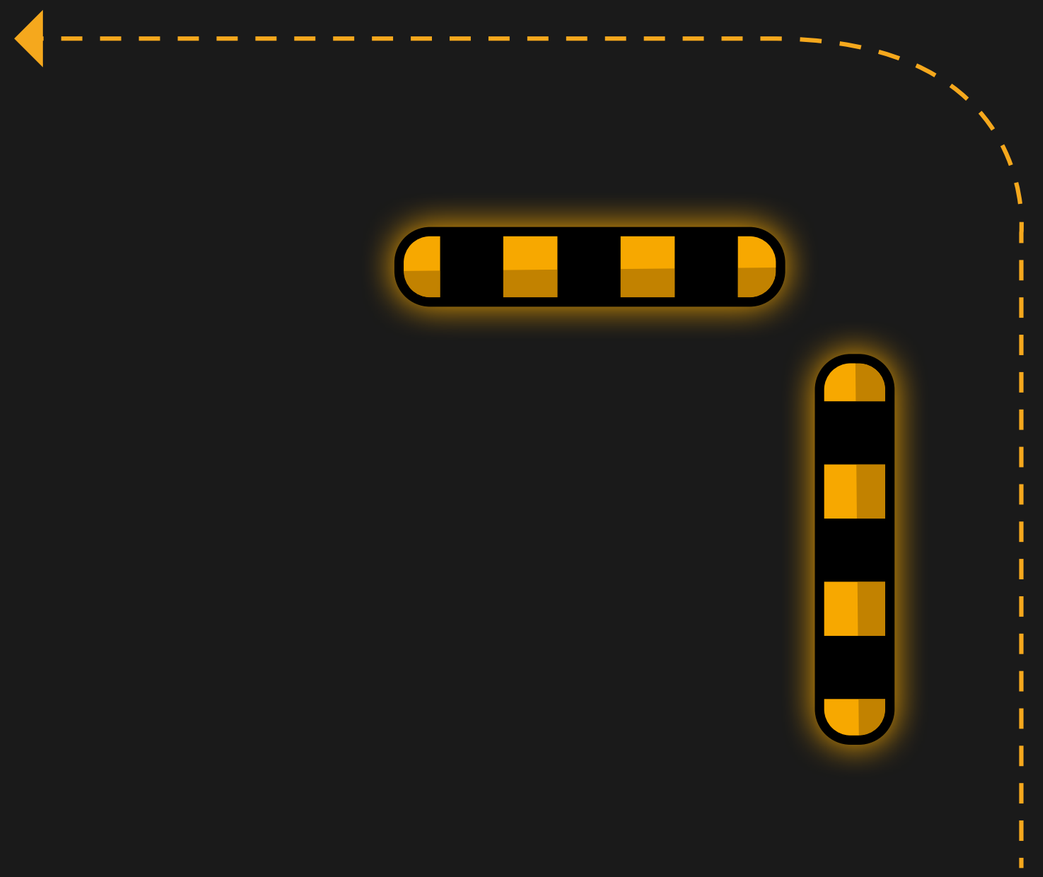
When developing both the education campaign and the traffic interventions, we wanted to lead drivers through five stages of changes in their thinking (see chart), from being unaware of any problems to understanding the problem and eventually becoming a champion of safer driving, and left turns specifically. And maintaining those actions.

Many public health campaigns have successfully used this model to promote healthier choices, for example, in tobacco and alcohol cessation programs.

We used this model to develop specific communications talking to audiences in the different stages, layering them during the campaign to ensure maximum reach. Of course, people don't always go through stages linearly, some start in different stages, some may get stuck in a stage while others move more quickly. But the education and interventions are designed to move people toward becoming more aware of how their individual behavior has an impact on their community. When a majority of drivers adopt safer behaviors, we can achieve a societal shift in reducing left-turn crashes.



Left-Turn Traffic Calming: The Engineering Project



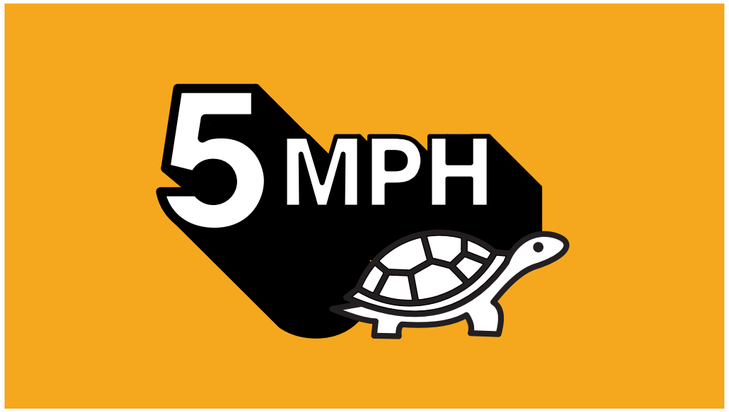
Left-Turn Traffic Calming: The SF Pilot

Left turns are high-risk driving maneuvers that require additional support to create a safer street experience for all road users. **The anatomy model of a left turn** provided a useful frame for analyzing driver micro-behaviors behaviors that SFMTA, DPH, and BIT observed during our 2018 stakeholder interviews and field work. Based on that data, two specific driving behaviors emerged that led to targeted left-turn traffic-calming interventions:

1

Speed. When making a left turn, drivers either maintained their speed or slowed only slightly compared with driving straight through a green light. Slowing speeds will allow more time for drivers to react to their environment, like yielding for a person in the crosswalk.

