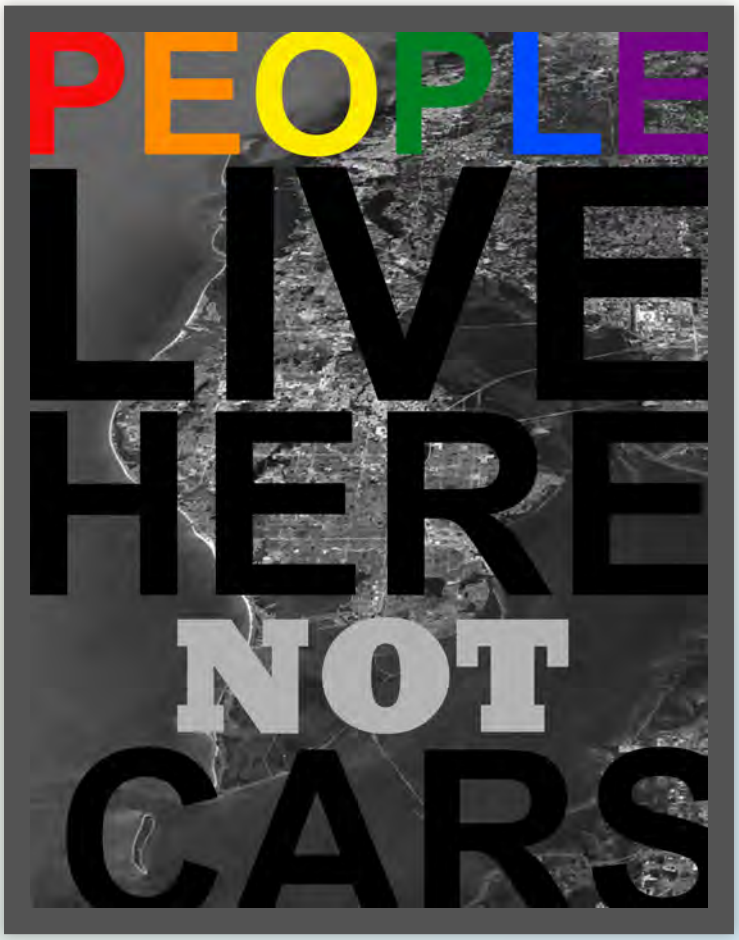
SAFE STREETS PINELLAS

Action Plan

Adopted March 10, 2021
Updated February 2023



SAFE STREETS PINELLAS ART CONTEST
1ST PLACE

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On the Cover. As part of the Safe Streets Pinellas planning process Forward Pinellas held a transportation safety community art contest. Over 40 submissions of drawings and photographs were received. The winning piece of artwork from the contest is shown as the central image on the cover, and other submissions are featured throughout this Action Plan. We appreciate the time our local artists took to share what transportation safety means to them!

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Appendix B Collision Assessment
Appendix C Demonstration Project Planning
Appendix D Engineering Countermeasure Toolbox



Contest Runner-Up

Introduction

1

SAFE STREETS PINELLAS



Dear Members of the Community,

Every day, two people are killed or seriously injured in traffic collisions in Pinellas County. Pedestrians, bicyclists and motorcyclists are much more likely to be killed or seriously injured in a crash than those traveling in an automobile. We are also finding that our minority and low income communities may be disparately impacted.
Fatal and severe traffic collisions are preventable. Safe Streets Pinellas is focused on making the roadways in Pinellas County safer for everyone, no matter how they travel. We recognize that people make mistakes and our transportation system should be designed to minimize the consequences of these errors.

This Safe Streets Pinellas Action Plan is based on a data-driven analysis to identify a High Injury Network and Hot Spot locations. It includes a toolbox of engineering countermeasures and has non-engineering countermeasures, like education and technology.

Forward Pinellas recognizes that this requires a significant commitment from our agency but also our partners. In developing this Action Plan, we worked with citizens, the public health community, the business community, law enforcement, emergency management, public transportation, local governments and the Florida Department of Transportation to incorporate input from a wide range of stakeholders impacted by this serious problem in our community.

This Action Plan provides a path for Forward Pinellas and its partner agencies to work towards zero deaths and injuries by 2045. I hope you'll join us in this critically important mission!

Dave Eggers
Chair, Safe Streets Pinellas Task Force
Pinellas County Commissioner and Forward Pinellas Board Member

How to Use This Document

The purpose of this Safe Streets Action Plan is to establish implementable and measurable steps to help Pinellas County reach a goal of zero serious injuries and fatalities on our roadways by 2045. This document and associated actions will be reviewed and updated periodically by Forward Pinellas and partner agencies to assess progress towards zero, add new strategies that have proven effectiveness, and revise or eliminate strategies that are not working.

This report is organized into eight chapters, including this first Introduction chapter. The following summarizes what is contained in each section so readers can jump to sections of interest.

- **Chapter 2 – What is Vision Zero**
  This chapter provides an overview of Vision Zero, and how it differs from the traditional approach to transportation safety. The Safe Systems approach, a way to achieve Vision Zero, is outlined, in addition to equity and enforcement considerations in the Action Plan.

- **Chapter 3 – Community Outreach**
  The goal of Vision Zero cannot be achieved without the help of everyone in the community, including people who live, work and visit Pinellas County, local government agencies, and other organizations. This chapter provides an overview of the outreach Forward Pinellas conducted as a part of this project.

- **Chapter 4 – Collision Trends**
  Collision data plays a crucial role in understanding and identifying who is being killed and seriously injured on our roadways and where. For this Action Plan, collision data from 2015 to 2019 was reviewed and analyzed to help understand collision trends. This analysis will help Forward Pinellas and partner agencies identify appropriate countermeasures for specific locations and corridors.

- **Chapter 5 – Demonstration Projects**
  Forward Pinellas partnered with several agencies throughout the course of this project to conduct demonstration projects of safety improvements that could be implemented in Pinellas County, including an educational outreach event, a near-miss assessment, and piloting of a new traffic safety device.


SPEED LIMIT 20

- **Chapter 6 – High Injury Network** Following the collision analysis, a High Injury Network (HIN) was developed to identify roadways where the most serious and fatal collisions occur. This network encompasses approximately 3 percent of the roadway network and is where 40 percent of the serious and fatal collisions occur. Focusing efforts to reduce severe and fatal collisions on these roadways can have an immediate benefit to improving transportation safety. The HIN is shown on Figure 1.

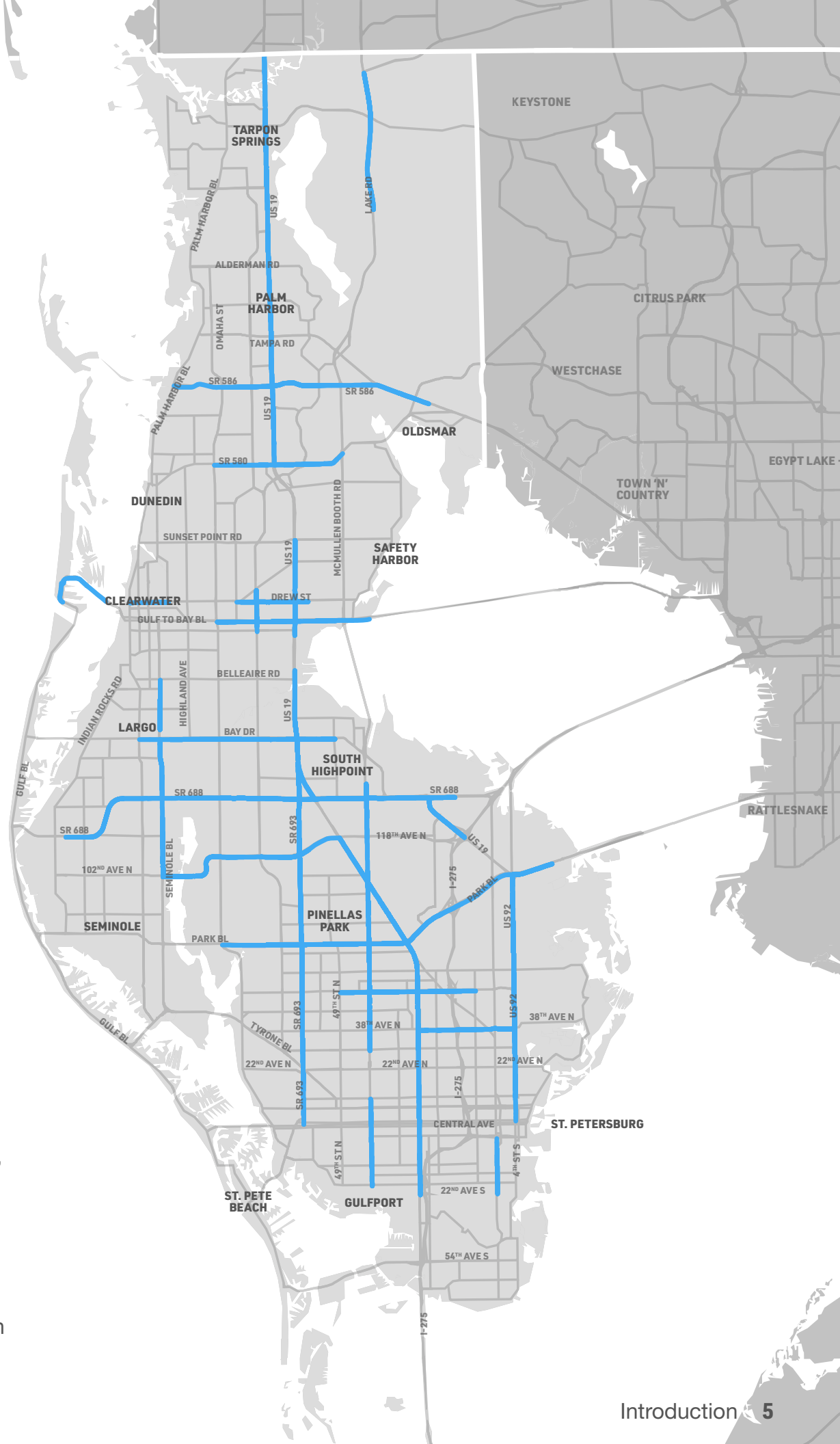
- **Chapter 7 – Safe Streets Countermeasures** Forward Pinellas developed a toolbox of countermeasures that can help improve safety outcomes, including both non-engineering and engineering solutions that prioritize safety improvements in communities of Communities of Concern. Countermeasures are also paired with different types of collisions.

- **Chapter 8 – Safe Streets Strategies** Forward Pinellas identified over 20 actions to implement in conjunction with local partners in the following categories:
  - Safe Streets Program
  - Data Collection, Monitoring and Analysis
  - Education
  - Street and Roadway Design
  - Funding
  - Legislation

  Each action provides a summary of what Forward Pinellas intends to do, and specifies partners, timelines and performance measures.

- **Appendices** Several appendices are also provided for additional information, including more details on public feedback, a detailed collision assessment, the planning of demonstration projects, and an engineering countermeasure toolbox.

Figure 1
High-Injury Network Overview



High-Injury Network

The High-Injury Network, or HIN, identifies where crashes that have resulted in a fatality or injury have occurred repeatedly. Identification of the HIN helps to build an understanding among agency staff and decision-makers, including elected officials, of where to focus efforts to reduce collisions which have resulted in injuries or deaths in Pinellas County.



Contest 2nd Runner-Up

What is Vision Zero?

2

SAFE STREETS PINELLAS

What is Vision Zero?

Safe Streets Pinellas is the Vision Zero Effort led by Forward Pinellas to create a transportation system that is safe for everyone, with a goal that no one is killed or seriously injured while using the roadways in Pinellas County.

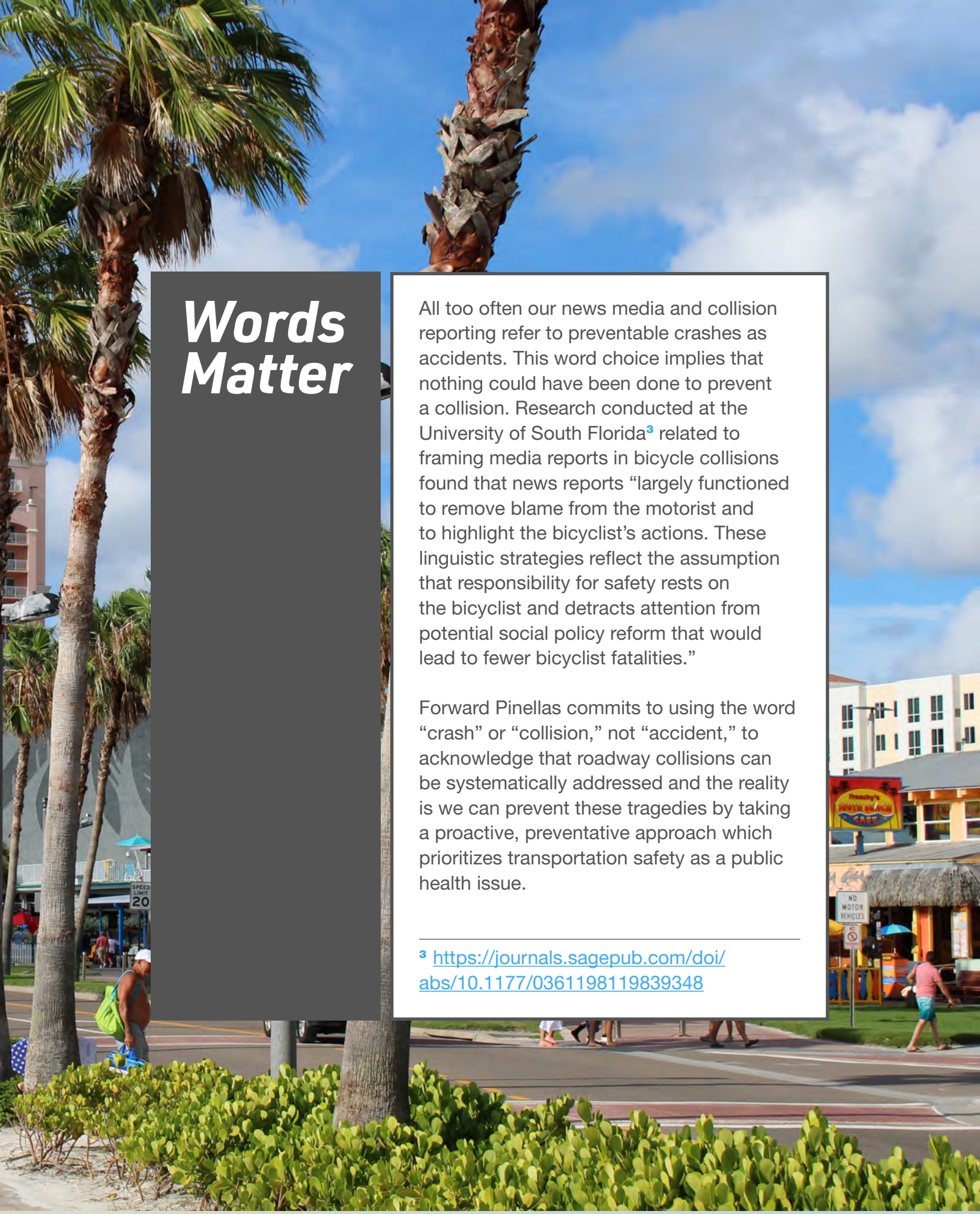
Every year in Pinellas County, about 90 people lose their lives and 750 people are seriously injured on our streets.[1] These deaths and injuries are preventable and Forward Pinellas is committed to reducing the number of collisions that lead to fatality or injury, with an ultimate goal of zero fatalities or serious injuries on our roadways through a Vision Zero process.

Vision Zero seeks to eliminate all traffic fatalities and injuries while increasing healthy and equitable mobility for all road users. Vision Zero centers transportation planning, policy, and design around safety and public health as compared to more traditional approaches that focus primarily on expeditious vehicular mobility. Vision Zero also supports a multidisciplinary approach that brings together diverse stakeholders to address complex challenges and acknowledges that many factors such as infrastructure design, human behavior, policies, and technology contribute to safe mobility. A Vision Zero Plan sets clear actions in support of zero traffic deaths and serious injuries.

Roadway crashes are the eighth leading cause of death globally, and the leading cause of death for people between the ages of 15 and 29.[2] Public health concerns related to roadway collisions are further compounded by concerns related to transportation emissions and time spent commuting, which have both been shown to worsen health outcomes. **On average, more than two people were killed or seriously injured on roadways in Pinellas County each day based on data between 2014 and 2019.** Furthermore, vulnerable roadway users (people biking, people walking, or people riding motorcycles) represent a disproportionate share of collisions that result in serious injury and death. Although 90 percent of collisions involve only people in automobiles, vulnerable roadway users account for 36 percent of collisions that result in a serious injury and 67 percent of collisions that result in a fatality in Pinellas County.

[1] On average, an additional 60 people per year die on interstate facilities. As the Forward Pinellas focus is on the non-interstate system, these roadways are excluded from the plan.

[2] World Health Organization (2020). Global Health Observatory Data. Accessed at https://www.who.int/gho/road_safety/mortality/number_text/en/



Words Matter

All too often our news media and collision reporting refer to preventable crashes as accidents. This word choice implies that nothing could have been done to prevent a collision. Research conducted at the University of South Florida[3] related to framing media reports in bicycle collisions found that news reports "largely functioned to remove blame from the motorist and to highlight the bicyclist's actions. These linguistic strategies reflect the assumption that responsibility for safety rests on the bicyclist and detracts attention from potential social policy reform that would lead to fewer bicyclist fatalities."

Forward Pinellas commits to using the word "crash" or "collision," not "accident," to acknowledge that roadway collisions can be systematically addressed and the reality is we can prevent these tragedies by taking a proactive, preventative approach which prioritizes transportation safety as a public health issue.

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[3] https://journals.sagepub.com/doi/abs/10.1177/0361198119839348

Vision Zero Core Principles

Vision Zero recognizes that humans make mistakes and therefore the transportation system should be designed to minimize the consequences of human error. The Vision Zero approach is fundamentally different from the traditional traffic safety approach in American communities in six key ways, as shown on Figure 2.

The goals of this effort include addressing safety concerns throughout the county, providing data and information to our partner agencies, and working together to achieve zero deaths on our roadways.

The Vision Zero Network and the Institute of Transportation Engineers (ITE) collaboratively developed the Core Elements of Vision Zero in 2018.

The Core Elements set a national benchmark that includes ten core elements in three main categories:

1. Leadership and Commitment
2. Safe Speeds and Safe Roadways
3. Data-driven Approach, Transparency and Accountability

The national benchmark requires communities to commit to all ten core elements to be called a Vision Zero community – there is no picking and choosing or levels of commitment.[4]

[4] More information on the *ITE Core Elements for Vision Zero Communities* is available at https://visionzeronetwork.org/resources/vision-zero-core-elements/.



Figure 2 How is Vision Zero different?

1. **Reframes traffic deaths as preventable.**
2. **Integrates human failing into the approach.**
3. **Focuses on preventing fatal and severe crashes rather than eliminating all crashes.**
4. **Aims to establish safe systems rather than relying on individual responsibility.**
5. **Applies data driven decision making.**
6. **Establishes road safety as a social equity issue.**

The *Advantage Pinellas 2045 Long Range Transportation Plan*[5], adopted in 2019, envisions a transportation network that provides safe multimodal transportation options for all residents and visitors to Pinellas County. This Vision Zero Plan, also known as Safe Streets Pinellas, is one of many implementation steps to achieve that goal along with other local, regional, and national efforts. For example, the Gulf Coast Safe Streets Summit, started in 2018 as a collaborative event between the MPO/TPOs of Hernando/Citrus, Hillsborough, Pasco, Pinellas, Sarasota/Manatee, and Polk Counties; the Florida Department of Transportation; the University of South Florida (USF) Center for Urban Transportation Research (CUTR); and Bike/Walk Tampa Bay, provides opportunities for regional knowledge sharing, education, and encouraging implementation of the complete streets process throughout the region. These regional partnerships are supported by state-level directives from the Florida Department of Transportation, including strategies identified in the Florida Strategic Highway Safety Plan, the Florida Transportation Plan Policy Element, and the Complete Streets Implementation Plan. At the national level, cities are increasingly taking the pledge to become Vision Zero communities. The Federal Highway Administration (FHWA) provides resources and guidance to help communities develop safer transportation systems. Pinellas County is not alone in the challenge to eliminate all fatal injury collisions, and resources are increasingly available.

[5] https://www.forwardpinellas.org/advantagepinellas/.

Why Focus on Fatalities and Serious Injuries?

As Forward Pinellas and partner agencies seek to balance vehicle capacity and the need to provide safe access for all users of the transportation network, the focus on collisions that result in someone being killed or seriously injured (KSI) can provide the most meaningful benefit to the community.

Serious injuries resulting from a traffic crash have catastrophic impacts such as permanent disability, lost productivity and wages, and ongoing healthcare costs. Based on definitions provided by the Federal Highway Administration,[6] a collision is classified as a fatal collision if an injury sustained during a crash results in death within a 30-day period after the crash occurred. An injury includes the following:

- Broken or fractured bones
- Dislocated or distorted limbs
- Severe lacerations resulting in exposure of organs or tissue, or resulting in significant loss of blood
- Severe burns (second or third degree over 10 percent or more of the body)
- Skull, spinal, chest or abdominal injuries
- Unconsciousness at or when taken from the collision scene

Throughout this Plan, the acronym KSI is used to denote crashes where someone was killed or seriously injured.

[6] https://safety.fhwa.dot.gov/hsip/spm/conversion_tbl/pdfs/kabco_ctable_by_state.pdf



Safe Systems Approach

The Safe Systems approach, part of the Safe Roadways and Safe Speeds category, outlines strategies to reach the goal of zero KSIs. This approach acknowledges that people make mistakes and focuses on influencing system-wide practices, policies, and designs to lessen the severity of crashes. It has been employed effectively in many countries including Sweden, Norway, Finland, the Netherlands, Australia, and New Zealand for more than 30 years. These early adopter countries have seen marked decreases – at least a 50 percent reduction – in traffic fatalities across their roadway systems through a Safe System approach, with Oslo, Norway and Helsinki, Finland reporting no pedestrian fatalities in 2019. The key principles and elements of a Safe System approach, as defined by the Federal Highway Administration (FHWA), are presented on Figure 3.[7]

Encouraging safer, more context-appropriate travel speeds and building "safety nets" into street design to prevent or mitigate serious and fatal collisions are key Safe System tools.

FDOT is shifting to a safe systems approach through updated context classification guidelines and Complete Streets policies that encourage safer street design. This is important since one of the most significant factors influencing the frequency and severity of collisions is vehicle speed, which directly affects the amount of kinetic energy transferred during a collision as shown on Figure 4. The faster a vehicle is traveling upon impact the more likely the collisions will result in a serious injury or death.

[7] https://safety.fhwa.dot.gov/systemic/

Figure 3 Key Principles and Elements of the Safe Systems Approach



Figure 4 Vehicle Speed Comparison to Chance of Pedestrian Fatality

SPEED IS A FUNDAMENTAL PREDICTOR OF CRASH SURVIVAL.

IF HIT BY A PERSON DRIVING AT



DEATH RISK
10%

DEATH RISK
50%

DEATH RISK
90%

RESEARCH SHOWS

Increasing vehicle speeds from **20 MPH** to **40 MPH** increases the likelihood of a pedestrian death when hit from **10%** to **90%**.

SOURCES: PROPUBLICA, VISION ZERO NETWORK

Lower speeds increase a driver's [field of vision] and allows for more time to react to unexpected situations in the roadway. The yellow circles above show how a driver's field of vision changes when they travel at various speeds

SAFE STREETS PINELLAS

Another way to approach Vision Zero and systemic safety draws inspiration from Rand's Road to Zero report, which focuses on three key themes:[8]

- **Doubling down on what works** Focus on roadway design countermeasures that reduce conflicts and manage speeds, law enforcement, emergency response and trauma care, and more safety education and outreach.

- **Technology** Leverage and promote advanced driver assistance systems, which are increasingly featured on new vehicles to improve safety outcomes. Promote regional use of Intelligent Transportation System (ITS) technologies that can be used to predict collisions, improve emergency response times, and provide an improved travel experience.

- **Culture shift** A pervasive safety culture can be nurtured through a Safe Systems approach and the understanding that drivers will occasionally, but inevitably, make mistakes and that the overall transportation system could be designed to eliminate fatal outcomes.

Achieving zero deaths on Pinellas County roadways is no small goal and will require consistent focus and effort, not only from local planners and engineers, but from others in the community including health care professionals, law enforcement, the media, and most importantly everyone who lives, works, and plays within the community. There are also strategies that are beyond the ability of local government to implement because they require state or federal legislative action to set vehicle safety standards or evaluate/approve some of the technological responses.

Safe Streets Pinellas will be an on-going process that includes systemic application of effective countermeasures, continual data-driven evaluation of progress toward zero, and equitable application of measures. In this process, the role of Forward Pinellas is to provide leadership in the local Vision Zero movement and guide a systemic approach throughout the county by providing an equitable approach to all municipalities and residents throughout the county through sharing of data, best practices, funding, and other resources to partner agencies that will implement safety improvements.

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[8] Rand's 2018 report *Road to Zero: A Vision for Achieving Zero Roadway Deaths by 2050*. Accessed at https://www.rand.org/pubs/research_reports/RR2333.html

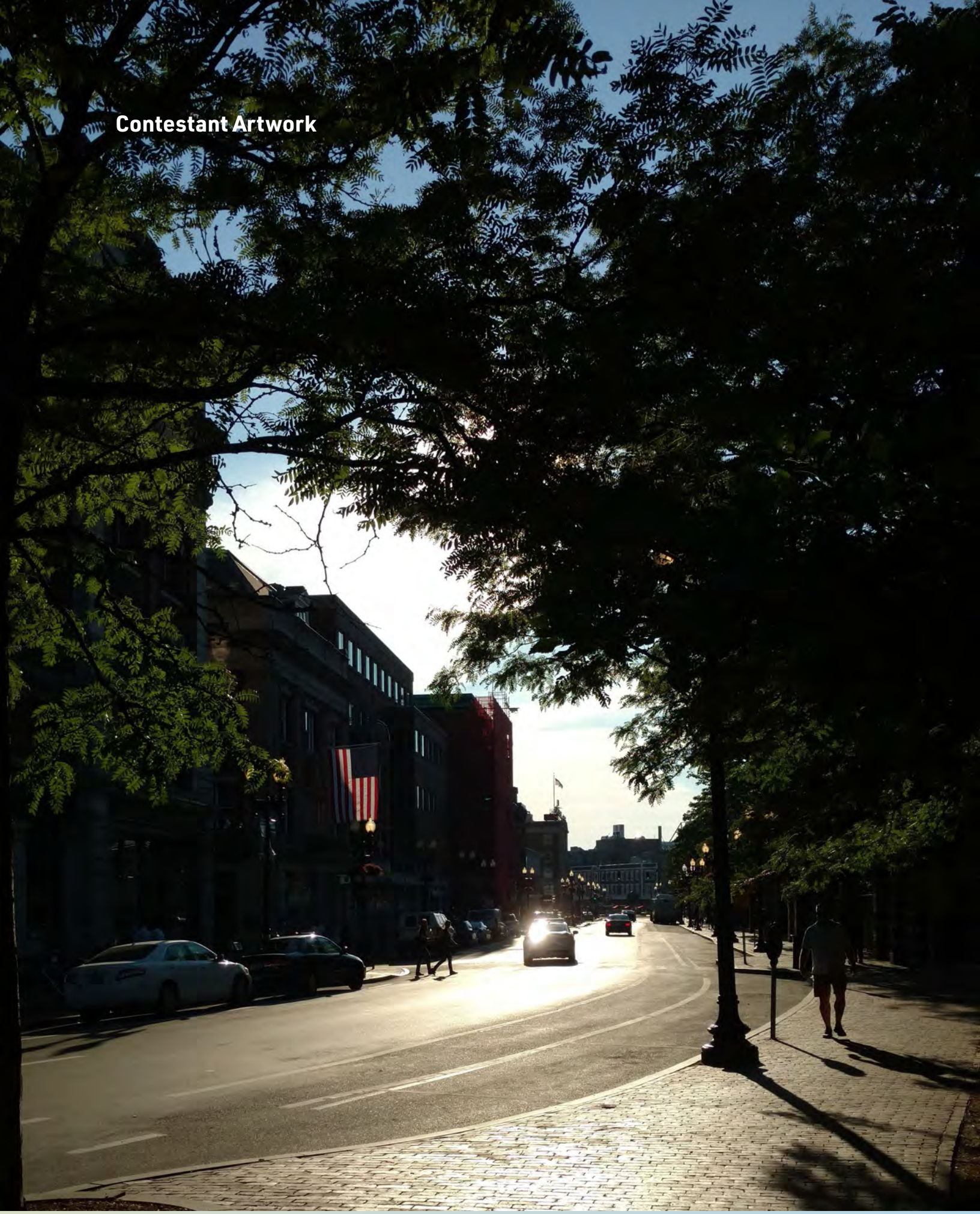
Equity Considerations

What is Equity in the Vision Zero context? Vision Zero is based on the premise that all people have the right to move about their communities safely. If done well, Vision Zero can help transform broken systems into safe systems. This entails recognizing that many of our communities have been systemically discriminated against in transportation practices, and that not all communities are starting from the same place in terms of safety investments. In addition, problems of racial bias in policing raises urgent questions about how we must use Vision Zero to improve – not inadvertently exacerbate – negative, unintended consequences, particularly in communities of color and low-income communities.

