

**A RESOLUTION OF THE TOWN OF SCARBOROUGH  
TO ADOPT THE GREATER PORTLAND COUNCIL OF GOVERNMENT'S  
REGIONAL VISION ZERO ACTION PLAN**

**WHEREAS**, the life and health of all persons living and traveling within the Town of Scarborough are our utmost priority, and no one should die or be seriously injured while traveling on our streets;

**WHEREAS**, Vision Zero is the concept that traffic deaths and serious injuries on our roadways are unacceptable;

**WHEREAS**, Vision Zero is a holistic strategy aimed at eliminating all traffic fatalities and severe injuries suffered by all road users while increasing safe, healthy, equitable mobility for all;

**WHEREAS**, streets and transportation systems have traditionally been designed primarily to move cars efficiently, and Vision Zero supports a paradigm shift by designing streets and transportation systems to move all people safely, including people of all ages and abilities, pedestrians, bicyclists, public transit users, scooter riders, and motorcyclists, as well as drivers and passengers of motor vehicles;

**WHEREAS**, the provision of a more complete bicycle and pedestrian network increases transit accessibility and a reduction in vehicle trips;

**WHEREAS**, Vision Zero recognizes that people will sometimes make mistakes, so the road system and related policies should be designed to ensure that those inevitable mistakes do not result in severe injuries or fatalities; therefore, transportation planners and engineers and policymakers are expected to improve the roadway environment, policies, and other related systems to lessen the severity of crashes and improve post-crash care;

**WEHEREAS**, according to the Centers for Disease Control and Prevention, traffic crashes are among the leading cause of deaths in the United States;

**WHEREAS**, according to the Greater Council of Government (GPCOG), in 2024 there were 24 deaths and 144 serious injuries due to traffic crashes across the Greater Portland region;

**WHEREAS**, since 2020 an average of 2 people each year in the Scarborough have lost their lives to traffic crashes and another 12 people on average are seriously injured each year;

**WHEREAS**, Scarborough's transportation infrastructure serves an increasing number of vulnerable road users such as pedestrians and bicyclists;

**WHEREAS**, the Institute of Transportation Engineers reports that speed is recognized as a major determining factor of survival in a crash;

**WHEREAS**, children, older adults, people of color, people with disabilities, people who are unhoused, and people with low income face a significantly disproportionate risk of traffic injuries and fatalities;<sup>1</sup>

**WHEREAS**, making streets safer for all people using all modes of transportation will encourage people to travel on foot, by bicycle, and by public transit, which supports a healthier, more active lifestyle and reduces environmental pollution;

**WHEREAS**, successful Vision Zero programs result from strong community support, effective partnerships across public, private and non-profit sectors and with school districts, and in alignment with related municipal ordinances, policies, and action plans;

**WHEREAS**, the Greater Portland Council of Governments (GPCOG) has developed a Vision Zero Plan aiming to eliminate all fatalities and serious injuries resulting from traffic crashes in the Greater Portland region by 2045;

**WHEREAS**, The Portland Area Comprehensive Transportation System (PACTS), which is the Regional's federally designated Metropolitan Planning Organization (MPO), and of which the Town of Scarborough is a member, adopted the Regional Vision Zero Plan in 2023;

**WHEREAS**, the Town of Scarborough recognizes its obligation to work with Maine Department of Transportation on roads under the State's Jurisdiction;

**WHEREAS**, Scarborough intends to work with the Maine Department of Transportation (MaineDOT) toward safer roads and safer speeds in town, as MaineDOT sets speed limits on State and local roads, and as MaineDOT updates their speed limit policy;

**WHEREAS**, Scarborough has already adopted a Complete Streets Policy in 2015; and

**WHEREAS**, Scarborough is currently working on a Complete Streets and Traffic Calming Guidance document.

**NOW, THEREFORE, BE IT RESOLVED, by the Town Council of the Town of Scarborough, State of Maine, as follows:**

1. The Town of Scarborough adopts the GPCOG’s Vision Zero Action Plan attached hereto as Exhibit A and makes it part of this Resolution, effective immediately.
2. The Scarborough Town Clerk shall certify the adoption of this Resolution, effective immediately, by the Town Council.
3. Future transportation infrastructure projects and relevant initiatives within Public Safety shall comply with this policy to prioritize safety on our roadways.
4. The implementation schedule of the 2025 Townwide Transportation Study shall be given preference based on this policy.
5. Scarborough Town Council directs local governing bodies and Town Committees to consider the Vision Zero policy in their deliberations and discussions.

**PASSED AND ADOPTED** by the Town Council of the Scarborough, State of Maine, on May 21, 2025, by the following vote: [\_\_\_\_\_].

*Footnotes*

1. *Fox J. Shahum L. Vision Zero Equity Strategies for Practitioners. Oakland, CA: Vision Zero Network; 2017.*

# VISION ZERO

## GREATER PORTLAND

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*A Safe System Approach*

**MAY 2023**

Adopted by the PACTS Policy Board on 5/23/23.



Vision Zero Greater Portland aims to **eliminate all fatalities and serious injuries** resulting from crashes on our roadways by 2045.

Meeting this goal will require us, as a region, to make an intentional shift in the way we think about, design, and maintain our roads. As we look around our cities and towns, it's easy to find streets that have been designed with one aim in mind: to move vehicles as quickly and efficiently as possible. This has been the traditional way to design and build roads for a long time, but it doesn't serve us well when it comes to ensuring safe, healthy, and equitable mobility for everyone. If we are to achieve our goal of zero deaths and serious injuries from roadway crashes, we will need to prioritize safety for all roadway users whenever we make decisions around our roadways.

This action plan recommends strategies and actions that should be taken to move us toward this goal. It identifies and prioritizes key corridors and intersections we should target for changes and improvements as we consider how to spend our limited resources. It also makes recommendations for countermeasures that can be used to address specific safety concerns. These recommendations are meant to be a starting point for the region, not a final, all-inclusive list. Instead, this plan should be seen as a living document. Once adopted, it is meant to be dynamic. Over time, the plan should be updated so it will be responsive to data and trends, ensuring we continue to make decisions and invest our resources in ways that will help us achieve zero traffic fatalities and serious injuries.

# ACKNOWLEDGMENTS

## VISION ZERO ADVISORY PANEL

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**Brian Batson,**  
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**Liz Blackwell-Moore,**  
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**Barry Tibbetts,**  
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**Kara Wooldrik,**  
Executive Director (2012-2022),  
Portland Trails

**Erin Zwirko,**  
Director of Planning & Development,  
Yarmouth

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---

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Rick Harbison

Teagan Betori

Clara McCool

Chris Chop

Belinda Ray

Andrew Clark

Reed Silvers

Abe Dailey

Lucy Sinclair

## VIDEO INTERVIEWS

*"How many people should die from traffic crashes?"*

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Alana Dao

Tammy Harvison

Jude Stratus

Eric Ellis

Liz Hays

Jay Turnure

Mike Flaim

Daniel Krell

Jen Whitley

Karen Girondel

Meredith Lowry

Lesley Harselman

Nora Morse

## FACTS BOARDS & COMMITTEES

---

\* = Chair | \*\* = Vice Chair | **PB** = Policy Board | **EB** = Executive Board | **RTAC** = Regional Transportation Advisory Committee

**Allen Armstrong**, Portland Climate Action Team, Sierra Club (PB)

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**Angela Blanchette**, Town Engineer, Scarborough (PB)

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**Andrew Blunt**, Maine Youth for Climate Justice (PB)

**Leeann Brionez**, Community Transportation Leader, GPCOG (RTAC)

**Bob Burns**, Assistant Town Manager, Windham (RTAC)

**Hope Cahan**, Town Councilor, Falmouth (EB\*, PB\*)

**Stephanie Carver**, Transportation Director, Southern Maine Planning & Development Commission (PB)

**Erin Courtney**, Public Outreach Manager and Legislative Liaison, Maine Turnpike Authority (PB, EB)

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**Keith Gray**, Engineering Services Manager, Portland (PB, EB)

**Dale Doughty**, Director of Planning, MaineDOT (PB, EB, RTAC)

**Eric Dudley**, Director of Engineering and Public Services, Westbrook (PB, EB)

**Eamonn Dundon**, Advocacy Director, Portland Regional Chamber of Commerce (RTAC)

**Patrick Fox**, Public Works Director, Saco (PB\*\*, EB)

**Will Gayle**, Director of Policy and Administration, Northern New England Passenger Rail Authority (RTAC)

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**Rachel LeVee**, Deputy Division Administrator, Federal Highway Administration (PB)

**Kate Lewis**, Mayor, South Portland (PB, EB)

**Tom Milligan**, City Engineer Emeritus, Biddeford (PB, EB, RTAC)

**Christian MilNeil**, Commissioner, Portland Housing Authority (RTAC)

**Ephrem Paraschak**, Town Manager, Gorham (PB)

**Nathan Poore**, Town Manager, Falmouth (RTAC)

**Patricia Quinn**, Executive Director, Northern New England Passenger Rail Authority (PB, EB)

**Tom Reinauer**, Transportation Program Director, York County Community Action Corporation (PB, EB)

**Bill Shane**, Town Manager, Cumberland (PB)

**Leah Sirmin**, Community Planner, Federal Transit Administration (PB)

**Matt Sturgis**, Town Manager, Cape Elizabeth (PB, RTAC)

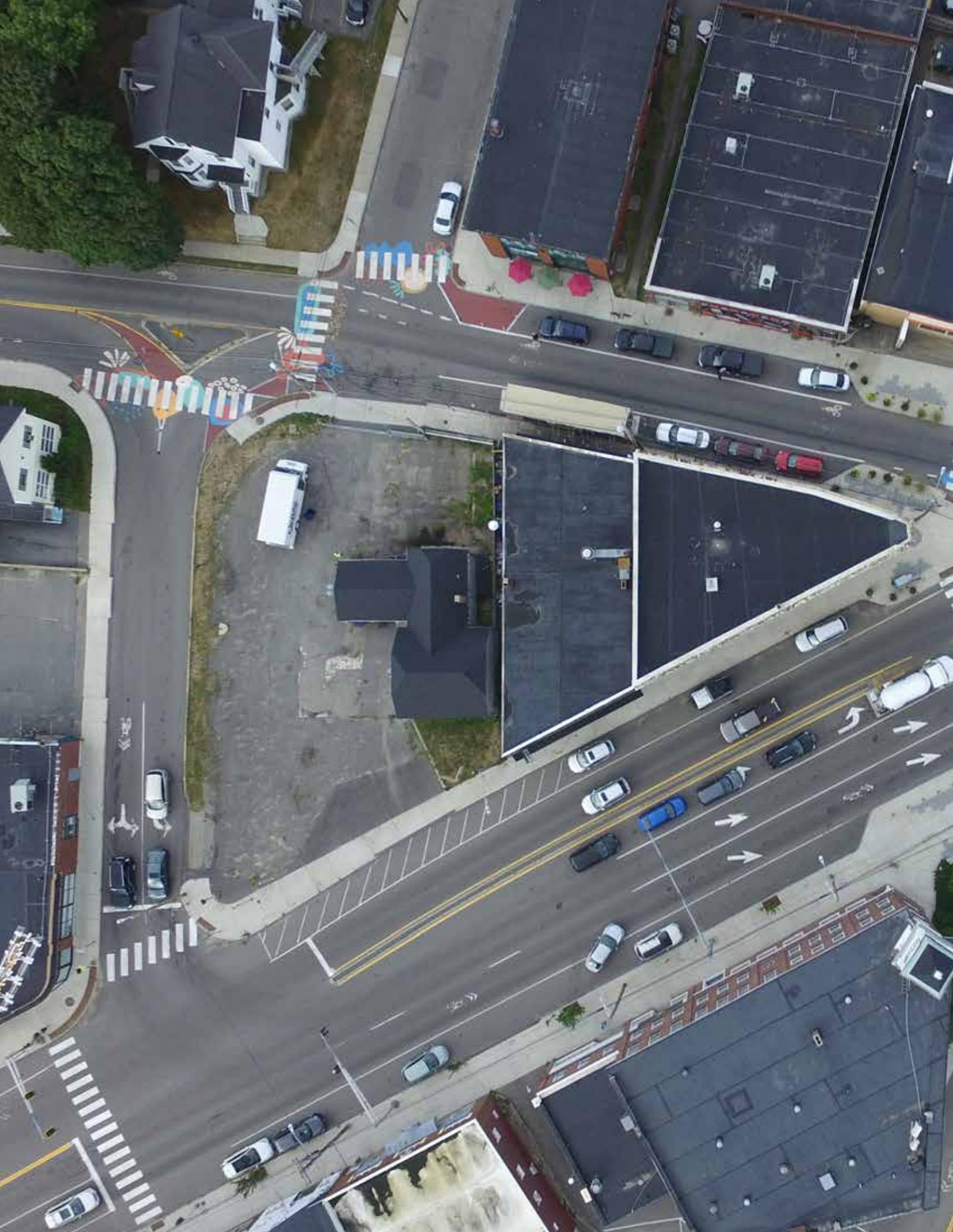
**Barry Tibbetts**, Town Manager, Windham (PB)

**Nathan White**, Public Works Director, Raymond (PB)

**Kara Wooldrik**, Former Executive Director, Portland Trails (PB, EB)

**Yura Yasui**, University of Southern Maine (PB)

**Erin Zwirko**, Director of Planning and Development, Yarmouth (RTAC)



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# LETTER FROM PACTS OFFICERS

Members of the Community:

We are pleased to present Greater Portland Vision Zero: A Safe System Approach – the PACTS Region’s plan to eliminate all traffic fatalities and serious injuries due to crashes on our roadways by 2045. No fatality or serious injury is acceptable on our streets, and over time, by employing the tools and strategies outlined in this plan, we can reduce our region’s fatal and serious injury crashes to zero.

The effort to create this plan began on January 27, 2022, when the PACTS Policy Board directed GPCOG staff to review Vision Zero policies from around the world, identify the major strategies employed, highlight the strategies that would be most impactful for the PACTS region, and present a draft policy to the PACTS Policy Board for consideration.

Staff began their work on this plan in the spring of 2022 and conducted extensive outreach, data gathering, and analysis to bring it to fruition. Over the course of this work – and in part due to this work – awareness of Vision Zero and the need to improve road safety in our region has increased. Unfortunately, a second reason for this broader awareness is likely the high number of fatalities occurring on U.S. roadways. In many other nations, fatalities due to traffic crashes have been declining, but in the United States – and in our region – we have seen an uptick in recent years.

This is why, when the PACTS Executive Board set its annual safety targets for Calendar Year 2023 on February 28, 2023, in addition to the annual incremental reductions, they adopted a goal of zero roadway fatalities and serious injuries by the end of CY23, using the safety targets as measures of incremental progress. While the Board understood we would not reach zero in Calendar Year 2023, they felt it important to acknowledge that zero is always the end goal.

Based on the incremental reductions adopted for CY23, we have set a goal of reaching zero fatalities and serious injuries due to crashes on our roadways by 2045, and we are happy to put forth this plan to guide us there.

Achieving Vision Zero is critically important. We are grateful to the members of the PACTS Policy Board for their leadership, and to staff for developing this comprehensive plan to make our region safer and ultimately more vibrant.