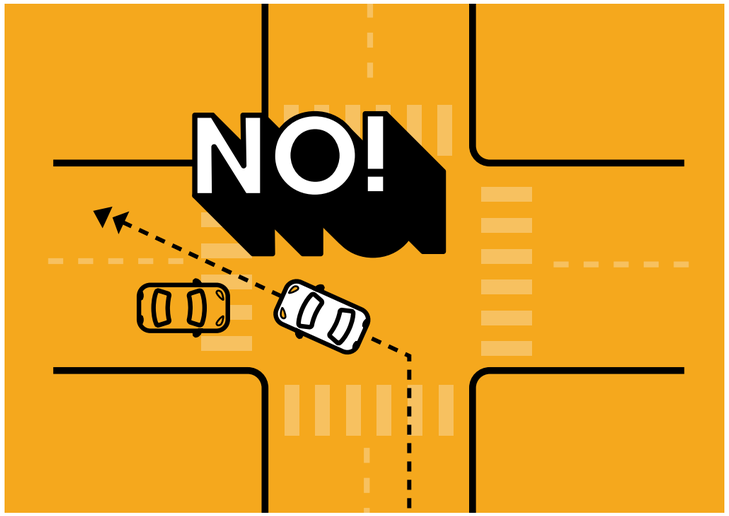
The safest turning speed is 5 mph.

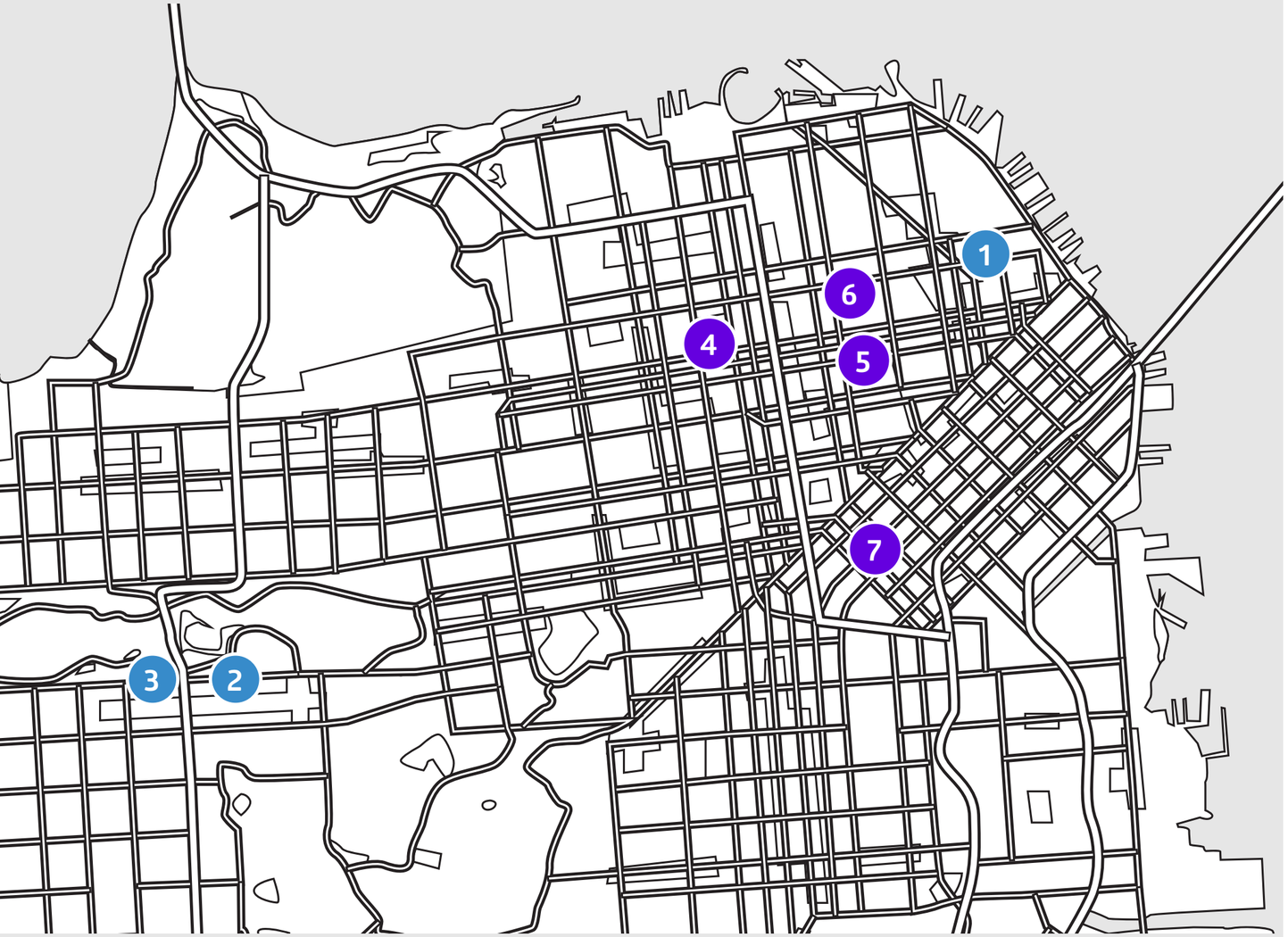


2

Cutting Corners. Drivers started their left turns early and sharply, entering more of the crosswalk and giving them less time to watch for pedestrian and cyclists, and maintained higher speeds when turning. Widening left turns will help drivers better see people in the crosswalk and better gauge the speed of oncoming traffic.