The equity framework focuses on how to ensure that safety investments are made in Communities of Concern which typically experience higher rates of collisions that result in fatalities and serious injuries, and where transportation safety investments have historically not been made.

Serious and fatal collisions have an unequal impact upon some residents of Pinellas County. More KSI collisions occur in and around parts of the county that are classified as Communities of Concern, as defined in detail in *Advantage Pinellas*. Communities of Concern have high numbers of people of color and low-income populations. As documented in the *2045 Long Range Transportation Plan*, transportation projects will be evaluated to ensure that Communities of Concern will not disproportionately experience adverse effects of transportation projects, and ensure these areas will not be disproportionately excluded from receiving the benefits of transportation investments. Communities of Concern will also be targeted for additional public outreach activities to ensure that traditionally underrepresented groups are involved in the transportation process.

73 percent of the High-Injury Network is either within or runs through a Community of Concern even though these areas make up only 32 percent of Pinellas County's geographic area. The Action Plan includes several actions that focus on Communities of Concern.


Contestant Artwork

Enforcement

Enforcement has traditionally been one of the key strategies to manage unlawful and undesirable behavior on our roadways. However, enforcement strategies can have unequal impacts, especially in Communities of Concern. There are three main types of activities provided by Law Enforcement related to traffic safety:

- **Deterrence** Preventative activities that seek to deter a traffic violation from occurring. This could include speed trailers or parking a police vehicle on a corridor of concern, or just the presence of police that can change behavior.

- **Compliance** involves law enforcement stopping a person suspected of a traffic safety violation.

- **Punishment** If a person is found guilty of having committed a violation there is typically a fine and, in some cases, imprisonment.

At the level of an individual officer, there is often a lot of discretion used in determining when someone should be stopped or cited.[9] National studies have shown that Black people and Hispanic people are more likely than white people to be stopped for traffic safety violations and more likely to experience long-term financial burdens from these stops.

For some violations, the punishment may not be severe enough to deter unwanted behavior, like driving under the influence. Fine structures and other punishments should be reviewed through an equity lens and the potential for non-monetary repayment, like community service, could be considered. Enforcement activities should also focus on the behaviors most likely to result in a fatal or serious injury crash, like driving under the influence, excessive speeding, and aggressive driving. Local law enforcement agencies can also review their hiring and training practices through an equity lens.

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[9] https://www.bjs.gov/content/pub/pdf/cpp15.pdf, https://www.vox.com/identities/2017/8/4/16070664/police-racial-bias-speeding-ticket, https://www.sacbee.com/news/local/crime/article144743834.hl, https://nyc.streetsblog.org/2020/05/07/nypds-racial-bias-in-jaywalking-tickets-continues-into-2020/, https://finesandfeesjusticecenter.org/articles/driving-while-black-and-latinx-stops-fines-fees-and-unjust-debts.

While enforcement is a key component of traffic safety, there are ways to enforce traffic safety laws within an equitable framework while considering limited resources of our public safety agencies. For example, High Visibility Enforcement (HVE), which combines intensive enforcement of a specific traffic safety law with extensive communication, education, and outreach informing the public about the enforcement activity, has been shown to provide more equitable outcomes. A sobriety checkpoint stops everyone on a specific roadway regardless of race, age, or another characteristic. Another strategy is automated speed enforcement. There is no discretion with this approach since every vehicle driving over a certain speed is issued a warning or citation. Forward Pinellas will continue to evaluate the applicability of using Automated Speed Enforcement in Pinellas County, consistent with State and Federal law.

It is unclear to what extent the unequal burden of enforcement might be having on Communities of Concern in Pinellas County as a detailed review of policing policies or outcomes was not conducted as part of the preparation of this Action Plan. However, Forward Pinellas also recognizes that it is not possible to solve all traffic safety issues through enforcement strategies. Targeted enforcement strategies coupled with engineering countermeasures, educational programs, and legislative change will be needed to reduce the number of serious and fatal injury collisions in Pinellas County.



Contestant Artwork

Community Outreach

3

SAFE STREETS PINELLAS

Community Outreach Summary

Community outreach for Safe Streets Pinellas has taken many forms including regular meetings with a diverse Project Task Force, a public information and feedback campaign, on-line traffic safety quizzes, customized social media commitment frames, and an art contest. Project Ambassadors helped spread the word to the community, and presentations to various Forward Pinellas advisory committees kept decision-makers informed about the overall project process. Opportunities for feedback on the overall Action Plan strategies were also offered at various key milestones.

A formal Safe Streets Summit was planned for March 31, 2020. Over 125 participants had registered for the event scheduled to take place at the EpiCenter at St. Petersburg College. Numerous interactive workstations, including an existing conditions overview, educational components about Vision Zero, and opportunities for members of the public to provide feedback about transportation safety in their community were planned. Due to COVID-19 the summit was postponed indefinitely.

To keep the project moving forward, in-person activities and Task Force and Ambassadors meetings were transitioned to an on-line format using Zoom. Alternative approaches to the planned in-person Pinellas Summit elements were developed, including preparation of a project website[10] and detailed on-line mapping to share the collision analysis results with the public. There was an eight-week long social media blitz with weekly prize winners who interacted with the Safe Streets materials, took a Safe Streets Pinellas Pledge, watched videos prepared for the project, or shared feedback. Prizes ranged from tote bags and pens to a roadside emergency kit to a gift card to a local bicycle shop. Over 150 people took part in the safety quizzes and more than 250 people provided comments on the crowdsource map, an on-line map where people can provide feedback, review the feedback from others, and provide additional feedback on the comments provided by others. Overall, 1,700 people participated in this online engagement format.

[10] https://forwardpinellas.org/safestreets/about/.

Contestant Artwork



Task Force

A Project Task Force was established with a goal of having a small group of members with diverse perspectives of traffic safety and the transportation network in Pinellas County. The Task Force included transportation engineers and planners, Forward Pinellas advisory committee members, public health staff, school district staff, law enforcement, and a representative for the transportation disadvantaged. Everyone's contributions to the plan are greatly appreciated.

Members of the Task Force were:

- Pinellas County Commissioner Dave Eggers, Forward Pinellas Chair, 2020
- Julie Bond, Senior Research Associate, Center for Urban Transportation Research
- Stephanie Carrier, Pinellas County Schools
- Lt. Joseph Gerretz, Pinellas County Sheriff's Office
- Daphne Green, Pinellas Park
- Craig Hare, Pinellas County EMS and Fire Administration
- Alex Henry, FDOT District 7 Bicycle and Pedestrian Coordinator
- Gloria Lepik Corrigan, Disability Advocate
- Matt Lettelleair, St. Petersburg Area Chamber of Commerce
- Caitlin Murphy, Pinellas County Planning[11]
- Amanda Payne, Amplify Clearwater
- Joan Rice, Pinellas County Public Works
- Brian Scott, Escot Bus Lines
- Ross Silvers, Pinellas Suncoast Transit Authority
- Officer Ron Wolfson, St. Petersburg Police Department
- Edith Wong, FDOT District 7 Traffic Safety Studies Engineer

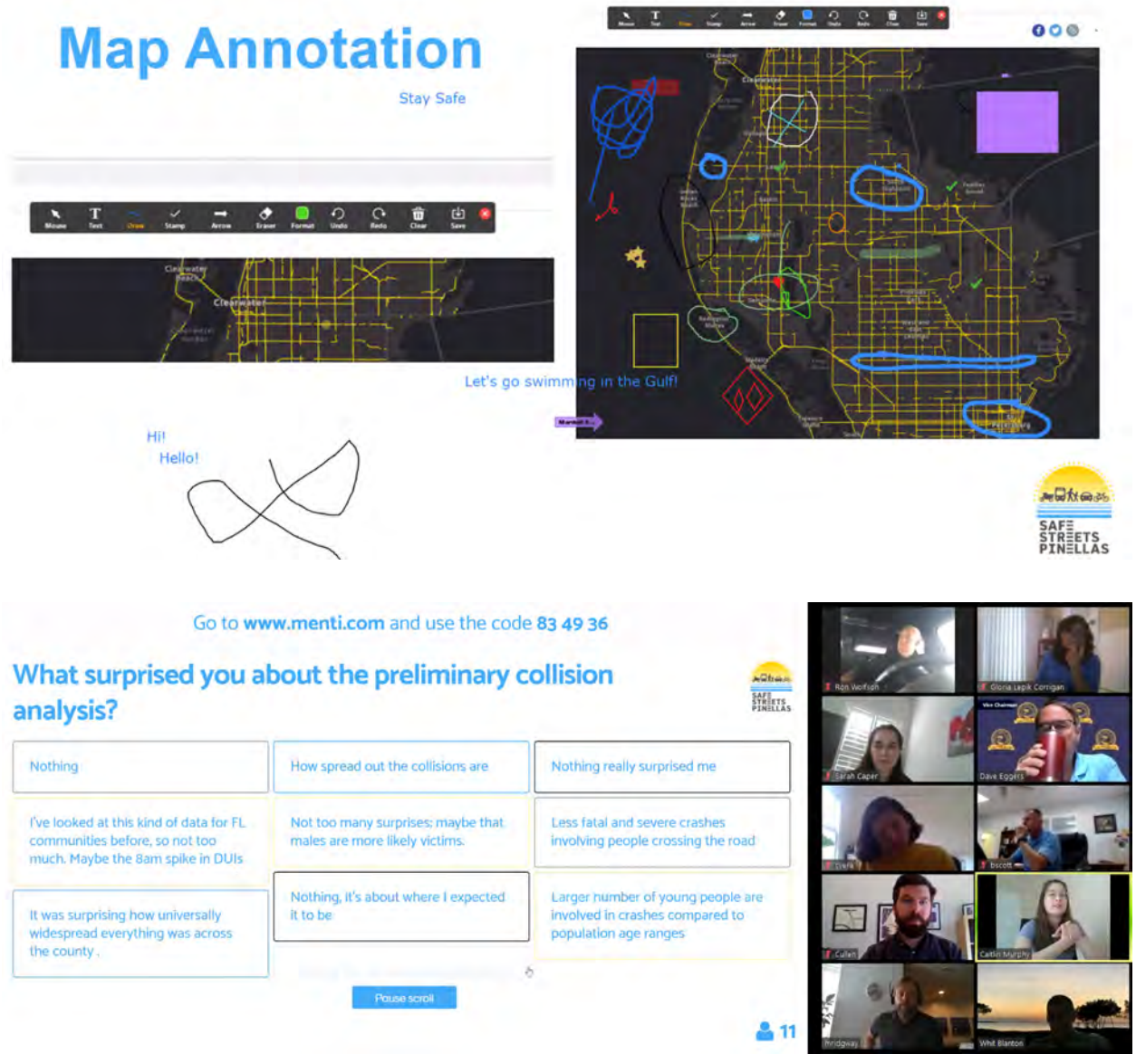
The Task Force met five times throughout the course of the project and each meeting focused on a different element of the plan. Key meeting topics were:

1. Introduction to the Core Elements of Vision Zero (April 2020)
2. Collision Landscape and Draft High-Injury Network (May 2020)
3. Non-Engineering Countermeasures (June 2020)
4. Engineering Countermeasures (August 2020)
5. Action Plan Review (November 2020)

[11] The Pinellas County Planning Department has since become the Pinellas County Housing and Community Development Department.

Meetings were held virtually using the Zoom platform, and recorded so Task Force members who could not attend were able to watch the meeting at their convenience. During the virtual meetings, a range of opportunities were offerred for Task Force members to have small group conversations, interact with presentation materials, and provide critical feedback as shown on Figure 5. Access to meeting recordings and minutes are available upon request from Forward Pinellas.

Figure 5 Interactive Activities with the Task Force Meetings



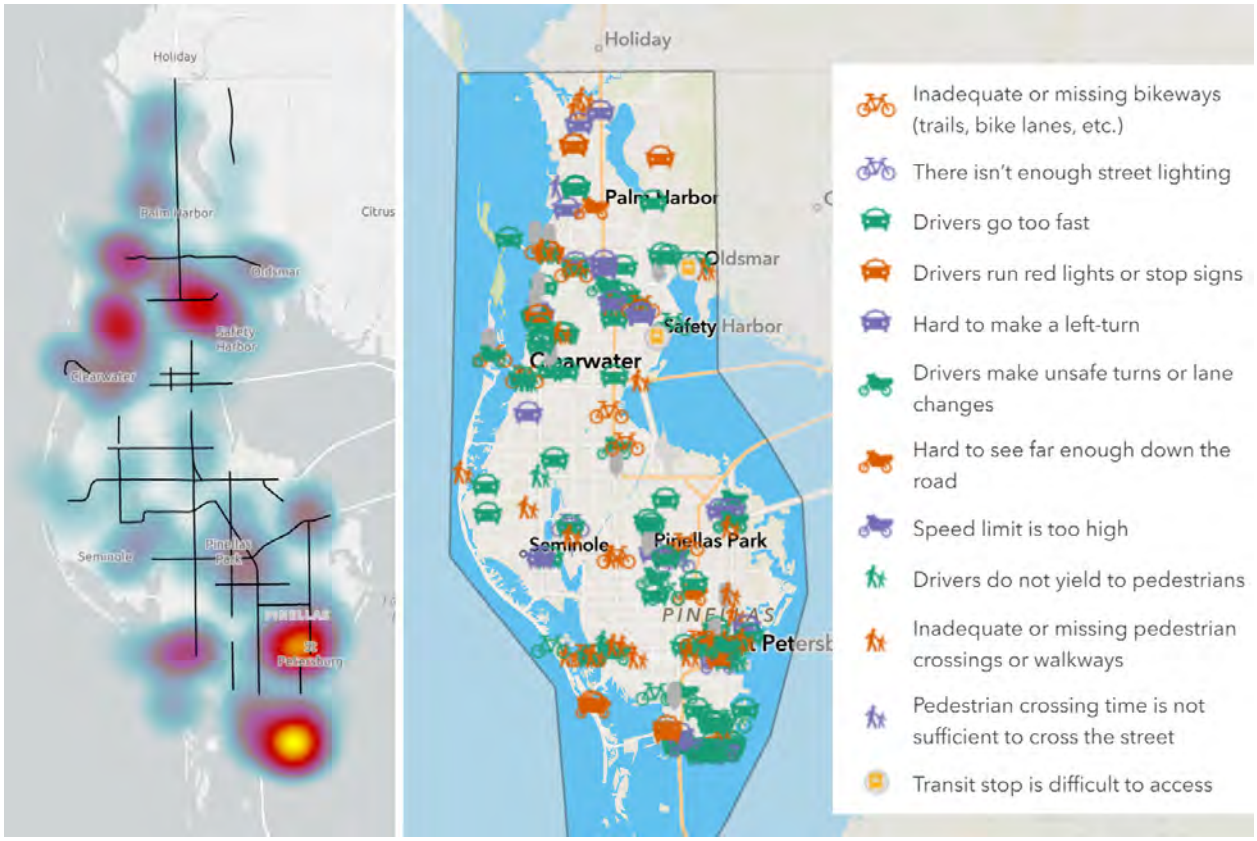
Project Ambassadors

A Project Ambassador program was also established. Project Ambassadors are community members, agency staff, and others who are interested in the project. An Ambassador orientation was provided to educate the group about core elements of Vision Zero, the draft collision assessment, public engagement strategy, and overall project goals. As new materials were posted to the project website and social media, our Ambassadors helped spread the word through their networks. It is expected that Project Ambassadors will continue to champion Vision Zero in their communities and help continue the momentum.

Public Feedback

Collision data alone does not tell the full story about safety concerns on our roadways so an on-line Crowdsource Map was used to collect feedback from the general public about transportation issues in their communities, as shown on Figure 6. Respondents could pick from a series of typical concerns and provide detailed comments on specific issues they have witnessed or experienced in their communities or at locations they travel regularly. Other respondents had the ability to "vote up" comments made by others and/or add additional details. Overall, 225 unique comments and 200 additional comments/vote-ups on original comments were received. In total, 60 percent of the comments were related to behaviors of other roadway users (speeding, running red-lights or stop-signs, drivers not yielding to pedestrians) and 40 percent of the comments were related to physical design features of the transportation network (missing sidewalks, lacking street lights, hard to see on-coming vehicles, or speed limits that are too high). Roadway design features have a direct influence on driver behavior, including driver speeds. This feedback was used during the development of this plan to identify demonstration project locations and reinforce the need for both engineering and non-engineering countermeasures to make streets safer in Pinellas County.

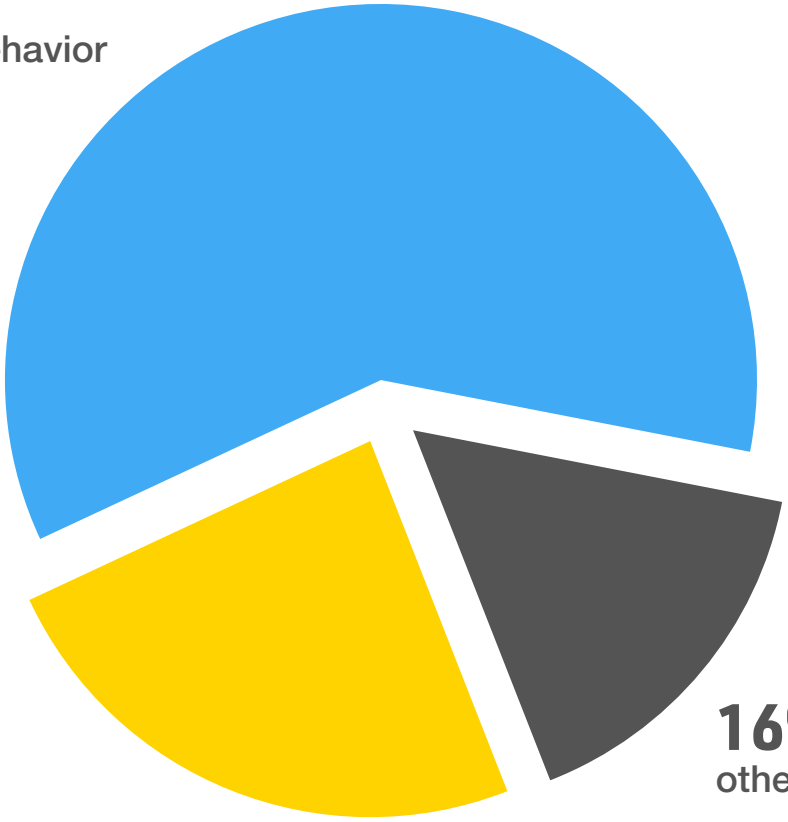
Figure 6 Geographic Distribution of Public Comments Received



Comment Summary

36% speed
5% unsafe lane changes
6% not following intersection control
10% not yielding to pedestrians
3% not sharing roads with bicyclists

60%
driver behavior



16%
other design issues

9% hard to turn left
2% low visibility
1% insufficient lighting
4% other

24%
bike, pedestrian, and transit infrastructure

14% gaps in pedestrian network
7% gaps in bicycle network
2% insufficient crossing time
1% inaccessible transit stop

Comment Summary

A summary of all the comments received is provided in Appendix A One location that received a number of comments is the intersection of Alternate US 19 at Curlew Road. Below are some of the comments submitted and most were related to bicycle and pedestrian safety:

"We need to move stop bars back, improve crosswalk visibility, provide pedestrian scale lighting and restrict right on red for all four approaches."

"The intersection of Curlew and the Causeway is highly trafficked and dangerous when crossing in any direction. Due to the Pinellas Trail crossing here as well the existing crosswalk system just isn't enough to leave pedestrians feeling safe when crossing."

"Intersection is EXTREMELY busy with traffic coming from all four directions, and bike/ped traffic on the Pinellas Trail as well as the Honeymoon Island Trail spur."

"Westbound Curlew drivers frequently make right turns on red at Alt 19 northbound. Propose a lighted "no turn" sign similar to the one for North Bound Alt 19 and eastbound Curlew. The failure of drivers to obey the No Right on Red sign places users of the Pinellas trail at risk."

"We need an overpass at this intersection for pedestrians and bicycles."

"Drivers continue to turn despite no turn on red signal, placing trail users in danger. Maybe if flashing red lights were added it would help."

Additional details about safety measures at this intersection can be found in the Demonstration Project portion of this report.

Other Survey Data

As part of the *2045 Long Range Plan* a statistically valid survey was administered by the ETC Institute on behalf of Forward Pinellas. Over 800 survey responses were received on a broad range of planning topics including roadway safety and transportation planning priorities. Key survey results that relate to the goals of this project include:

- 57 percent of survey respondents are willing to trade lower speed limits for safer streets (26 percent responded "No" and 17 percent were undecided)

- 38 percent of respondents selected Crime and Personal Safety when traveling as one of the top three most pressing challenges facing Pinellas County (1st is traffic congestion and travel delays, and 2nd is lack of affordable housing options)

- 25 percent of respondents selected making streets safer for walking and bicycling as their top transportation priority – tied with expanding bus service (1st is better timing of traffic signals, and 2nd is creating rapid transit services)

- 74 percent of survey respondents strongly agreed with the statement "A public street serves the community best when people in cars, in bicycles, using public transportation, or walking all feel safe and welcomed" (18 percent agreed, 4 percent either disagreed or strongly disagreed)

These survey results indicate most people in Pinellas County are supportive of making changes to the transportation system to improve safety for all roadway users. However, as specific projects are implemented, information related to the trade-offs between various modes of travel should be provided. For example, strategies that provide improved signal coordination implemented with lower speed limits on select corridors could result in minimal travel time changes and improve travel time reliability, as well as improve safety outcomes. As Forward Pinellas works to implement the actions outlined in this and other planning documents, projects will be evaluated through a capacity lens as well as a safety lens.


Contestant Artwork
FREE LOOPER
400 BEACH
Relaxed Coastal Cuisine
SHORE
Cubans

Public Interaction

A variety of approaches were taken to engage the community with Safe Streets Pinellas including a series of on-line quizzes to test “street smarts” about traffic safety, safety pledges, and a community art contest.

Bring Your Inner Artist: A transportation safety-themed coloring book was prepared for the in-person event, complete with colored pencils and information about different transportation safety strategies. In addition to a Safe Streets Pinellas coloring book, a transportation safety community art contest was held. Over 40 submissions of drawings and photographs were received. The winning piece of artwork from the contest is displayed on the cover of this document with other submissions featured throughout. We appreciate the time our local artists took to participate and share their transportation safety images!



CALLING ALL ARTISTS! WHAT DOES #SAFESTREETS MEAN TO YOU?

August 3, 2020 / Filed under Bicycle Friendly Community, Complete Streets, Food Insecurity, How We Develop, Planning for the future, Priorities, Regional Transportation, Safe Streets - Vision Zero, Safety.

Author(s): Sarah Caper

Calling artists of all ages! We need your help to design artwork for Safe Streets Pinellas.

Now through August 31, 2020, create and submit your artwork depicting what #SafeStreets means to you. Artwork can include a drawing, painting, photo, computer graphic, or other piece of art. Get creative!

STRATEGY

intersection tightening 01

WHAT DOES IT LOOK LIKE?

PAINT, PLASTIC BOLLARDS, and REFLECTIVE MARKERS that physically and visually narrow the street.



PAINT

WHAT DOES IT DO?

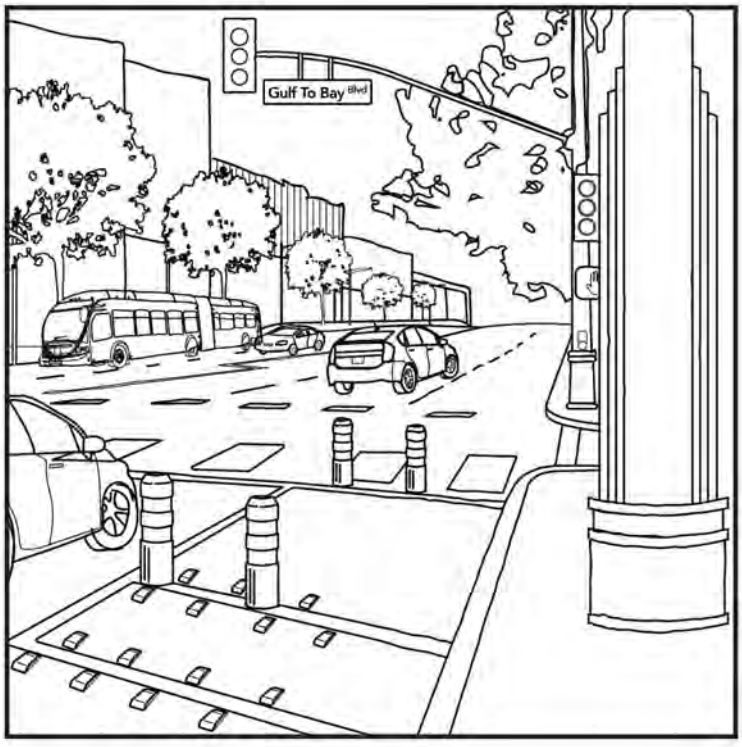
Narrows the road to reduce the speed of turning vehicles, shorten the pedestrian crossing distance, and make pedestrians more visible to vehicles.



PLASTIC BOLLARDS



REFLECTIVE MARKERS





Test Your Street Smarts: Over 150 people participated in the on-line quizzes: the quizzes were originally intended to be flashcards at the in-person summit but were switched to an on-line platform. A variety of questions types were incorporated into the quizzes, including helmet laws for bicyclists, motorcycle regulations, and what to do when you approach a "dark" traffic signal. In total, quiz takers answered 68 percent of questions correctly. However, **quiz takers tended to score higher on questions about rules for drivers related to traffic signal operations and showed some room for improvement on knowledge about yielding to pedestrians and interacting with bicyclists on our roadways.** While the official Florida Driver License Handbook[12] was recently updated to include more robust sections on pedestrian and bicyclist laws, those who have not recently taken the written exam may not be as familiar with current laws such as the requirement of drivers to provide people riding bicycles a minimum of three feet of clearance when driving alongside or passing.

[12] https://www3.flhsmv.gov/handbooks/englishdriverhandbook.pdf.