Sincerely,



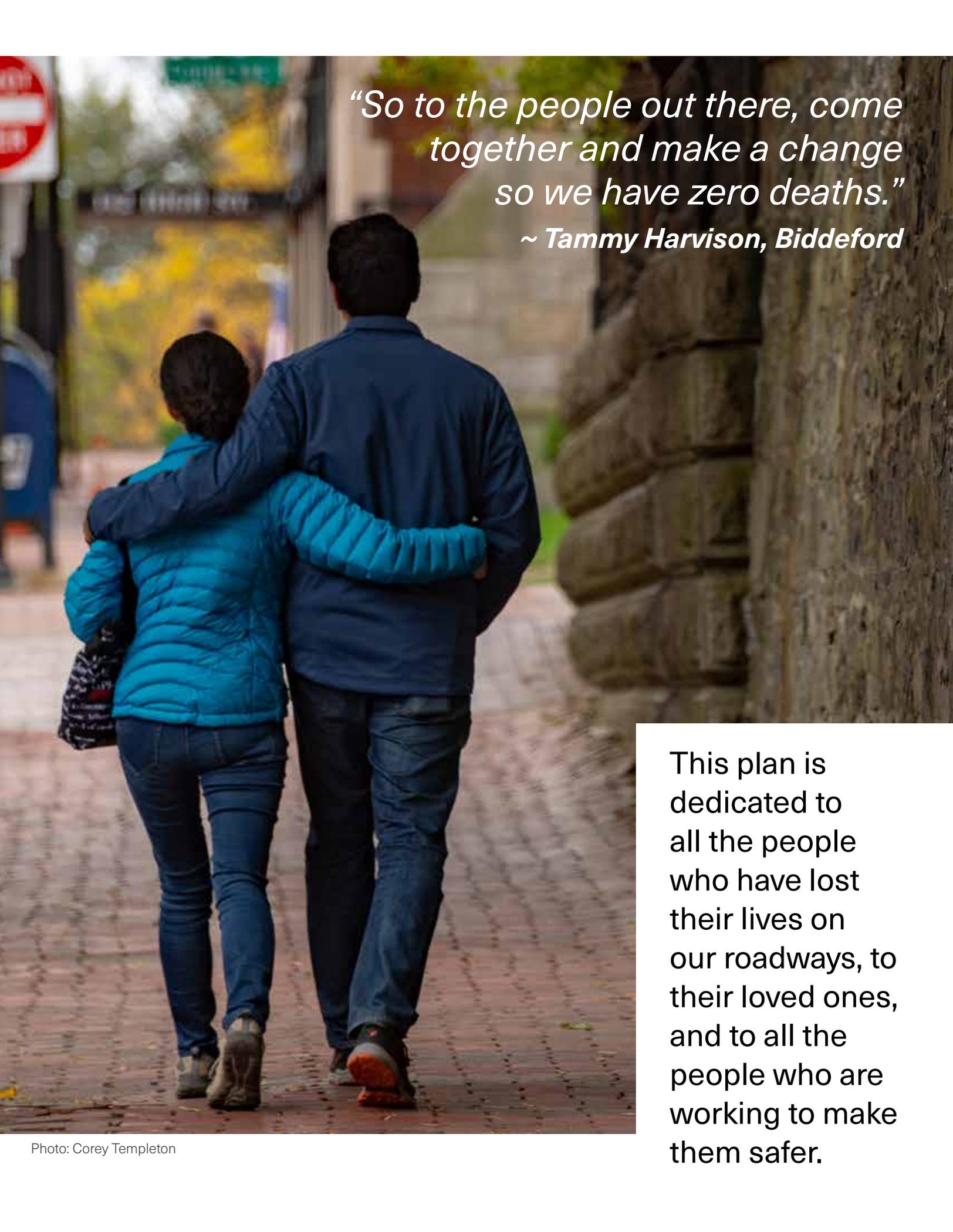
Hope Cahan, Chair

Portland Area Comprehensive  
Transportation System (PACTS)



Patrick Fox, Co-Chair

Portland Area Comprehensive  
Transportation System (PACTS)

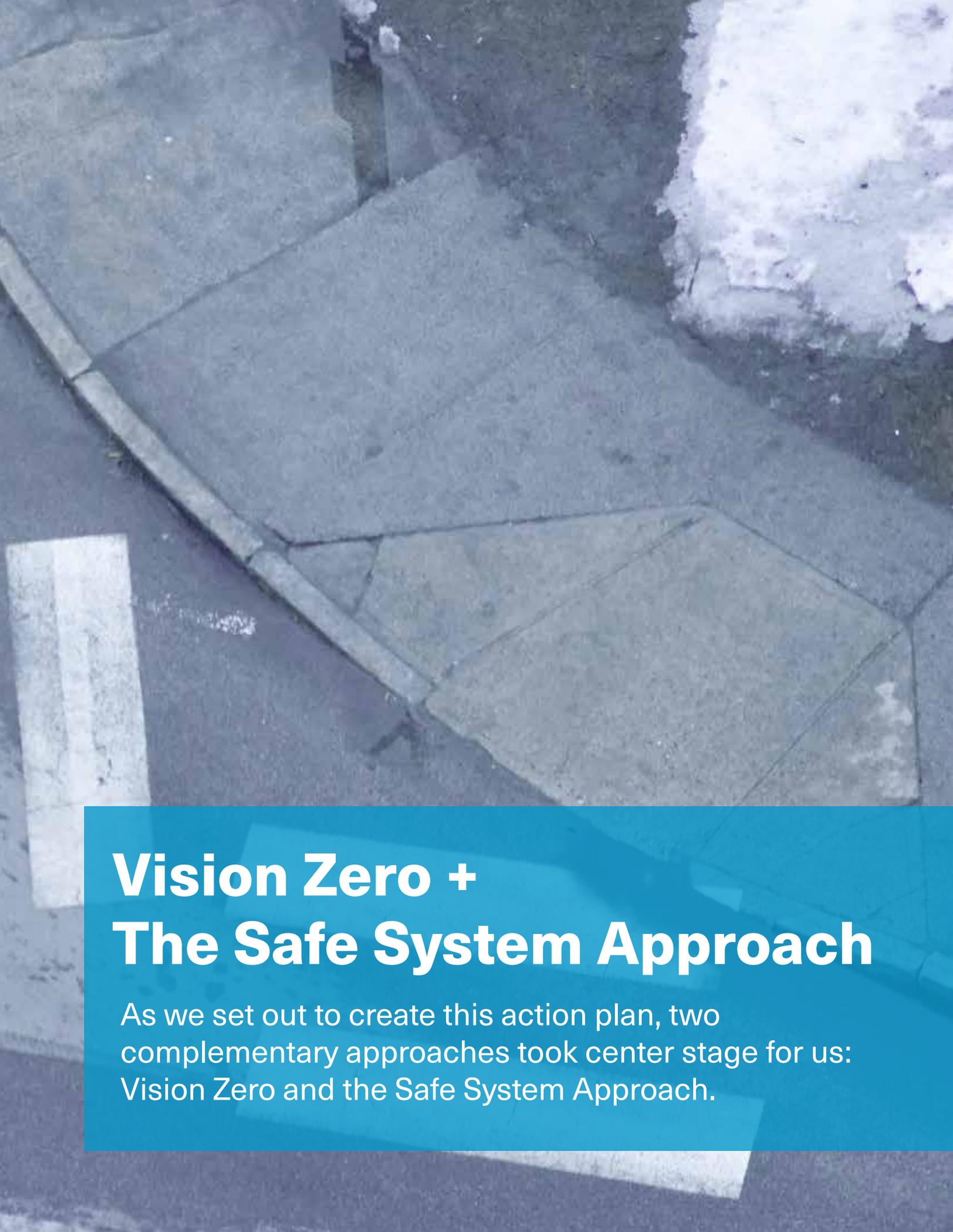
A photograph of a man and a woman walking away from the camera on a cobblestone path. The man is wearing a dark blue jacket and jeans, and the woman is wearing a bright blue puffer jacket and jeans. They are walking towards a stone wall on the right and a street with a red stop sign on the left. The background is slightly blurred, showing trees and a building.

*“So to the people out there, come together and make a change so we have zero deaths.”*

*~ Tammy Harvison, Biddeford*

This plan is dedicated to all the people who have lost their lives on our roadways, to their loved ones, and to all the people who are working to make them safer.





# **Vision Zero + The Safe System Approach**

As we set out to create this action plan, two complementary approaches took center stage for us: Vision Zero and the Safe System Approach.



## What is Vision Zero?

VISION ZERO IS A CONCEPT created in Sweden in 1997 that rejects the idea that traffic fatalities and serious injuries are an inevitable “cost of doing business” and instead sets a goal of eliminating traffic deaths and serious injuries through planning and policy. The Vision Zero approach has been widely credited with a significant reduction in fatal and serious crashes on Sweden’s roads and has since spread to regions and municipalities across the world.

In the United States, more than 42,000 people are killed in traffic collisions each year. Vision Zero asserts that these tragedies are preventable by diverging from status quo traffic safety ideology seen at the municipal level. Vision Zero recognizes that human error is inevitable, and roadway design

should anticipate mistakes to ensure they do not result in severe or fatal injuries. Plus, Vision Zero stresses the importance of agency cross collaboration, ensuring input is heard from not only local planners, but also policymakers and public health professionals. Above all else, the movement classifies traffic safety as a public health issue, and one that local leaders and roadway users alike have a responsibility to improve.

Vision Zero is not simply a slogan or tagline. It is a fundamental redesign of traffic planning norms. The campaign’s proactive, preventative approach has been shown to save lives and will continue to do so as it gains traction in more U.S. and worldwide regions.

### TRADITIONAL APPROACH

Traffic deaths are **INEVITABLE**

**PERFECT** human behavior

Prevent **COLLISIONS**

**INDIVIDUAL** responsibility

Saving lives is **EXPENSIVE**

**VS**

### VISION ZERO

Traffic deaths are **PREVENTABLE**

Integrate **HUMAN FAILING** in approach

Prevent **FATAL AND SEVERE CRASHES**

**SYSTEMS** approach

Saving lives is **NOT EXPENSIVE**

# What is the Safe System Approach?

THE SAFE SYSTEM APPROACH is a guiding concept that has been adopted by the United States Department of Transportation to address road safety. Like Vision Zero, the Safe System Approach acknowledges that humans make mistakes and that we must design and operate a road system that accounts for some level of human error.



## THE CORE ELEMENTS OF THE SAFE SYSTEM APPROACH ARE...



### SAFER ROADS

Roads need to be designed to mitigate human error. Road design that prioritizes safe, healthy, equitable access for all can also reduce the potential for high impact crashes, encourage safe behaviors, and facilitate safe travel for all modes.



### SAFER SPEEDS

We need the right speeds for the right contexts, and we need to design roads that encourage people to drive at those speeds. We can also encourage people to drive appropriate speeds through education, outreach campaigns, and enforcement.



### SAFER PEOPLE

Whether walking, biking, driving, riding transit, or traveling by another mode, people need to make choices that help them to be safe and arrive at their destinations unharmed. This includes behaviors like wearing a seatbelt, making sure bicycles have reflectors, following the rules of the road, sharing the road, and not driving impaired or distracted.



### SAFER VEHICLES

Vehicles should be designed with safety features and systems to help prevent crashes, and, when they do occur, to minimize the impact of crashes on both occupants and non-occupants.



### POST-CRASH CARE

We can increase crash survivability by ensuring quick access to emergency and trauma care. Good traffic incident management at crash sites provides a safe working environment for first responders. Data collection and analysis informs future road safety decisions.

# Why Do We Need a Vision Zero Plan?



## TO SAVE LIVES

First and foremost, to save lives. The primary goal of a Vision Zero plan is to eliminate traffic fatalities and severe injuries, which means saving lives and reducing the number of families impacted by the tragic loss of a loved one. Our region currently averages 20 traffic fatalities and 118 severe injuries per year. More troublingly, in the last few years the number of fatalities and severe injuries on our roadways — and the rate at which they are occurring — have both increased.

In talking with people throughout the region, we consistently heard that crashes resulting in deaths and severe injuries have great impacts for the people directly involved, their families, friends, community members, and the region at large. We also heard many concerns about road safety and the need to create safe and livable streets for everyone.



## TO ADDRESS EQUITY CONSIDERATIONS

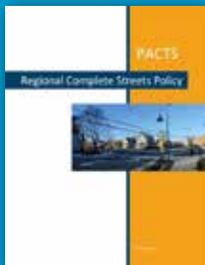
Traffic crashes disproportionately affect disadvantaged communities and vulnerable road users such as pedestrians and cyclists. A Vision Zero plan seeks to address these disparities by prioritizing safety for all road users, especially those who are most at risk.



## BECAUSE CRASHES ARE PREVENTABLE

There are proven strategies to eliminate fatal and serious crashes. We do not need to accept crashes as part of our daily lives. It is time for Greater Portland to take a comprehensive and strategic approach to traffic safety. This Vision Zero Action Plan presents bold strategies to help create streets that are safe for people of all ages and abilities and who travel by a variety of modes.

## RELATED PLANS AND POLICIES



The **Regional Complete Streets Policy** was approved by the PACTS Policy Board in January 2023 and applies to all projects seeking PACTS funding.

### Why is this important?

The Vision Zero approach is to design Complete Streets that accommodate people using all methods of transportation, prioritizing safe travel for all users over expeditious travel of motor vehicles.



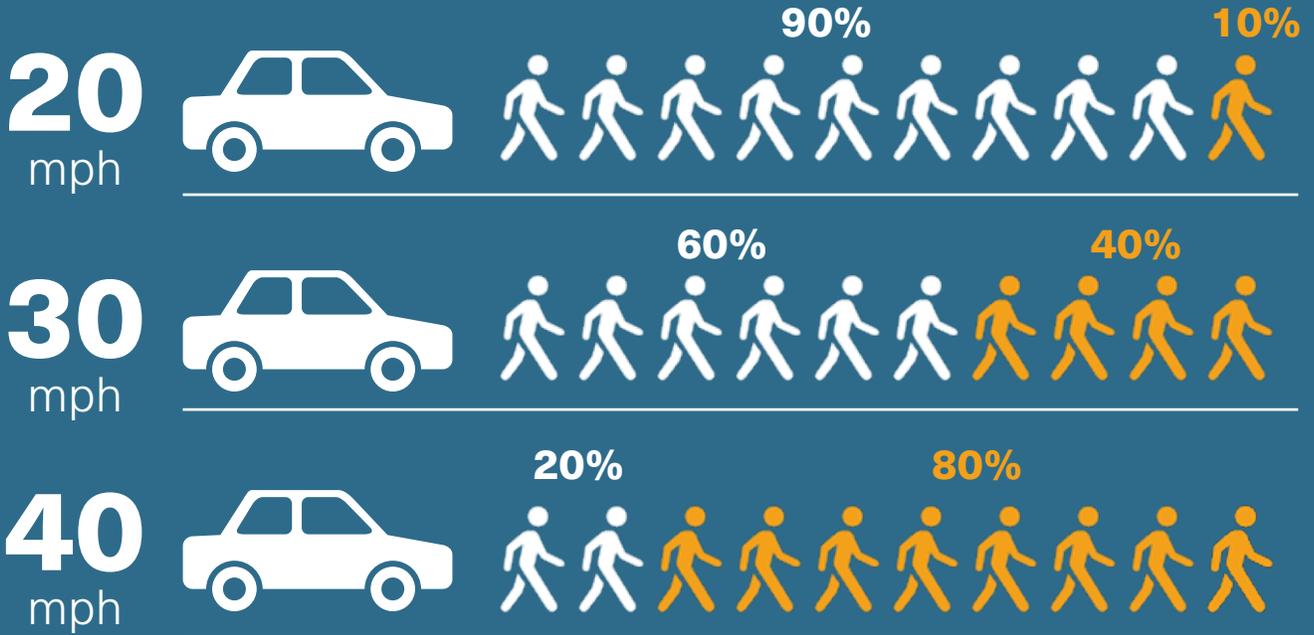
**Connect 2045** was adopted in December 2022 and is the long-range transportation plan for the PACTS region. The plan supports mobility and growth in the Greater Portland region by guiding transportation policies and investments.

### Why is this important?

One of the plan's six major goals is to prioritize real and perceived safety and eliminate all fatalities and severe injuries, in part through the development of a Vision Zero action plan and policy.

# NATIONAL STATISTICS

● Person survives collision   ● Results in a fatality



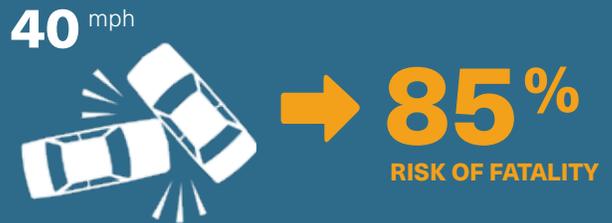
**PEDESTRIANS** hit by vehicles traveling at slow-to-moderate speeds are at high risk of serious injury or death.

Source: Institute of Transportation Engineers



**SPEEDING** is the primary cause in more than one in four fatal crashes each year.

Source: National Highway Transportation Safety Administration



Even vehicle-vehicle crashes that happen at moderate speeds have a high risk of fatality. **The risk of a fatality in a SIDE-IMPACT CRASH at 40 mph is up to 85 percent.**

Source: National Highway Transportation Safety Administration



**As more people choose active transportation** — walking, cycling, or taking public transit — single passenger vehicle trips are reduced.

## Vision Zero: A Holistic View

IN ADDITION TO eliminating traffic fatalities and serious injuries, implementing Vision Zero has many other benefits, including greater sustainability, increased use of public transit, improved public health outcomes, and enhanced equity across the transportation system.

### SUSTAINABILITY

The action steps in our plan support increased sustainability, primarily through encouraging mode shift. Mode shift is exactly what it sounds like: a movement away from one way of traveling through our transportation system and to another. Right now, a lot of people navigate our region by driving alone in a personal vehicle. This means there are a lot of cars on the road using a lot of fossil fuels and generating a lot of pollution. As more people choose active transportation — walking, cycling, or taking public transit — single passenger vehicle trips are reduced. This decreases traffic congestion, vehicle emissions, and smog, dust, and dirt created by vehicle travel. Removing hazardous materials and greenhouse

gases from the environment improves air quality and promotes greater sustainability.

As an example, New York City's Vision Zero action plan went into effect in 2014. The action steps taken in the first few years included: lowering default speed limits on unposted roads from 30mph to 25mph, installing speed cameras in school zones, and adding 100 miles of protected bike lanes. Within five years, the city saw a 29% increase in daily cycling trips and corresponding upticks in the number of people walking and taking public transit.

According to C40, a global network of nearly 100 cities committed to cutting their emissions in half by 2030, "As a result of the increase in daily citywide cycling observed between 2014 and 2017, an estimated 3,011 tonnes of CO<sub>2</sub> emissions were avoided."<sup>1</sup>

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<sup>1</sup> "2019: Case Studies and Best Practices." C40 Knowledge. Accessed on April 27, 2023.



“As the movement toward Vision Zero grows, public transit is increasingly recognized as a core strategy to support safe mobility for all. **Public transit is one of the safest ways to travel.** It is ten times safer per mile than traveling by car because it has less than a tenth the per-mile traffic casualty (injury or death) rate as automobile travel.”<sup>6</sup>  
~ the American Public Transit Association

## PUBLIC TRANSIT

By encouraging a mode shift away from single occupancy vehicles, Vision Zero simultaneously encourages the use of public transit. Increasing ridership on public transit has numerous benefits in addition to reduced congestion and improved air quality. Reliable public transit is a crucial component of providing multi-modal, equitable transportation for everyone. When people can rely on the bus or the train to access their daily needs, they benefit from lower household transportation costs. And, as the Transit Center states in their Transit Justice Principles, “Abundant transit unlocks freedom of movement.”<sup>2</sup>

Using public transit is also much safer than driving a car. According to a 2014 report in the Journal of Public Transportation, a passenger on a bus is 60 times less likely to die while traveling than a person driving or riding in a personal vehicle. Urban and commuter rail are both safer than personal vehicles, too.<sup>3</sup> In fact, people can reduce their odds of being in a crash by more than 90% simply by taking public transit over a car.<sup>4</sup>

Of course, being safe is not simply about avoiding crashes. However, data shows that taking public transit is still safer when accounting for other factors, like thefts and assaults. According to that same report, only a tiny portion of violent crimes occur on transit properties. In fact, there are about 500 times more crimes against motorists than transit passengers.<sup>5</sup> Because transit crashes and crimes tend to receive more media attention than automobile fatalities, there is often a false perception that public transit is unsafe. In reality, public transit is not only a sustainable and healthy automobile alternative, but a much safer one as well.