The ideal turn is at a 90-degree angle.





SFMTA chose intersections on the High Injury Network for left turn traffic calming interventions.

Seven Key Intersections

SFMTA focused interventions on seven intersections on our High Injury Network representing different street typologies (turning from a one-way street to a one-way street, one-way to two-way, two-way to two-way, etc.):

Enhanced Centerlines

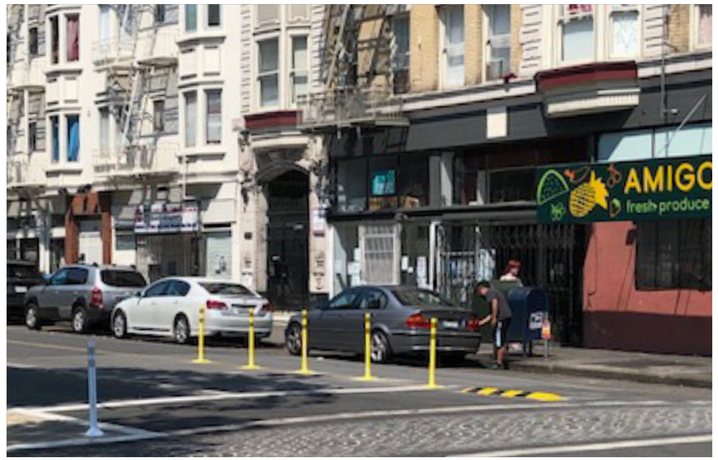
1. Broadway and Montgomery
2. Lincoln and 17th Avenue
3. Lincoln and 18th Avenue

Slow Turn Wedges & Rubber Speed Bumps

4. Gough and Sacramento
5. Ellis and Leavenworth
6. Leavenworth and Sutter
7. 10th Street and Folsom

Left Turn Traffic Calming: The SF Pilot

Enhanced Centerlines, waist-high delineator posts on two-way streets, both approaching and leaving the intersection. Centerlines mark the center of the roadway, dividing the two directions of traffic, and usually end at or before the crosswalk or edge of the intersection. Making the centerlines more visible leverages a driver's tendency to stick with the default of following lane guides and adds "friction costs" that prevent them from crossing the centerline to cut the corner.



Rubber Speed Bumps that "extend the centerline" on two-way streets beyond the crosswalk and into the intersection. This creates a visual cue for drivers that suggests that the turning barrier extends into the intersection, and the tactile feedback of the bump reminds drivers that they are turning the corner too sharply—less than 90 degrees—into the far crosswalk.

Slow-Turn Wedges (also called painted safety zones) and rubber speed bumps in the "cuttable" corners (turn pockets) of one-way to one-way left turns. These make the areas drivers should avoid during a turn more visible, and the tactile feedback reminds them they are cutting the corner and turning too early.

Safety–
It's Your Turn:
The Education Campaign

Safety–It's Your Turn:
The Education Campaign

Changing dangerous driving behaviors requires a long-term, strategic approach to education, rooted in understanding audience attitudes. The goal is to make safer behaviors (e.g., slowing down, making wider turns) feel like they are the norm—if I know everyone is doing it, then I'll do it too. However, safety messaging can be tricky to communicate. No one wants to be told what to do or feel guilty about how they may be driving unsafely. The challenge—and solution—is to convey messages that prompt audiences to reflect on the problem, facilitate an a-ha moment where they understand the issue anew and then, derive new motivation to adopt safer behaviors.

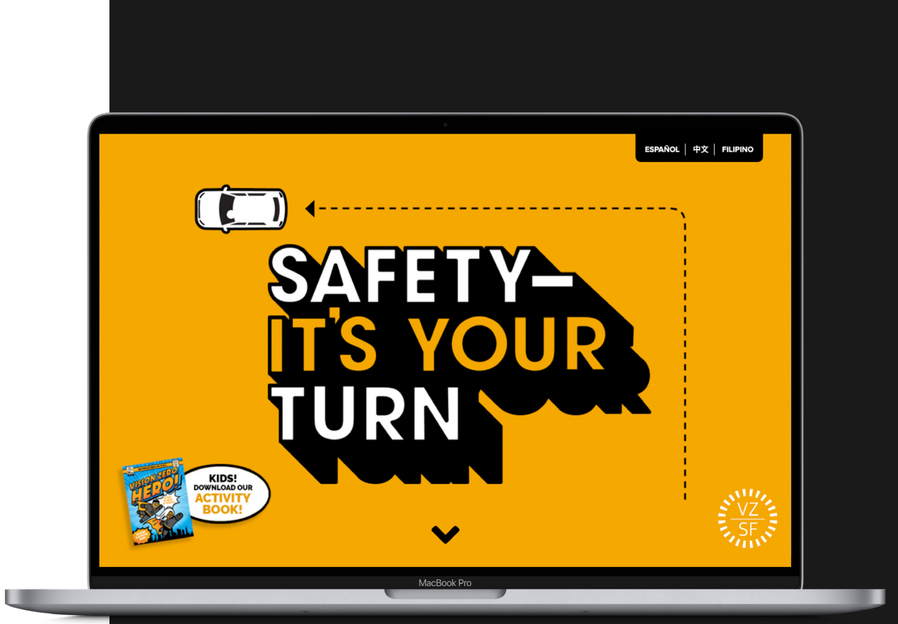
SFMTA and MIG developed a multidimensional, multilingual campaign with a key set of messages, and a look-and-feel that ties in with the Vision Zero SF brand. From billboards to light poles, to social media and paid digital ads, residents in the immediate neighborhoods of the traffic calming devices and, later, the entire City, received messages about safer left turns.