Show Your Support: A core element of a Vison Zero community is a commitment for elected officials and policy makers to prioritize and commit to safe streets. We provided an opportunity for others within the community to express their commitment to safer streets in Pinellas County. Options to complete a pledge on-line or print out a pledge board were provided. We will continue to encourage members of our community to take the pledge, even after the plan is adopted, to show support toward Safe Streets Pinellas. Take the pledge today by visiting https://forwardpinellas.org/safe-streets-vision-zero/safestreets-starts-with-you-take-the-pledge-towards-zero/



Other public outreach conducted during plan development included a variety of committee presentations, presentations to groups who requested additional information, and workshops. Additional events are anticipated and will continue with the establishment of a Safe Streets working group. If you are interested in receiving more information about upcoming events or ways to get involved, please contact Forward Pinellas.



Contestant Artwork

Collision Trends

4

SAFE STREETS PINELLAS

Collision Trends

Between 2015 and 2019, 450 people lost their lives and thousands more sustained life altering injuries on Pinellas County roadways, excluding the interstate system. Chances are you know someone who has been killed or seriously injured, or someone who has lost a close friend or family member. Traffic collisions place a high emotional and financial toll on the victims and their immediate family and friends, and impact our society as a whole in terms of increased medical costs, insurance, and increased travel times/delays due to congestion caused by collisions.

The collision assessment analyzed data from the Pinellas Crash Data Management System (CDMS). This assessment focuses on the five years between 2015 and 2019.[13] During that five-year period approximately 131,200 collisions were reported in Pinellas County, with three percent of those collisions resulting in fatalities or serious injuries. A detailed collision assessment is provided in Appendix B with the following key findings:

- On average, two people are killed or seriously injured on Pinellas County roadways each day.
- Overall, collisions overwhelmingly involve people in motor vehicles (90 percent). Collisions that result in a KSI disproportionally include a vulnerable roadway user (people biking, people walking, people riding motorcycles), with pedestrians accounting for 40 percent of people killed on Pinellas County roadways.
- Alcohol is two or more times as likely to be involved in a KSI collision than a non-KSI collision.

[13] Data from the last few months of 2019 was being refined when this analysis was started. Therefore, the numbers presented in this analysis may slightly differ from other published data. However, none of the refinements changed the overall collision trends.

Figure 7 Cause of Collision in Pinellas County, 2015-2019

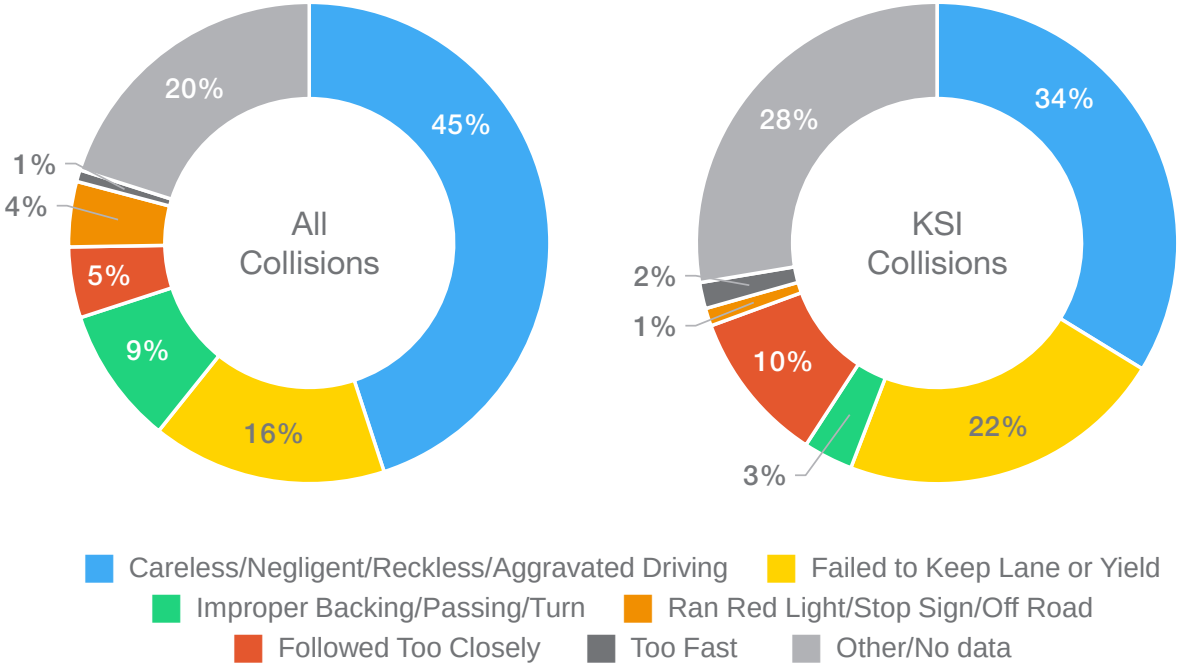


Figure 8 Mode of KSI Victims in Pinellas County 2015-2019 by Collision Type

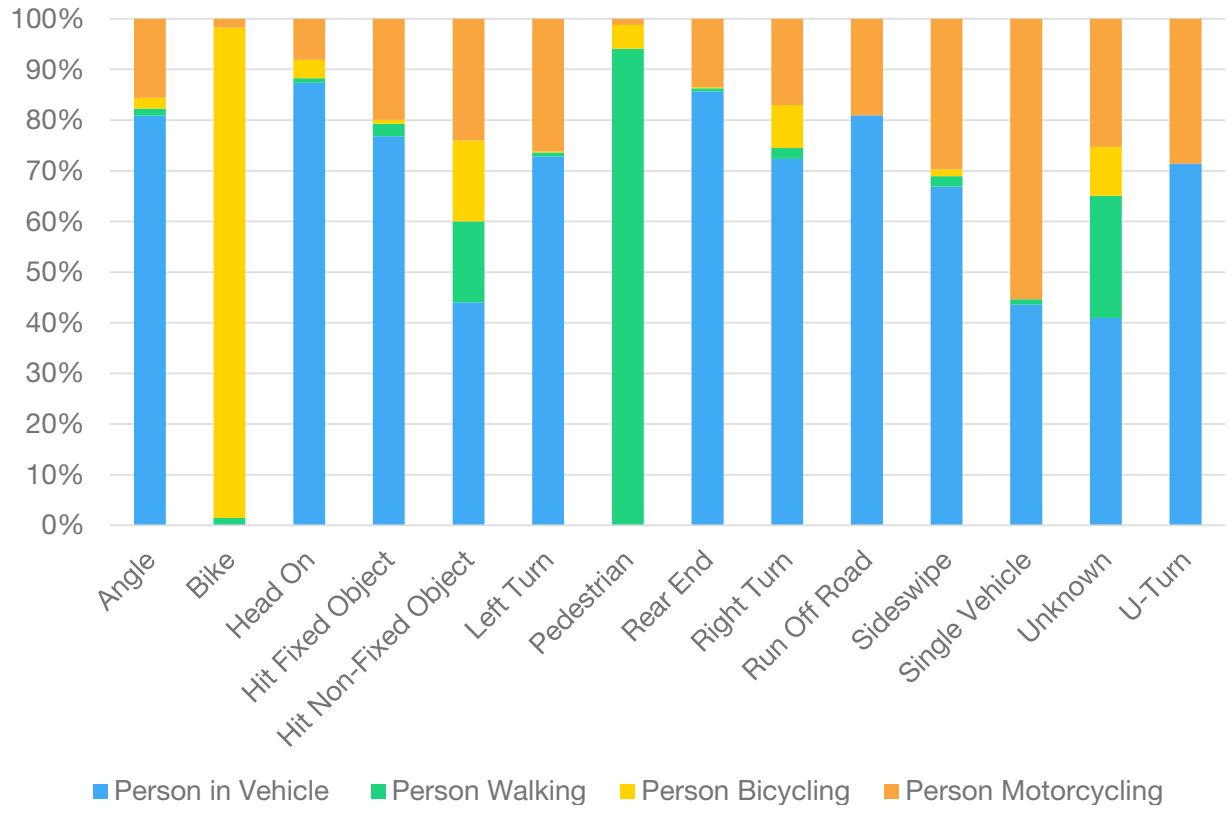
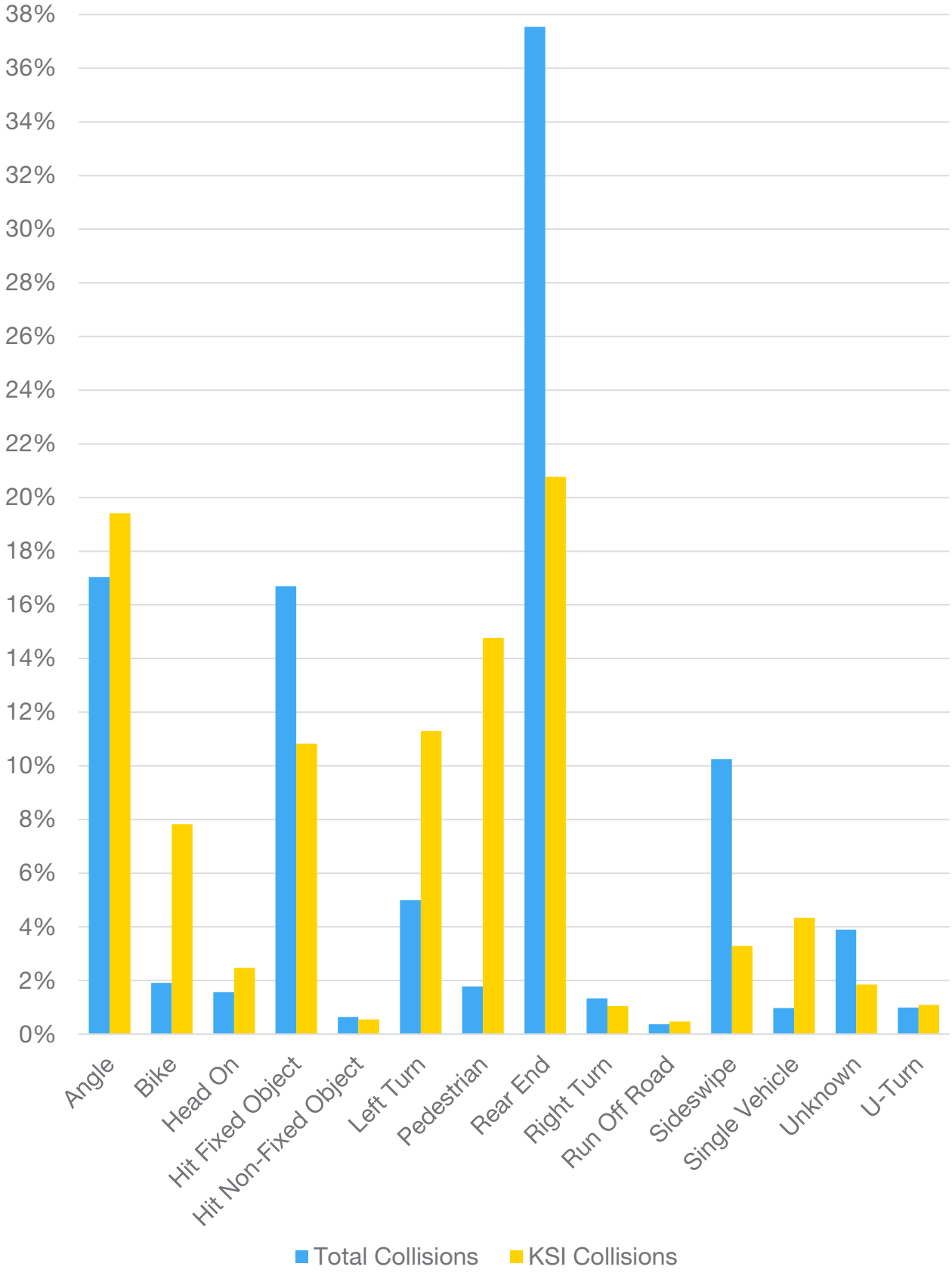


Figure 9 Severity of Collisions in Pinellas County 2015-2019 by Collision Type



- The highest share of overall collisions occurs between 3 and 6 PM, including KSI collisions. However, collisions that occur between 6 PM and 6 AM are more likely to result in a KSI than between 6 AM and 6 PM.

- KSI collisions are slightly more likely to occur during winter and spring months (December through April) versus other months.

- More than 60 percent of KSI collisions occur on less than 10 percent of roadways, including portions of US 19, Park Boulevard, Gulf to Bay Boulevard, Bay Drive, 4th Street and 38th Avenue.

- While men account for 48 percent of the Pinellas County population, they are behind the wheel in 61 percent of KSI collisions.

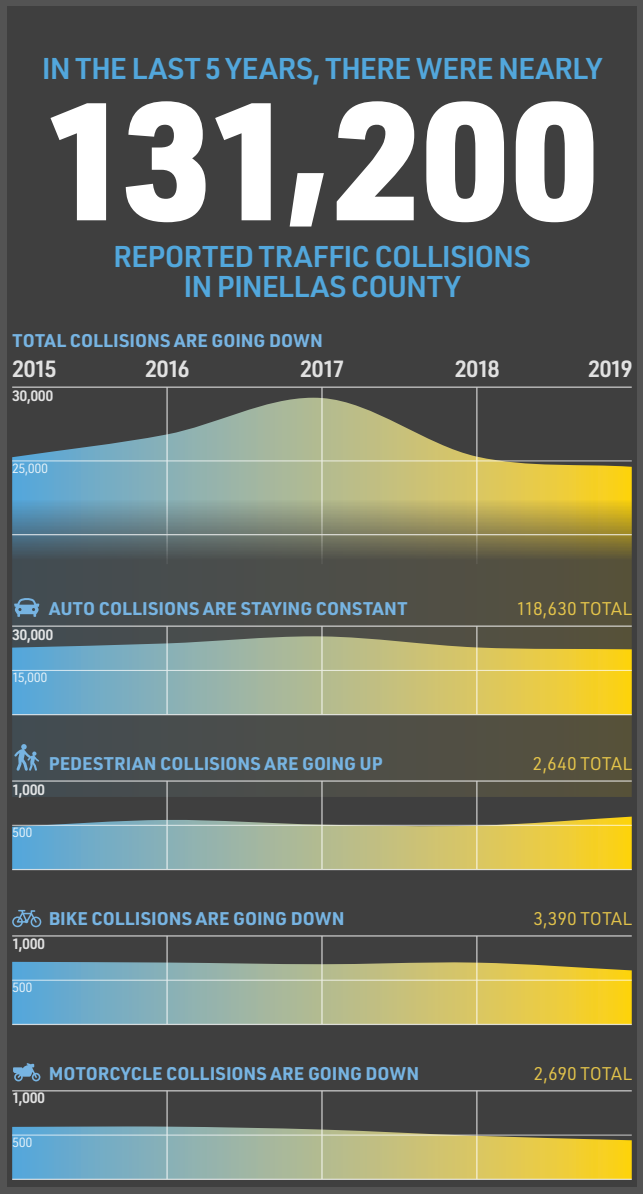
- Drivers between the age of 20 and 29 are overrepresented in collisions that result in a fatality as compared to other age groups.

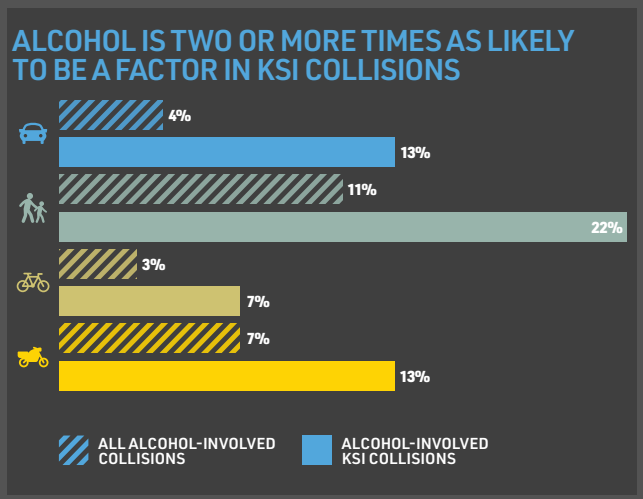
- Rear-end collisions are the most frequent collision type but are less likely to result in a serious or fatal injury, while left-turn, head-on and single-vehicle collisions occur less frequently, but are more likely to result in a fatality or serious injury.

COVID-19 Crash Patterns

The collision analysis presented in this plan is based on data from 2015 to 2019. Since 2019, the percent of crashes resulting in a fatality or severe injury has increased as a percent of all crashes, with 2021 being the deadliest year on record on Pinellas County Roadways. This sharp increase in severe and fatal injury crashes mirrors state and national trends. Some increases in KSI crash rates can be attributed to emptier roadways during the heigh of the COVID-19 pandemic, which resulted in people driving at higher speeds. When crashes did occur, they were more likely to result in a severe injury or fatality. During this time period, enforcement efforts also decreased and despite years of gains, seatbelt use has declined, resulting in a crash that might have been an injury crash turning into a severe injury or fatal crash. National studies also indicate a rise in aggressive and distracted driving. KSI crashes in Pinellas County decreased in 2022 as compared to 2021 but are still higher than the average of 2015-2019.

ON AVERAGE, 2 PEOPLE ARE KILLED OR SERIOUSLY INJURED IN TRAFFIC COLLISIONS IN PINELLAS COUNTY, EVERY DAY.





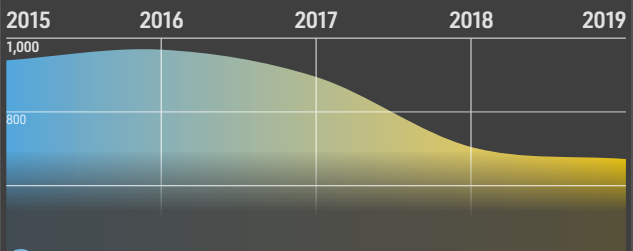
SAFE STREETS PINELLAS

BUT NOT ALL CRASHES ARE ALIKE. IN FACT,

4,200

INVOLVED SOMEONE WHO WAS KILLED OR SEVERELY INJURED (KSI)

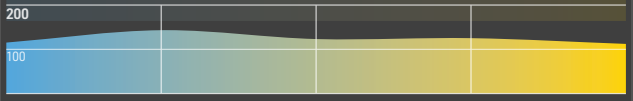
TOTAL KSI COLLISIONS ARE GOING DOWN



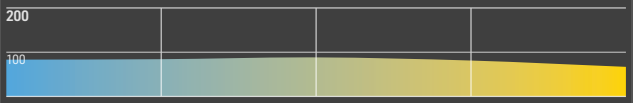
AUTO KSI COLLISIONS ARE GOING DOWN — 2,460 TOTAL



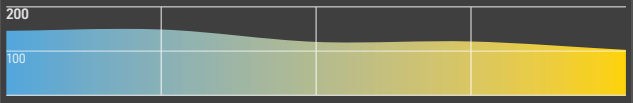
PEDESTRIAN KSI COLLISIONS ARE STAYING CONSTANT — 620 TOTAL



BIKE KSI COLLISIONS ARE GOING DOWN — 400 TOTAL



MOTORCYCLE KSI COLLISIONS ARE GOING DOWN — 640 TOTAL

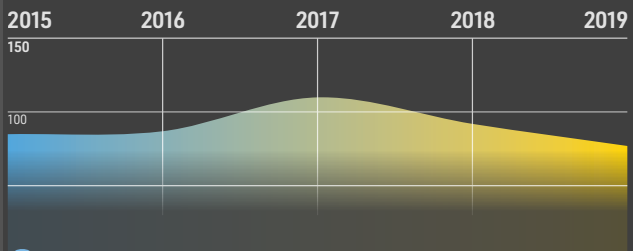


AND, TRAGICALLY,

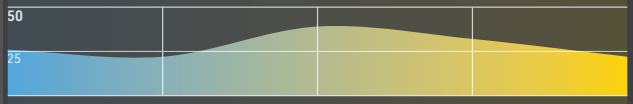
450

PEOPLE LOST THEIR LIVES IN A TRAFFIC COLLISION

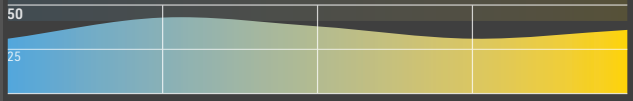
TOTAL FATAL COLLISIONS ARE GOING DOWN



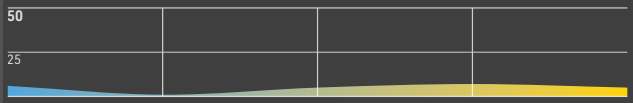
FATAL AUTO COLLISIONS ARE GOING DOWN — 140 TOTAL



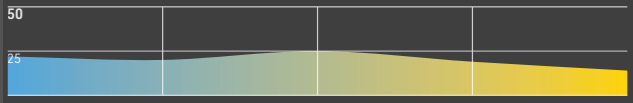
FATAL PEDESTRIAN COLLISIONS ARE GOING UP — 180 TOTAL



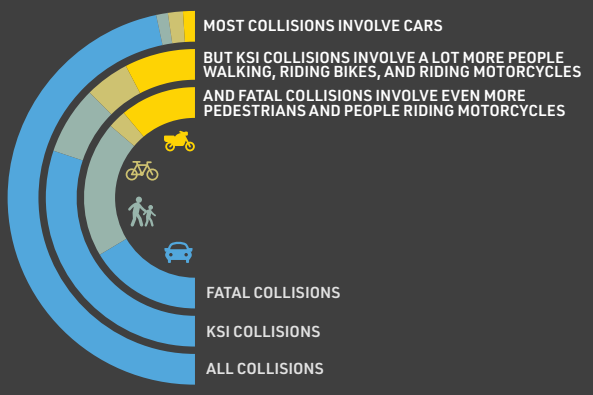
FATAL BIKE COLLISIONS ARE STAYING CONSTANT — 20 TOTAL



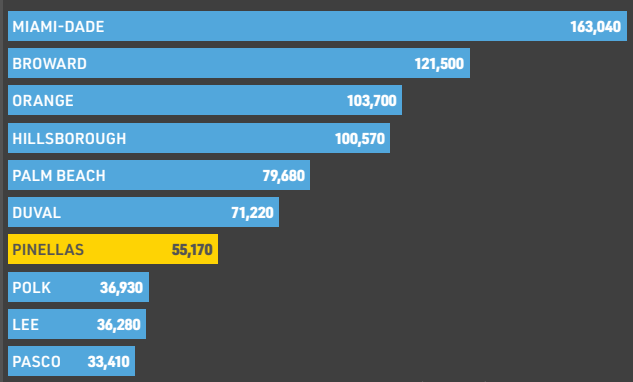
FATAL MOTORCYCLE COLLISIONS ARE GOING DOWN — 100 TOTAL



PEDESTRIAN, BIKE, AND MOTORCYCLE COLLISIONS ARE DISPROPORTIONATELY KSIs



PINELLAS COUNTY HAS THE 8TH MOST FATAL AND INJURY COLLISIONS IN OF ALL FLORIDA



SOURCE: FLORIDA DEPARTMENT OF HIGHWAY SAFETY AND MOTOR VEHICLES (2014 – 2018)

What are the Differences Between Collision Types?



Angle collisions occur when two vehicles impact at an angle, for example, the front of one vehicle impacting the side of another. Angle collisions are the second most common collision type in Pinellas County, accounting for 17 percent of all collisions and 19 percent of KSI collisions. It is also the collision type that affects people who ride motorcycles the most: over 130 people who ride a motorcycle were killed or seriously injured between 2014 and 2019 in angle collisions.



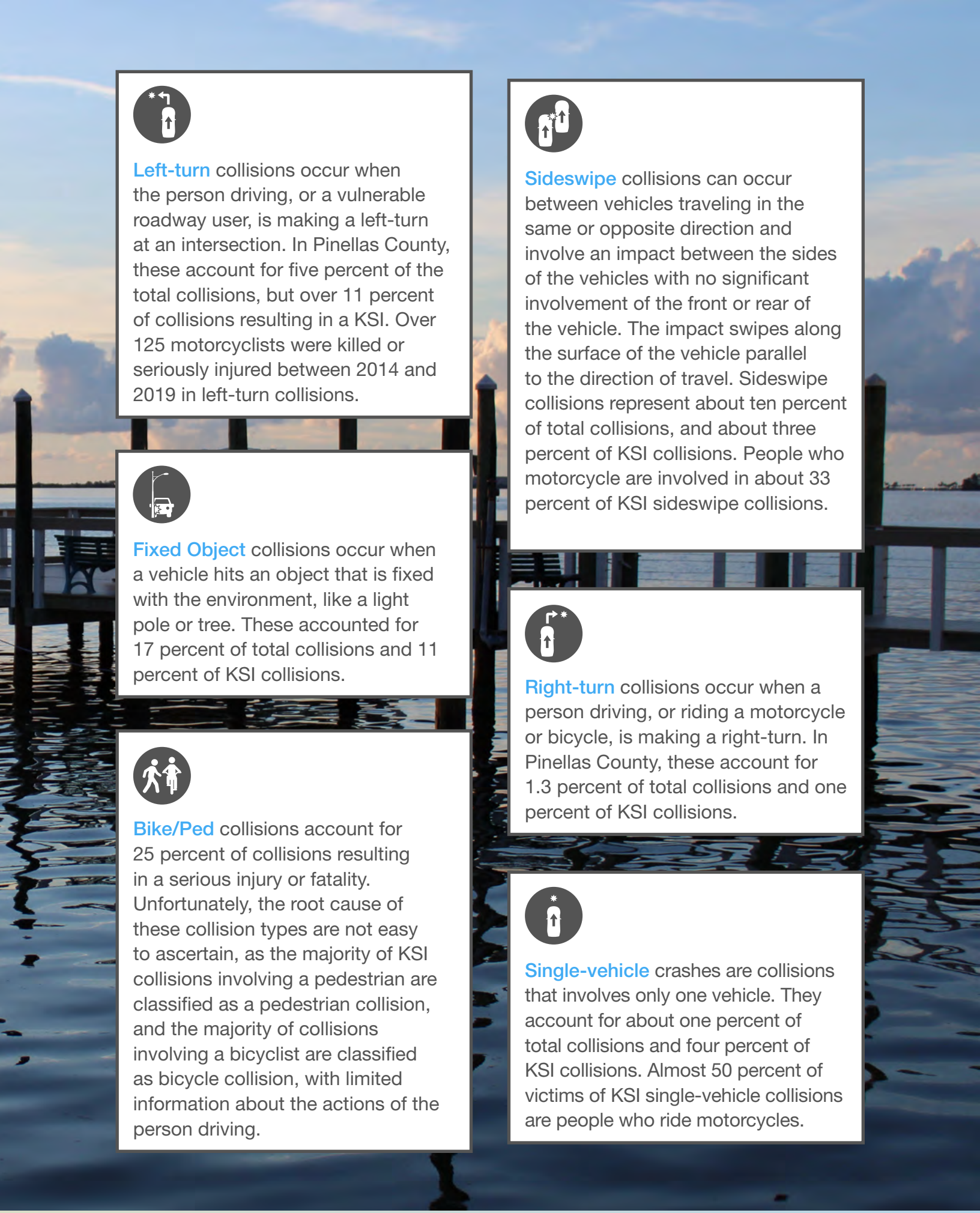
Rear-end collisions occur when a vehicle crashes into the vehicle in front of it. Contributing causes of rear-end collisions are driver inattention or distraction, tailgating, and reduced traction due to wet weather, worn pavement, or poorly maintained vehicles. Rear-end collisions are the most common collision type in Pinellas County, accounting for 38 percent of collisions; 21 percent of these collisions result in a serious injury or fatality, with 86 percent of those injuries or fatalities involving a vehicle occupant.