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<sup>2</sup>“[Transit Justice Principles.](#)” Transit Center. Accessed on April 28, 2023.

<sup>3</sup>Litman, Todd. “A New Transit Safety Narrative.” Journal of Public Transportation, vol. 17, no. 4. 2014. Pp. 114-135.

<sup>4</sup>“[Public Transportation Gets us There.](#)” National Alliance of Public Transportation Advocates.

<sup>5</sup>Litman, *ibid.*

<sup>6</sup>“[Deaths by Transportation Mode.](#)” National Safety Council. Accessed on April 28, 2023.



Photo: Corey Templeton

## PUBLIC HEALTH

The way we navigate our region can impact our health. Transportation systems with bicycle and pedestrian infrastructure and access to public transit support physical activity and health, leading to better public health outcomes.

According to the American Public Health Association, transportation systems without these accommodations for active transportation, “can negatively impact the public via higher incidences of obesity, asthma and cardiovascular disease and reduced levels of daily physical exercise.”<sup>7</sup> Safe access to opportunities to bike and walk can spur more active and healthy lifestyles. Physical activity also has implications for mental health, including “improved brain health and cognitive function..., a reduced risk of anxiety and depression, and improved sleep and overall quality of life.”<sup>8</sup>

This is particularly important since according to the U.S. Department of Transportation, “almost one in four adults in the United States report that they do not engage in any physical activity outside

of their jobs.”<sup>9</sup> Implementing Vision Zero increases safety for all modes and promotes healthy lifestyles that include active transportation.

Additionally, improving the safety for all modes of transportation increases access to essential services and opportunities that impact other areas of health. Education, healthcare, childcare, employment, and community are critical aspects of healthy living. Implementing this Vision Zero action plan will help ensure that everyone can make connections to these important systems through a safe, equitable, and reliable transportation system.

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<sup>7</sup> [“Get the Facts: Active Transportation, Benefitting Health, Safety and Equity.”](#) American Public Health Association (APHA). Accessed on April 27, 2023.

<sup>8</sup> [“Physical Activity is Good for the Mind and Body.”](#) U.S. Department of Health and Human Services. Accessed on May 15, 2023.

<sup>9</sup> [“Active Transportation.”](#) U.S. DOT. Accessed on April 27, 2023.

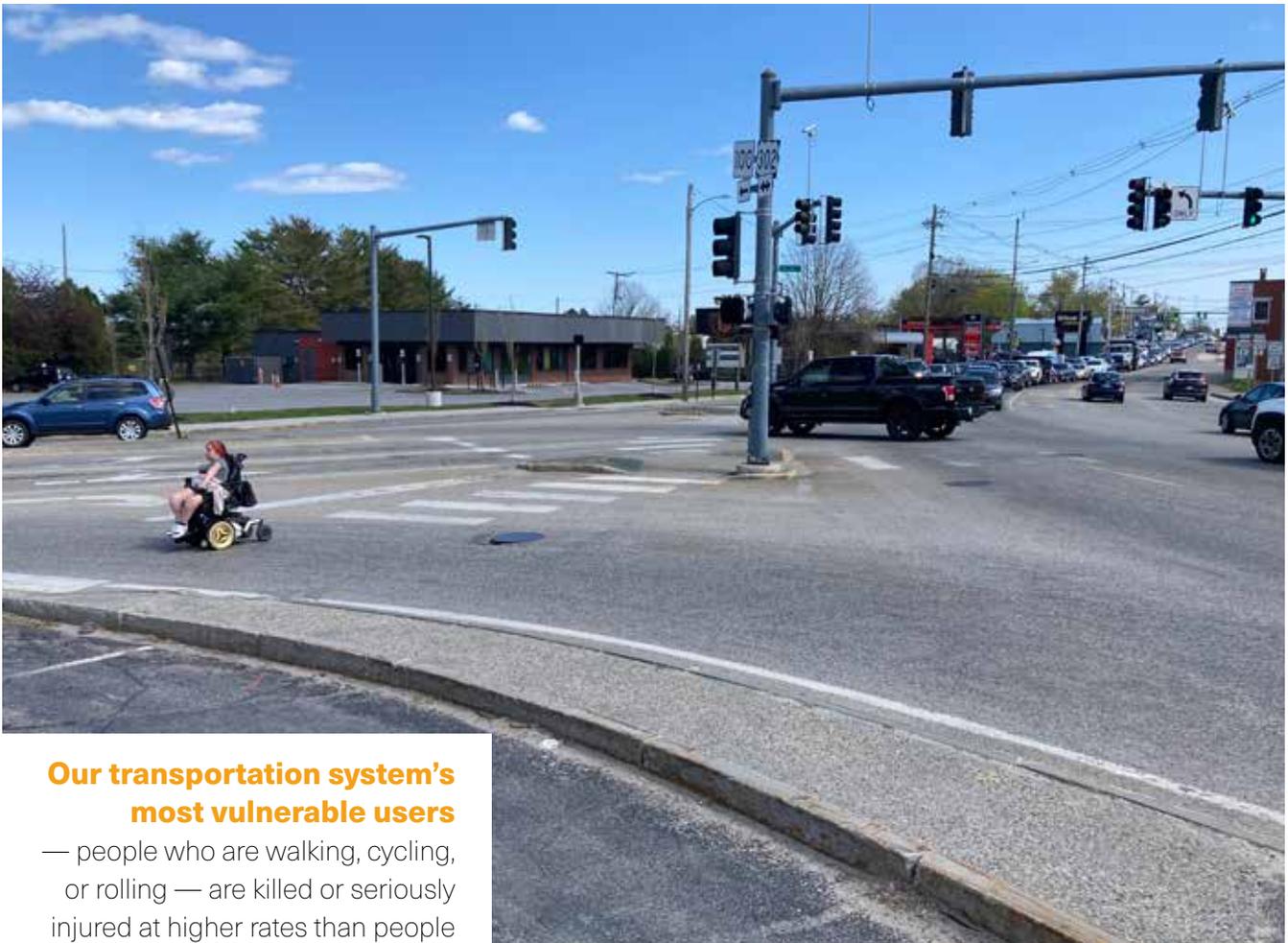
## EQUITY

Finally, implementing Vision Zero can lead to greater equity across the region. Equity is a central component of this plan because we know our transportation system must accommodate safe and convenient usage of all modes of transit in every community regardless of residents' age, income, disability, race, or ethnicity. Data from across the U.S. shows that dangerous street conditions exist disproportionately in underprivileged communities, resulting in higher rates of traffic fatalities in those areas.<sup>10</sup> And we also know that our transportation system's most vulnerable users — people who are walking, cycling, or rolling — are killed or seriously injured at higher rates than people traveling in passenger

vehicles. To help alleviate these disparities, this plan incorporates equity considerations into the process of prioritizing transportation improvements. By including action steps that focus on improving safety for our most vulnerable road users and prioritizing locations that have health, economic, resilience, transportation access, environmental, or equity disadvantages, this plan helps to create a more equitable transportation system.

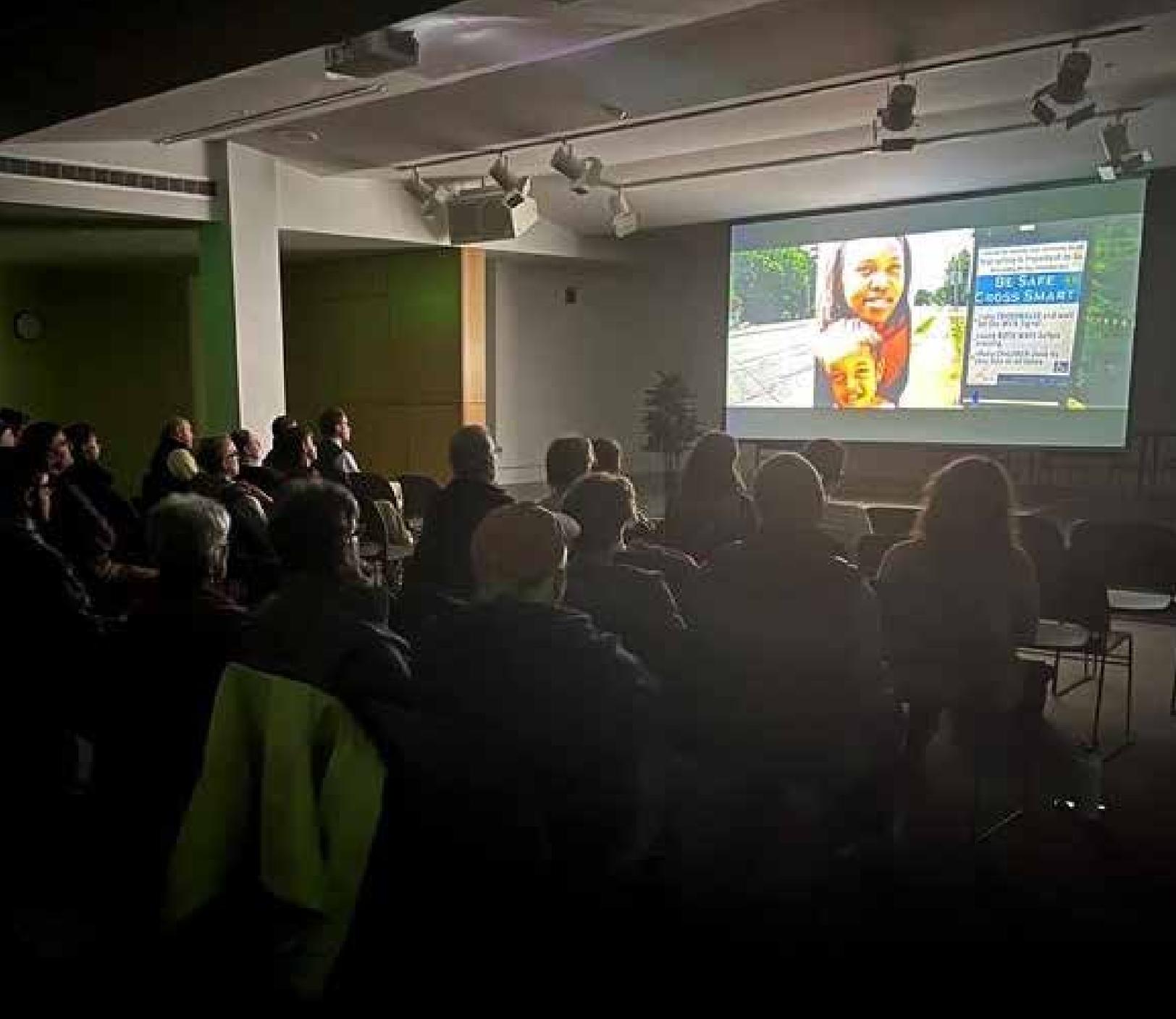
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<sup>10</sup> Susaneck, Adam Paul. "[American Road Deaths Show an Alarming Racial Gap.](#)" New York Times. April 26, 2023.



### **Our transportation system's most vulnerable users**

— people who are walking, cycling, or rolling — are killed or seriously injured at higher rates than people traveling in passenger vehicles.<sup>10</sup>



# Community Engagement + Public Participation

Achieving the goal of Vision Zero involves everyone. Engaging local communities, stakeholders and the public across the region was critical to the development of the plan.



## Bringing People into the Plan

SHARED RESPONSIBILITY is a core principle of the Safe Systems Approach. To achieve our region's goal of eliminating fatalities and serious injuries from our roadways by 2045 everyone involved in our transportation system must do their part. That includes:

- People who use roads.
- People who design, manage, and maintain roads.
- People who make rules and laws about roads.
- People who enforce those rules and laws.

We all have a role to play in creating safe streets and roads for everyone. That's why we have been very intentional about involving people in our process. Throughout the development of this plan, we have provided information and invited community input through in-person events, online tools, a website, a 15-member advisory panel, one

on one conversations, social media posts, and hybrid board and committee meetings. Combined, these efforts have resulted in more than 7,600 individual engagements. Some of the highlights of our community outreach and engagement are detailed on the next pages.

### VISION ZERO ADVISORY PANEL

The Vision Zero Advisory Panel was established in November of 2022 to ensure a broad range of technical perspectives would be considered during the action plan's development. With areas of expertise including public transit, active transportation, public health, planning and engineering, policymaking, Police/Fire/EMS, public works, aging in place, and transportation equity for underrepresented communities, members of the panel helped to inform the plan at all stages of development.

### ENGAGEMENT AT-A-GLANCE



# Vision Zero Advisory Panel



**Brian Batson: Community Relations Manager, Maine Medical Center**

“Driving is, unfortunately, one of the biggest risks we take with our son even though it is a normal, daily part of life. As a former inpatient and emergency department RN, I have seen firsthand the devastating results of MV accidents. These accidents are often preventable, and through initiatives like Vision Zero, we can move to eliminate them as the status quo.”



**Liz Blackwell-Moore: Public Health Director, Cumberland County**

“The community conditions in which people live have the largest influence on people’s health and wellbeing. Safe streets and roads mean lower risk of early death and more opportunities for people to live active lives by walking, biking, rolling, and being physically active out in the community.”



**Jeffrey Demers: Public Works Director, Biddeford**

“Vision Zero is important to help continue to support and be part of a larger plan for a safe pedestrian experience here in the city of Biddeford.”



**Keith Gautreau: Fire Chief, Portland Fire Department**

“I live in the City of Portland and have two sons with limited driving experience that travel daily in the greater Portland Metro area. As Portland’s Fire Chief, I am ultimately responsible for the safety of 220 firefighters using our roads to respond to over 18,000 calls for service per year. They work and operate in very active roadways while mitigating emergencies.”



**Chad Heid: Executive Director, BSOOB Transit**

“Healthy places have safe streets. Safe streets are designed to encourage more pedestrians, cyclists, and transit use, along with providing for equitable mobility.”



**Jennifer Ladd: Senior Transportation Engineer, Portland**

“It’s important to me that our infrastructure be safe, available, and accessible to all people. With drastic upward trends in crashes nationally and in Maine, I’m honored to serve on this diverse panel and help to develop regional strategies for making our streets safer.”



**Dave Lawrence: Community Transportation Leader, GPCOG**

“I grew up in a Boston suburb, and all things that the Vision Zero task force is working on were fixed in Boston and we didn’t have brick sidewalks for people to trip on. I don’t understand how Portland can get away with the traffic patterns they have with their information, it’s crazy.”



**Jean Saunders: Executive Director, Age Friendly Saco**

“The issue in so many communities in the United States today is that communities were designed almost exclusively for automobiles. Whether you are driving, biking, walking, pushing a stroller, etc.... a livable community needs to consider the needs of ALL users.”



**Lt. Bruce Scott: Troop Commander, Maine State Police Traffic Safety Unit**

“As the Commander of the Traffic Safety Unit for the Maine State Police my primary goal each day to help mitigate risks that save the lives of all roadway users! Our roadway users deserve to have a safe and reliable transportation infrastructure. Safe streets and roads are the one area we can create the biggest impact on the quality of life for Maine residents and our visitors.”



**Jean Sideris: Executive Director, Bicycle Coalition of Maine**

“We envision a future where Maine’s roads, public ways, and trails are safe and accessible, resulting in cleaner travel options, improved health, and stronger economic benefits for Maine communities. Our roads and streets need to be designed to ensure all users are safe, especially vulnerable users such as people biking, walking, or using mobility aids.”



**Robert Skehan: Director, Office of Safety and Mobility, MaineDOT**

“When we commute to work, go shopping, or take a trip for entertainment or recreation we should not have to worry that the trip may be our last. Fatal and serious injury crashes are life-altering events not just for the victim, but for the family and friends as well. Most importantly, they are also preventable if we all do our part.”



**Cashel Stewart: Sustainable Transportation Coordinator, South Portland**

“As an active commuter and sustainable transportation professional, I know creating a sustainable community starts with safe roads. A thriving community has roads that put lives first and support comfortable and convenient travel for all modes.”



**Barry Tibbetts: Town Manager, Windham**

“Lifestyle, work, family and traveling habits are changing in communities. As municipal leaders in various disciplines, we need to find solutions that promote safety, lower costs, and make the implementation of these changes easier.”



**Kara Wooldrik: Executive Director, Portland Trails, 2012-2022**

“How we move through a community determines the wellbeing of all members of that community. The qualities of safer transportation choices are also the qualities of healthier people and nature as well as more equitable neighborhoods and economies.”



**Erin Zwirko: Director of Planning & Development, Yarmouth**

“As a planner, my goal is to ensure that all stakeholders are included in planning processes. An extension of that goal is to ensure that all projects, especially road projects, are designed for the safety and ease of access for everyone.”

## ***“Have you ever been involved in a crash?”***



“One of my friends was just killed in a motorcycle accident.”



“I lost my 23 year old daughter... She got hit by a distracted driver.”



“I know a couple people who have been hit.”



“I was hit by a car on Baxter Boulevard on a bicycle.”



“I hit the curb and the car rolled over.”



“I was t-boned in an intersection with my mom.”