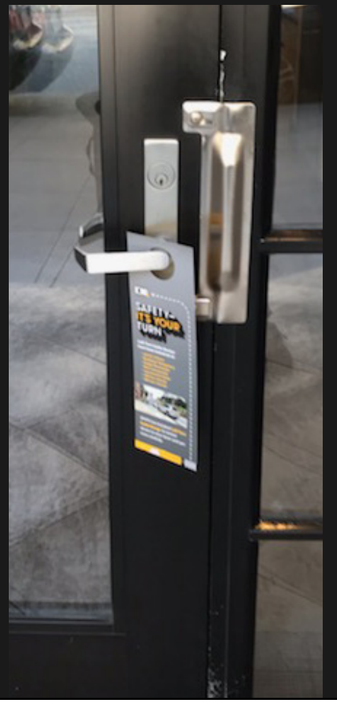
Overall, the education campaign led to more than 76 million impressions (a message being seen or heard) and 17,000 in-person interactions throughout the City.

Neighborhood Education Campaign

The cornerstone of the campaign was a dynamic-scrolling landing page (**visionzerosf.org/leftturns**) viewable in four languages, with more key facts and details. An embedded video, "Anatomy of a Left Turn," breaks down all the elements of the complex turn. A solid mass media strategy led to articles in print and online, media, and increased awareness among the public.

The first phase of the campaign coincided with installing the left-turn traffic calming devices in fall 2020. It focused on informing residents who live near the seven pilot intersections about what the left turn guide bumps are and how they promote safety. The communications effort included Safe Spot posters at the intersections, asking local merchants to hang posters in their windows, putting door hangers on cars and residences, digital display ads (directing to the campaign landing page), and pre-roll video (the videos that play before online news or games). The video ads were called "Driving in Today's SF" and showed the new interventions and how they guide drivers—targeted at phones, laptops, and desktops used at and around the seven intersections.





Citywide Education Campaign

In early 2021, the second phase of the campaign went citywide. The intent was not to just tell people what to do—slow down—or make them feel guilty; no one wants to believe that their behavior is unsafe, so drivers tend to reject those messages. Instead, the campaign offered a startling statistic: 40% of traffic deaths are caused by drivers making left turns. This fact makes drivers pause and realize that making a left turn might not be as simple as they thought. They are then more receptive to adopting the campaign's three safer left turn behaviors:

1. **Take it slow** (5 mph is safest)
2. **Make it square** (90-degree angles are best)
3. **Stay aware** (look out for cars, cyclists, and people)

The broad campaign was translated into Chinese, Spanish, and Filipino, and included out-of-home advertising such as large billboards as you enter the City (because drivers in the City are not only residents of the City) and in several locations throughout the City, as well as 45 exterior bus ads, 50 light pole banners, and nearly 60 bus stop ads. Several city fleet vehicles, including Public Works, SFMTA, and Paratransit, installed visible bumper stickers supporting the campaign.

Online campaigns included social media and paid digital ads directing people to an online educational quiz and pre-roll video ads promoting a shareable version of the "Anatomy of a Left Turn" video, as well as a reprise of the left turn guide bumps video ads to a broadened geotarget. In a targeted approach to reaching drivers, the SF DMV office and navigation companies like Waze and Lyft also promoted the "Anatomy of a Left Turn" video. Traditional media included broadcast radio ads, print, and online newspaper ads.

Community On-the-Ground Campaign

The outreach design included a robust campaign implemented by community-based organizations (CBOs). They are closer to the communities they serve, have a good understanding of their needs, and are better positioned than the SFMTA to share relevant information about health and safety messages with their communities.

Because of the COVID-19 pandemic, many CBOs had to shift their primary functions to emergency response. So we intentionally sought out organizations that reach those most affected by both traffic safety and the pandemic: Seniors, youth, the blind and visually impaired community, the Black community, and non-English speaking communities. Through a community grant process, six CBOs were compensated for their time and knowledge creating additional materials and events supporting the campaign. Many of our grantees were new to Vision Zero and helped us reach additional residents through creative ways such as food delivery, artistic public service announcements, virtual bike rides, and youth poster contests. Finally, we worked with an additional eight CBOs to share educational materials and present the "Safety—It's Your Turn" campaign to their members.

With this additional support from CBOs to our outreach efforts, we reached over 17,000 people directly.