Head-on collisions occur when the front of one vehicle impacts the front end of another vehicle while the vehicles are traveling in the opposite direction. Head-on collisions account for about 1.5 percent of total collisions and 2.5 percent of KSI collisions. Almost 90 percent of victims of KSI head-on collisions are in vehicles in Pinellas County; eight percent are people riding motorcycles.



Non-Fixed Object collisions occur when a vehicle hits an object that is not fixed with the environment, like a vehicle, a person who is walking, or a person riding a bicycle. These account for very few collisions in Pinellas County, as collisions involving a person who is bicycling or walking are typically classified under pedestrian or bicycle collisions.



Left-turn collisions occur when the person driving, or a vulnerable roadway user, is making a left-turn at an intersection. In Pinellas County, these account for five percent of the total collisions, but over 11 percent of collisions resulting in a KSI. Over 125 motorcyclists were killed or seriously injured between 2014 and 2019 in left-turn collisions.

Fixed Object collisions occur when a vehicle hits an object that is fixed with the environment, like a light pole or tree. These accounted for 17 percent of total collisions and 11 percent of KSI collisions.

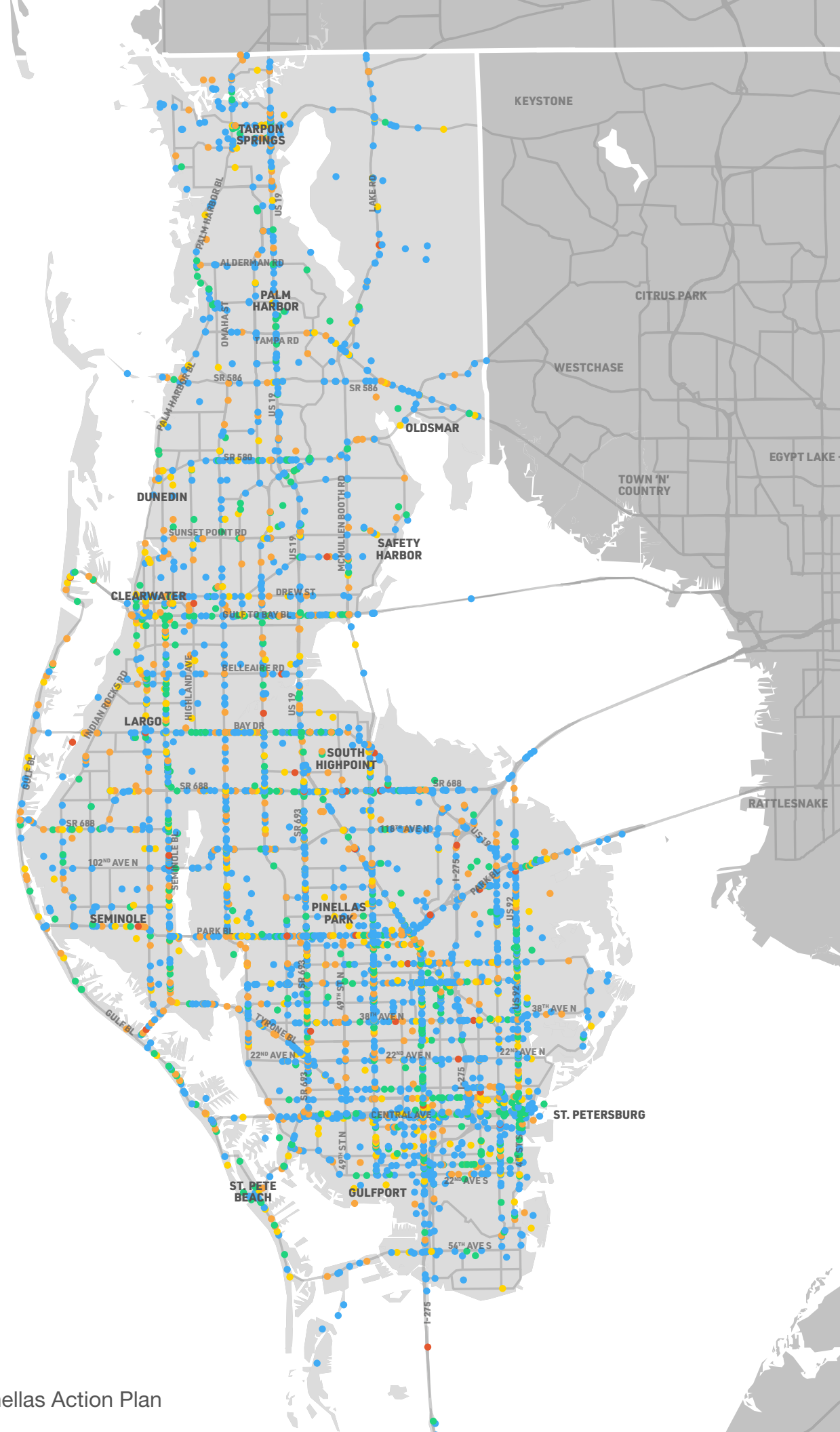
Bike/Ped collisions account for 25 percent of collisions resulting in a serious injury or fatality. Unfortunately, the root cause of these collision types are not easy to ascertain, as the majority of KSI collisions involving a pedestrian are classified as a pedestrian collision, and the majority of collisions involving a bicyclist are classified as bicycle collision, with limited information about the actions of the person driving.

Sideswipe collisions can occur between vehicles traveling in the same or opposite direction and involve an impact between the sides of the vehicles with no significant involvement of the front or rear of the vehicle. The impact swipes along the surface of the vehicle parallel to the direction of travel. Sideswipe collisions represent about ten percent of total collisions, and about three percent of KSI collisions. People who motorcycle are involved in about 33 percent of KSI sideswipe collisions.

Right-turn collisions occur when a person driving, or riding a motorcycle or bicycle, is making a right-turn. In Pinellas County, these account for 1.3 percent of total collisions and one percent of KSI collisions.

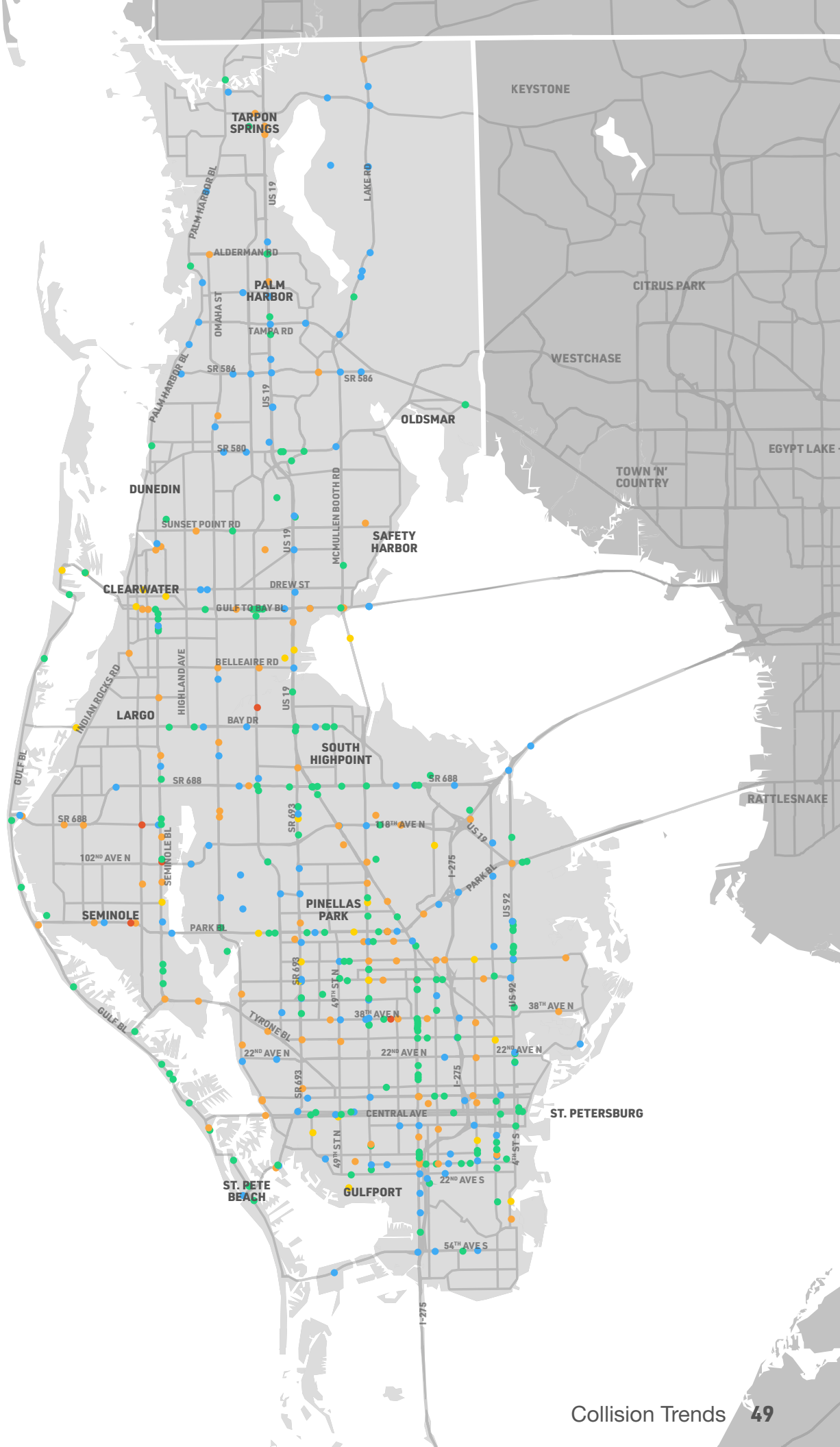
Single-vehicle crashes are collisions that involves only one vehicle. They account for about one percent of total collisions and four percent of KSI collisions. Almost 50 percent of victims of KSI single-vehicle collisions are people who ride motorcycles.

Figure 10
Map of all KSI Collisions by Mode, 2015-2019

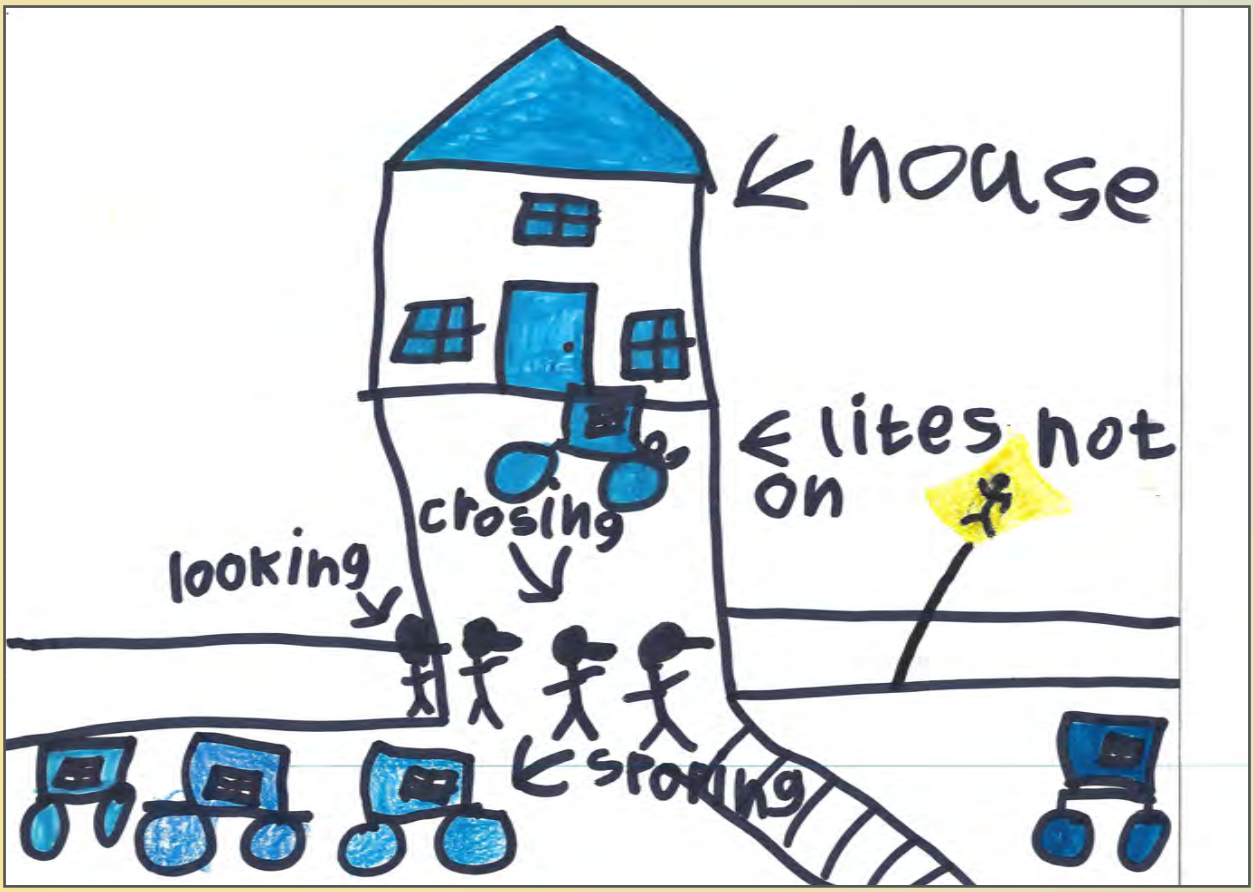


- Automobile
- Bicycle
- Pedestrian
- Motorcyle
- Truck

Figure 11
Map of all Fatal Collisions by Mode, 2015-2019



- Automobile
- Bicycle
- Pedestrian
- Motorcyle
- Truck



Contestant Artwork

Demonstration Projects

5

SAFE STREETS PINELLAS

Demonstration Projects

Four demonstration projects were developed and implemented as part of the Safe Streets Pinellas plan. The goal of demonstration projects is to build interest around Vision Zero by showcasing how different transportation safety projects and transportation safety campaigns can be implemented in Pinellas County and to learn from them to not only inform this plan and strategies, but subsequent updates. Demonstration projects can be temporary measures to test potential countermeasures for permanent installation and performance measure targets to see if a specific type of improvement has made positive movement toward zero KSIs.

Demonstration project options were developed based on the collision overview, community feedback, and discussions with the Task Force. After considering a wide range of options, four demonstration projects were facilitated: each demonstration project was developed around a key theme, but incorporated elements of other project types. For example, all demonstration projects included some level of education. The four demonstration projects were developed around these primary themes:

- Education
- Treatment Pilot
- Speed Management
- Technology

A summary of each demonstration project is provided in this chapter with details of each provided in Appendix C.


ON AVERAGE, 2 PEOPLE ARE KILLED OR SEVERELY INJURED IN TRAFFIC COLLISIONS IN PINELLAS COUNTY, EVERY DAY.
131,200
4,200
450


STOP
WATCH FOR Bicycles


SAFE STREETS PINELLAS


STOP


WATCH FOR Bicycles

NURSERY ROAD / DUKE ENERGY TRAIL

Clearwater - Educational Event and RRFB Demonstration Project

Pinellas County and the City of Clearwater installed a rectangular rapid flashing beacon (RRFB) at the Duke Energy Trail crossing of Nursery Road using the County's standard design plans for RRFBs. This installation was identified after a May 2019 collision in which a person bicycling was killed while crossing Nursery Road at the Duke Energy Trail. As part of the research conducted to determine the appropriateness of an RRFB at this location, the County collected extensive data which includes video-based trail user counts by mode, motor vehicle speed, and volume data for Nursery Road at the trail crossing. Based on the crossing characteristics it was determined that an RRFB was the most appropriate trail crossing upgrade. Detailed analysis and additional information provided in Appendix C.

As part of the planned installation, Forward Pinellas partnered with Pinellas County and the City of Clearwater to create an educational campaign around how to use an RRFB from a pedestrian and bicyclist perspective. Educational materials included what to do as a driver when you approach a crossing with an RRFB and built upon previous educational campaigns in the county. Educational materials were posted on social media to promote the event held at the crossing on October 26, 2020 between 4 and 6 PM after the RRFB was installed. The three main elements of the event were:

1. **Ceremony honoring the victim of a fatal collision at this location** Family members and friends of the crash victim, Carmen Charrez, attended the event and ceremony to unveil a roadside memorial.

2. **Public engagement and education** This demonstration was an opportunity to provide education about proper use of an RRFB and general safety information for trail users.

3. **Informal observations and data collection of trail users and motorists** Data collection and observations of traffic and trail user behavior were taken during the event and showed people driving yielded 89 percent of the time when the RRFB was activated.

Custom project stencils were created and installed with temporary chalk paint on the pavement approaching the crossing. Staff offered instruction on the correct use of an RRFB and used photographs and videos of the event to develop an instructional video. Other safety materials, like bike lights, were given to event attendees.

Figure 12 Promotional and Educational Flyers Developed for the Educational Event

WELCOME TO THE TRAIL !

Our latest **Rectangular Rapid Flashing Beacons (RRFBs)** have arrived to make it safer and easier for pedestrians & bicyclists to cross the road. **HERE'S HOW IT WORKS ↘**

SAFE STREETS PINELLAS



FAST FACTS

1 Did you know that the RRFB was invented in Florida, with the first installations in St. Petersburg?

2 Studies show that RRFBs increase driver yielding rates to between 73-96% and reduce pedestrian collisions by 47%.

SOURCE: NATIONAL ACADEMIES OF SCIENCE, FHWA

3 Although pedestrians are involved in less than 2% of all collisions, pedestrians disproportionately account for 40% of people killed on Pinellas County roadways. 71% of collisions involving a pedestrian that is seriously injured or killed do not occur at an intersection.

SAFE CROSSING TIPS

FLASHING LIGHTS increase pedestrian & bicyclist visibility at crosswalks that don't have traffic signals or stop signs.

The lights are activated when a pedestrian or bicyclist pushes the button.



PEDESTRIANS & BICYCLISTS

1. Press the button to activate the FLASHING LIGHTS
2. Before you cross, make sure all vehicles have stopped
   if the roadway has more than two lanes, check for stopped cars in each lane before proceeding
3. FOR PEDESTRIANS, start crossing after you have confirmed vehicles in both directions have stopped

   FOR BICYCLISTS, when traveling on a street and approaching a crosswalk with a RRFB, ride in the direction of traffic and always yield to pedestrians

DRIVERS

1. Always yield to pedestrians–*it's the law!*
2. Pay attention to the road and don't be distracted
3. Obey the speed limit so you don't need to make a dangerous stop

SAFE STREETS PINELLAS

JOIN US AS WE CELEBRATE ANOTHER STEP **TOWARDS ZERO**



NURSERY ROAD AT DUKE ENERGY TRAIL
DEMONSTRATION PROJECT

As part of the Safe Streets Pinellas project, Forward Pinellas is hosting an educational event at the latest RRFB installation in collaboration with the City of Clearwater and Pinellas County.

LOCATION

Nursery Rd &
Duke Energy Trail,
Clearwater, FL 33764

DATE & TIME

Monday
October 26, 2020
4 pm - 6 pm

COVID-19

Social distancing and other safety protocols will be followed

QUESTIONS?

Sarah Caper, AICP
scaper@forwardpinellas.org
727-464-5695

SAFE STREETS PINELLAS

Event will be postponed to **November 9** in the event of inclement weather

Before Implementation of Demonstration Project



After Implementation of Demonstration Project



1ST AVENUE S. / 2ND STREET S.

St. Petersburg - Protected Intersection Demonstration Project

Forward Pinellas partnered with the City of St. Petersburg to test the effectiveness of a protected intersection concept in their Downtown area along the Pinellas Trail at the intersection of 1st Avenue S. and 2nd Street S. This intersection incorporates an urban crossing of the Pinellas Trail and has a high volume of bicycle and pedestrian travel that conflicts with turning vehicles. In 2008, the extension of the Pinellas Trail into downtown St. Petersburg opened using a repurposed travel lane along the south side of 1st Avenue S. and is Florida's first urban cycle track. This segment of the trail travels within an urban environment along a one-way street with on-street parking and dense intersection spacing. Collision history at this intersection is minimal, but near-misses occur frequently. Safety improvements along the trail are under consideration by the City and protected intersection treatments at 5th Street S. and 6th Street S. have already been designed with initial concepts.

Protected intersections improve safety for bicyclists and pedestrians as they cross intersections. The demonstration project uses painted corner islands and curb extensions as well as green painted bike lanes to delineate the bicycle path across an intersection parallel to the crosswalk, and can allow a two-stage left turn.

Data collection following construction of the demonstration project indicated that the new elements reduced the 85th percentile speed from 23 to 19 miles per hour, and reduced the maximum observed turning speed from 32 to 24 miles per hour, indicating that the demonstration project treatment has been effective in reducing the likelihood of serious injury or death resulting from future potential collisions with vulnerable users. The intersection also saw reduced frequencies of near-miss events between people walking or bicycling and people driving. Additionally, the project has received a favorable response from residents who participated in the survey, and the City of St. Petersberg has not received negative feedback.

This demonstration project is intended to help inform the City design standards for permanent protected intersections and provide proof of concept to City staff, decision-makers, and the public. It will also serve as an example for other communities in Pinellas County.







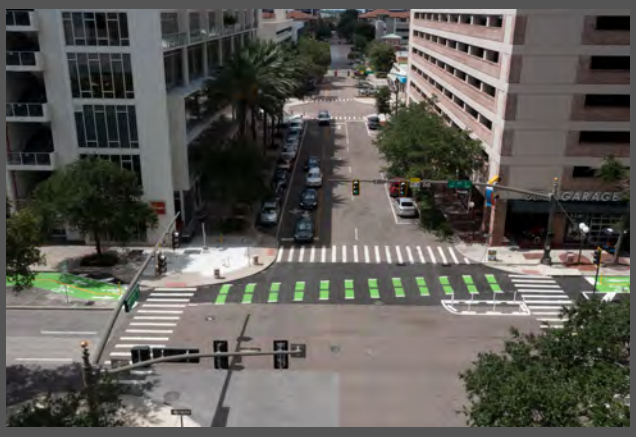
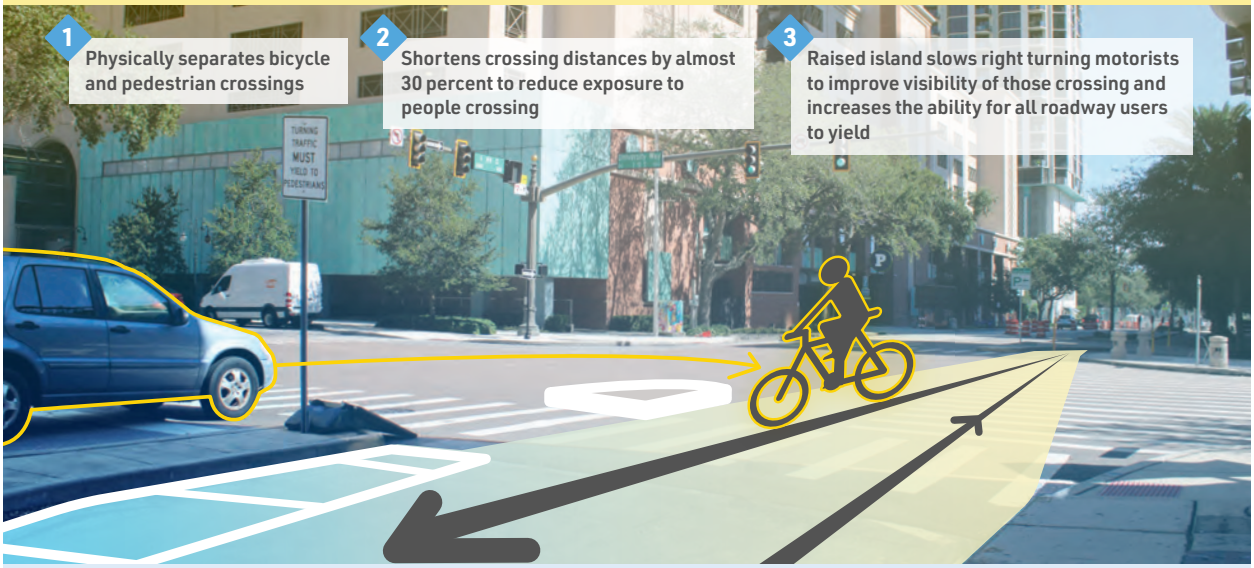


Figure 13 Educational Flyer for the Protected Intersection Demonstration Project

WELCOME TO THE TRAIL !

We are piloting a **Protected Intersection** concept in downtown St. Pete to make it safer for pedestrians and bicyclists to cross the road. **HERE'S HOW IT WORKS ↘**

SAFE STREETS PINELLAS



FAST FACTS

1 The extension of the **Pinellas Trail** into downtown St. Petersburg opened in 2008 using a repurposed travel lane along the south side of 1st Avenue S and is **Florida's first urban cycle track**.

2 St. Petersburg has identified **197 crossing locations to upgrade** as part of the Complete Streets implementation plan.

3 Although **people bicycling and walking** are involved in less than **5%** of total collisions, they represent almost **25%** of people killed or seriously injured in roadway collisions in Pinellas County.

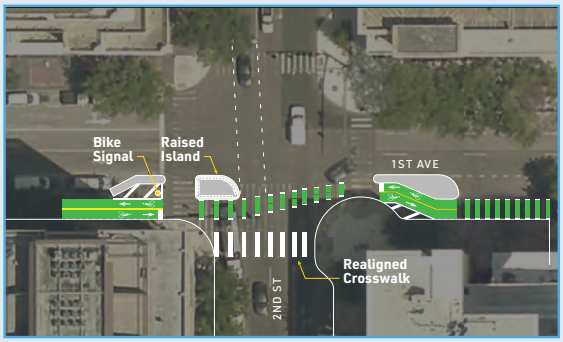
SAFE CROSSING TIPS

People driving are required by law to yield to people using the bikeway and crosswalk.

WHEN CROSSING

1. Wait for the walk sign or green light.
2. Before you cross, make sure people driving are yielding.
3. Be visible at night–wear reflective colors and if cycling, use bicycle lights.

The City of St. Petersburg is piloting this protected intersection concept. Data has been collected to document existing roadway user behavior and the speeds of people driving through the intersection. Once installed, additional data will be collected to document the benefits of the treatment and determine its long-term applicability at other intersections along the trail.