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### **ON-THE-STREET INTERVIEWS**

In the summer of 2022, we took to the streets — and sidewalks, promenades, and farmers’ markets — to capture people’s perspectives and stories about traffic crashes. We talked to more than 20 people in Biddeford, Portland, South Portland, Westbrook, and Yarmouth. Excerpts from interviews are included in our [Vision Zero video](#). Interviewees were asked three questions:

1. Have you ever been involved in a crash?
2. Do you have a friend or family member who has been involved in a crash?
3. How many people do you think should be killed or seriously injured in crashes?

Nearly everyone interviewed had a story. One person had been hit by a car while riding a bike. Another suffered a severe neck injury after a motorist totaled his car. One woman, Tammy Harvison, lost her 23-year-old daughter to a distracted driver. We shared the video in our newsletter as well as on social media to drive traffic to the website and encourage people to take our survey. As of April 2023, the video has garnered over 6,600 views across all platforms.

## SUBREGIONAL SUMMITS

To reach community members in each of the 18 communities that are part of the Portland Area Comprehensive Transportation System (PACTS), we held four subregional summits. Each summit was formatted to be one-part information sharing session and one-part community workshop.

GPCOG staff began each summit by sharing the [Vision Zero video](#), which features local people sharing their stories of traffic crashes along with their hopes that one day no one will die or be seriously injured on our roads. Often, but not always, the video inspired attendees to share their own stories, and space was provided for them to do so.

Staff presentations at the summits provided community attendees with an overview of Vision Zero and the Safe System Approach as well as GPCOG's process and timeline for creating our regional action plan. Community members participated in mapping exercises, marking up local maps to help us understand where they felt safe and unsafe navigating the region's roadways as drivers, cyclists, or pedestrians. The mapping exercises were followed by staff sharing data around the most common locations and conditions associated with crashes, and each workshop with a question and answer session.

Presentations at each of the four summits were tailored for each region so that GPCOG staff and community members could take some time together to examine local roads and understand where crashes were happening and where they were resulting in death or serious injuries.

## THE STREET PROJECT

In spring of 2023, GPCOG co-sponsored two screenings of [The Street Project](#) in collaboration with the Maine Trails Coalition, who organized multiple viewings of the film in Maine.



At the subregional summits participants marked up local maps to help us understand where they feel unsafe as a driver, pedestrian, or cyclist.



The Street Project @ the Portland Public Library

The Street Project is a documentary that tackles the history of our relationship with streets, the need to make them safer for all users, and the global movement that seeks to do just that. Directed by Jennifer Boyd, the film was released in the U.S. in August of 2022 and is currently available to watch at local screenings and on some streaming platforms.

Our two co-sponsored screenings took place at the Portland Public Library in Portland on March 23, 2023 and at Banded Brewing Co. in Biddeford on April 13, 2023. Following each of these screenings, GPCOG staff participated on panels to talk about road safety and our Vision Zero efforts in the region.

### **BOARD AND COMMITTEE MEETINGS**

Vision Zero and the process to create a regional action plan were discussed at multiple board and committee meetings for both GPCOG and PACTS during the development process. These meetings are open to the public, who can attend in person or virtually, and public comment is always taken at the beginning of meetings on any topic, including those that are on the agenda.

### **ONLINE ENGAGEMENT**

We launched our project website, [visionzergreaterportland.org](https://visionzergreaterportland.org), in September 2022. This website allowed us to share our video, “How many people should die in traffic crashes?” which features many local people sharing their traffic safety stories.

In addition to providing information about Vision Zero, upcoming events, and our action planning process, the website allowed visitors to view crash data for our region and offer input through two key tools: 1. An online survey available in six languages; and 2. An interactive hazard map where people can identify areas of concern.

### **PUBLIC SURVEY & HAZARD MAP**

Our online survey received more than 900 responses (see next page for highlights) and nearly 700 issues were identified (in-person and online) on the hazard map. The survey helped us understand who we were reaching, how they navigate our region, and what their primary concerns were. The hazard map helped us identify specific areas of concern for the public. We combined the information from our online hazard map with the feedback we received through our in-person mapping exercises to create a Community Concerns heat map (Figure 10 on page 44).

## SURVEY HIGHLIGHTS

More than  
**900**  
responses



Have been **involved in a traffic crash** or know someone who has.

### What are your primary transportation safety concerns?

1. Distracted driving



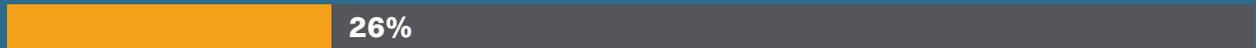
2. Speeding



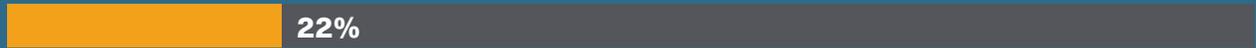
3. Inadequate or missing bikeways (trails, bike lanes, etc.)



4. Lack of sidewalks or crosswalks



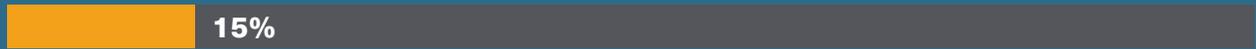
5. Unsafe turning or lane changing



6. Red light or stop sign runners



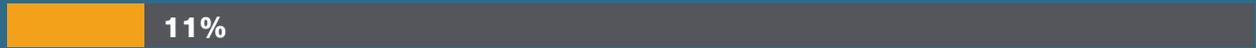
7. Poorly maintained sidewalks or crosswalks



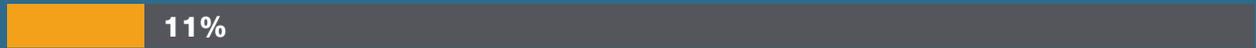
8. Poor road conditions



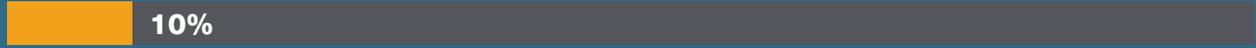
9. Hard to see pedestrians waiting at crosswalks



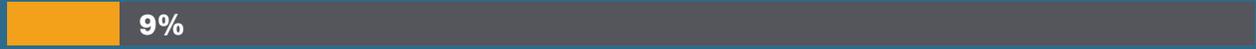
10. Drunk or impaired driving



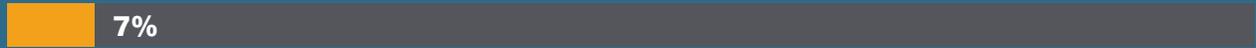
11. Large vehicles on the road



12. Poor lighting



13. Other





# What We Learned

Having a data-driven plan is key for our region. We conducted peer reviews, policy research, current and historical crash data analysis, and an examination of public input to keep data at the core of this plan.



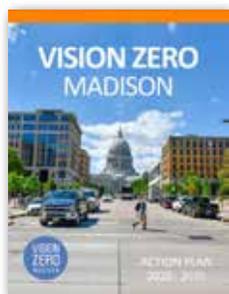
Casco Bay Bridge, Portland/South Portland

## Peer Reviews & Policy Research

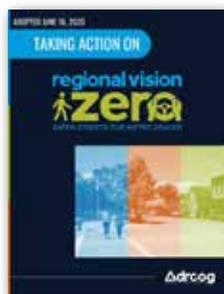
AT THE START of our data gathering process, we met directly with staff in municipalities around the country who had recently adopted Vision Zero plans. In each of these meetings, we asked people about their process – what worked, what didn’t, what they wish they’d done differently – and their plans. We learned about which data sets they found most helpful, the plan elements they chose to include, and how they prioritized neighborhoods, corridors, intersections, or projects.

In addition to these peer reviews, we also read action plans from towns, counties, and regions across the country and even attended virtual Vision Zero workshops in other states to help us understand the breadth of approaches out there and identify the best practices we wanted to include in our plan.

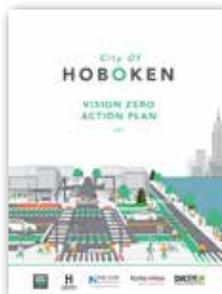
### Some of our Favorite Plans



City of Madison, Wisconsin



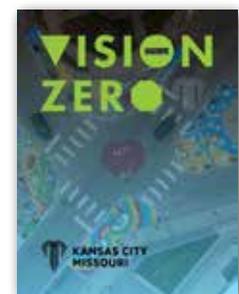
Denver Regional Council of Governments



City of Hoboken, New Jersey



Jersey City, New Jersey



Kansas City, Missouri

# Summary Statistics & Trends

THIS ACTION PLAN was informed by an analysis of crashes in the Greater Portland region between 2016 and 2022 using data from the MaineDOT. This information has been used to identify regionally specific patterns and hotspots, and develop strategies to prevent future crashes.

## CRASH TOTALS

While the number of people who have been killed or severely injured in crashes has generally declined over the past 20 years, since 2020 we

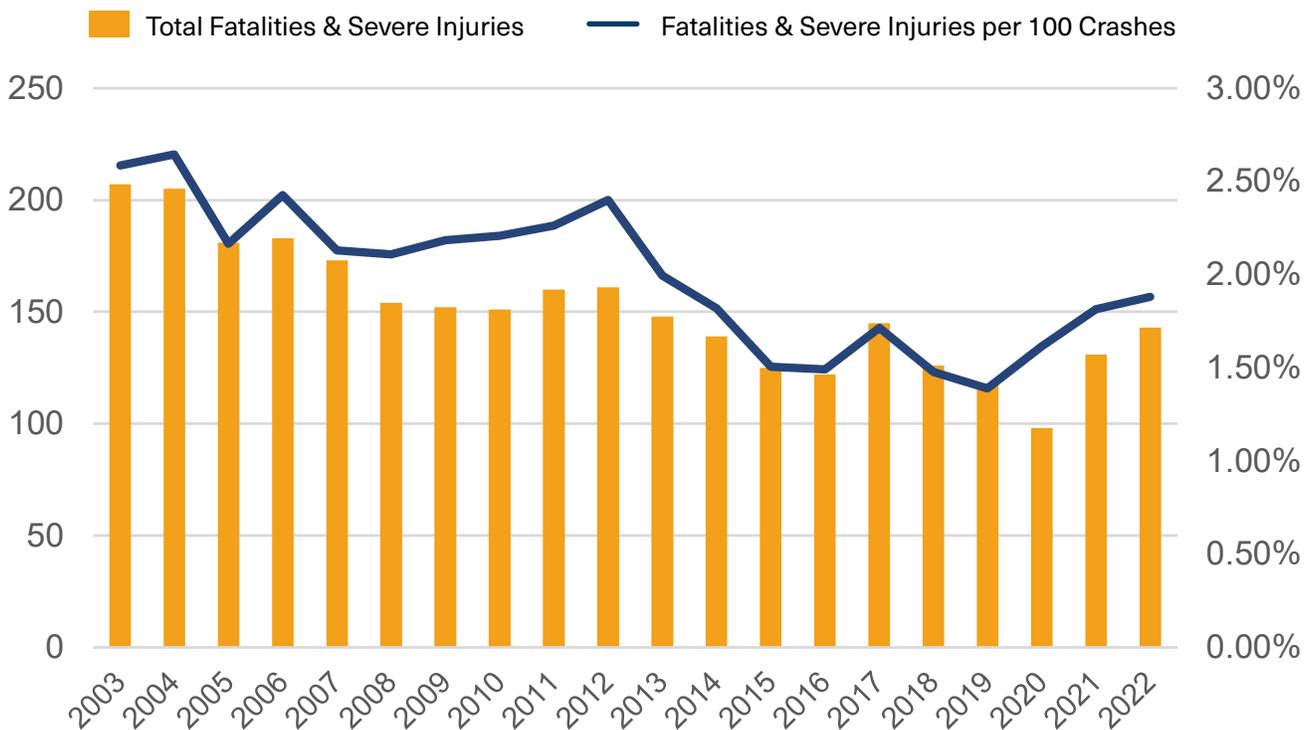
have experienced an uptick in both the total number of people getting killed or injured and the rate at which it is happening (Figure 1).

It is difficult to say whether the increase in fatal and serious injury crashes since 2020 will continue or if it is a temporary result of the COVID-19 pandemic or simply due to natural variation. However, these rates are far too high and it must be our goal to reduce both the overall number of crashes that occur and their severity.

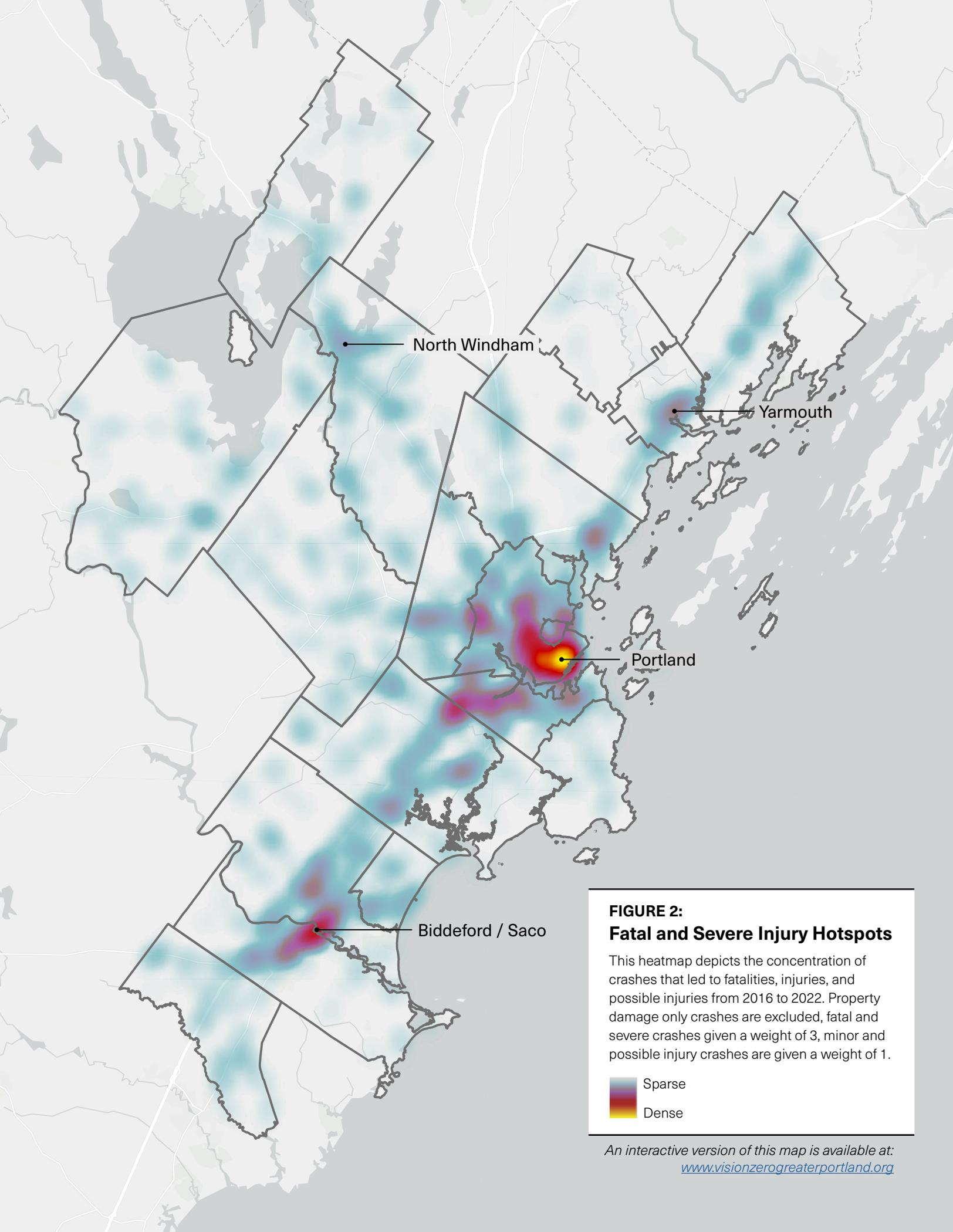
Each year, an average of **18 people are killed** in traffic crashes in Greater Portland. [2016-2022]



**FIGURE 1: Fatalities and Severe Injuries in the Greater Portland Region | 2003-2022**



Source: MaineDOT Public Crash Query Tool



North Windham

Yarmouth

Portland

Biddeford / Saco

**FIGURE 2:  
Fatal and Severe Injury Hotspots**

This heatmap depicts the concentration of crashes that led to fatalities, injuries, and possible injuries from 2016 to 2022. Property damage only crashes are excluded, fatal and severe crashes given a weight of 3, minor and possible injury crashes are given a weight of 1.