Community Grants:

Bayview Opera House

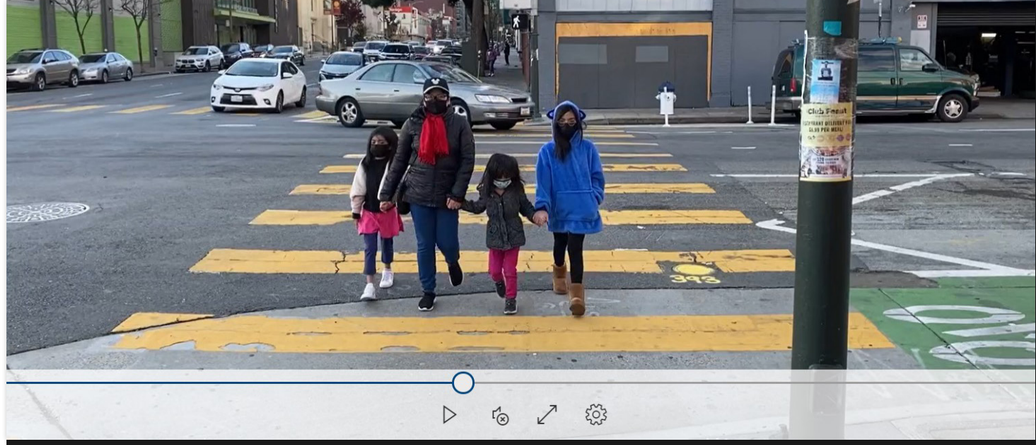
Boys and Girls Club

LightHouse for the Blind & Visually Impaired

PODER

Self-Help for the Elderly

SOMCAN



Encouraging Safer Behaviors: The Results

Encouraging Safer Behaviors:
The Results

To evaluate the effectiveness of the left-turn traffic calming engineering treatments, SFMTA partnered with BIT and DPH to design and run a pre-post difference-in-differences evaluation (an evaluation that compares differences over time in a treatment group versus a control group). In addition to the treatments at seven intersections, we identified four untreated intersections to serve as a control group. By collecting data before, during, and after the project and campaign, we were able to identify the treatment's impact compared to what would have happened in their absence.

Cars making left turns in the treated intersections went 17% slower making wider turns than cars in the control group of untreated intersections. On average, speeds slowed about 1.7 mph. The speed reduction was noted one month after installation and it was sustained at least six months after, during the final collection of data. The overlap between treatment installation and the campaign suggests the combined street design with education strategies may have helped prolong the speed reductions seen from the left-turn traffic calming. That's an encouraging step towards safer left turns.

Cars making left turns in the treated intersections went

17% SLOWER

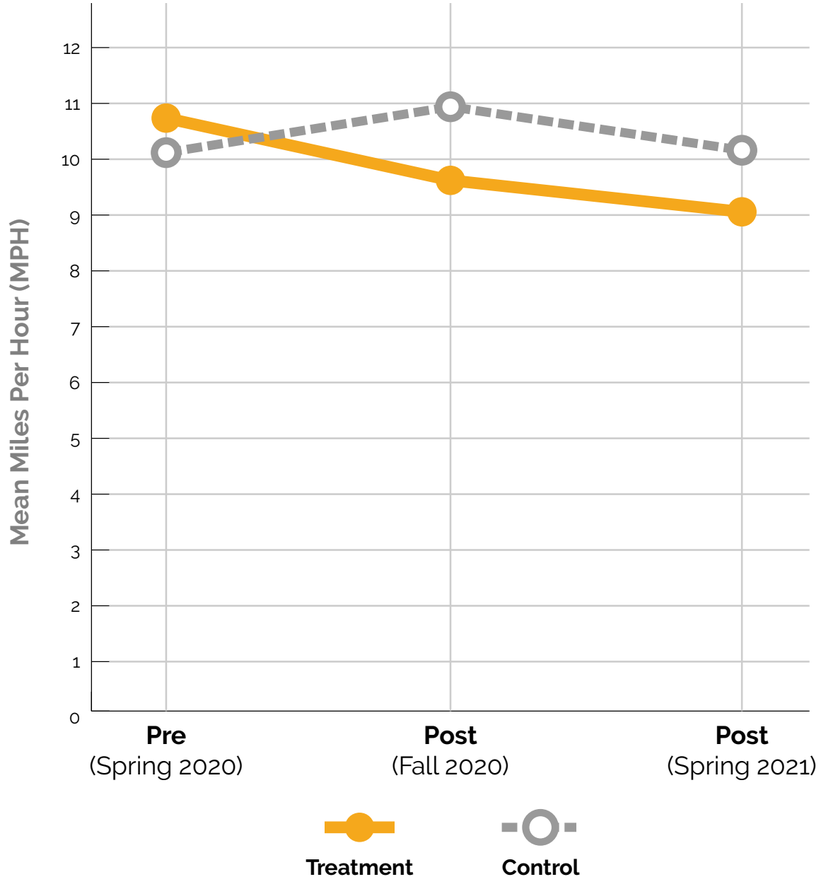
Additionally, we saw a 71% decrease in the chance of a vehicle turning left at a speed over 15 mph.

This finding is statistically significant, and reflects a reduction of about 4.5 percentage points from a base of 6.2%. This reflects our hypothesis that these treatments would help reduce some of the highest turning speeds that are most unsafe for vulnerable road users.