To learn more about Complete Streets in St. Pete
stpete.org/completestreets

To learn more about Safe Streets Pinellas
forwardpinellas.org/safestreets

/ForwardPinellas

@ForwardPinellas

FORWARD PINELLAS



Contestant Artwork

INDIAN ROCKS BEACH / GULF BOULEVARD

Bike and Pedestrian Improvements Demonstration Project

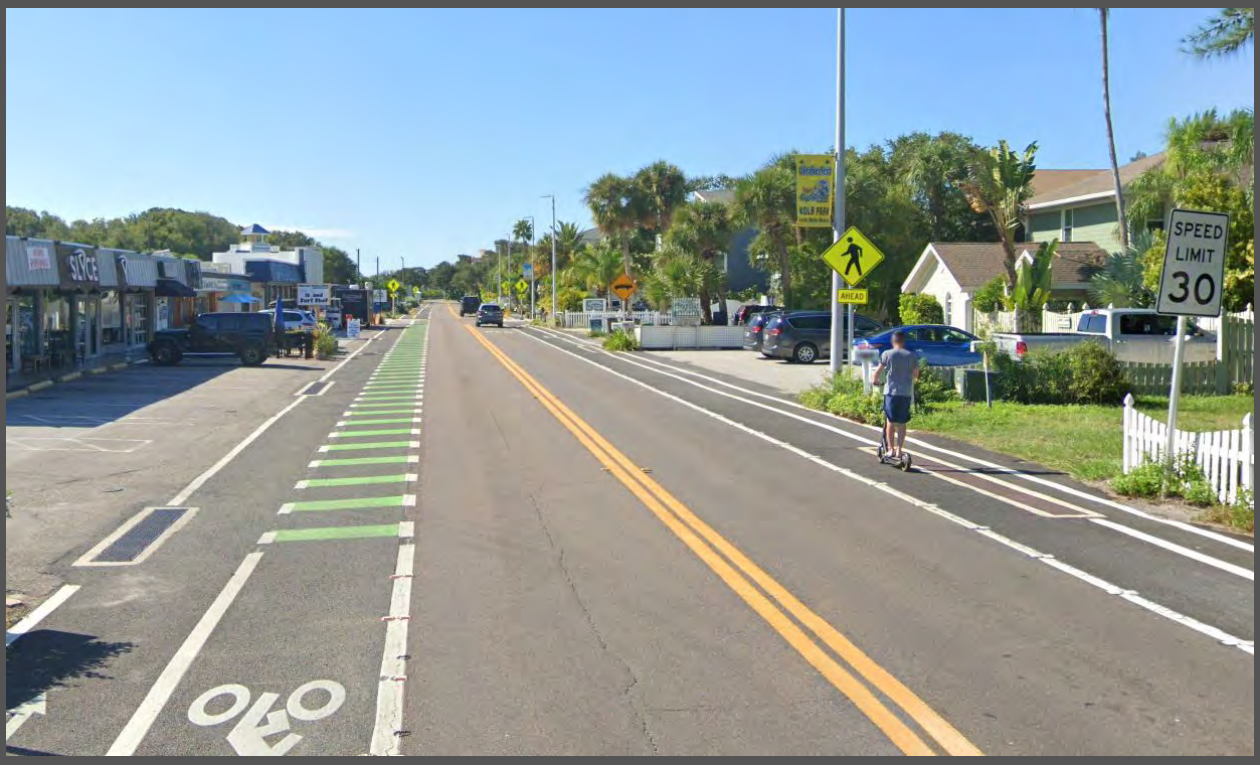
A desire to conduct a demonstration project in a beach community was expressed and Forward Pinellas approached the City of Indian Rocks Beach to discuss potential demonstration project opportunities. While few beach community roadways are on the High Injury Network, beach communities face different transportation challenges than other communities in the county, including higher levels of visitor activities, greater fluctuations in overall activity, and a more limited roadway network. Gulf Boulevard serves as the major roadway providing regional and local circulation in Indian Rocks Beach.

Forward Pinellas, in collaboration with the City and the non-profit organization Indian Rocks Beach Action 2000, recently completed the City of Indian Rocks Beach Gulf Boulevard Visioning Study. The study identifies several transportation concerns in the area, including bicycle and pedestrian safety related to visibility along side streets and at crosswalks.

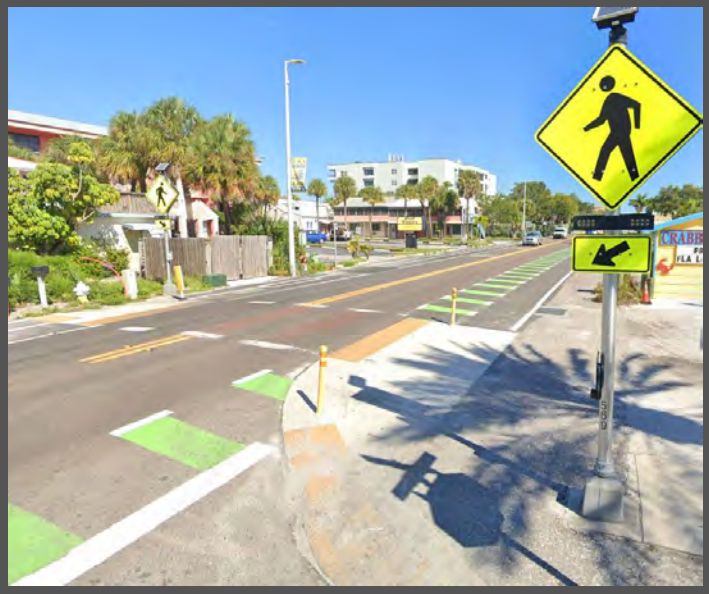
Based on the discussion of transportation issues and challenges in Indian Rocks Beach, four potential demonstration projects were identified, with a focus on Gulf Boulevard between 5th Avenue N. and 1st Avenue:

- Crosswalk plan
- Temporary raised crosswalk
- Evaluation of enhanced pavement markings
- Safety education campaign

Ultimately, FDOT, the City of Indian Rocks Beach and Forward Pinellas could not agree on a specific demonstration project to pursue as a part of the demonstration project series for Safe Streets Pinellas. The construction of a temporary raised crosswalk was the preferred project of both Forward Pinellas and IRB staff, but at the time, FDOT staff were not supportive of the idea as there was not yet a standard developed for implementation of a temporary raised crosswalk on a roadway without curb and gutter. FDOT staff working on the drainage improvement were supportive of the incorporation of additional striping elements, and ultimately extended the green bike lane markings further south along the corridor. Other high conflict areas also received green bike lane conflict zone markings, and enhanced stencils to denote where people should walk or bike along the corridor were also included.


SPEED
LIMIT
30
AHEAD







Technology

Emerging technologies, like cameras installed at intersections, have the potential to help enforce traffic laws and deter behaviors such as red light running and speeding, identify potential collision risks prior to a serious or fatal collision occurring, and offer a more equitable manner of enforcing traffic laws. A demonstration project using near-miss technology was conducted at the intersection of Alternate US 19 and Curlew Road to assess the technology since it is continually evolving. A summary of data collected is below and additional details are provided in Appendix C.

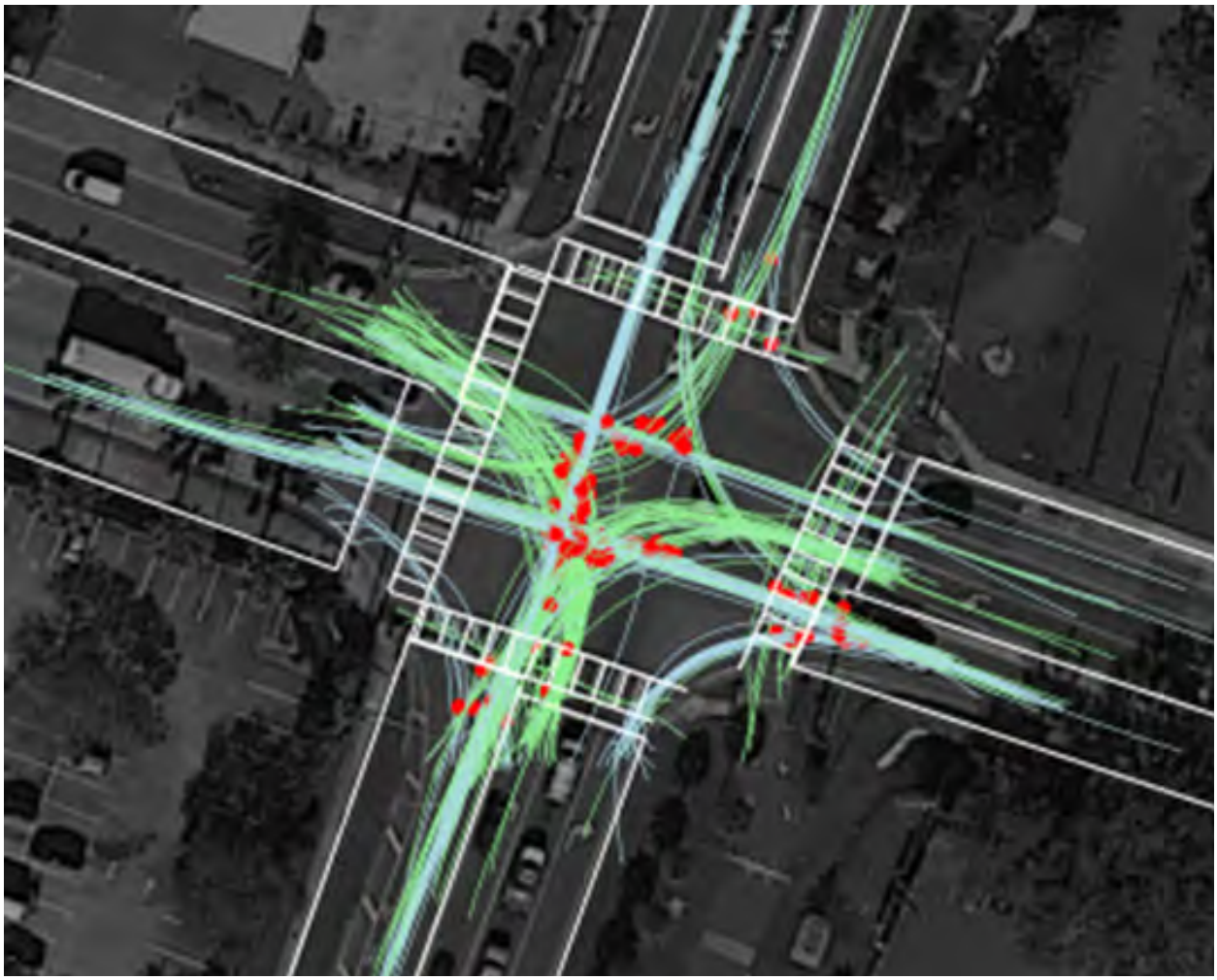
A near-miss technology vendor collected and evaluated high definition video of the intersection to identify specific types of near-misses that occurred over a four-day period in August 2020. Collection included Saturday, Sunday, and Monday operations. In total, the interactions between 91,900 people driving vehicles and 3,800 people walking and bicycling were captured.

In addition to capturing the multimodal count of each roadway user by movement and mode of travel, the automated video analytics cataloged the speed of each roadway user, movements of roadway users traveling through or across the intersection when they do not have the right-of-way (red-light running), every time two road users (bikes, pedestrians, or vehicles) crossed paths (i.e., an interaction) and recorded the following information:

- Time between the arrival of both road users at a common point. This is referred to as Post Encroachment Time (PET)
- Speed of each road user
- Count of interactions
- Which road user arrived first
- Video of potential near-miss interactions for further review

During the data collection window, 360 people were observed driving their vehicle through the intersection ten or more miles per hour (mph) in excess of the posted speed limit of 40 mph on Alternate US 19 and 35 mph on Curlew Road. Southbound and westbound through movements accounted for most speeding movements. 60 people who were driving ran the red light and 61 people who were bicycling, or walking crossed when they did not have the crossing signal. Of the drivers whose vehicle was classified as running the red light, all vehicles were able to travel through the intersection before other traffic received a green light. Many were traveling in excess of the posted speed limit.

Figure 14 Locations and Travel Paths of Near-Misses



The PET value is an indicator of how close two roadway users were to occupying the same space at the same time. The smaller the PET value, the closer roadway users were to colliding. Detailed review of the data indicates that permitted left-turn movements in front of opposing through movements experience the most frequent high-risk interaction. Details of this analysis are provided in Appendix C.



Contestant Artwork

High-Injury Network

6

SAFE STREETS PINELLAS

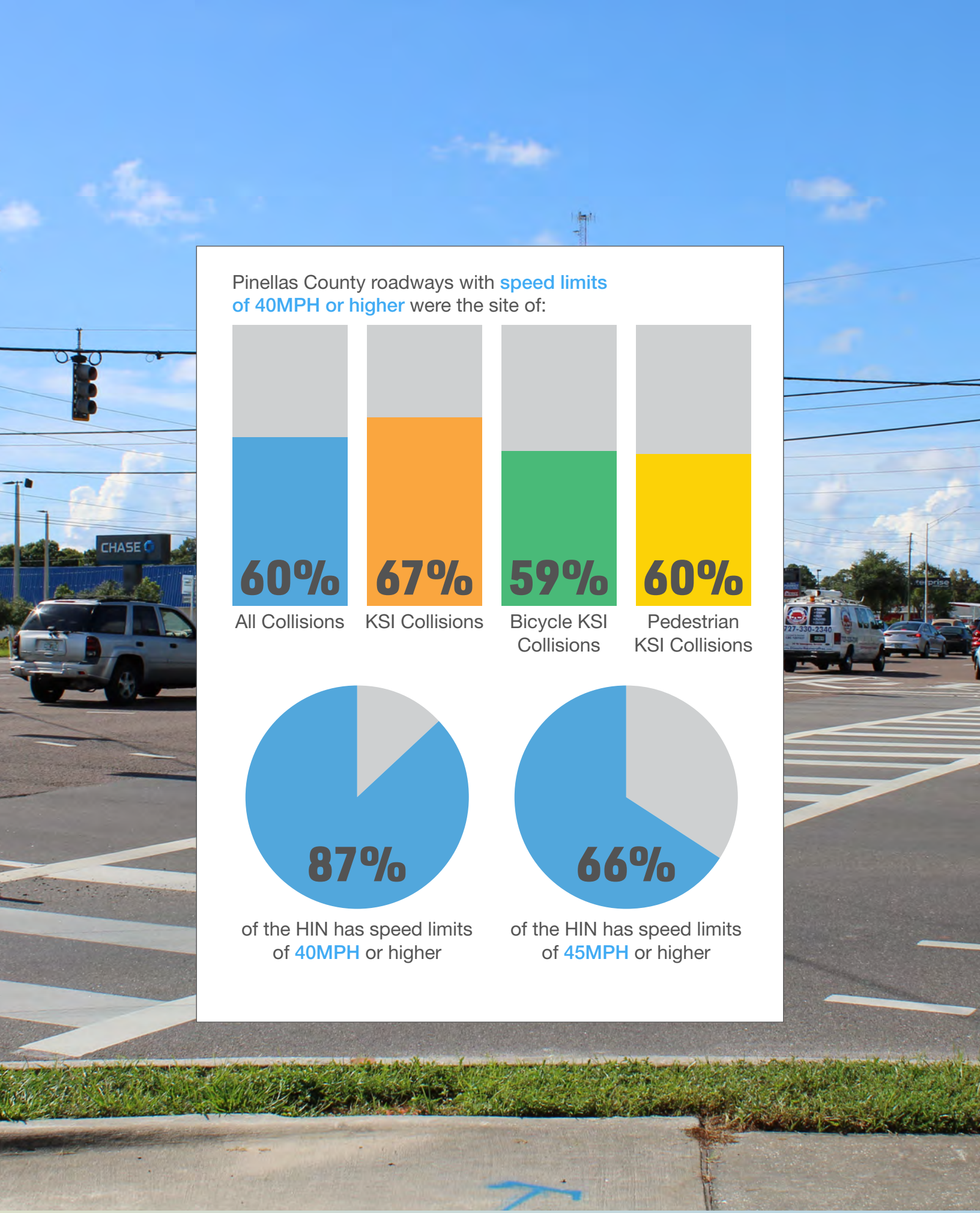
High-Injury Network

In developing the Action Plan, Forward Pinellas analyzed all crashes that occurred in Pinellas County that were not on a freeway resulting in a fatality or serious injury for the years 2015 through 2019. Vision Zero work in other municipalities has shown that roadway characteristics, such as number of lanes, posted speed limit, and intersection control types, are very important to identify historic collision trends and help municipalities take a proactive approach to identify and improve high-risk locations. Vision Zero work has also highlighted the disproportionate burden traffic crashes have on vulnerable populations, such as seniors and Communities of Concern. Forward Pinellas incorporated roadway characteristic and demographic datasets into its collision analysis to understand how these patterns play out locally.

A High-Injury Network (HIN) which identifies transportation corridors with the highest levels of fatal and serious crashes for people walking, riding bikes, and in vehicles, was developed. In addition to the HIN, hot-spot locations were identified to allow for improvements to focus on roadway segments and intersections where a high proportion of KSI collisions occur with the most frequency, with a focus on locations where vulnerable roadway users were involved in a KSI collision.

The High-Injury Network accounts for about 40 percent of all KSI crashes, which occur on about 2.7 percent of the roadway network in Pinellas County as measured by centerline miles. Most of the roadways on the HIN have a speed limit greater than 40 mph, and the majority are under FDOT jurisdiction (75 percent), as compared to Pinellas County (23 percent) and municipalities (3 percent).

Over one-third of the county's elementary, middle, and high schools are located along the HIN, which also tends to have speed limits greater than 40 miles per hour. When a vulnerable roadway user is involved in a collision with a person driving greater than 40 miles per hour, the chance of survival is very low. 73 percent of the HIN falls within or runs through a Community of Concern, which compromises only 32 percent of the county's geographic area.

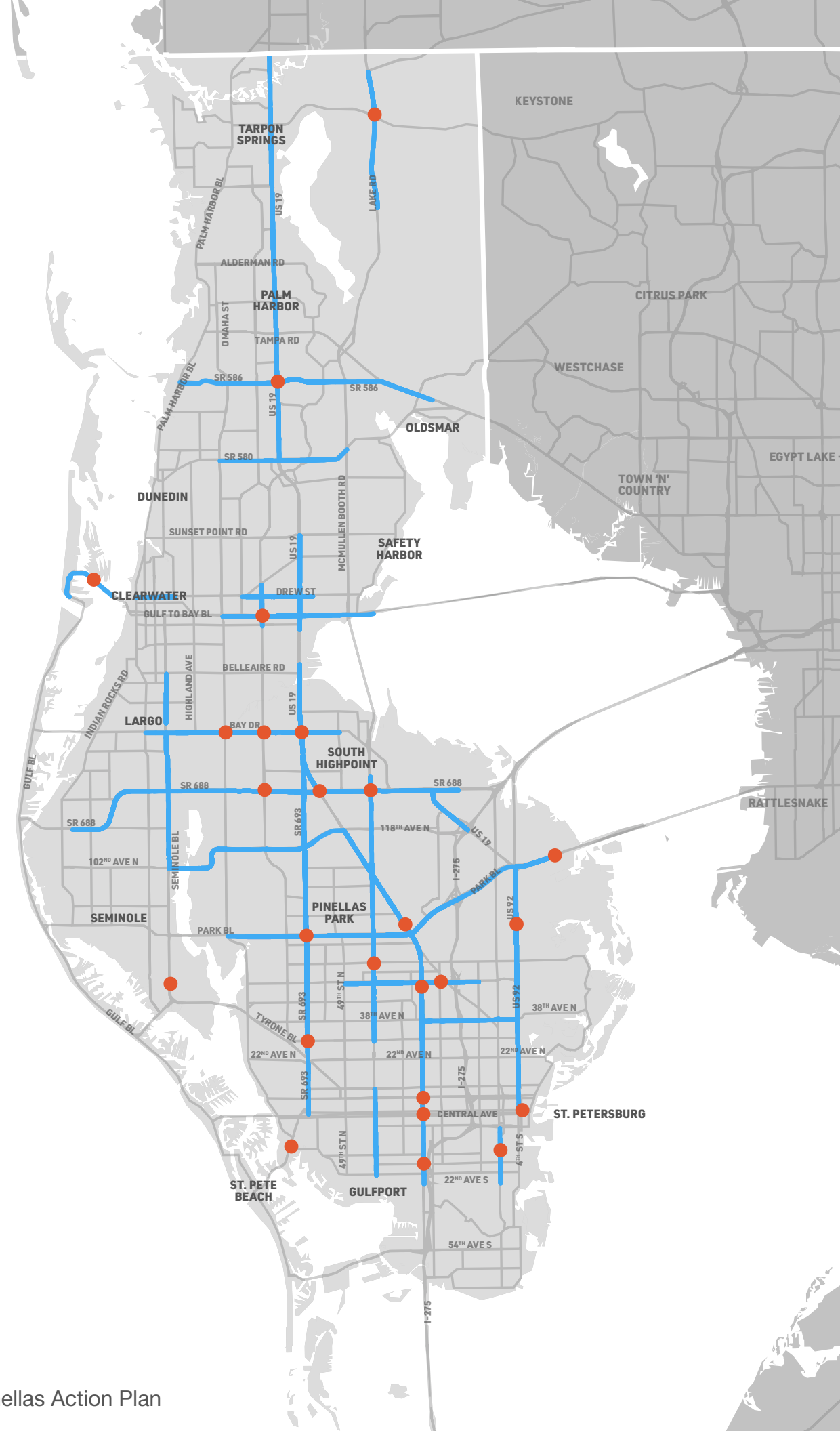


Pinellas County roadways with **speed limits of 40MPH or higher** were the site of:

of the HIN has speed limits of **40MPH** or higher

of the HIN has speed limits of **45MPH** or higher

Figure 15
High-Injury Network and Hot Spots



High-Injury Network
Hot Spots

Figure 16
High-Injury Network and Hot Spots: North County

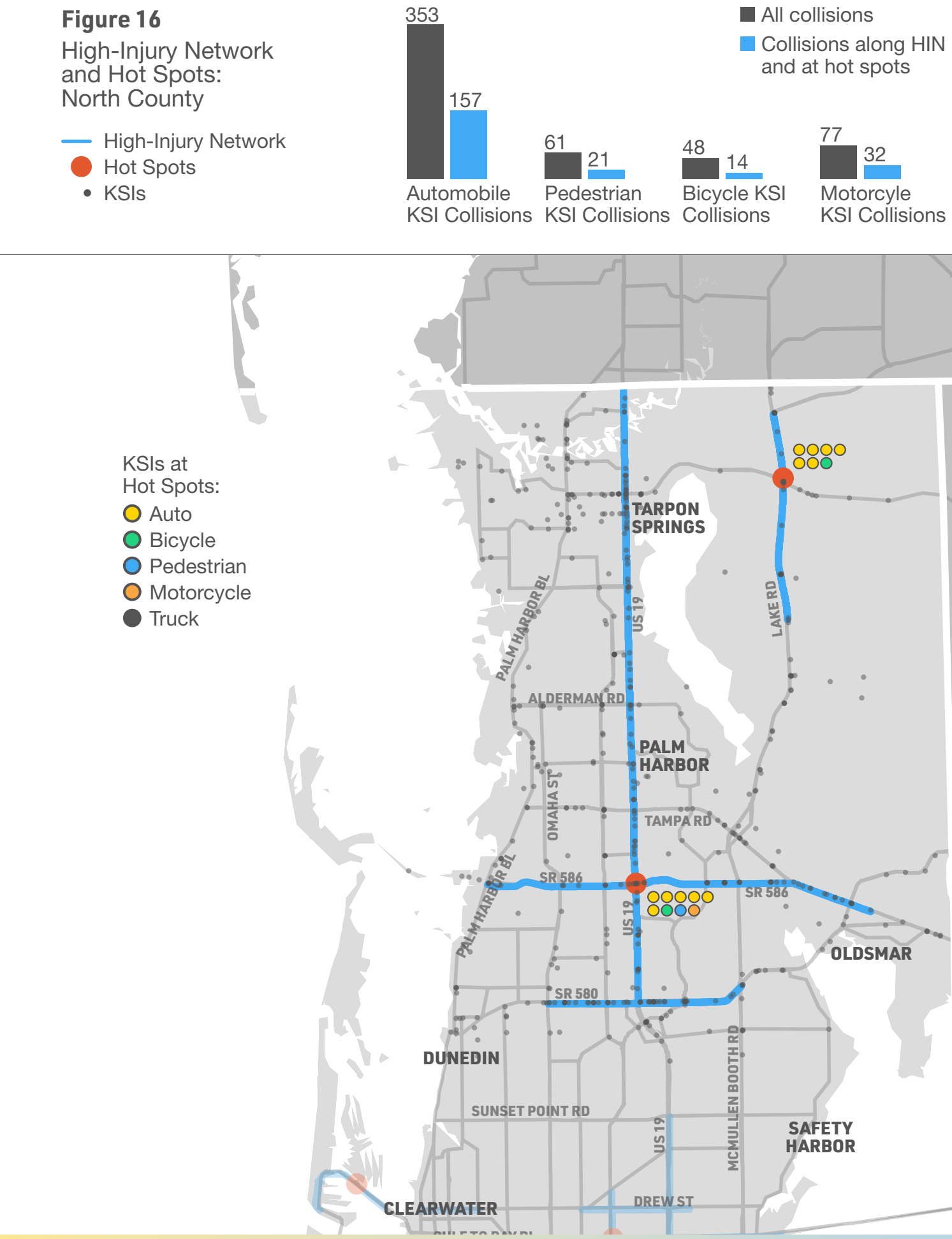


Figure 17
High-Injury Network and Hot Spots: Central County

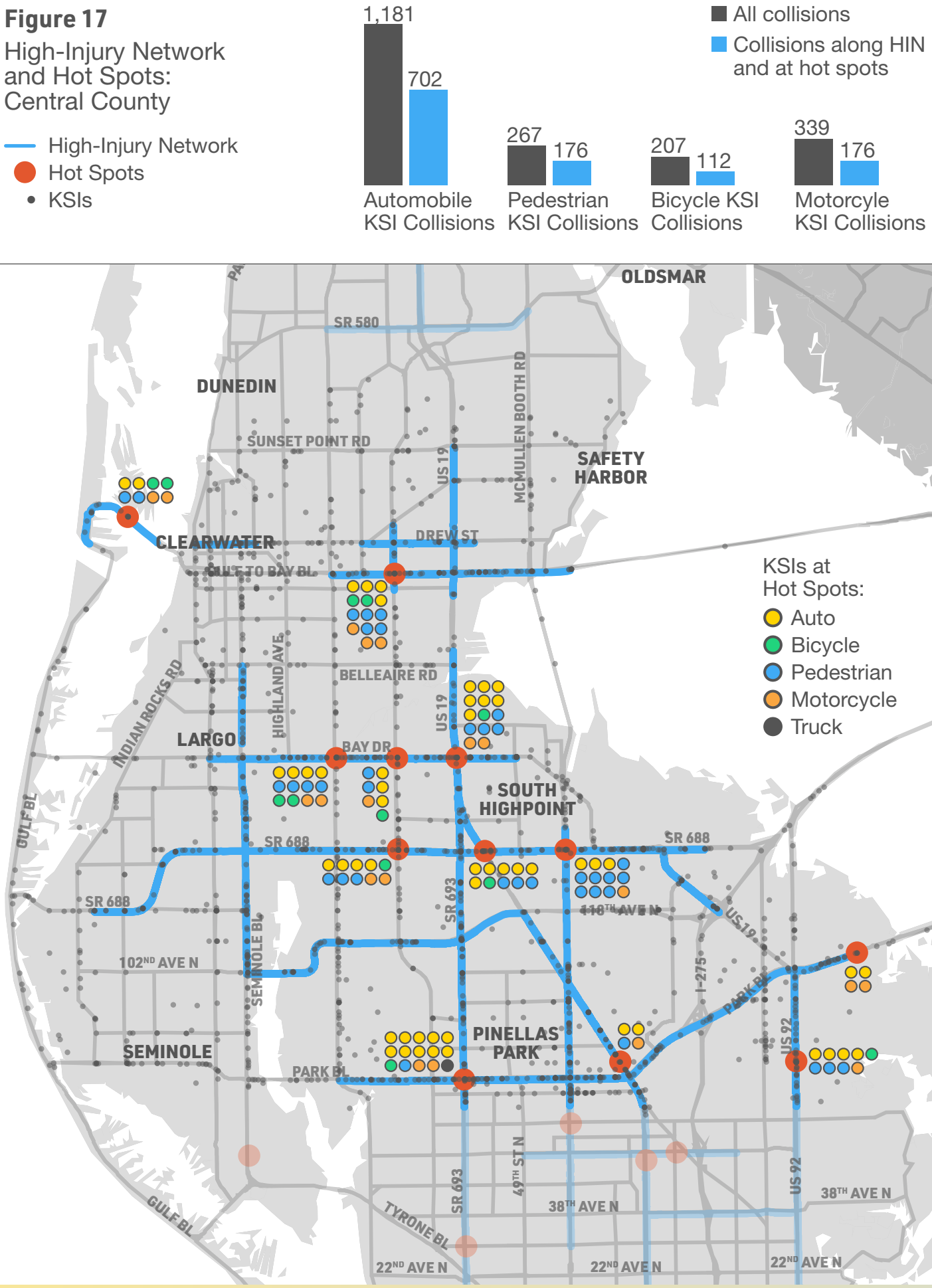
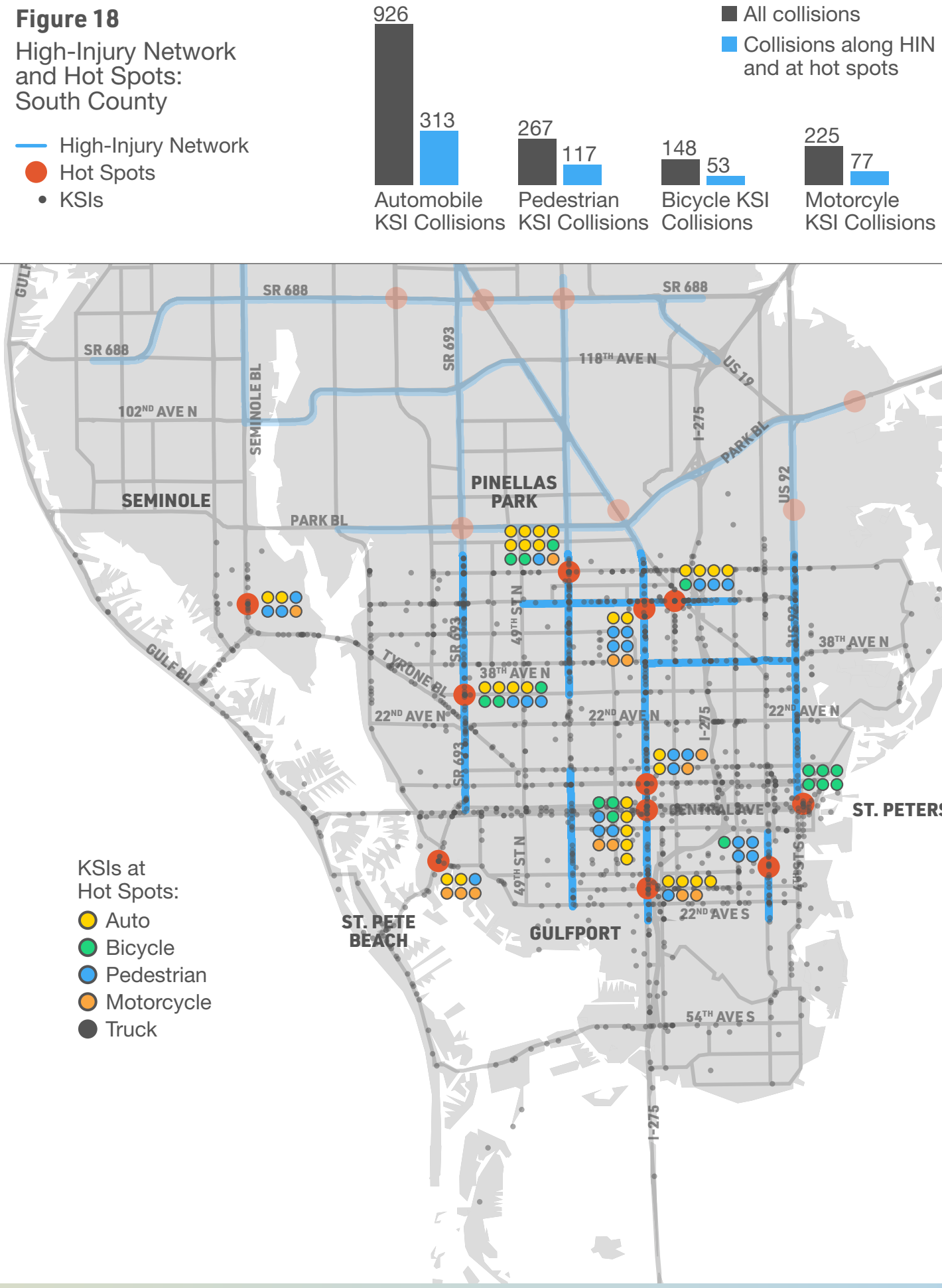