An interactive version of this map is available at:  
[www.visionzerogreaterportland.org](http://www.visionzerogreaterportland.org)

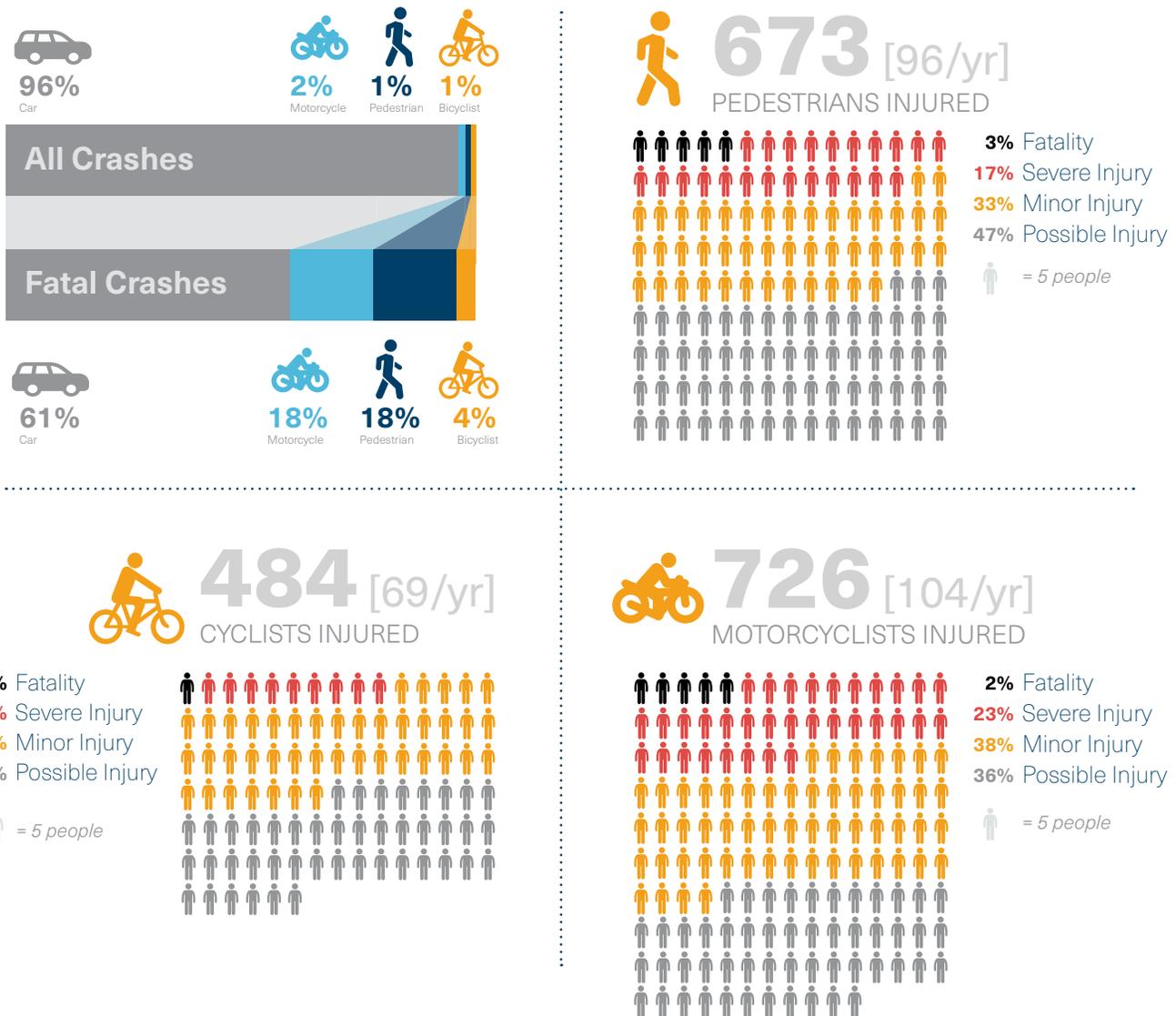
# Crash Characteristics

WHO IS GETTING HURT? What are the primary factors? This section highlights the key findings that emerged from our analysis of more than 54,500 crashes that occurred in Greater Portland between 2016 and 2022.

## CRASHES BY MODE

While only four percent of crashes in the region involved a pedestrian, cyclist, or motorcyclist, they accounted for 40 percent of fatal crashes (Figure 3). Humans are inherently vulnerable, and this is especially true when they are not afforded the physical protections of a vehicle. Due to the increased risk associated with non-vehicular travel, this plan must prioritize the safety of vulnerable users in order to effectively reduce the number of fatal and severe injury crashes.

FIGURE 3: Crash Severity by Mode | 2016-2022





**40 percent of fatal crashes involved a vulnerable user** (pedestrian, cyclist, or motorcyclist).



Route 302, Windham

Most fatal and severe crashes **occur during daylight in clear, dry conditions.**

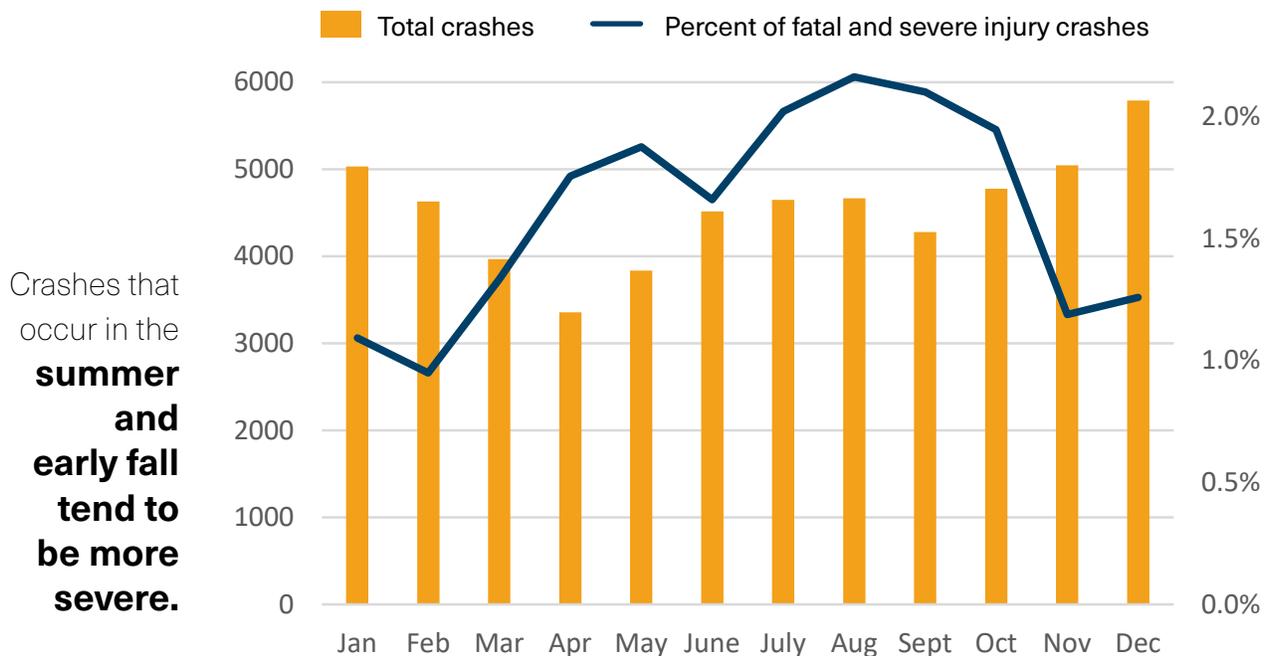
### CRASH CONDITIONS

Fatal and severe injury crashes are not strongly correlated with weather and light conditions we typically associate with dangerous driving conditions. Most fatal and severe injury crashes occur during daylight in clear, dry conditions.

December. However, the crashes that occur in summer and early fall tend to be more severe. While the annual rate of fatal and severe injury crashes per total crashes is 1.6%, the severe crash rate peaks at 2.2% in August.

The number of total crashes peaks in the winter months with 11% of yearly crashes occurring in

**FIGURE 4: Crashes by Month | 2016-2022**



Crashes that occur in the **summer and early fall tend to be more severe.**

## CRASH TYPES

Fatal and severe injury crashes were most commonly caused by the vehicle going off the road. Other common causes of fatal/severe injury crashes include intersection movement, rear end/sideswipe, pedestrian crashes, head-on/sideswipe, and bicycle crashes. As seen in the previous section, pedestrian and bicycle crashes were particularly dangerous. While they accounted for relatively small amounts of crashes overall, 20% of pedestrian crashes and 10% of bicycle crashes lead to fatalities or severe injuries. Crashes where the vehicle went off the road were also particularly dangerous, with 7% of these crashes leading to fatalities or severe injuries.

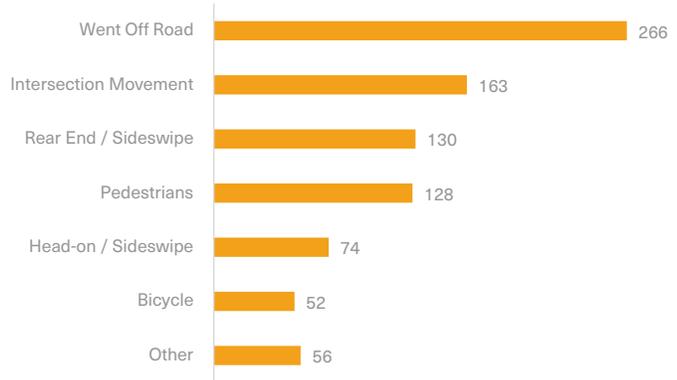
## DRIVER ACTION

While Vision Zero aims to refocus safety efforts from blaming the actions of those involved in crashes to infrastructure and policy changes, looking at the types of actions that lead to crashes can help us to better understand what changes may be needed. It is important to note that 17% of fatal and severe injury crashes were identified as having “no contributing action.” This could be due to issues in reporting (an additional 6% had either “unknown” or blank driver action), or that the crash is more closely tied to conditions outside of the car than driver behavior. Up to five driver actions could be identified for each crash.

## ROAD DESIGN

The way our roads are designed can play a big role in the amount, and severity, of crashes that occur. As Figure 7 (next page) shows, factors such as a road’s speed limit, congestion, and number of lanes can all contribute to more crashes.

**FIGURE 5: Crashes by Type | 2016-2022**



**FIGURE 6: Crashes by Driver Action | 2016-2022**



In **21%** of fatal/severe crashes drivers went off the roadway



In **20%** of fatal/severe crashes drivers failed to yield right-of-way



In **16%** of fatal/severe crashes drivers were speeding or driving too fast for conditions



In **14%** of fatal/severe crashes drivers operated in erratic, reckless, careless, negligent or aggressive manner



In **9.7%** of fatal/severe crashes drivers failed to keep in proper lane

The speed limit directly affects the potential for crashes. Higher speed limits generally lead to an increased risk of collisions due to reduced driver reaction times and longer stopping distances. When crashes do occur at high-speeds, they are also more likely to result in fatal or severe injuries. Conversely, lower speed limits can enhance safety by allowing drivers more time to react and maneuver.

Congestion also impacts the likelihood of crashes. Higher congestion tends to result in

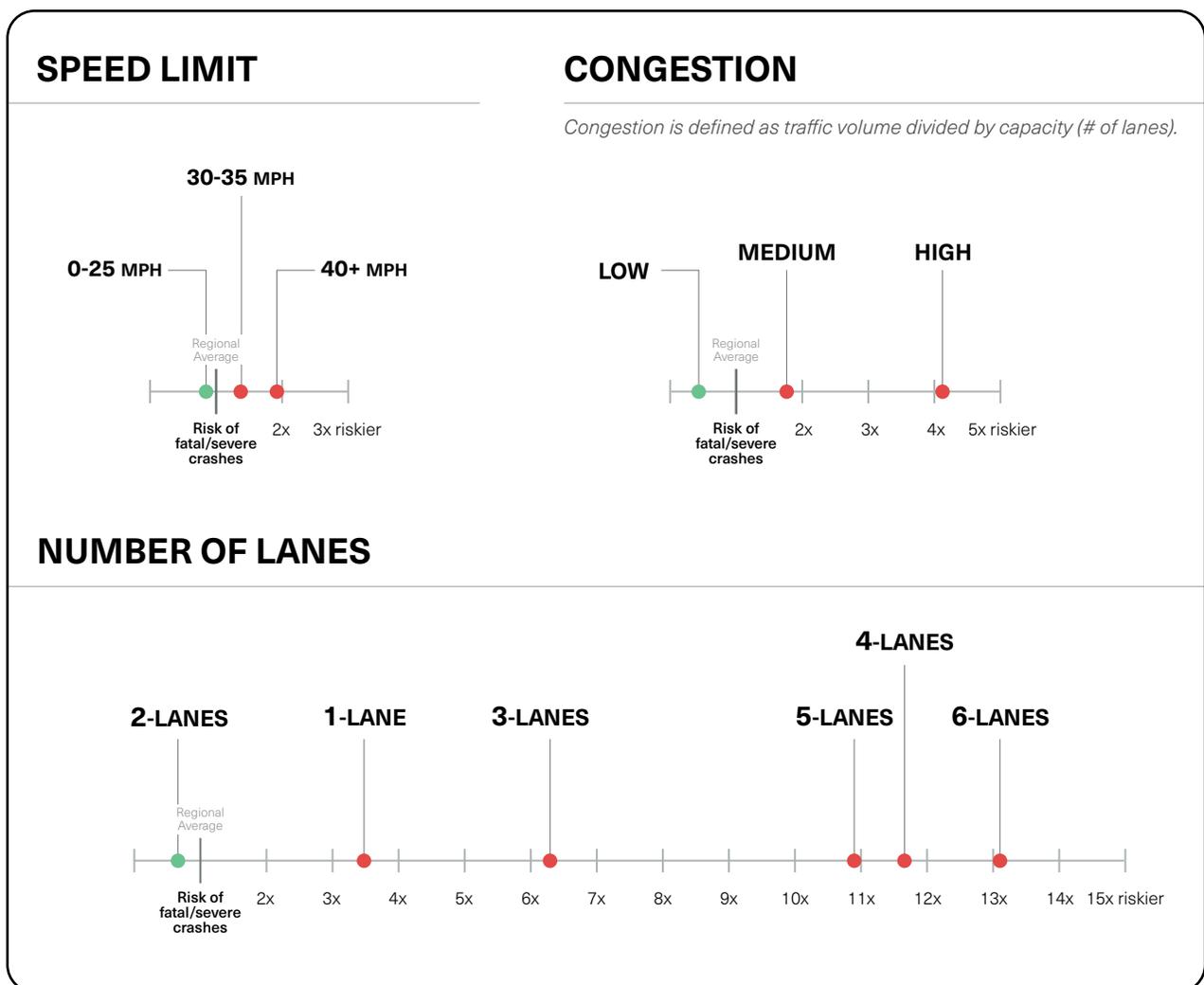
more frequent rear-end collisions, as well as an increased probability of lane-changing accidents due to limited space and constant stop-and-go movements.

Finally, the number of lanes is the most significant factor in higher crash rates — particularly with vulnerable users. In our region, fatal and serious injury crashes are at least 10-times as likely on roads with four or more lanes. Insufficient signage and inadequate lane markings are some of the factors that can cause driver confusion and lead to mistakes on roads with multiple lanes.

Although our analysis looked at speed limit, congestion, and number of lanes in isolation, these factors are not mutually exclusive. For example, roads with multiple lanes may attract higher volumes of traffic, which can lead to congestion and, consequently, a higher probability of crashes during peak hours.

There are also many other factors this analysis did not consider due to limitations in the dataset, such as lane widths and markings, the presence of medians, barriers, and other traffic calming devices, pedestrian and cyclist accommodations, and lighting and visibility.

**FIGURE 7: Factors that Influence Crashes | 2016-2022**





**Fatal and serious injury crashes are at least 10x as likely on roads with four or more lanes.**

# Speed Limits

## How Speed Limits are set in Maine

**Speed limits on most roads in Maine are set by the MaineDOT.** To determine a safe and reasonable speed limit for a road, the Department conducts an engineering study. Engineers examine many physical attributes of the road including its grade, lane and shoulder widths, curvature, and whether it is urban or rural. They also count the frequency of bicyclists and pedestrians occurring on the road and the proximity of roadside hazards such as trees, ledges, utility poles, and on-street parking. Data on speeds at which traffic travels along the roadway, the driveway density along the route, and the number and types of crashes occurring on it are also examined.

All this data is compiled and then entered into USLIMITS 2, a nationally accepted engineering tool created by the Federal Highway Administration. This tool analyzes the data and provides a recommendation on the speed limit to post for roadways with like features. MaineDOT currently has a working group examining additional research and speed-setting methodologies to inform its ongoing speed limit policy update.

Municipalities with populations of over 2,500 or with a professional engineer licensed in Maine on their staff have the option to set speed limits on their local roads. Whether or not a road is “local” is a federal classification. However, as of early 2022, no qualifying municipalities have utilized this option.



# Speed Limits



Boston, MA



Providence, RI

## Boston/Providence Speed Limit Study

.....

**In 2017, Boston lowered its default speed limit on city streets from 30 mph to 25 mph.**<sup>11</sup> A 2018 study by the Insurance Institute for Highway Safety (IIHS) evaluated the effectiveness of this change, and the results are promising. During the study, IIHS researchers recorded vehicle speeds on streets in Boston before and after the limit change was put into effect. For comparison, researchers also recorded speeds on similar streets in Providence, RI, where there was no speed limit change.

In Boston, the researchers found that the odds of a vehicle exceeding a 25 mph, 30 mph, and 35 mph limit dropped by 2.9%, 8.5%, and 29.3%, respectively. While the study did not examine the effects the limit change had on crashes, data show that speeding and crashing have a strong correlation. Exceeding the speed limit has consistently been a factor in more than a quarter of U.S. crash deaths for the past 30 years.

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<sup>11</sup> *City drivers slow down for lower speed limit in Boston.* Insurance Institute for Highway Safety. 2018.

# Crash Location Analysis

WHERE ARE PEOPLE getting hurt? Where should we focus our limited resources?

The sequence of maps that follows highlights how we incorporated multiple forms of data (including public engagement and equity considerations) to develop a refined network of critical safety corridors. The four maps that formed the basis of the analysis were: the high injury network, the high risk network, community concerns, and transportation equity.

---

## FIG 8: HIGH INJURY NETWORK

***Where the worst crashes have happened.***

The high injury network identifies road segments with the highest numbers of fatal and severe injury causing crashes. While there are more than 2,000 miles of roads in the region, fatal and severe injury crashes disproportionately occur on a small percentage of them. The high injury network can be used to focus safety improvements where they are most needed.