FIGURE 1

Average Recorded Left Turn Speeds during the pilot study

Cars making left turns reduced their average speeds by 17% (1.7 mph slower) during the pilot and after.



Source: Behavioral Insights Team (BIT), Final Pilot Analysis, June 2021

Encouraging Safer Behaviors:
The Results

Through our partners at Kittelson, we used video and radar data collection to track the **left-turn speeds of over 3,800 vehicles**, with at least 100 at each intersection before, during, and after the project. Data collected was scheduled on a variety of days, and evenly divided between morning (7 am-9 am) and afternoon (5 pm-7 pm) rush hours.

With the controlled nature of the turn-speed evaluation and the high number of data points we were able to collect, this result is statistically significant in that the probability of observing such a reduction in speed if the treatments are actually ineffective is less than 1%. This is a high-confidence level that the change observed is not due to random chance and **can be attributed to the left-turn traffic calming treatments.**

On average, drivers yielded less everywhere. This might be because of the dramatic change in traffic during the pandemic. But the 37% reduction in yielding at treatment sites was noticeably less than the 46% yielding reduction at control sites.

Because the pilot occurred during the COVID-19 pandemic, the total numbers of pedestrians, bicyclists, and cars on City streets went down during the pilot. But it is perhaps significant that while pedestrians counts decreased by 57% at control sites, they were down by only 35% at treatment sites. The same is true for bicyclists, down by 64% at control sites and only 45% at treatment sites. While we don't have enough data to draw a conclusion, **it is possible that pedestrians and bicyclists felt safer in the intersections with interventions, and chose to use them more.**

Overcoming Effects of the COVID-19 Pandemic

The evaluation design protected the data of this project despite the COVID-19 pandemic. The first round of data collection was completed in December 2019 before the pandemic began. As SFMTA and DPH shifted City resources to emergency responses during the pandemic, we had to delay installing the interventions (August 2020) and collecting the second and third rounds of data (October 2020 and April 2021). San Francisco car and foot traffic were still heavily affected when we collected the mid-point and final data. Had this been a simple before/after study, we would not have been able to distinguish between changes due to the left-turn treatments and changes due to pandemic traffic patterns. But the control intersections allowed us to pull the two strands apart, showing how left turn speeds changed during the same time without left-turn treatments. This was a research design success and lesson for future evaluations.

National Models: San Francisco and Peer Cities

The left-turn speed reductions observed in treated intersections can be duplicated on many streets throughout the US. San Francisco's enhanced centerlines, rubber speed bumps, and slow-turn wedges increased turning angles, reduced average left-turn speeds by 17% or 1.7 mph, and also reduced the chances of vehicles turning at high speeds (over 15 mph) by 71%. These results are comparable to other peer cities who have implemented similar treatments.

New York City was the first city to implement left turn traffic calming treatments such as enhanced centerlines and slow turn wedges. Their results slowed average speeds by 53% and higher speeds (85th percentile) by 60%.

A pilot program in **Portland** also included enhanced centerlines and slow-turn wedges, along with "nose" extensions that were shown to be 50% more effective than enhanced centerlines alone. The City also included outreach and education and saw average speeds decrease by 13%.

In **Washington, D.C.,** enhanced centerline treatments decreased left-turn speed by 10%, with a 67% reduction in the odds of a car making a left turn at speeds higher than 15 mph. And those treated intersections saw a 71% reduction in left-turn vehicle and pedestrian conflicts.

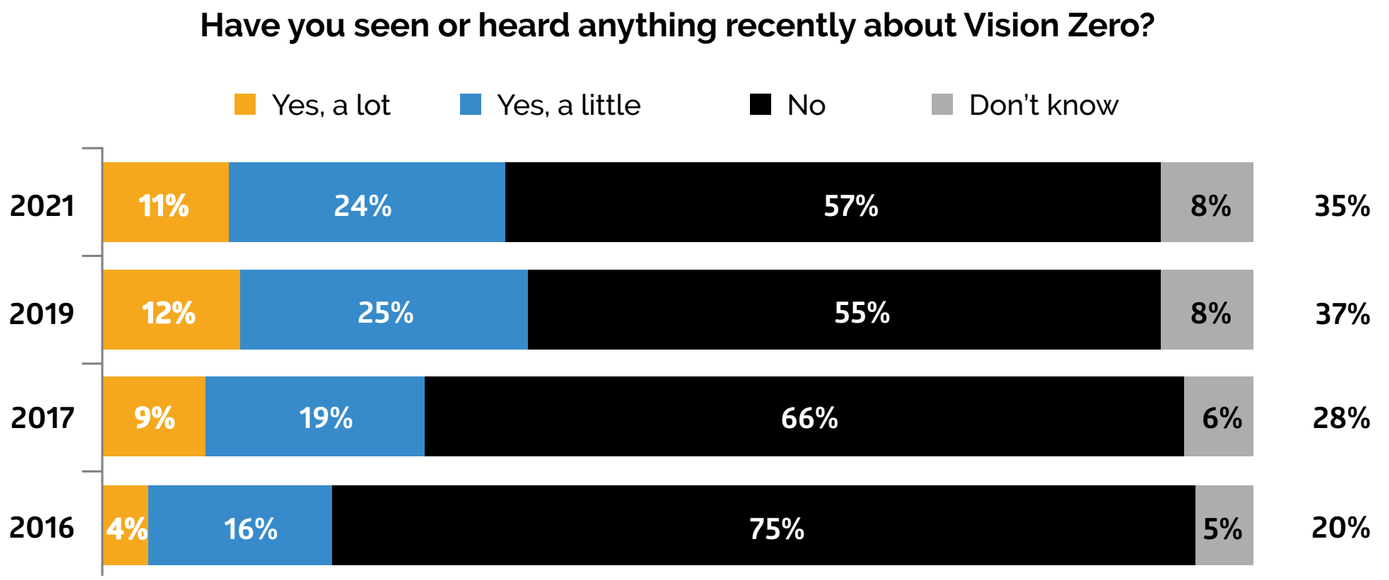
These pilot programs show that a combination of paint on the street, vertical delineators, and small speed bumps can slow driver speeds and encourage safer left turns for both people in the crosswalks and opposing traffic.