Figure 18
High-Injury Network and Hot Spots: South County





Contestant Artwork

Figure 19
High-Injury Network and Communities of Concern

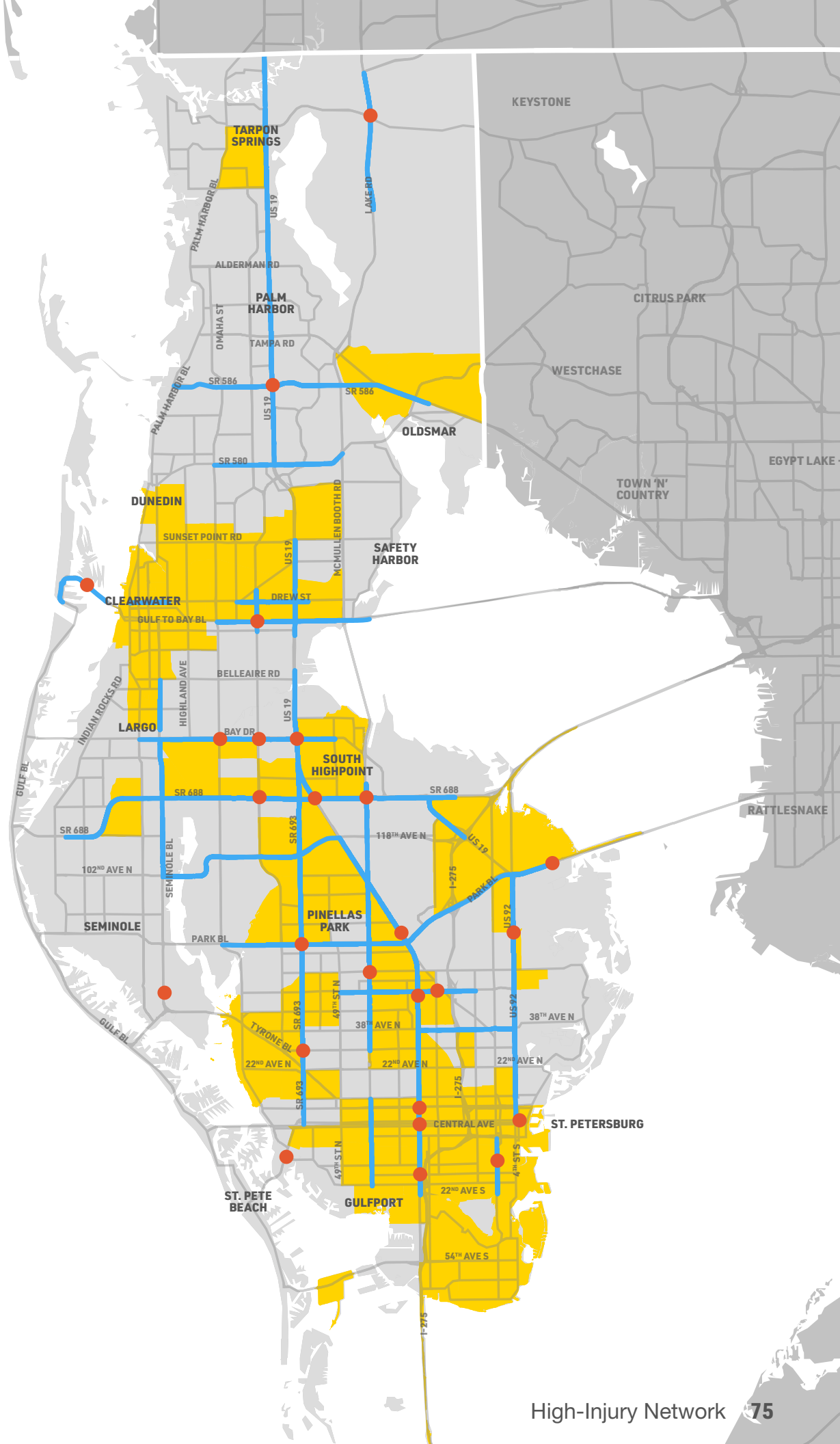


Figure 20a

Percent of People Who are 65+ and Older

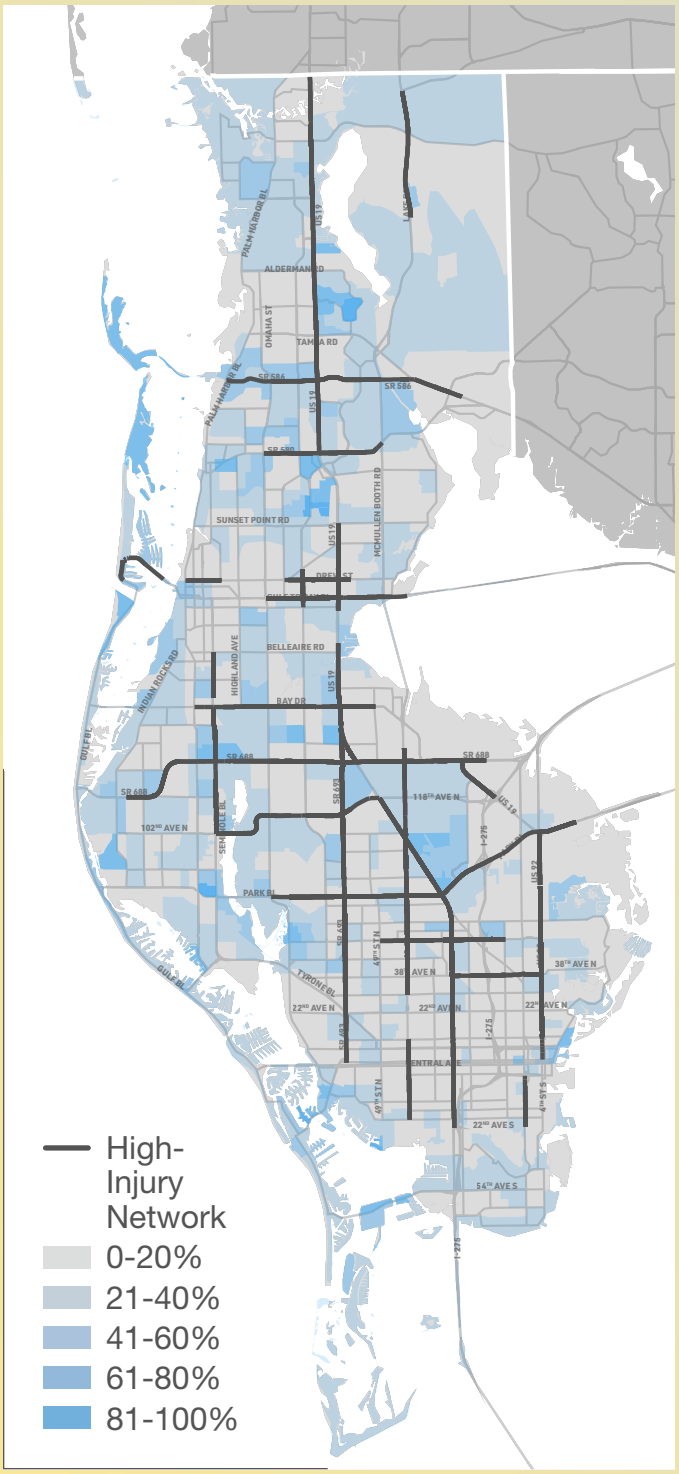


Figure 20b

Percent of People Who are Language-Isolated

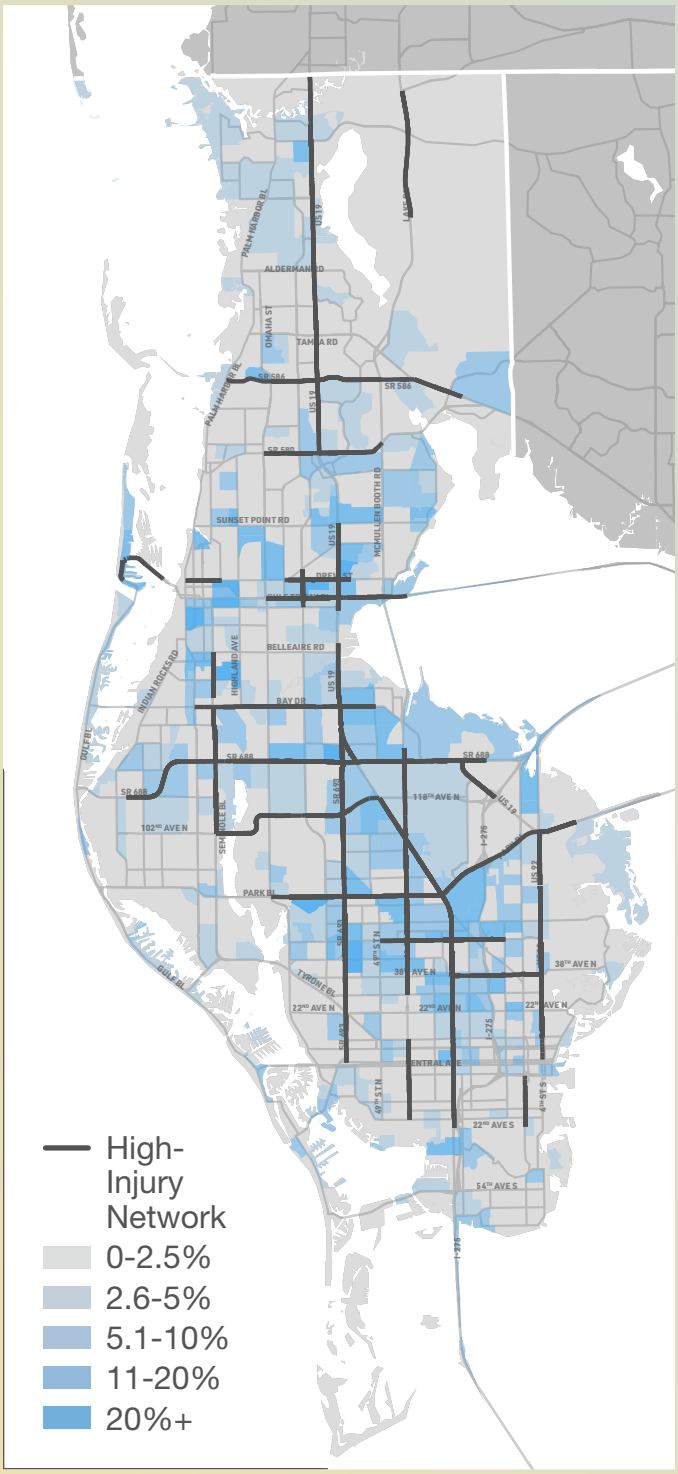


Figure 20c

Percent of People Who are Low-Income

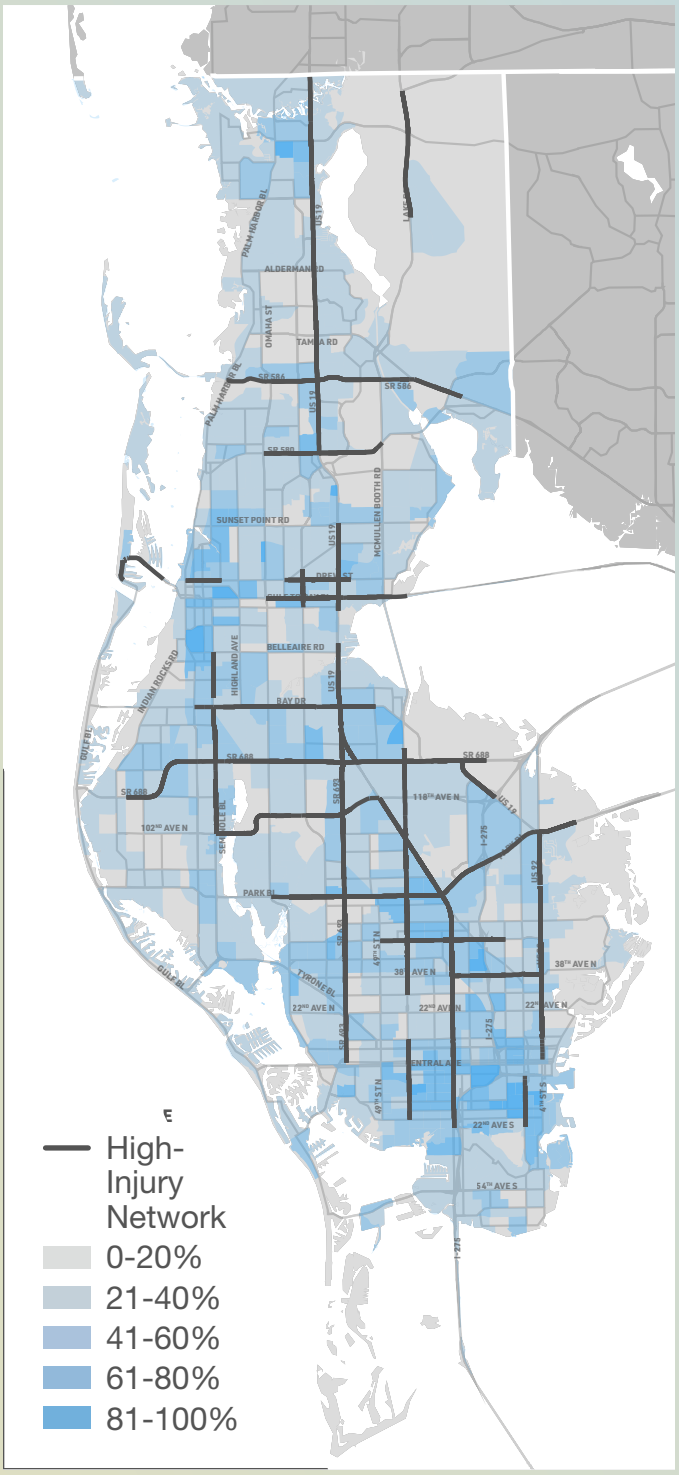


Figure 20d

Percent People of Color

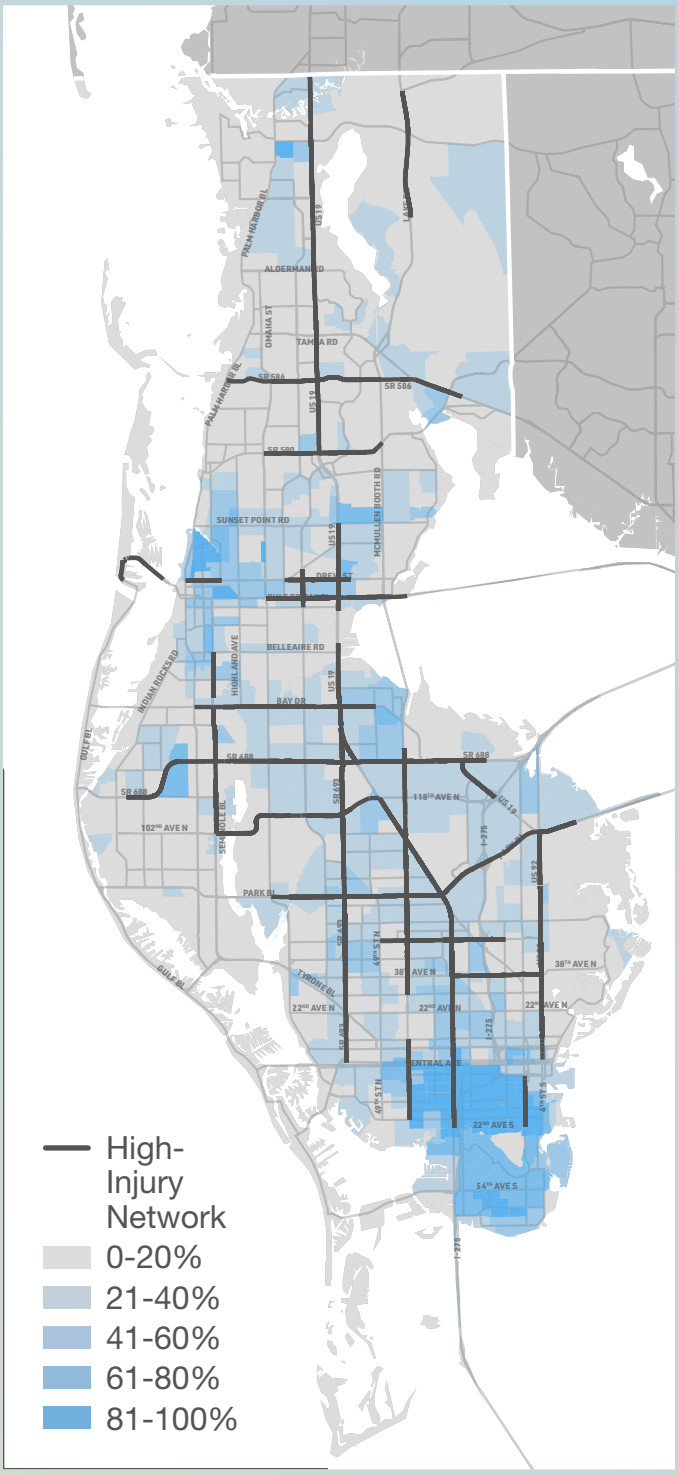


Figure 20e

Percent of People Walking or Biking

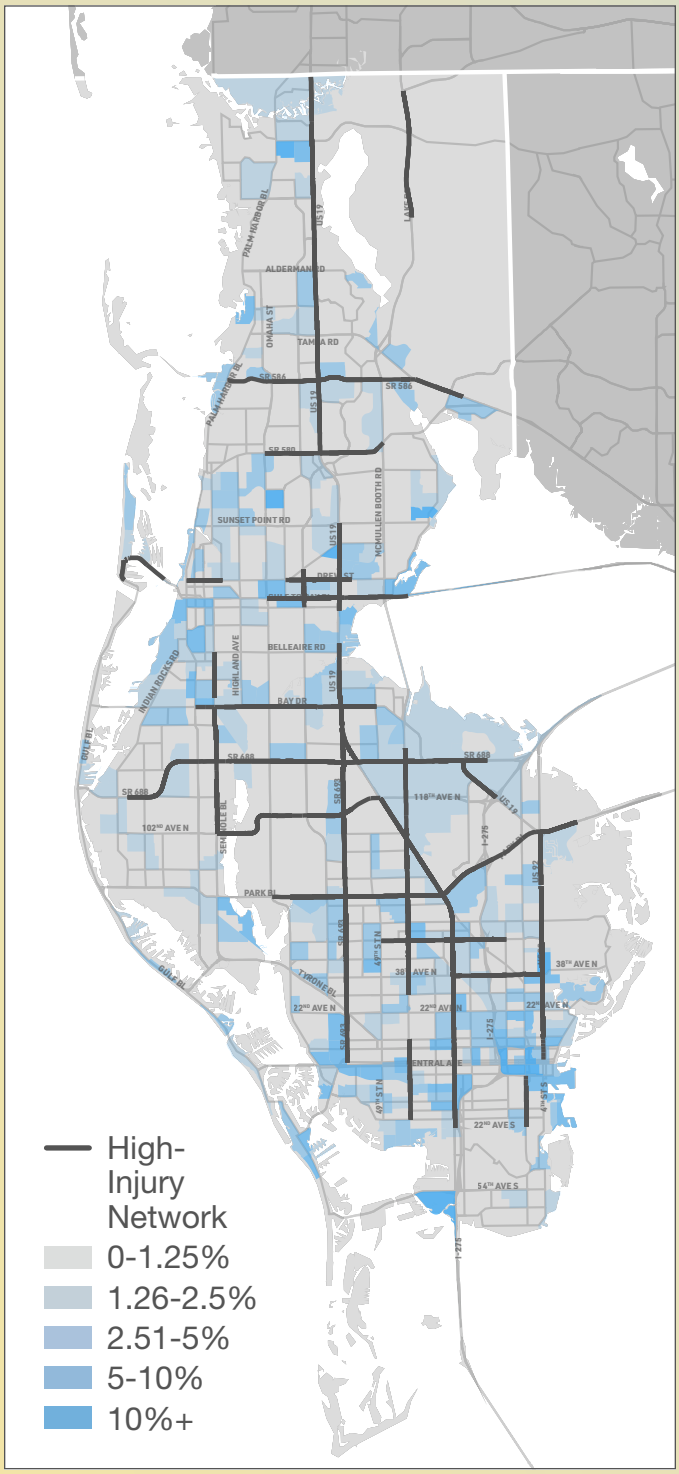


Figure 20f
Total Population

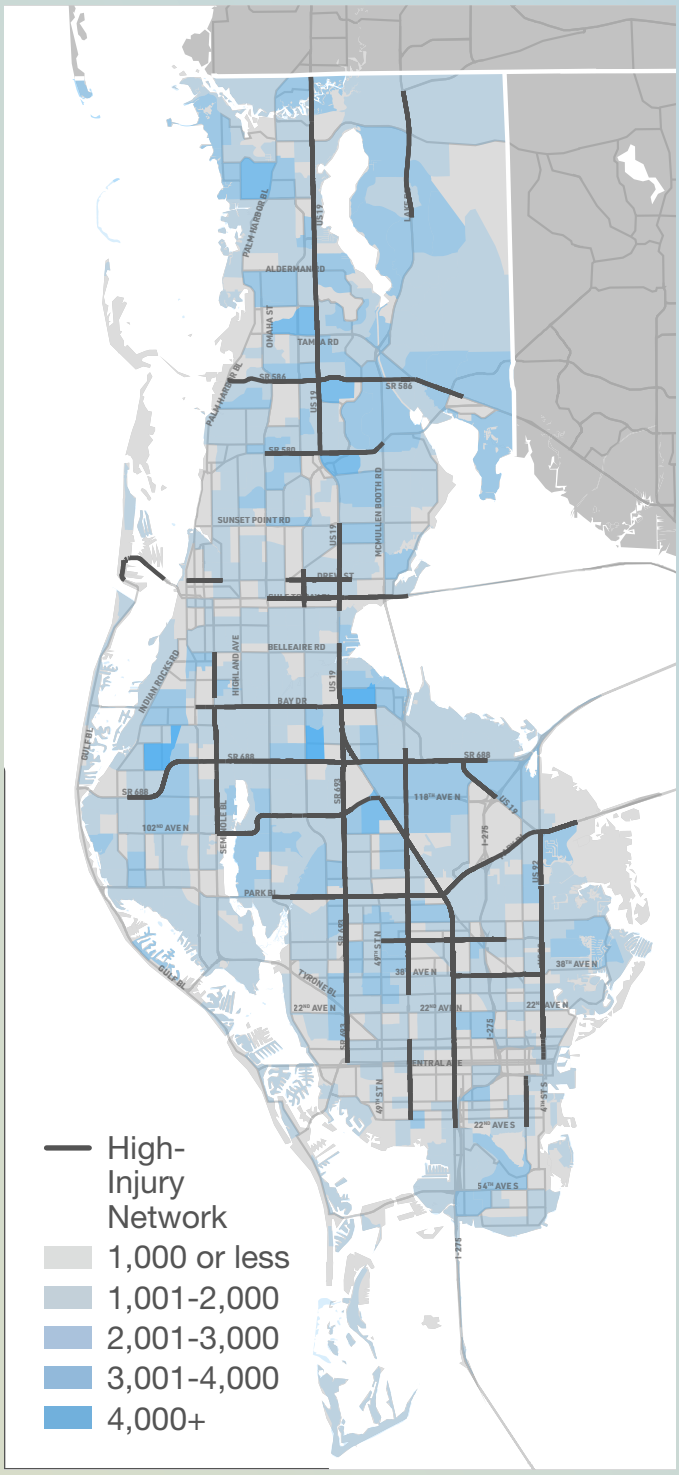
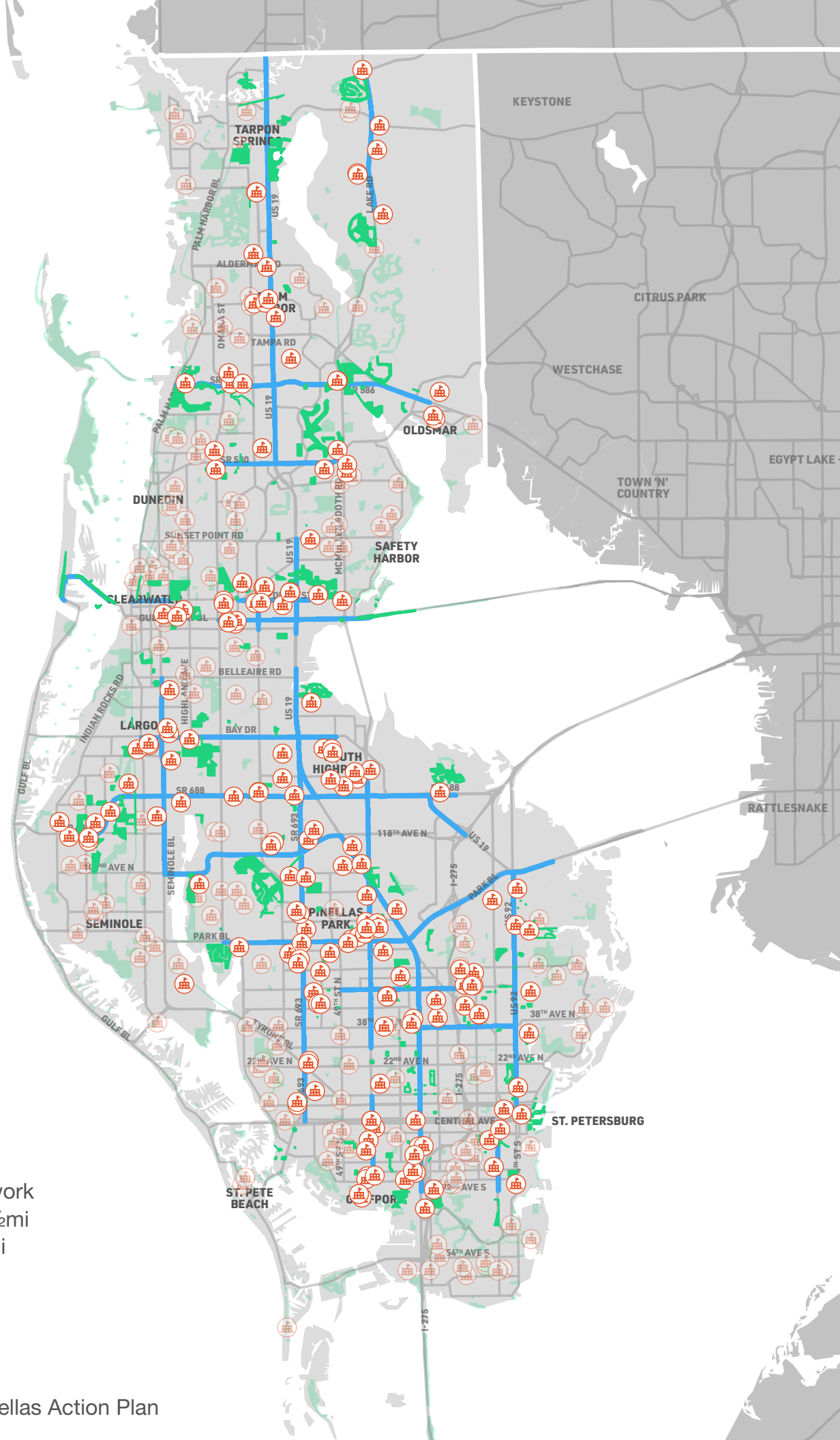