## FIG 9: HIGH RISK NETWORK

***Where crashes are more likely to occur.***

While the high injury network (above) identifies where crashes have happened in the past, the high risk network identifies where crashes are more likely to occur in the future. Inspired by the Kansas City Vision Zero Action Plan, we performed a systematic risk analysis. The analysis compares the rate of fatal and severe injury crashes per mile of road with the regional average for certain infrastructure and demographic characteristics. The analysis considers factors such as number of lanes, speed limit, functional class, level of congestion, land-use context, and equity.

## FIG 10: COMMUNITY CONCERNS

***Local issues identified by community members.***

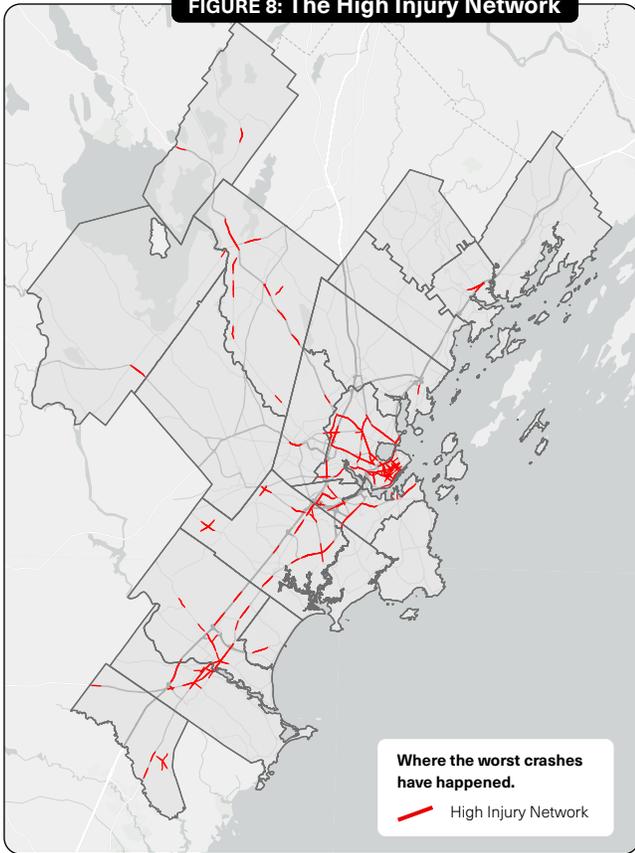
Not all safety issues show up in crash maps. Some locations may experience years of close calls before a serious crash occurs. To deepen our understanding of local concerns, a major emphasis of our in-person and online engagement centered on having community members identify their safety issues on a map. In total, 700 issues were reported.

## FIG 11: TRANSPORTATION EQUITY

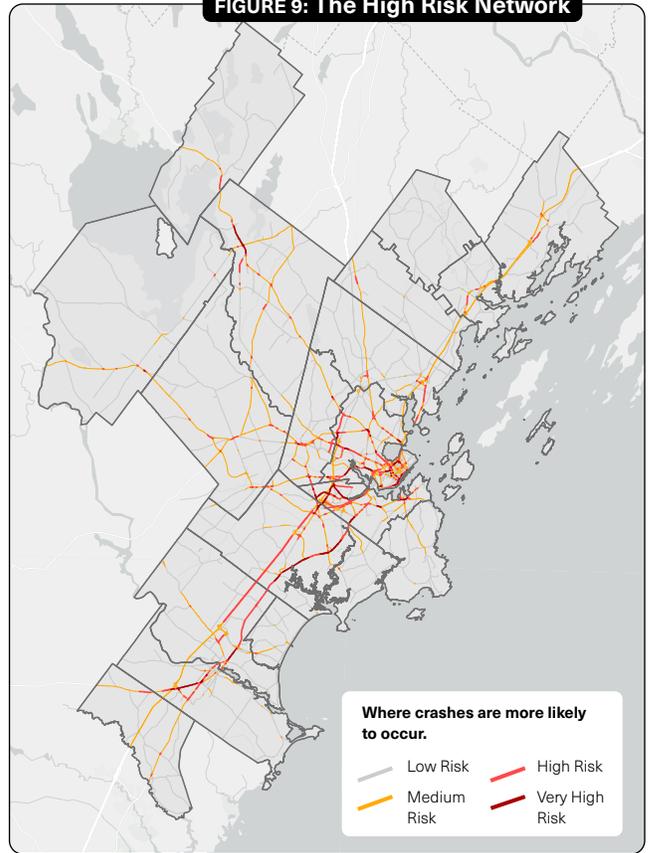
***Areas identified as transportation disadvantaged.***

Equity is a central component of this plan. Greater Portland's transportation system must accommodate safe and convenient usage for everyone. This plan uses census tracts identified by the U.S. Department of Transportation's [Equitable Transportation Community Explorer](#) which considers 40 indicators grouped into five components of disadvantage: transportation insecurity, environmental burden, social vulnerability, health vulnerability, and climate and disaster risk burden. Component scores are normalized and summed to attain an overall score. Census tracts with overall scores ranking in the 65% or higher of all U.S. census tracts are considered disadvantaged.

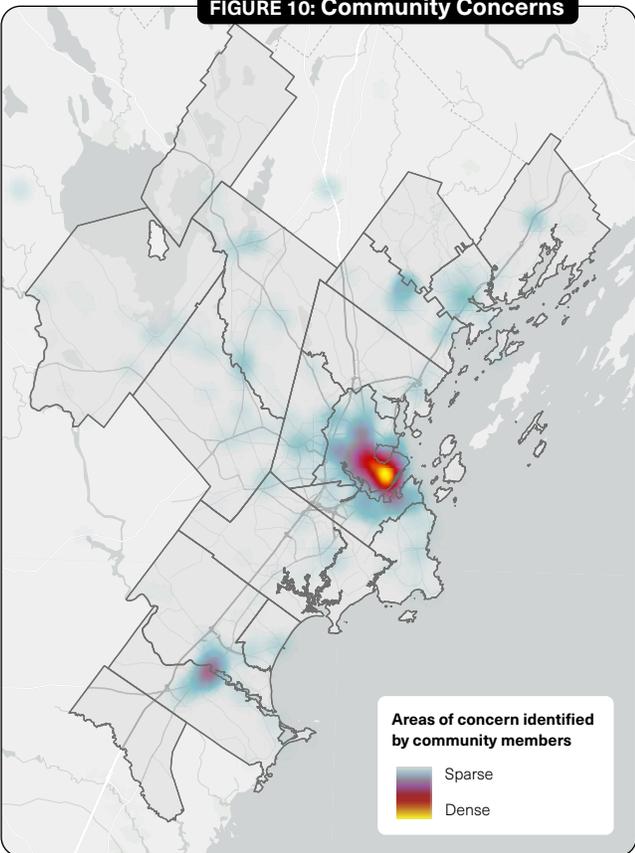
**FIGURE 8: The High Injury Network**



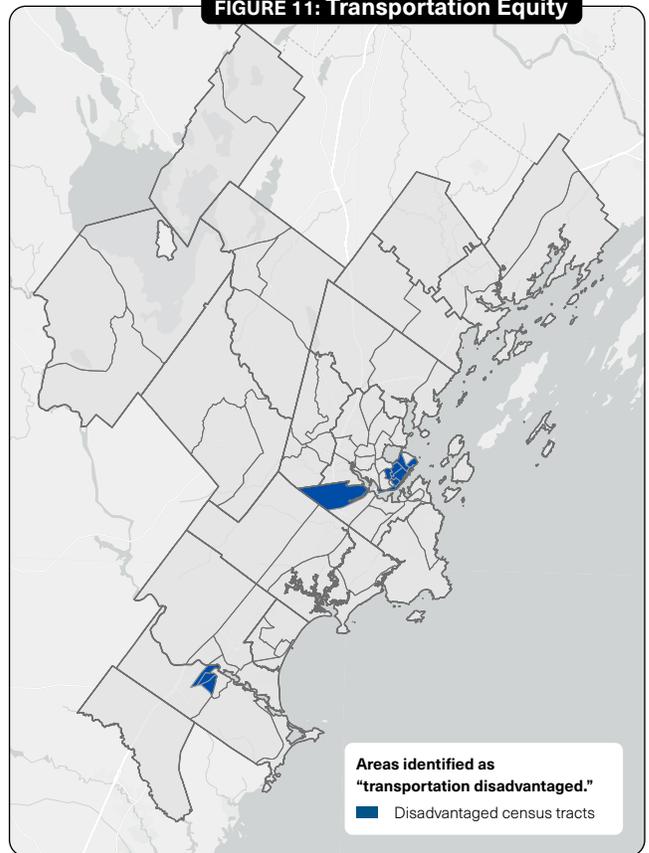
**FIGURE 9: The High Risk Network**



**FIGURE 10: Community Concerns**



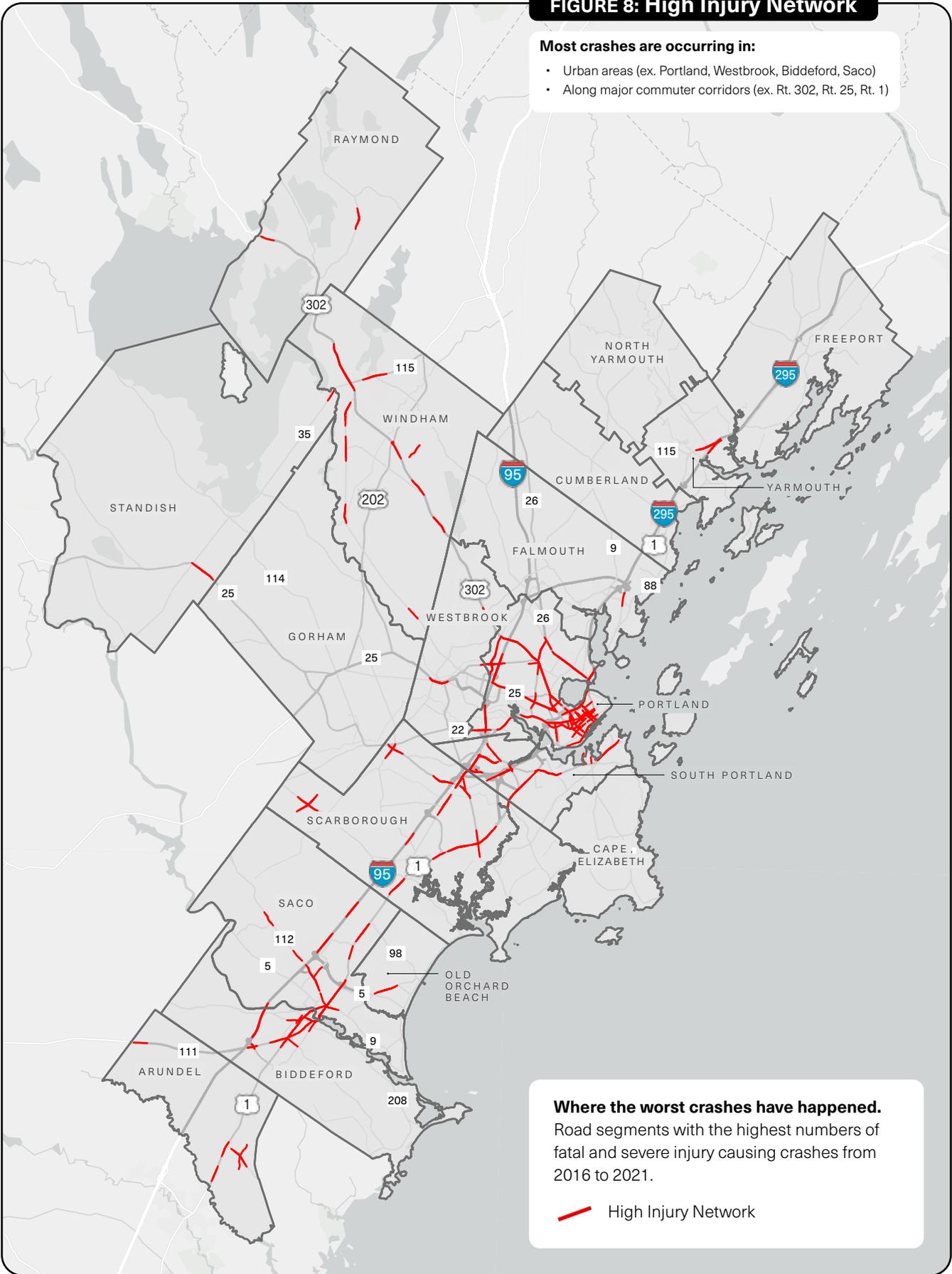
**FIGURE 11: Transportation Equity**



**FIGURE 8: High Injury Network**

**Most crashes are occurring in:**

- Urban areas (ex. Portland, Westbrook, Biddeford, Saco)
- Along major commuter corridors (ex. Rt. 302, Rt. 25, Rt. 1)



**Where the worst crashes have happened.**

Road segments with the highest numbers of fatal and severe injury causing crashes from 2016 to 2021.

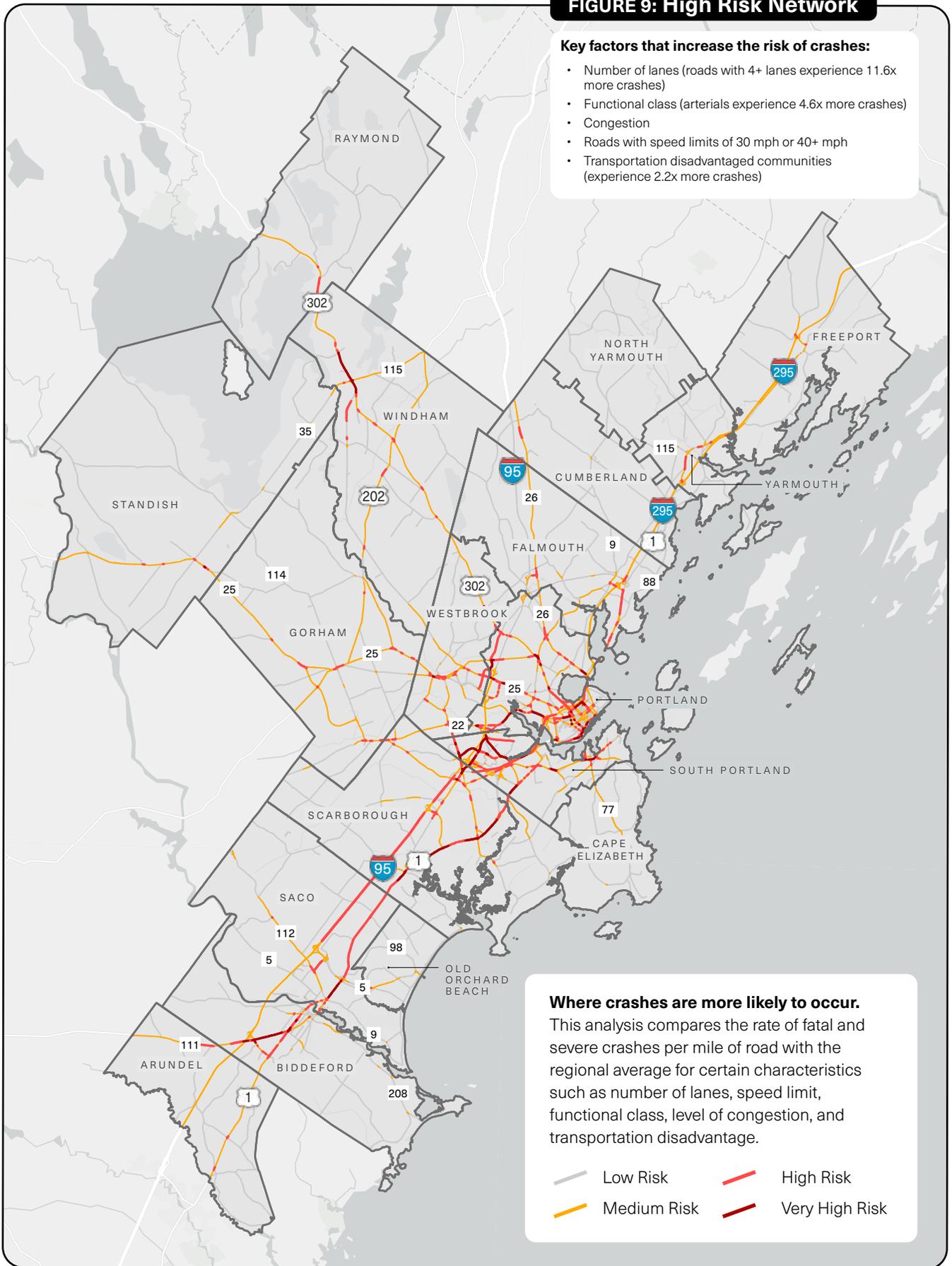
 High Injury Network

An interactive version of this map is available at: [www.visionzerogreaterportland.org](http://www.visionzerogreaterportland.org)

**FIGURE 9: High Risk Network**

**Key factors that increase the risk of crashes:**

- Number of lanes (roads with 4+ lanes experience 11.6x more crashes)
- Functional class (arterials experience 4.6x more crashes)
- Congestion
- Roads with speed limits of 30 mph or 40+ mph
- Transportation disadvantaged communities (experience 2.2x more crashes)



**Where crashes are more likely to occur.**

This analysis compares the rate of fatal and severe crashes per mile of road with the regional average for certain characteristics such as number of lanes, speed limit, functional class, level of congestion, and transportation disadvantage.