Communicating for a Long-Term Change

SFMTA has been working with EMC Research to track awareness of both Vision Zero SF and specific driver attitudes over time. In our first Vision Zero SF survey in 2016, only 1 in 5 (20%) San Franciscans were able to recall anything about Vision Zero. With dedicated education, outreach, and programming over the years, that number has steadily increased. By 2021, over 35% of San Franciscans were able to remember Vision Zero SF and accurately describe the citywide initiative to eliminate traffic deaths.

Awareness of Vision Zero SF is now 35%—up from 20% as reported in the first survey.

Awareness of Vision Zero Over Time



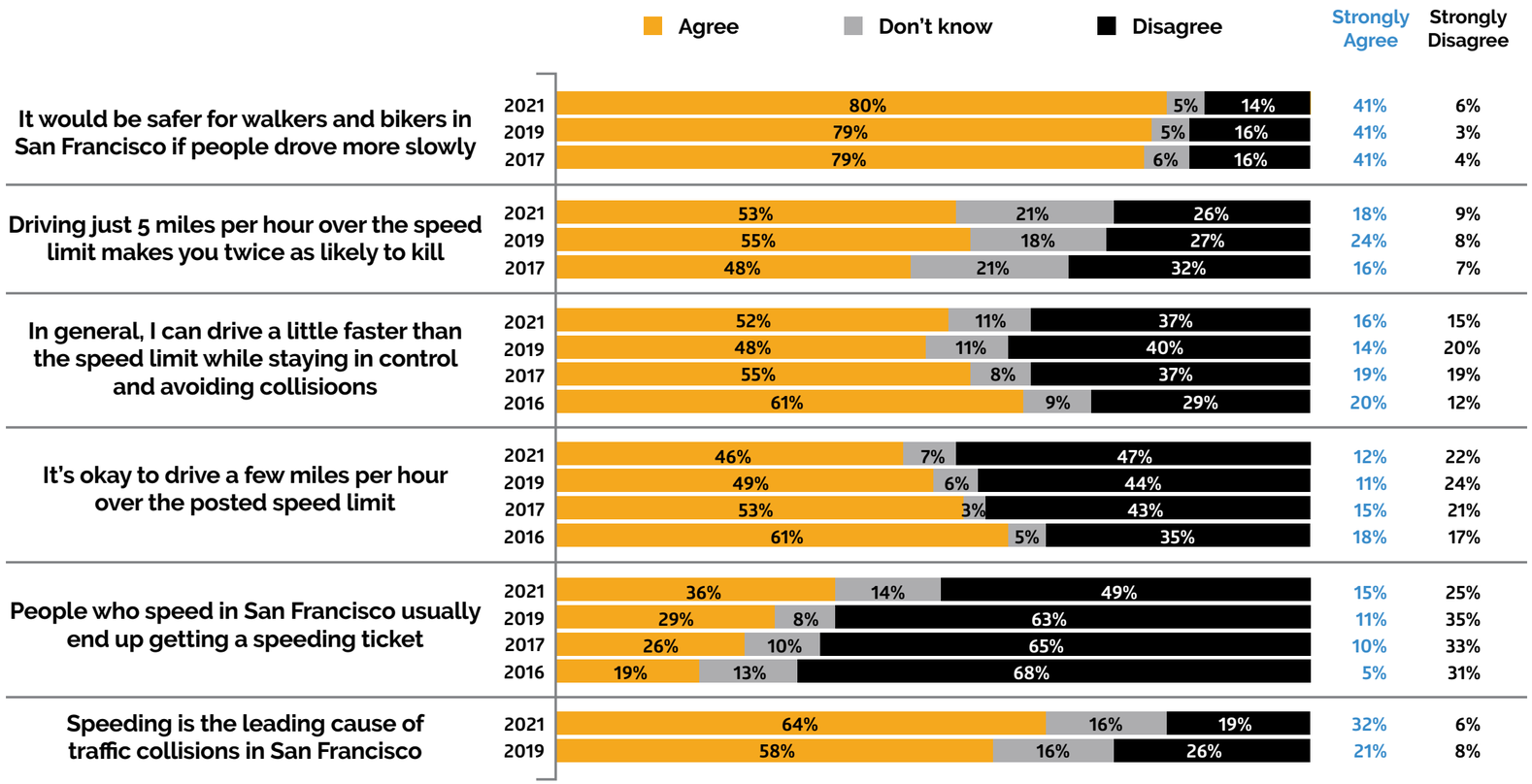
Source: EMC Research, Web and Intercept Survey of San Francisco Residents Safer Intersections Survey, May 2021

Communicating for a Long-Term Change

The Vision Zero SF Safe Speeds campaign aimed at reducing driver speeds was launched in 2017 and is reprised each year as funding allows. Year-to-year survey tracking shows an increasing number of residents who are aware of our campaign messaging, as well as an increasing number of residents who agree that speeding (even just 5 miles over the speed limit) can be dangerous.