Figure 21
High-Injury Network with Parks and Schools within a Half-Mile



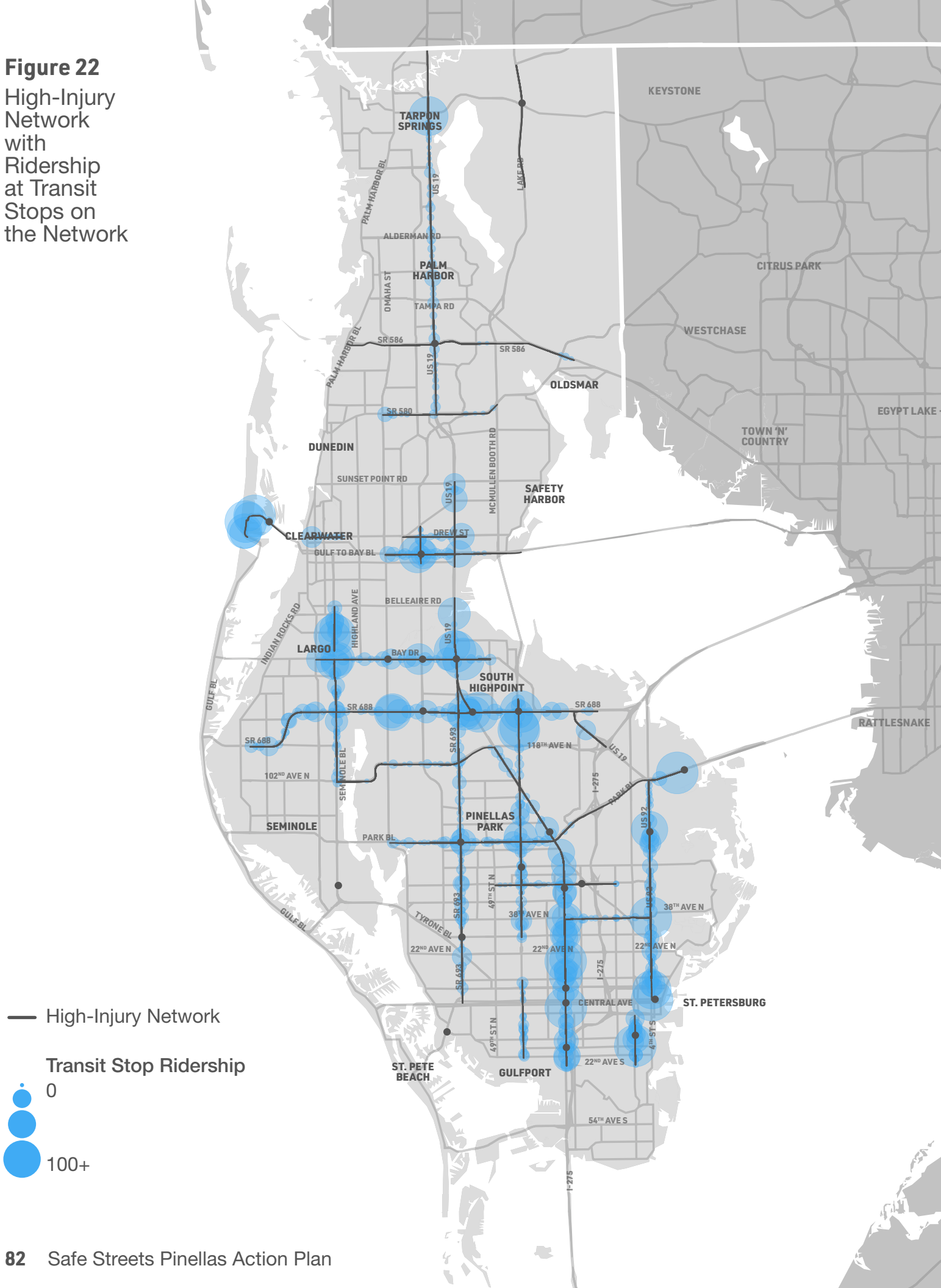
High-Injury Network
Schools within ½mi
Parks within ½mi
Other schools
Other parks

Schools and Parks

Over a third of the elementary, middle, and high schools in Pinellas County are within a quarter-mile of the HIN, resulting in a large proportion of school trips traveling on a portion of the HIN. This indicates potential safety challenges and concerns for students walking or bicycling to school and resulting in more people choosing to drive their student to school. As more people opt to drive a vehicle for trips that could be made by walking or bicycling, the potential for congestion increases, especially at peak school times. This in turn increases the likelihood of conflicts between those driving and those walking or bicycling to school.

The Pinellas County School District has about 150 schools in the county and provides Safe Routes to School resources to schools. Pinellas County Schools also serves as the coordinating body to the Pinellas STEPS (School Transportation & Enhanced Pedestrian Safety) committee which is comprised of individuals who represent law enforcement, traffic, planning and safety staff from all major municipalities in Pinellas County, as well as members representing All Children's Hospital, FDOT, and Pinellas County Schools. Forward Pinellas hosts a School Transportation Safety Committee (STSC), which is made up of local elected officials and school board members that meet to address school-related transportation access and safety issues while also working to improve communication and coordination between transportation agencies and the Pinellas County School Board. Many partner agencies and private schools in the community also have Safe Routes to School programs. Maps and data in this plan help identify potential barriers, such as crossing the HIN or navigating a HIN hot spot location, for students walking and bicycling to school.

Figure 22
High-Injury Network with Ridership at Transit Stops on the Network



Transit Ridership

There is a connection between transit ridership and the HIN: 14 percent of Pinellas Suncoast Transit Authority (PSTA) stops are sited on the HIN, with 17 percent of systemwide ridership. There is a strong correlation between hot spot locations and high ridership areas. While there is not sufficient data to determine how many people involved in a KSI collision were using transit at some point during their trip, there are a number of locations in the county where KSI collisions involving a vulnerable roadway user occur in the vicinity of a mid-block transit crossing where the closest signalized crossing on a four- or six-lane roadway is more than one-half mile away.

Land Use and Urban Design

Land use strategies are an important component to improving transportation safety. When people must drive long distances for daily needs such as employment, education, food, and medical care, it not only increases the average length of vehicle trips and adds cars to the roadway network, but people driving can become impatient when experiencing congestion. Increased travel time and delays can increase undesirable driver behaviors, such as speeding and aggressive driving. When travel times are already long, people may be unwilling to accept even a modest increase in travel time to improve transportation safety outcomes.

Goals in the *2045 Advantage Pinellas Plan* call for creating 20-minute neighborhoods which support walking and bicycling as realistic travel options for daily activities. By placing complementary land uses in close proximity and providing direct transportation connections, people who drive may be willing to accept a ten percent increase in travel time on a ten-minute drive during peak travel hours if it means better bicycle and pedestrian connections and safety outcomes at all times of the day.

Forward Pinellas will work with local government planners to encourage new developments that enhance access to destinations for all residents and improve accessibility for all travel modes.

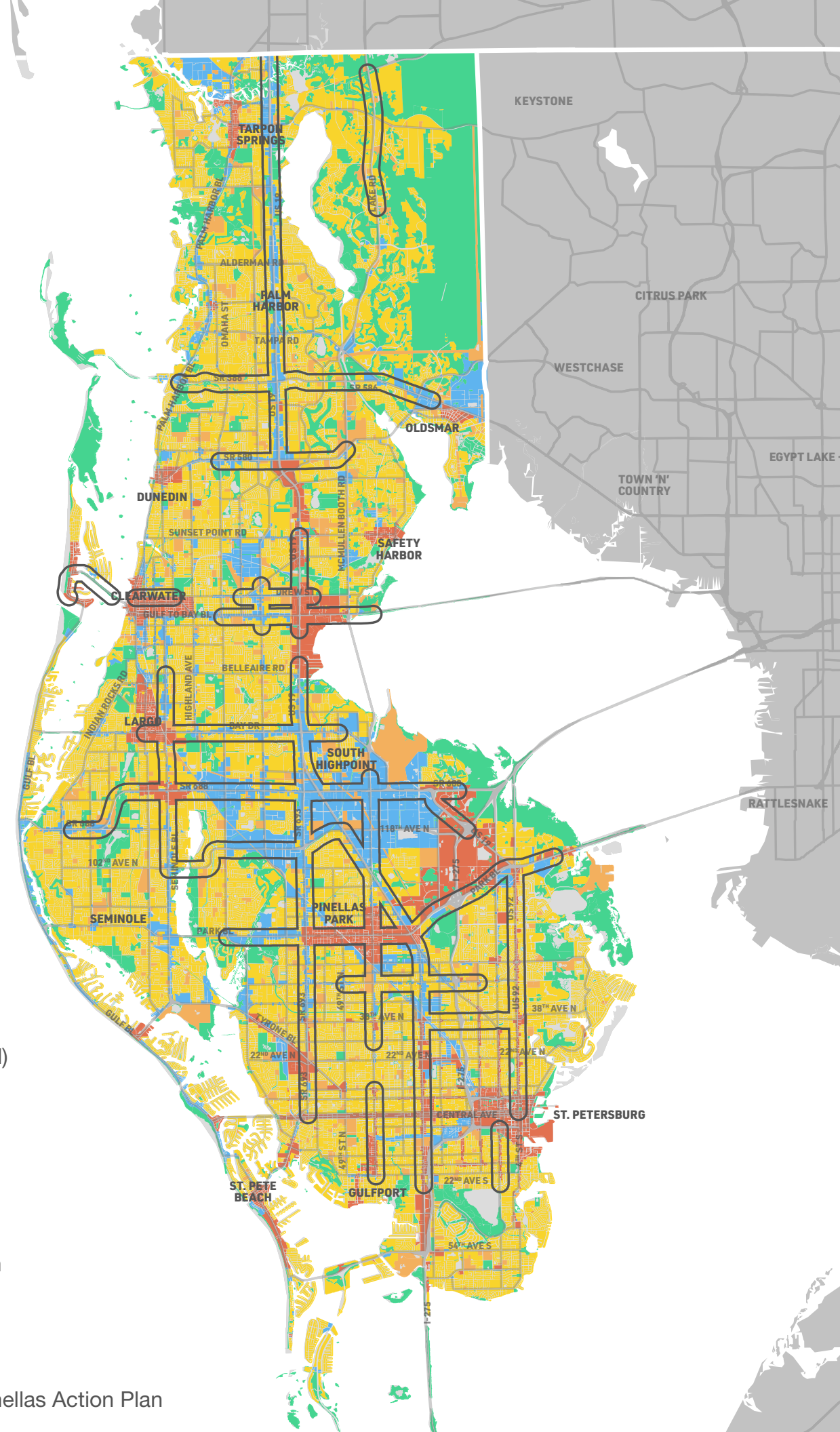
To be truly effective, local agencies need to consider pairing land use strategies with urban design strategies. Urban design relates to the process of shaping the physical features of our communities, including how roadways, buildings, landscaping, and other human-made and natural features are connected. As areas redevelop, there are opportunities to improve transportation safety through common urban design elements that can contribute to safer streets:

- **Building placement** Placing buildings and their primary entrances/storefronts at the sidewalk can encourage more active transportation and transit use as people do not have to walk across a parking lot to reach building entrances. The transitional space between buildings and the curb can be activated with uses such outdoor dining facilities, landscaping, and pedestrian scale lighting.

- **Parking requirements and location** Flexible parking requirements, such as setting parking maximums as opposed to parking minimums, can promote more efficient use of scarce land, as current regulations may require more space to be devoted to vehicle storage than the building. This can be a deterrent to in-fill development, and a barrier to creating communities that are less reliant on vehicle travel.

- **Connectivity and Street Design** Built environments that have a high level of intersection density make destinations more accessible for all travel modes. Grid networks provide opportunities to connect streets at regular intervals and offer the most direct routes for all travel modes. Meanwhile, street networks characterized by cul-de-sacs and loop roadways tend to increase average trip length, decrease the potential for walking, bicycling and transit modes to constitute a significant share of travel, concentrate vehicle traffic onto a smaller number of roadway facilities, and exacerbate the potential for vehicle congestion.

Figure 23
High-Injury Network with Land Use Overlay



- High-Injury Network (circled)
- Activity Center
- Employment/ Retail/Service/ Office/Industrial
- Residential
- Public Lands/ Buildings
- Parks and Open Space

Land use patterns that discourage cross-parcel access further concentrate travel onto the regional street network and create circuitous movements. Improved safety outcomes can be realized for all travel modes when there is reciprocal access. Strategies include consolidating driveways, installing signalized access, requiring cross-access easements, and constructing median islands.

Streets and buildings that are designed for people, not automobiles, tend to generate a larger share of travel from non-automobile modes. Providing supporting facilities, such as secure bicycle parking, shaded walkways, pedestrian-scale lighting, and transit shelters with connecting sidewalks can also contribute the safer streets for everyone.

- **Street enclosure** Creating streets that are comfortable for people also relates to building heights and the width of streets. Research shows that wide streets and single-story buildings set-back from the street can make people walking feel uncomfortable and encourage people to drive in excess of posted speed limits. Balancing building heights, roadway widths, and other design features can improve pedestrian comfort, and context appropriate speeds for people driving.

- **Landscaping** Well-placed landscaping can serve several needs, such as providing shade, buffering pedestrian realms from vehicle travel, and slowing vehicles.

The FDOT Context Classification Guide[14] provides additional information about built environment factors and street design guidance.

[14] https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/completestreets/files/fdot-context-classification.pdf.

Contestant Artwork

Safe Streets Counter-measures

7

SAFE STREETS PINELLAS

Non-Engineering Countermeasures

Countermeasures for human behaviors are intended to inform communications and campaigns across the region. These countermeasures are not a substitute for creating safe systems but are a critical component of Vision Zero efforts. They provide a framework to inform educational campaigns, promote changes in legislation, provide equitable enforcement, and when collisions do occur, provide rapid emergency response and medical care.

Legislation Legislation at multiple levels — including at municipal, countywide, or statewide scale — can help address human behaviors that result in crashes which cause death or serious injury. Speed limit setting is one example of legislation used to influence behaviors that result in speeding. Several cities in the United States have recently adopted 20 mph residential speed limits through "Twenty is Plenty" campaigns. Legislation can also be used to affect the penalties associated with unsafe behaviors and further discourage those types of behaviors, such as texting and driving.

While wearing motorcycle helmets is not required in Florida, studies have shown that helmets are estimated to be 37 percent effective in preventing fatal injuries to people who drive motorcycles, and 41 percent effective for motorcycle passengers. For every 100 people killed in Pinellas County not wearing a helmet while riding a motorcycle, 37 of them could still be alive today had they been wearing a helmet.[15] This is an example of legislation enacted at the state level.

Education Educational campaigns can be implemented from the local level through the national level. Effective Vision Zero campaigns use a sophisticated, data-driven approach to ensure the right message reaches the right audience at the right time. Successful campaigns have focused on the people affected by traffic crashes and individual choices that cause crashes while avoiding victim blaming.

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[15] Traffic Safety Facts 2017 Data, National Highway Traffic Safety Administration, May 2019

Enforcement Successful Vision Zero enforcement strategies focus on enforcing the most dangerous behaviors in the most important places, including along the regional High-Injury Network. Using traffic safety cameras to automate enforcement is a strategy gaining traction, and has been used successfully by Vision Zero communities around the world. Equity and empathy are critical considerations in a Vision Zero-aligned enforcement campaign to ensure that people already burdened by unsafe transportation infrastructure, including low-income populations and people of color, are not further burdened by unreasonable enforcement. **The Safe Streets Action Plan includes strategies to partner with local law enforcement agencies to provide training on best practices for collision reporting, and to better understand who is being stopped by law enforcement agencies in Pinellas County, and where and why.**

Emergency Response The speed of emergency response and quality of care is critical to the outcome of a collision. Delays accessing the scene of a collision, either due to congestion or distance of available first responders, can mean life or death in many situations. Some cities use predictive analytics to identify where collisions are likely to occur based on data from past events such as weather, congestion, or a special event. This allows first responders to access collision locations faster and improve outcomes for some crash victims. Ensuring the appropriate level of staffing, training, and capacity for emergency medical services (EMS) and hospitals can improve safety outcomes. Hospitals also have a role in providing data related to collision outcomes and cost of care to help inform overall strategies and better document the cost of collisions on our communities.

Equity Strategies

Equity is a foundational Vision Zero concept. Low-income communities and communities of color are disproportionately affected by fatal and serious-injury crashes. In Pinellas County, 73 percent of the regional HIN bounds or touches a Community of Concern, while only 32 percent of the county's area is within a designated Community of Concern.

The Vision Zero Network published Equity Strategies for Practitioners to assist communities in implementing Vision Zero with a focus on equity. Key strategies from the guide are:

- **Commit to the work** Ensure that Vision Zero or traffic safety leadership reflects the diversity of the community; agree that equity issues are a focus of Vision Zero and make a strong and firm commitment from the start.

- **Use data to focus efforts** Incorporate demographic, social, public health, and economic datasets as well as qualitative data into crash analysis and project prioritization.

- **Enforcement with empathy** Enforcement must not have a disproportionate effect on low-income communities and communities of color, nor should it damage police-community relationships. Since safe infrastructure is lacking in many low-income communities and communities of color, these communities are already unfairly burdened by the transportation system. Strategies to integrate equity into enforcement include community policing, officer training, careful application of automated enforcement, transparency in traffic stop data, diversion programs that focus on education rather than punishment, and graduated fines.

- **Community engagement** Programs and associated staff should build sustaining relationships with the community and partners. Leaders must listen and demonstrate that they value the experiences of people affected by inequitable conditions. Hosting engagement meetings in locations people can attend conveniently and reducing barriers to participation are key elements of Vision Zero-focused community engagement.


Reserved
For Ferry
Permit Use
Only

Engineering Countermeasures

When thinking about the causes of collisions, many are the result of undesirable or illegal behavior, such as speeding, texting while driving, running red lights, tailgating, and reckless driving. However, we need to recognize that no educational campaign will be 100 percent effective in eliminating undesirable or illegal behavior, and that enforcement mechanisms cannot be in place on every roadway 24 hours a day. That is where engineering countermeasures come into play, as changes to roadway design and operations can be effective in reducing vehicle speeds, conflict points, and the severity of collisions so that fewer people die or are seriously injured if a crash does occur.

Engineering strategies are organized into seven categories:

- Signals
- Intersection and Roadway Design
- Signs and Markings
- Bikeway Facilities
- Pedestrian Facilities
- Other
- Low-cost and Quick Build

Since there are so many countermeasures, the general categories are described below, with a Safety Countermeasures Toolbox provided in Appendix D. The Countermeasures presented in this document do not represent all countermeasures that could be appropriate for implementation in Pinellas County. Agencies implementing safety projects should refer to the most current guidance from the Federal Highway Administration, National Highway Traffic Safety Administration, National Cooperative Highway Research Program, Vision Zero Network, Institute of Transportation Engineers, and others.

The mode of travel whose safety is most improved by each countermeasure is noted. However, none of the countermeasures specifically apply to collisions involving motorcyclists. Collisions involving motorcyclists most commonly occur with lane changing and turning, when the motorcyclist is in the driver's blind spot. Many countermeasures can help reduce the frequency and severity of collisions involving motorcyclists, but motorcyclist education, licensing, and proper helmet use are also a large component to reducing motorcyclist KSIs.

Signals Under the signal timing and phasing category, strategies relate to changing signal timing based on

Contestant Artwork



local context, such as extending the pedestrian time if there are large volumes of pedestrians, or if pedestrians are not able to cross the intersection within the time allotted. Extending yellow and red time can help clear the intersection and reduce the potential for red light running. In locations where there are high pedestrian and bicycle volumes, right-turning vehicles may not be able to turn when they have a green light due to pedestrians in the crosswalk. Providing a separate right-turn phase could help clear right-turning vehicles and reduce conflicts with pedestrians.

Sometimes giving pedestrians a head start can make them more visible to drivers. Installing a new traffic signal or pedestrian signal can help allocate the right-of-way, reduce conflicting movements, and provide pedestrians a protected crossing. In heavy pedestrian areas, installing a pedestrian scramble where all vehicles must stop so that pedestrians can cross diagonally can be a more efficient way to operate the intersection and reduce vehicle conflicts with pedestrians.

Other strategies such as converting permissive lefts to protected lefts can be highly effective in reducing conflicts with pedestrians. Reducing cycle length can decrease pedestrian delay which reduces the occurrence of pedestrians crossing against the signal and red-light running.

Intersection and Roadway Design Changing intersection and roadway design features — such as eliminating slip lanes to slow vehicle turning movements, narrowing travel lanes to promote slower speeds, and constructing sidewalks — are some effective methods. Many intersection and roadway design measures may require public outreach and detailed analysis. For example, partially closing a roadway could result in community concerns about increased traffic on other streets or the need to make improvements at other locations.

Some improvements, such as a protected intersection, can be expensive and might need to be programmed as a capital improvement project. There are often opportunities to take advantage of reallocating right-of-way, especially as part of planned resurfacing projects. For instance, lane eliminations to add/enhance bicycle and pedestrian facilities are good candidates for inclusion with other planned roadway projects.

Signs and Markings Installing additional signs and pavement markings can be a low-cost way to improve safety outcomes. However, to be effective, they often need to be implemented with other roadway modifications for maximum effectiveness, and sign clutter should be avoided. These types of projects can often be implemented with planned Resurfacing, Restoration and Rehabilitation (RRR) projects.

Speed Reduction Strategies

Speed is a contributing factor to many fatal and serious-injury crashes across all collision types, as there is a high level of correlation between vehicle speed and the survivability of a collision. While vehicle safety improvements have improved collision outcomes for vehicle occupants, the chance of a person walking or a person bicycling surviving a collision drops dramatically at vehicle speeds in excess of 20 miles per hour. Safe travel speed is a core Vision Zero principle given the documented relationship between speed and crash severity. A variety of proven techniques can be applied to reduce travel speed.

Traffic calming Vertical devices such as speed humps and speed tables, horizontal devices such as bulbouts, chicanes, or mini traffic circles/ roundabouts all have documented speed-reduction effects. These treatments are typically limited to local and sometimes collector roads.

Signal coordination Traffic signal coordination can maintain desired operating speeds along corridors.

Realigning skewed intersections Broad, wide-radius turns can be made at high speeds. Tighter turns, closer to 90 degrees with a small radius, are made at lower speeds.

Reducing travel lane widths Narrower travel lanes encourage lower vehicle speeds. Recent updates to the American Association of State Highway Transportation Official's (ASHTO) A Policy on Geometric Design of Highways and Streets included allowances for narrow travel lanes in recognition of safety research.

Removing travel lanes Reducing the number of travel lanes on a street enables the slowest driver to set the operating speed on a street, rather than the fastest driver.

Roundabouts By introducing horizontal deflection onto otherwise straight roadways, roundabouts can reduce operating speeds. Additionally, roundabouts have proven safety benefits compared to standard intersections.

Bikeway Facilities In Pinellas County, bicyclists are overrepresented in KSI collisions. Providing dedicated space for cyclists separate from high speed vehicle traffic can improve safety outcomes. One of the most effective measures is a dedicated pathway separate from vehicle travel. While bike lanes also help to reduce the potential for a collision, they are not as effective as a separate path especially on higher speed roadways. Bicyclists are particularly vulnerable in conflict zones. Some countermeasures aim to increase cyclist visibility in conflict zones and provide clear direction to other roadway users. In areas where there is constrained right-of-way, signing and pavement markings can be effective. However, like most strategies these are context-specific. For example, shared lane markings are appropriate on roadways with vehicle travel speeds of less than 25 mph and daily traffic volumes of less than 2,000. As speeds and traffic volumes increase, additional separation should be provided between vehicles and cyclists.

Pedestrian Facilities Pedestrians are also overrepresented in KSI collisions in Pinellas County. Providing more visible crossings, decreasing pedestrian crossing distance, and extending the amount of time to cross the street can help to reduce collisions. Many of these strategies also benefit other modes of travel although the primary benefit is to pedestrians. Lighting at the appropriate scale is also a key element and can improve visibility of all roadway users. Pedestrian detection can be used at trail crossings where users might not activate the signal. Installing a median barrier can be a way to discourage pedestrian crossings; however, a review of the pedestrian patterns in the area should be conducted as there may be a reason, such as a bus stop on one side of the street and a shopping center or apartment complex on the other side. It is unlikely and unrealistic to expect pedestrians to walk a long distance out of their way to use a protected crossing, especially in Florida weather. Typically, people are not willing to walk more than 400 feet to a crossing and while it may not be practical to install a pedestrian crossing at those intervals, other strategies such as relocating a bus stop could also be part of the solution.