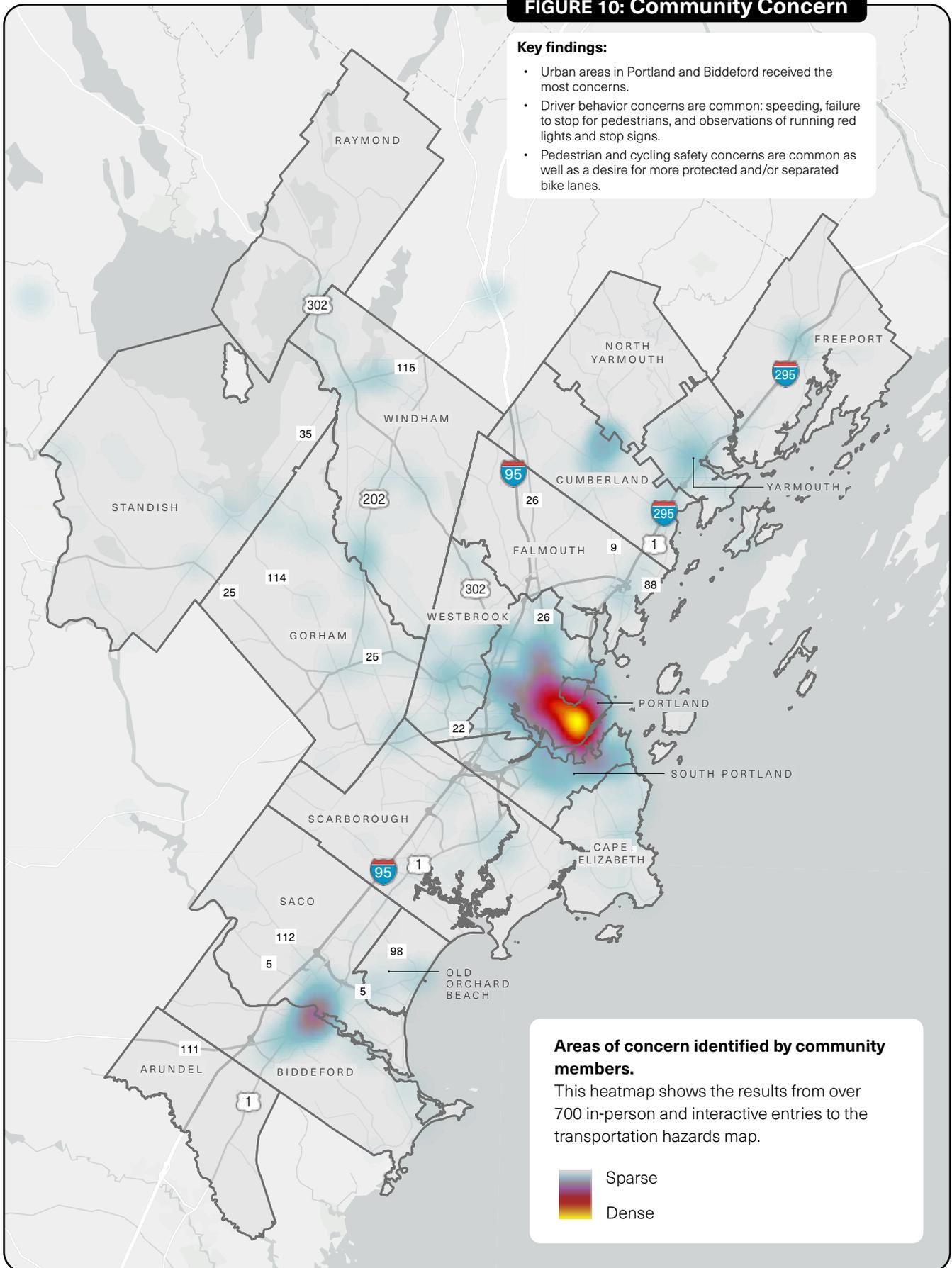
- Low Risk
- Medium Risk
- High Risk
- Very High Risk

An interactive version of this map is available at: [www.visionzerogreaterportland.org](http://www.visionzerogreaterportland.org)

**FIGURE 10: Community Concern**

**Key findings:**

- Urban areas in Portland and Biddeford received the most concerns.
- Driver behavior concerns are common: speeding, failure to stop for pedestrians, and observations of running red lights and stop signs.
- Pedestrian and cycling safety concerns are common as well as a desire for more protected and/or separated bike lanes.



**Areas of concern identified by community members.**

This heatmap shows the results from over 700 in-person and interactive entries to the transportation hazards map.

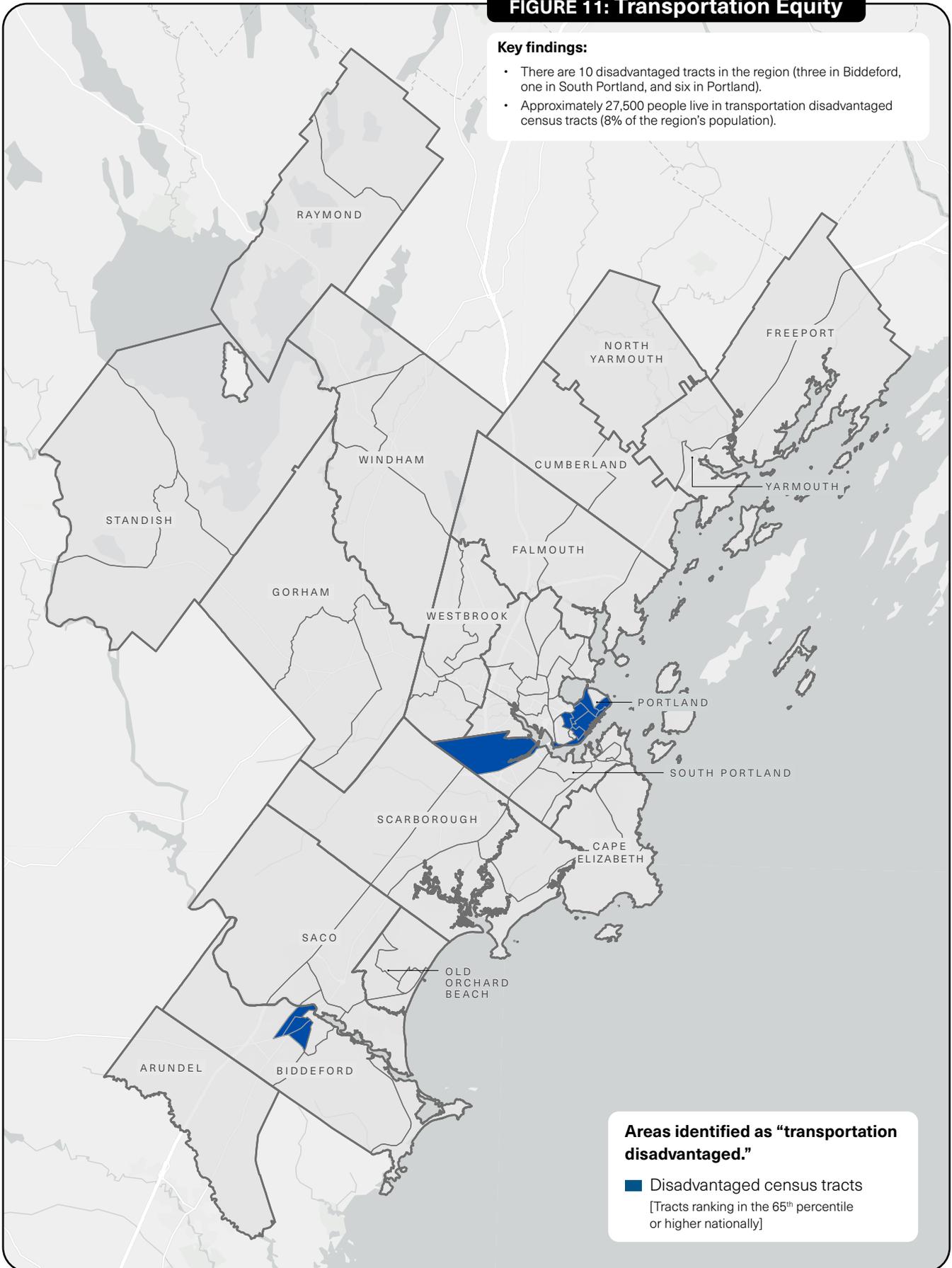
■ Sparse  
■ Dense

An interactive version of this map is available at: [www.visionzerogreaterportland.org](http://www.visionzerogreaterportland.org)

**FIGURE 11: Transportation Equity**

**Key findings:**

- There are 10 disadvantaged tracts in the region (three in Biddeford, one in South Portland, and six in Portland).
- Approximately 27,500 people live in transportation disadvantaged census tracts (8% of the region's population).



An interactive version of this map is available at: [www.visionzerogreaterportland.org](http://www.visionzerogreaterportland.org)

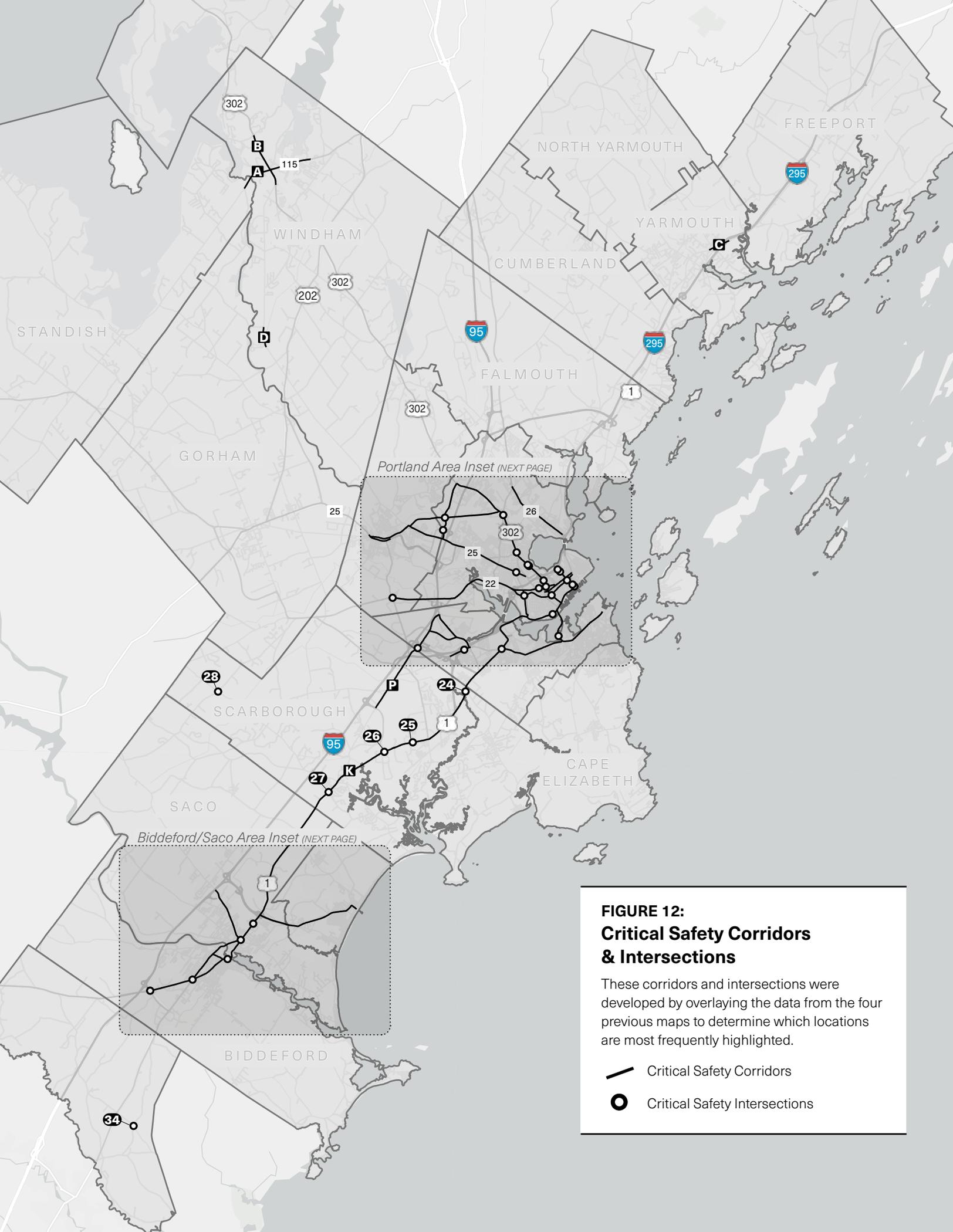


## Critical Safety Corridors & Intersections

WE USED THE INFORMATION illustrated by the maps in Figures 8-11 to identify critical safety corridors and intersections. These are the road segments and junctures that rank high when all four criteria are considered. Because it is a priority for the plan and its recommendations to be data-driven, and because the ultimate goal of this plan is to achieve zero fatalities and serious injuries on our roadways, somewhat greater emphasis has been placed on the first two criteria: the high injury and high risk networks.

After identifying corridors and intersections that rank high in these categories, we then layered on the remaining two criteria – community concern and equity considerations.

The results of this process are shown in Figure 12, the Critical Safety Corridors and Intersections map. The areas highlighted on this map are the places where we should focus our efforts to reach our goal of zero and improve safe, healthy, equitable transportation for all.