Compared to 2019, more residents now agree that speeding is the leading cause of traffic deaths.

Outcomes Over Time



Drivers agreeing with the statement that it's okay to drive a few miles over the speed limit has been consistently decreasing since 2016. More residents now agree that drivers who speed usually get a ticket.

Source: EMC Research, Web and Intercept Survey of San Francisco Residents Safer Intersections Survey, May 2021

Recommendations for Future Work

The SFMTA is committed to making our streets safer and advancing our citywide Vision Zero goals. Our recommendations from the Safer Intersections project are:

RECOMMENDATION:

Continue to invest in robust education campaigns to increase public awareness and support for Vision Zero, and leverage with other safety interventions for the most impact.

Well-funded and evidenced-based education campaigns are an important and effective tool in raising public awareness, encouraging safer driving behaviors, influencing policy discussions, and building community support. We reached a greater number of people than our typical campaigns due to the large grant and were able to layer dozens of strategies citywide. We were also able to conduct deeper community outreach through diverse community grants. The positive impacts of education campaigns are even greater when sustained over time and combined with other safety interventions.

RECOMMENDATION:

Prioritize left-turn traffic calming treatments at locations with existing high left-turn speeds, conducive street geometry, and lots of people walking and biking.

The Left-Turn Traffic Calming Project results are most promising where existing left-turn speeds are high and/or a significant portion of left-turns are greater than 15 mph. The set of intersection treatments to enhance centerlines and turn pockets should become one part of a set of standard engineering tools to prevent crash injuries in specific contexts. They should be prioritized at targeted locations for maximum effectiveness, particularly intersections where existing left-turn speeds are high, the street geometry allows for effective left-turn traffic calming, and where there are high volumes of people walking and biking.

Project Timeline

2018

Active Transportation Program (ATP) grant received for education campaign

Left Turn Crash Analysis
SF Department of Public Health (DPH), June 2018

Left Turn Literature Review
DPH, July 2018

Stakeholder Meetings + Field Visit
BIT, Aug 2018

Convening Meeting
Sep 2018

2019

SFMTA left turn engineering pilot development

Pre-campaign surveys
EMC, Sep 2019

Pre-pilot data
Kittelson, Dec 2019

2020

COVID-19 pandemic Shelter in Place public health order
Mar 2020

Left Turn Traffic Calming pilot installed
Aug 2020

Community grant outreach and application
Oct 2020–Dec 2020

Safety–It's Your Turn neighborhood wide campaign
Oct 2020

Mid-pilot data collected
Kittelson, Oct 2020

2021

Safety–It's Your Turn Citywide campaign
Jan 2021

Community grant kickoff
Jan 2021

Final pilot data
Kittelson, Apr 2021

Post-campaign surveys
EMC, Apr 2021

Evaluation report
DPH, Sep 2021

Final pilot analysis
BIT, June 2021

Acknowledgments

Thank you to our key partners and stakeholders, without whom this project would not have been possible. And a special thanks to all the neighborhood merchants who posted campaign posters in their store fronts and all the residents who filled out our social media quiz, text surveys, web panel surveys, and intercept surveys; your participation was key to the project's success in making San Francisco streets safer.

Vision Zero is the City's commitment to prioritizing street safety and ending traffic deaths. It is co-chaired by the San Francisco Municipal Transportation Agency and the Department of Public Health, with leadership from the Mayor's Office, the Board of Supervisors, and in coordination with local community groups, advocacy organizations, and residents.

Community Partner Grantees

Bayview Opera House

Boys and Girls Club

LightHouse for the Blind

PODER

Self Help for the Elderly

SOMCAN

Community Partner Roadshow Participants

Chinatown Community Development Center

Code Tenderloin

Community Youth Center

Creativity Explored

Southeast Asian Community Center

Tenderloin Walking Tours

Youth Art Exchange

Community Partner Stakeholders

Senior & Disability Action

SF Bay Area Families for Safe Streets, Convening participant

SF Bicycle Coalition

Tenderloin Community Business District

WalkSF

Motorcycle Safety Partners

Convening Participants

Cal SafeTrec

Chicago School of Psychology

Rescue|Behavior Change Agency

SFSU RAD lab

Toole Design Group

University of Minnesota, HumanFIRST Laboratory

City Partners

SFMTA
Especially our Communications, Crossing Guards, Government Affairs, Livable Streets, Sign and Paint shops, Paratransit, and Transit teams.

SF Department of Public Health

SF Fire Department

SF Police Department

SF County Transportation Authority

Consultant Partners

MIG, Inc.

Civic Edge Consulting

EMC Research

InterEthnica

Behavioral Insights Team

Kittelson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