Other Several other strategies are not focused on a singular mode. For example, consolidating driveways can benefit all roadway users. Curbside management strategies can reduce passenger loading from travel lanes, reduce doubled parked delivery vehicles, and increase transit reliability.

Low-cost and Quick-build This category was created to identify countermeasures that can be installed at a lower cost and faster timeline than more traditional improvement projects. Several low-cost and quick- build items can be used as a part of a pilot project before installation of a more permanent improvement.

Countermeasure Pairing with Collision Types

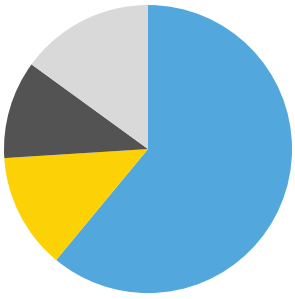
As discussed in the collision profile section, collisions classified as angle, bicyclist involved, pedestrian involved, left-turn, rear-end, right-turn, sideswipe, and U-turn accounted for 64 percent of total collisions and over 75 percent of KSI collisions. Based on the glossary of the specific strategies provided in Appendix D, these collision types were paired with potential countermeasures.

	Total Collisions	KSI Collisions	Person in Vehicle	Person Walking	Person Bicycling	Person Motorcycling
Rear End	37.54%	20.8%	86%	1%	0%	13%
Angle	17.0%	19.4%	81%	1%	2%	16%
Pedestrian	1.8%	14.8%	0%	94%	5%	1%
Left Turn	5.0%	11.3%	73%	1%	0%	26%
Hit Fixed Object	16.7%	10.8%	77%	2%	1%	20%
Bike	1.9%	7.8%	0%	1%	97%	2%
Single Vehicle	1.0%	4.3%	44%	1%	0%	55%
Sideswipe	10.3%	3.3%	67%	2%	1%	30%
Head On	1.6%	2.5%	87%	1%	4%	8%
Unknown	3.9%	1.8%	41%	24%	10%	25%
U-Turn	1.0%	1.1%	71%	0%	0%	29%
Right Turn	1.3%	1.0%	72%	2%	9%	17%
Hit Non-Fixed Object	0.6%	0.6%	44%	16%	16%	24%
Run Off Road	0.4%	0.5%	81%	0%	0%	19%

Pedestrian Collisions

This crash profile includes all crashes that are classified as pedestrian or crashes when a person walking is harmed during a collision. While crashes involving people walking account for just two percent of total crashes, they represent 40 percent of all fatal crashes. As speeds increase the likelihood of a serious injury or fatality increases exponentially for pedestrians. The data shows that for the vast majority of pedestrian involved KSI collisions, there was either no contributing action, or the contributing action was unknown. In about 13 percent of KSI collisions, there was a failure to yield the right-of-way, which could be either a failure on the part of the person walking or the person driving. In 11 percent of KSI collisions, the person driving was found to be careless or negligent.

Top Contributing Factors



- **61%** no contributing action
- **13%** failed to yield right-of-way
- **11%** careless or negligent driving
- 15% other factors

Potential Engineering Countermeasures

Signalized Intersections

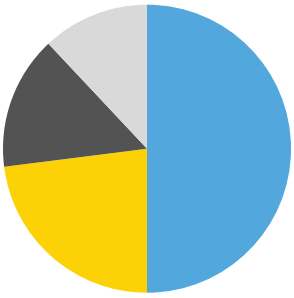
- ADA Ramps & Audible Push Button Upgrades
- Advance Stop Bar
- Countdown Pedestrian Signal Heads
- Curb Extensions
- Extend Pedestrian Crossing Time
- High Visibility Crosswalks
- Intersection Tightening
- Leading Pedestrian Interval
- Parking Prohibition/ Daylighting
- Pedestrian Detection
- Pedestrian Hybrid Beacon
- Pedestrian Lighting
- Pedestrian Median Barrier
- Pedestrian Recall Signal Timing
- Pedestrian Refuge Island
- Prohibit Turn During Pedestrian Phase
- Protected-Only Turn Phase
- Raised Crosswalk
- Rectangular Rapid Flashing Beacon
- Remove Crossing Prohibition
- Restripe Crosswalk
- Shorten Signal Cycle Length
- Straighten Crosswalks
- Upgrade Curb Ramp

Non-Signalized Intersections / Corridors

- All-Way Stop Sign
- Co-Locate Bus Stops and Pedestrian Crossings
- ADA Ramps
- Narrow Lanes
- New Traffic Signal
- Repurpose Travel Lanes
- Install Sidewalks
- Signal Spacing
- Traffic Calming

Bicyclist Collisions

Top Contributing Factors



- **50%** no contributing action
- **23%** failed to yield right-of-way
- **15%** careless or negligent driving
- 12% other factors

This crash profile includes all crashes that are classified as bike, or crashes when a person bicycling is harmed during a collision. While crashes involving people bicycling account for only three percent of total crashes, they represent ten percent of all KSI crashes, and five percent of all fatal crashes. The data show that for the vast majority of bicyclist involved KSI collisions, there was either no contributing action, or the contributing action was unknown. In about 23 percent of KSI collisions, there was a failure to yield the right-of-way, which could be either a failure on the part of the person bicycling or the person driving. In 15 percent of KSI collisions, the person driving was found to be careless or negligent.

Potential Engineering Countermeasures

Intersections

- Automatic Recall Signal Timing
- Bike Box
- Bike Conflict Zone Markings
- Extend Bike Lane to Intersection
- Extend Signal Clearance Time
- Partial Closure/ Diverter
- Prohibit Left Turn
- Prohibit Right Turn on Red
- New Traffic Signal
- Shorten Signal Cycle Length
- Slow Green Wave
- Traffic Signal Bike Detection

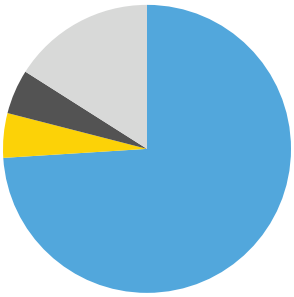
Non-Intersections / Corridors

- Bike Conflict Zone Markings
- Narrow Lanes
- Prohibit Left Turn
- Protected/ Separated Bikeway
- Road Diet
- Traffic Calming

Rear-End Collisions

The rear-end crash profile includes all crashes classified as rear-end or crashes when a person driving one vehicle impacted the rear-end of another vehicle. Rear-end collisions are the most prevalent type of crash in Pinellas County and account for the most serious injuries and fatalities on the roadway system.

Top Contributing Factors



- **74%** careless or negligent driving
- **5%** other contributing action
- **5%** followed too closely
- 16% other factors

Potential Countermeasures

Signalized Corridors

- Advanced Dilemma Zone Detection
- Appropriate Yellow/ All Red Signal Timing
- Improve Sight Distance
- Incident Management Protocol
- Signal Coordination
- Traffic Calming
- Variable Message Sign

Non-Signalized Corridors

- Improve Sight Distance
- Incident Management Protocol
- Traffic Calming
- Variable Message Sign

Distracted Driving / Careless or Reckless Driving (Tailgating) / Speeding

- Targeted Enforcement
- Speed Strategies
- Education

Turning Collisions

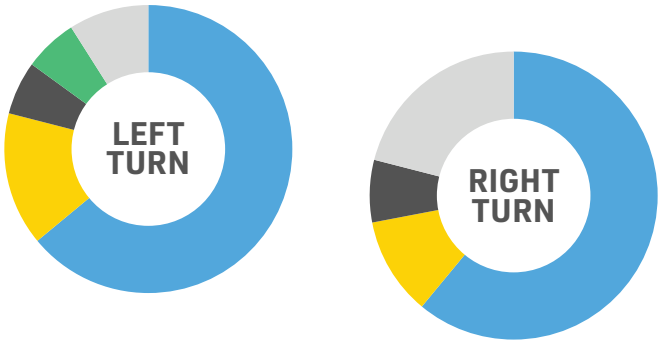
Left-turn, U-turn and right-turn collisions account for about seven percent of total collisions and 13 percent of KSI collisions. Left-turn movements resulted in more fatal and serious injury collisions than right- or U-Turn collisions. People riding motorcycles represent more than 25 percent of the victims of KSI collisions for both left- and U-turn collisions, which combined, represent the movement that causes the greatest number of KSI collisions involving motorcyclists.

For all collisions involving a turning movement, the most prevalent contributing factors were failure to yield right-of-way, operating the motor vehicle in a careless or negligent manner, improper turning and red light running.

Angle collisions have similar contributing factors as turning collisions since they involve roadway users colliding at an angle. Accounting for 17 percent of all collisions and 19 percent of KSI collisions, collisions classified as angle collision also disproportionately affect people who motorcycle. People who motorcycle are most likely to be killed or seriously injured from angle collisions (19 percent of all motorcycle KSIs are angle collisions, followed by 18 percent left-turn, and 17 percent rear-end).

Top Contributing Factors

- **64%** failed to yield right-of-way
- **15%** careless or negligent driving
- **6%** ran a red light
- **6%** improper turn
- 10% other factors



failed to yield right-of-way **61%**
ran a red light **15%**
careless or negligent driving **6%**
other factors 18%

- **38%** failed to yield right-of-way
- **21%** careless or negligent driving
- **19%** improper turn
- 22% other factors



failed to yield right-of-way **33%**
ran a red light **14%**
careless or negligent driving **15%**
other factors 38%

Potential Engineering Countermeasures

Left Turns at Signalized Intersections

- Appropriate Green Time for Left Turn
- Appropriate Yellow/ All Red Signal Timing
- Lagging Turn Phase
- Positive Left Turn Offset for Visibility
- Protected-Only Turn Phase
- Roundabout

Left Turns at Unsignalized Intersections

- All-Way Stop Sign
- Consolidate Driveways
- Improve Sight Distance
- New Traffic Signal
- Partial Closure/ Diverter
- Positive Left Turn Offset for Visibility
- Prohibit Left Turn
- Raised Median
- Roundabout
- Stop Signs at the Near and Far Side
- Traffic Calming
- Two-Stage Gap Acceptance

Right Turns

- All-Way Stop Sign
- Improve Sight Distance
- Leading Pedestrian Interval
- Lighting
- Prohibit Right Turn on Red
- Protected Turn Phase

Angle Collisions

- Advance Stop Bar
- Advanced Warning Sign
- All-Way Stop Sign
- Lighting
- Appropriate Yellow/ All Red Signal Timing
- New Traffic Signal
- Overhead Flashing Beacon
- Prohibit Left Turn
- Raised Median
- Replace Two-Way Left-Turn Lane with Turn Lanes
- Roundabout
- Signal Coordination
- Stop Signs at the Near and Far Side

Sideswipe Collisions

Sideswipe collisions are one of the collision types least likely to result in a serious injury or fatality; however, motorcyclists represent about a third of people who are seriously injured or killed. Although not a primary collision factor as noted in the collision reports, failure to keep in the proper lane, improper passing, and improper turning collectively account for about 15 percent of the primary contributing action, in addition to the factors listed below.

Top Contributing Factors



- **39%** careless or negligent driving
- **15%** failed to yield right-of-way
- **15%** other contributing action
- 31% other factors

Potential Countermeasures

Departure to Left

Also see the speeding countermeasures

- Advanced Warning Sign
- Barrier
- No Passing Zone
- Pavement Markings
- Raised Median
- Rumble Strips

Departure to Right

Also see the speeding countermeasures

- Advanced Warning Sign
- Barrier
- Clear Distance
- Pavement Markings
- Raised Median
- Rumble Strips

Sideswipe

Also see the speeding countermeasures

- Advanced Warning Sign
- Pavement Markings

At Night

- Lighting
- Variable Speed Limit

Impaired Driving

- Targeted Enforcement
- Education

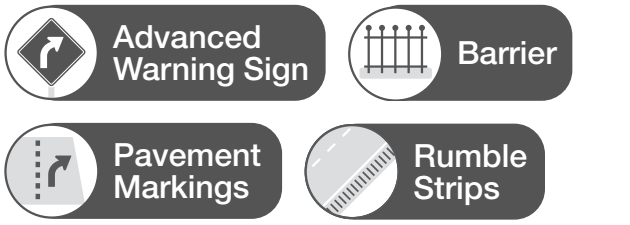
Other Collisions

The remaining 24 percent of collisions are classified as hitting fixed-object, single-vehicle, head-on, unknown, hit non-fixed object, and run off-road. Single vehicle and head-on collisions are more likely to result in a KSI that the other collision types. Single vehicle collisions disproportionally result in a KSI for people riding a motorcycle (55 percent). At a national level, a primary cause of single-vehicle collisions is excessive speed and driving under the influence. In about ten percent of the single-vehicle KSI collisions involving a person motorcycling, the person riding the motorcycle was under the influence, and in about five percent of cases excessive speed was shown to be a factor.

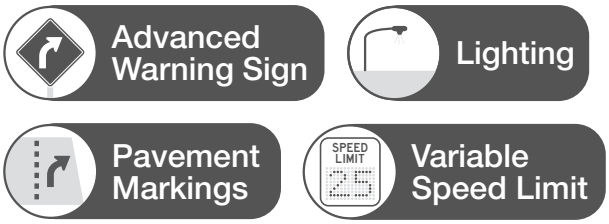
Potential Countermeasures

Fixed Object

Also see the speeding countermeasures



At Night



Impaired Driving





Contestant Artwork

Safe Streets Pinellas Strategies

8

SAFE STREETS PINELLAS

Safe Streets Pinellas Strategies

The Safe Streets Pinellas Action Plan was developed in consultation with the Task Force and is intended to be implemented in concert with countermeasures to create a systemic, data-driven approach to Vision Zero. Some of these actions require partnerships and collaboration across City/County departments, with local organizations, and with the public to be successful. Actions have been developed in six categories around the core elements of Vision Zero using a systemic approach. Several strategies have been identified in each category in addition to the party responsible for leading the action and supporting agencies. A timeline for implementation is provided, as well as performance metrics. It is intended for these actions to be periodically revisited, and actions that have been successful could be expanded; actions that have not been successful would be eliminated and replaced with other strategies. As conditions and strategies evolve, the Action Plan and supporting elements will as well.



Action Plan Elements

Safe Streets Program Establishing a Safe Streets program provides a mechanism to advance Vision Zero beyond one project, an individual staff person, or an individual elected official. The Safe Streets program calls for formation of a Safe Streets Working Group that will be responsible for advancing the remaining actions and continue efforts to work toward zero in perpetuity.

Legislation Legislative changes are needed to move toward Vision Zero. While Forward Pinellas does not have the ability to lobby the state government for change, there are opportunities to support the efforts of others, and propose ideas through local representatives, such as increasing funding streams for safety projects and actions that allows funds to be directly received by local governments.

Education Different educational strategies are identified for Pinellas County populations, including the general public, local agency staff, law enforcement, and schools. Each group requires varying and on-going educational materials to help build agency capacity and critical levels of public support.

Funding Without funding, nothing is accomplished. Forward Pinellas has a Complete Streets grant program that provides up to $100,000 for planning and $1,000,000 in construction costs. Forward Pinellas has also set aside funding to support implementation of actions identified in this plan, including staff time to support efforts and on-going programs. One source of funding for safety programs is the Highway Safety Improvement Program (HSIP). Applying for grants can be a large effort for local governments and Forward Pinellas can help streamline efforts by having readily available data, sample applications, and other support to elevate the chance of securing HSIP funding for projects in Pinellas County.

Data Collection, Monitoring and Analysis

Forward Pinellas maintains a crash database management system and routinely provides summary information to partner agencies. Part of this strategy would be to perform routine collision analysis, make data more accessible to the public and decision-makers, and investigate how currently collected data can be combined with other sources of data, such as hospital records, to make sure key data sets are being used to make more accurate decisions. This is especially important to ensure equity goals are met, given the potential underreporting of collision data.

Some actions also include partnering with local law enforcement agencies to provide best practice training on collision reporting, since a review of the collision data reveals inconsistencies in how data are reported by different officers, as well as inconsistent data within a collision record, such as when a collision is noted as occurring in daylight conditions, when the time of collision and time of year suggests it may have occurred in the dark. The goal here is not to add to law enforcement's workload but provide additional resources to improve the data so the most appropriate countermeasure can be implemented to reduce collisions. By periodically conducting detailed analysis, updating maps, and providing progress updates, Forward Pinellas can keep the Vision Zero effort front of mind for the community and maintain project momentum.

Street and Roadway Design

Street design standards play a large role in the ability of local governments to implement roadway projects that advance Vision Zero. For example, in the design of roadway facilities, a design speed of 10 miles per hour over the posted speed limit is typically used to accommodate drivers that may be speeding. However, this practice encourages and accommodates drivers speeding as the roadway is designed for higher speeds. Providing local agencies with resources to develop context-sensitive design solutions which improve safety outcomes is critical to achieving Vision Zero.

This strategy is different from specific engineering countermeasures in the previous section, like a lane elimination, or crosswalk enhancements. This strategy would inform overall design guidelines that specify general design parameters, such as lane widths.

The Action Plan

Safe Streets Program

1

Establish a Safe Streets Working Group, expanding on the Task Force, that will share updates on crash data, resources, current activities, policy evolution, funding opportunities, equity data, traffic safety performance, emerging issues, and other information. Consider utilizing existing advisory or fact-finding committees to serve this role, if possible. Allied Organizations will be invited to participate in the Safe Streets Working Group, including but not limited to public health, social services, economic development, homelessness, the faith community, and other community-based organizations.

Partners

Forward Pinellas, Member Governments, Allied Organizations

Timeline

Within three months of plan adoption

Performance Measures

2

Encourage adoption of Vision Zero locally at the member government level, and provide resources to assist, such as sample comprehensive plan policies and/or resolutions.

Partners

Member Governments, Forward Pinellas

Timeline

Begin within three months of plan adoption, and on an as-needed basis

Performance Measures

Number of local governments that formally adopt Vision Zero

[16] For example, https://www.transalt.org/familiesforsafestreets.

Data Collection, Monitoring & Analysis

3

Conduct and prepare annual crash analysis, including preparing crash profiles and comparison of various time periods to better identify trends and progress toward Vision Zero. Analysis should layer available demographic and environmental justice data. Periodically update the HIN and Action Plan to reflect progress being made or develop new strategies if current actions are not achieving desired results.

Partners

Forward Pinellas

Timeline

Annual (review progress),
Five Years (Major Plan Update)

Performance Measures

Report to the Forward Pinellas Board on safety improvements constructed on an annual basis, and progress toward Vision Zero; Reduction in KSIs from prior year

4

Partner with local law enforcement agencies and healthcare providers to provide collision reporting and crash-related injury coding best practices to improve value of data analysis, emphasizing data collection on speed, impairment, distractions and use of emerging mobility options like e-scooters and ride sharing at KSI crash locations. Hospital data could be used to determine extent of underreporting of traffic collisions that result in a KSI.

Partners

Forward Pinellas, FDOT, Local Law Enforcement, FHP, Public Health Department, Healthcare Providers and Collaboratives

Timeline

Within two years of plan adoption

Performance Measures

Number of training sessions held with Law Enforcement and Public Health, and incorporation of additional data into crash analysis

Data Collection, Monitoring & Analysis

5

Work with the Public Health Department to determine how hospital data could be obtained to develop more comprehensive collision records. As Hospital Data becomes available, incorporate into the Safe Streets database and Safe Streets Program objectives to develop performance measures tied to health equity outcomes.

Partners

Public Health Department, Healthcare Providers and Collaboratives, Forward Pinellas

Timeline

Within two years of plan adoption

Performance Measures

Incorporation of Public Health Data in collision analytics

6

Leverage technology to better understand core collision factors, including collecting automated speed data, and conducting near-miss analysis at hot spots on the High-Injury Network. Develop and maintain database.

Partners

Forward Pinellas, FDOT, Member Agencies

Timeline

Within one year of plan adoption

Performance Measures

Conduct at least one near-miss assessment and collect speed data at ten locations annually

Education

7

Maintain Safe Streets Pinellas media kit. As a part of the media kit, provide information and resources and offer educational opportunities to media outlets and to member governments about Vision Zero to promote consistent messaging and crash reporting language. As collision updates are developed, and partner agencies adopt Vision Zero locally, promote achievements, as well as work that continues.

Partners

Forward Pinellas, Local Governments, FDOT

Timeline

Ongoing

Performance Measures

Number of safety focused news articles, reduction in the use of the word "accident" in the reporting of collisions, number of transportation safety related social media posts

8

Work with FDOT and other local and regional agencies to share and promote educational resources and strategies, including training aimed at fleet drivers in the community such as bus drivers, truck drivers, and taxi drivers. Action could include participating in regional Safe Streets Summits, Safe Streets Pinellas updates at Member Agency meetings, coordinating changeable message signs with safety messages throughout the region, and community engagement events.

Partners

Forward Pinellas, FDOT, Local Governments, Regional Agencies, Community Groups, Bike/Walk Tampa Bay or similar groups

Timeline

Ongoing. Coordinate with Safe Streets Working Group activities

Performance Measures

Number of events held; number of participants at events; level of engagement at events

Education

9

Collaborate with the public school district and interested charter and private schools to provide additional transportation safety resources, and targeted engagement for middle and high school students, with a focus on empowering youth leadership to promote safe transportation in their own school communities, prioritizing Communities of Concern.

Partners

Pinellas County Schools, Forward Pinellas, STEPS Committee, School Transportation Safety Committee

Timeline

Ongoing. Coordinate with Safe Streets Working Group activities

Performance Measures

Number of Safe Routes to School projects implemented around the HIN or hot-spot locations

10

Facilitate a police department Working Group on High-Injury Network, crash profiles, contributing violations and behaviors, and equity and empathy.

Partners

CTST, FHP, Forward Pinellas

Timeline

Within one year of plan adoption

Performance Measures

Number of meetings held; Share of law enforcement officers participating in training events.

Street and Roadway Design

11

Collaborate with Pinellas County and other local agencies to develop model Safe Street, policies, and resolutions for the Forward Pinellas region addressing safety-related aspects of local government processes.

Develop and implement Vision Zero training aimed at local agency staff and elected officials to help encourage adoption and incorporation of core elements within City programs and processes.

Partners

Forward Pinellas, Local Governments, FDOT

Timeline

Start model policy/resolutions within one year of plan adoption

Performance Measures

Number of local jurisdictions with safety resolutions / policy guidance. Training sessions held within county.

Street and Roadway Design

12
Provide feedback to FDOT on routine updates of FDOT Design Manual and other design-related documents to support context-sensitive safety design solutions.

Partners
Forward Pinellas, FDOT

Timeline
Annual basis

Performance Measures
If feedback is provided, evolution of FDOT Design Manual

13
Conduct safety demonstration/pilot projects to test innovative safety interventions and implement quick build projects.

Partners
Forward Pinellas, Local Governments, FDOT

Timeline
At least one demonstration project per year

Performance Measures
Number of demonstration projects implemented, including share in Communities of Concern.

14
Collaborate with PSTA to conduct a detailed analysis of transit stop locations on the HIN to identify stop locations that could be contributing to collisions, especially involving a vulnerable roadway user.

Partners
Forward Pinellas, PTSA

Timeline
Start analysis within one year of plan adoption

Performance Measures
Preparation of report that identifies potential transit stop improvements.



Funding

15

Modify Forward Pinellas funding prioritization criteria to prioritize safety projects on the HIN that address key crash profiles, hot spots, or otherwise reduce KSI crashes; evaluate effectiveness of current funding criteria.

Partners

Forward Pinellas

Timeline

Completed; Action included in plan to measure progress

Performance Measures

Percent of available funding awarded to projects on HIN

16

Modify Forward Pinellas funding criteria to prioritize safety projects within Communities of Concern.

Partners

Forward Pinellas

Timeline

Completed; Action included in plan to measure progress

Performance Measures

Percent of available funding awarded to projects in Communities of Concern

17

Provide grant writing support to member governments for safety-related funding, such as HSIP.

Partners

Forward Pinellas

Timeline

Within one year of plan adoption

Performance Measures

Develop list of transportation safety-related grant funding opportunities for jurisdictions in Pinellas County, and share resources

Legislation

18

Support legislation to increase funding available for safety projects and to establish a reliable, dedicated funding stream that allows funds to be directly received by local governments.

Partners

Forward Pinellas, Local Governments

Timeline

Within one year of plan adoption

Performance Measures

Number of additional funding streams identified for safety projects in Pinellas County

19

Through the implementation of other Safe Streets actions, identify potential legislative barriers to achieving better safety outcomes, and identify steps to reduce or eliminate.

Partners

Forward Pinellas

Timeline

As needed

Performance Measures

Report back to Working Group the status of legislation that supports/impedes Vision Zero, and bring to the attention of Allied Organizations that lead legislative change

20

Support legislation that allows for deployment of safety devices, like RRFBs, and oppose legislation that prevents the deployment of safety devices, or piloting new safety devices through active participation in the Metropolitan Planning Organization Advisory Council (MPOAC).

Partners

Forward Pinellas, Local Governments, MPOAC

Timeline

Forward Pinellas staff attend quarterly meetings

Performance Measures

Number of meetings attended; Report back to Working Group the status of legislation that supports/impedes Vision Zero

21

Evaluate use of remote speed enforcement for select locations on the HIN, in concert with education to emphasize the purpose is KSI crash reduction, not revenue generation.

Partners

CTST, FHP, Forward Pinellas, MPOAC

Timeline

Annually

Performance Measures

Report to Working Group the status of remote enforcement in Florida

How Local Governments Can Stay Engaged

Forward Pinellas has made a Vision Zero commitment and is dedicated to the actions detailed in this plan to achieve zero severe injury or fatal collisions by 2045. Local governments can use Forward Pinellas as a resource and participate in the future of Vision Zero in the region by:

- **Participating in the Safe Streets Pinellas Working Group** Local governments can have key representatives join the working group.
- **Participating in Training Opportunities** Local governments can inform and encourage their staff and residents to participate in training opportunities communicated by Forward Pinellas.
- **Collecting and Sharing Data** The continuous improvement and availability of crash data and traffic safety information is a priority for Forward Pinellas. Local governments should consult with Forward Pinellas for data questions and assistance understanding and applying the data within the regional High-Injury Network.
- **Applying for Grants** Using Forward Pinellas as a resource, local governments can track updates on available funding and grants for safety projects and apply for funding for safety projects or programs.
- **Joining the Vision Zero Network** Local governments can join the Vision Zero Network, become a Vision Zero community and stay involved with evolving research and training on Vision Zero through this national group.


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Data Disclaimer

The data source for this plan is the Crash Data Management and Analysis System (CDMS) which was developed and maintained by Tindale – Oliver & Associates, Inc. This database represents the best available transportation collision data source for the summary and evaluation of collisions in Pinellas County. Collision data in CDMS is continually updated as collisions occur; for some collisions, preliminary information is entered into the system, and then updated as more information is available. For example, a collision could have initially been classified as a serious injury. If the person later died from the injuries that occurred during that collision, the collision record would be updated to report a fatal collision. Data entered into the system is taken directly from collision reports prepared by various public safety agencies throughout the county. As many different people have responsibility to complete crash reports, there may be some discrepancies in the reporting and description of collision factors. Additionally, there may also be human error related to the entry of the data into the system. While there are checks to ensure quality data, errors could occur. There may also be gaps in the data, as most of the crashes do not have all detailed fields available. For example, the age of the person associated with a crash may be available for one crash but not for another. All numbers in this report were derived from available data. Readers are encouraged to consider data constraints while reading the Safe Streets Action Plan.

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Developed by Forward Pinellas in its role as the Metropolitan Planning Organization and Planning Council for Pinellas County



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