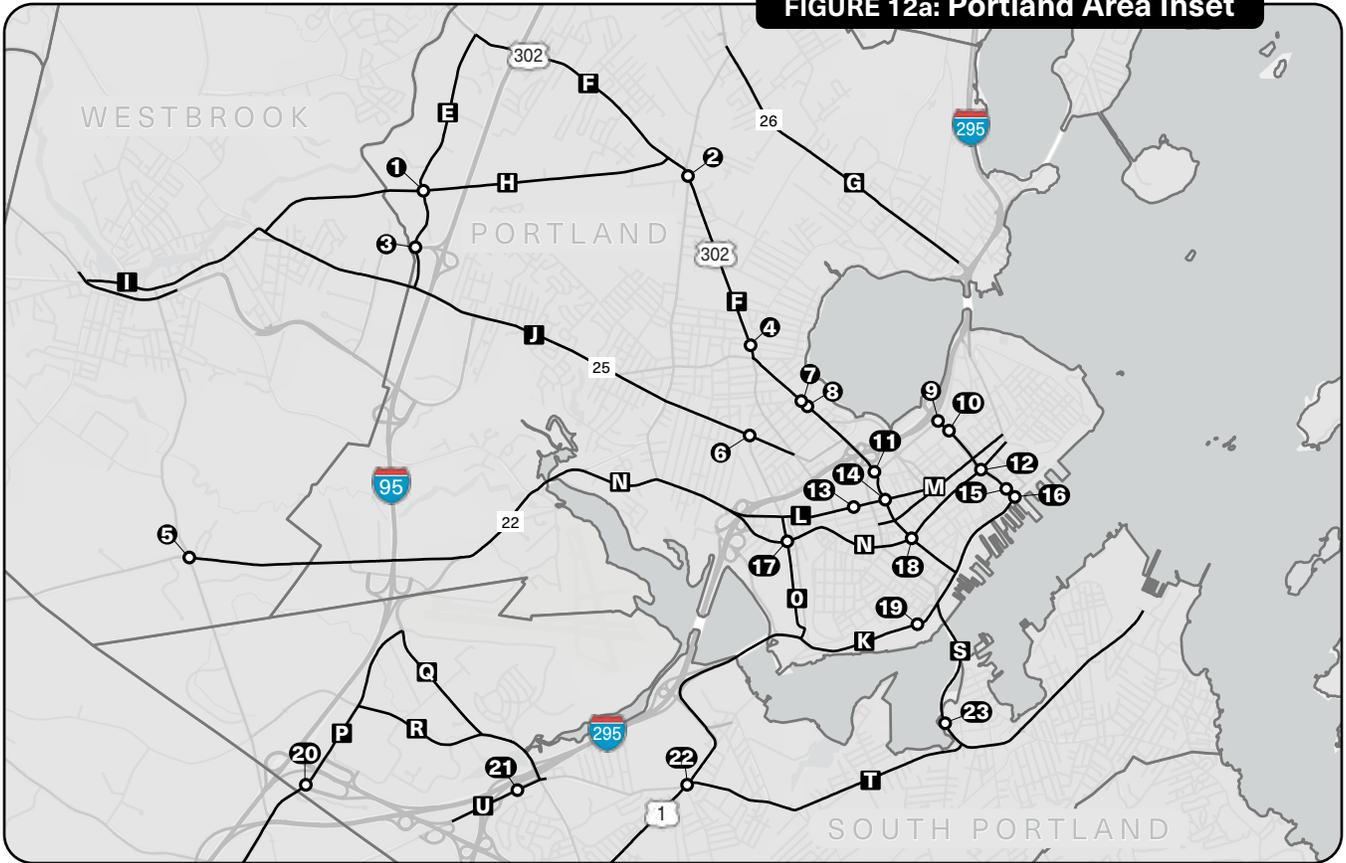


**FIGURE 12:**  
**Critical Safety Corridors**  
**& Intersections**

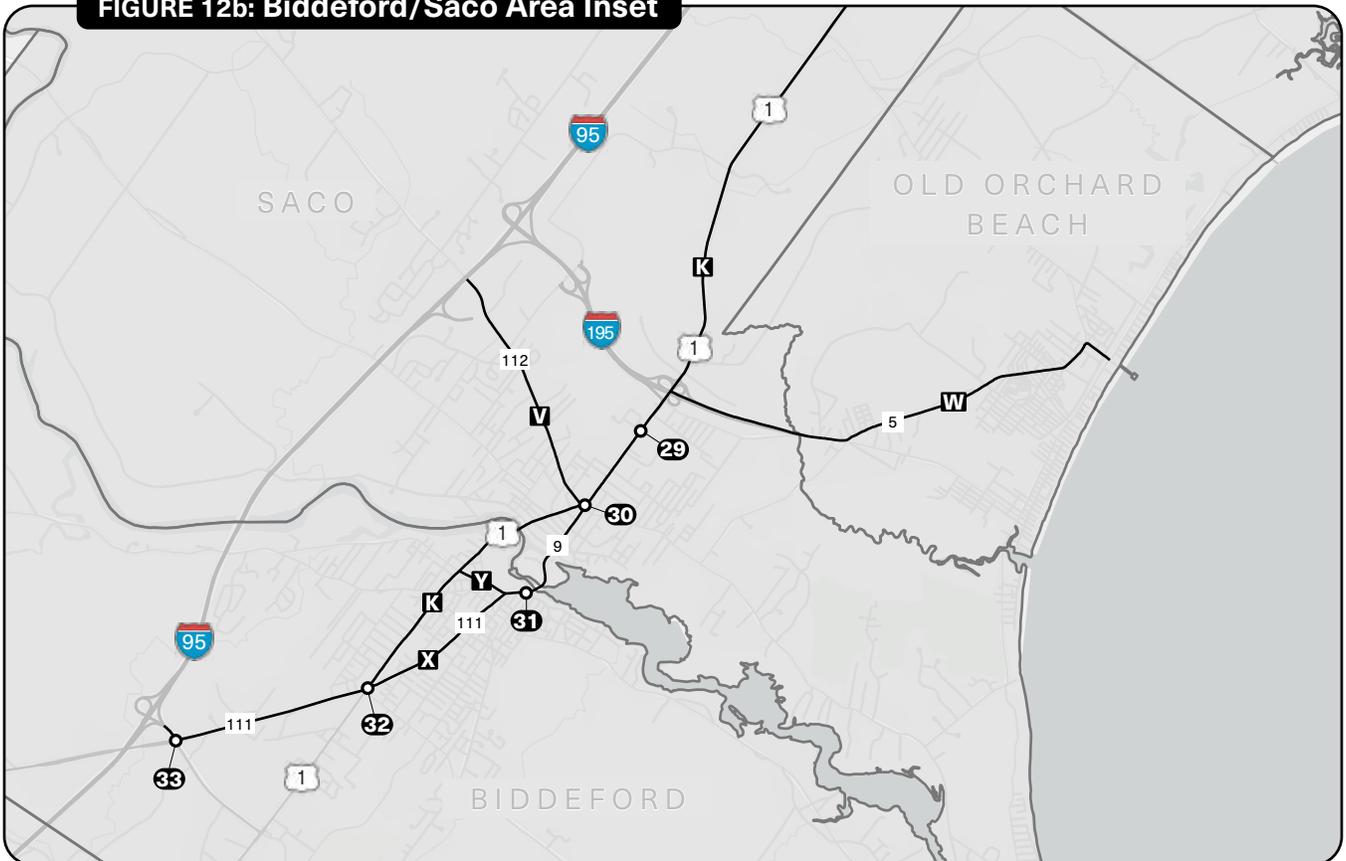
These corridors and intersections were developed by overlaying the data from the four previous maps to determine which locations are most frequently highlighted.

-  Critical Safety Corridors
-  Critical Safety Intersections

**FIGURE 12a: Portland Area Inset**



**FIGURE 12b: Biddeford/Saco Area Inset**



## Critical Safety Corridors

- A Rt. 302**, Whites Bridge Rd. – River Rd. [WINDHAM]
- B Rt. 115/35**, Middle Jam Rd – Kardia Dr. [WINDHAM]
- C Rt. 1**, E. Main St. – Visitor Information Center [YARMOUTH]
- D River St.**, Covered Bridge Rd – Adalynn Dr. [WINDHAM]
- E Riverside St.**, (Rt. 25 – Rt. 302) [PORTLAND]
- F Forest Ave./High St.**, Riverside St. – Commercial St. [PORTLAND]
- G Washington Ave.**, Auburn St. – Veranda St.) [PORTLAND]
- H Warren Ave.**, Rt. 25 – Rt. 302 [WESTBROOK-PORTLAND]
- I William Clarke Dr.**, New Gorham Rd. – Stroudwater St. [WESTBROOK]
- J Brighton Ave.**, New Gorham Rd. – Falmouth St. [WESTBROOK-PORTLAND]
- K Rt. 1/1A**, Rt. 111 – I-295 [BIDDEFORD-PORTLAND]
- L Park Ave.**, Congress St. – Preble St. [PORTLAND]
- M Cumberland Ave.**, State St. – Washington Ave. [PORTLAND]
- N Congress St.**, Spring St. – Washington Ave. [WESTBROOK-PORTLAND]
- O St. John St.**, Park Ave. – Rt. 1A [PORTLAND]
- P Maine Mall Rd. / Payne Rd.**, Haigis Pkwy. – Rt. 9 [SOUTH PORTLAND-SCARBOROUGH]
- Q Western Ave.**, Maine Mall Rd. – Gorham Rd. [SOUTH PORTLAND]
- R Gorham Rd./Western Ave.**, Maine Mall Rd. – Broadway [SOUTH PORTLAND]
- S Rt. 77/Casco Bay Bridge** [PORTLAND, SOUTH PORTLAND]
- T Broadway**, Cash Corner – SMCC [SOUTH PORTLAND]
- U Broadway**, Westbrook St. – Maine Turnpike Approach [SOUTH PORTLAND]
- V North St.**, Rt. 112 – Rt. 1 [SACO]
- W Rt. 5**, Rt. 1 – Rt. 9 [OLD ORCHARD BEACH]
- X Rt. 9/Rt. 111**, I-95 – Rt. 1 [BIDDEFORD-SACO]
- Y Main St.**, Rt. 111 – Rt. 1 [BIDDEFORD]

## Critical Safety Intersections

- 1 Warren Ave. @ Riverside St.** [PORTLAND]
- 2 Morrill's Corner** [PORTLAND]
- 3 Larrabee Rd. @ Riverside St.** [PORTLAND]
- 4 Forest Ave. @ Ocean Ave.** [PORTLAND]
- 5 Rt. 22 @ Spring St.** [WESTBROOK]
- 6 Brighton Ave. @ St. John St.** [PORTLAND]
- 7 Forest Ave. @ Dartmouth St.** [PORTLAND]
- 8 Forest Ave. @ William St.** [PORTLAND]
- 9 Franklin St. @ Marginal Way** [PORTLAND]
- 10 Franklin St. @ Fox St.** [PORTLAND]
- 11 Forest Ave. @ Marginal Way** [PORTLAND]
- 12 Congress St. @ Franklin St.** [PORTLAND]
- 13 Park Ave. @ Mellen St.** [PORTLAND]
- 14 Park Ave. @ High St.** [PORTLAND]
- 15 Franklin St. @ Fore St.** [PORTLAND]
- 16 Franklin St. @ Commercial St.** [PORTLAND]
- 17 Congress St. @ St. John St.** [PORTLAND]
- 18 Congress St. @ High St.** [PORTLAND]
- 19 Rt. 1A @ Beach St.** [PORTLAND]
- 20 Payne Rd. @ Maine Mall Rd.** [SOUTH PORTLAND]
- 21 Broadway @ Sokokis St.** [SOUTH PORTLAND]
- 22 Cash Corner @ Lincoln St.** [SOUTH PORTLAND]
- 23 Rt. 77 @ Erskine Dr.** [SOUTH PORTLAND]
- 24 Rt. 1 @ Pleasant Hill Rd.** [SCARBOROUGH]
- 25 Rt. 1 @ Sawyer Rd.** [SCARBOROUGH]
- 26 Rt. 1 @ Haigis Pkwy.** [SCARBOROUGH]
- 27 Rt. 1 @ Old Blue Rd.** [SCARBOROUGH]
- 28 Broadturn @ Burnham** [SCARBOROUGH]
- 29 Rt. 1 @ Hutchins St.** [SACO]
- 30 Rt. 1 @ Main St. @ North St.** [SACO]
- 31 Main St. @ Hill St.** [BIDDEFORD]
- 32 Five Points** [BIDDEFORD]
- 33 Rt. 111 @ Biddeford Spur** [BIDDEFORD]
- 34 Log Cabin Rd. @ Old Post Rd.** [ARUNDEL]

*\*Locations are not listed in priority order.*



# Tools & Strategies

There are many ways to address the varying roadway safety concerns that exist in the urban, suburban, and rural areas of our region. The tools and strategies included in this section will aid in the selection of effective, context-appropriate approaches.



# Designing Safer Streets

THE UBIQUITY OF SPEEDING does not necessarily mean people are bad drivers. Rather, the design of our roads — wide, straight stretches of asphalt designed almost exclusively for vehicles — encourages them to accelerate.

Safety “countermeasures” (engineering treatments and solutions to improve roadway safety) like speed humps, lane narrowing, raised medians, and rumble strips, have proven track records for reducing crashes. Countermeasures can include bigger infrastructure investments, like converting a signalized intersection to a roundabout, or smaller ones, like installing plastic bollards to separate bicycles from vehicles. Regardless of scale, the common goal across all countermeasures is safer road design and the right visual cues to encourage safe, responsible driving.

This section is organized in two parts: a catalogue of countermeasures followed by local examples.

- The **catalogue of proven safety countermeasures** (Table 1) describes each strategy, where or why it might be used, and how it can be most effective. This list was adapted from the catalogue of countermeasures included in the Denver Regional Council of Government’s *Regional Vision Zero* plan. Icons included in the table spotlight specific focus areas such as: intersection treatments, traffic signal treatments, roadway design, speed management, pedestrian safety, cyclist safety, and transit treatments.
- Following the list are **pictures of local examples** to show what certain countermeasures look like on our streets and highlight impactful projects.

Please note, this section is not an exhaustive resource. It is simply meant to show common safety treatments and spotlight local examples. As municipalities contemplate which approaches to use in various contexts, the links below can provide more specific guidance.

## Additional Resources

- The [PACTS Regional Complete Streets Policy](#) encourages municipalities to adopt best practices’ design guidelines and recommends multiple resources (page 9).
- The Federal Highway Administration’s [Proven Safety Countermeasures](#) is a collection of 28 countermeasures and strategies effective in reducing roadway fatalities and serious injuries.
- The [Pedestrian Safety Guide and Countermeasure Selection System](#) is a resource of 67 engineering, education, and enforcement countermeasures. The guide includes cost estimates for each countermeasure.

# WHAT WORKS

**TABLE 1: Proven Safety Countermeasures**

COUNTERMEASURE	DESCRIPTION
<b>Advance warning sign</b> 	A sign placed to warn a person driving of an upcoming curve, stop sign, traffic signal, roundabout, pedestrian crossing, or other potential point of conflict where a person driving may need to slow down or use caution. Signs can include flashing beacons to enhance awareness.
<b>Advanced dilemma-zone detection</b>  	Advanced dilemma-zone detection enhances safety at signalized intersections by adjusting traffic signal timing on the fly to reduce the number of people driving that may have difficulty deciding whether to stop or proceed during a yellow phase. This may reduce rear-end crashes associated with unsafe stopping and angle crashes due to red-light running.
<b>All-way stop</b>   	Converting two-way stops to all-way stops prevents people driving, walking and biking from having to cross free-flowing travel lanes at a side-street stop-controlled intersection and reduces the risk of a crash.
<b>Appropriate signal timing</b> 	Retime the yellow and all-red signal phases to the appropriate time to allow vehicles to fully clear the intersection in consideration of the speed of the street and size of the intersection.
<b>Automatic pedestrian recall</b>    	Signals can be put in “recall” all the time or for key time periods of the day. The “walk” and/or corresponding green signal would be displayed every signal cycle without prompting by a person walking or from vehicle detection. This can ensure bicyclists get a green signal every cycle and discourages red-light running by people biking.
<b>Bike box</b>  	A designated painted area at the head of a traffic lane at a signalized intersection that provides people biking with a safe and visible way to get ahead of queuing traffic during the red signal phase.
<b>Bike conflict zone markings</b>  	Green painted pavement within a bicycle lane that increases the visibility of people biking and reinforces bicycle priority. Green pavement can be used in spot treatment and conflict areas such as driveways. It can also be used across intersections to define the bikeway.
<b>Bulbout</b>  	Raised devices, usually constructed from concrete, landscaping, or paint and plastic materials, that narrow the roadway to reduce speeds of turning vehicles, improve sight lines and shorten crossing distances for people walking.
<b>Clear zone (clear distance)</b> 	An unobstructed, traversable roadside area that allows a driver who has left the highway to stop safely. Clear zones are most appropriate on higher-speed highways in rural areas and can mitigate crashes with a fixed object. Clear zones are generally not recommended on lower-speed urban and suburban streets as they can encourage higher travel speeds in those settings and be dangerous for people walking.
<b>Co-locate bus stops and pedestrian crossings</b>  	Place bus stops and pedestrian crossings in close proximity to allow people riding transit to cross the street safely.

 Intersection Treatment  
  Traffic Signal Treatment  
  Roadway Design  
  Speed Management  
 Pedestrian Safety  
  Cyclist Safety  
  Transit Treatment

**TABLE 1: Proven Safety Countermeasures** (CONT'D)

COUNTERMEASURE	DESCRIPTION
<b>Consolidate driveways</b> 	Reducing the number of driveway entrances and exits through consolidation limits the exposure of people biking, people walking and people driving to vehicles entering or exiting driveways, reducing conflicts.
<b>Dual curb ramps</b>  	Dual curb ramps improve Americans with Disabilities Act accessibility at all intersection approaches so people walking with mobility challenges, or those pushing carts or strollers, can safely enter and exit all crosswalks at the appropriate angle.
<b>Extend bike lane to and potentially through intersection</b>  	In locations where a bike lane is dropped due to the addition of a turn pocket, a parking lane or turn lane along the intersection approach may be repurposed a to provide a dedicated bike lane through the intersection. At intersections use skipped striping or green paint to highlight conflict zones between bicyclists and motor vehicles.
<b>Extend crossing time</b>  	Increases time for pedestrian walk phases, can better accommodate vulnerable age groups (younger than 18 or older than 65).
<b>Far-side bus stops</b>   	Far-side bus stops are located after an intersection, allowing the vehicle to pass through the intersection before stopping for the passenger loading and unloading a bus.
<b>Flashing stop sign</b> 	A flashing beacon or flashing LED lights can be embedded in stop signs to enhance awareness of people driving and increase compliance rates.
<b>High visibility crosswalks</b>  	High-visibility crosswalks are more visible to people driving. They are striped with continental, ladder or other markings using high-visibility material such as thermoplastic tape instead of paint.
<b>Improve sight distance</b> 	Remove objects that may prevent people driving and people walking from having a clear sightline. Methods for improving sight distance may include trimming or removing landscaping or removing or relocating large signs.
<b>Intersection tightening</b>     	Visually and physically narrowing the street at intersections, can create a shorter crossing for people walking and slows vehicles approaching the intersection and turning. Intersection tightening can be permanent or temporary, using materials like paint, plastic bollards and reflective markers.
<b>Leading pedestrian interval</b>   	Traffic signals timed to allow people walking a short head start in crossing an intersection minimize conflicts with turning vehicles and improve pedestrian safety. Audible beacons can be paired with leading pedestrian intervals to ensure that people who are blind or visually impaired know when to begin their crossing.
<b>Lighting</b> 	Overhead lights illuminate the roadway and enhance visibility at night.

 Intersection Treatment

 Traffic Signal Treatment

 Roadway Design

 Speed Management

 Pedestrian Safety

 Cyclist Safety

 Transit Treatment

**TABLE 1: Proven Safety Countermeasures** (CONT'D)

COUNTERMEASURE	DESCRIPTION
<b>Marked crossing</b>  	Legal crosswalks with traffic control markings in the pavement that increase driver awareness of people walking and yield compliance by people driving. Marked crosswalks are not always appropriate at uncontrolled crossings and an engineering study should be performed before a marked crosswalk is installed away from a traffic signal or an approach controlled by a stop or yield sign.
<b>Narrow travel lanes</b>  	A reduction in lane width on low speed streets, to 11 feet or 10 feet, can produce a traffic calming effect by encouraging people driving to travel at slower speeds, lowering the risk of severe crashes with people biking, people walking and other people driving.
<b>Neighborhood byway</b>   	A neighborhood byway uses local streets with lower traffic volumes and speeds to help pedestrians and cyclists connect to key destinations (neighborhood centers, schools, parks, etc.) while avoiding major commute corridors. Routes feature signs for wayfinding as well as pavement markings.
<b>No passing zone</b>  	Converting a passing zone (where a vehicle uses the opposing lane of traffic to pass another vehicle) to a no-passing zone may reduce head-on or run-off-the-road crashes.
<b>Parking prohibition</b>    	By restricting parking at curbs in front of intersection crosswalks, sight lines are cleared between pedestrian crossings and oncoming people driving, reducing the risk of a crash (also called “daylighting”). Parking can also be restricted in locations with on-street bicycle facilities to minimize dooring.
<b>Partial closure</b> 	A partial closure is a roadway treatment that restricts certain crash-prone turning movements using regulatory signage or channelizing barriers.
<b>Pedestrian hybrid beacon</b>   	Pedestrian hybrid beacons are used at side-street stop intersections and at mid-block locations to require people driving to stop for people walking with a series of yellow and red lights.
<b>Pedestrian refuge median</b>   	Pedestrian refuge medians provide a protected area for people walking at the center of the roadway. They reduce the exposure time for people walking and simplify crossings by allowing people walking to focus on one traffic direction at a time.
<b>Prohibit left turn</b>   	Consider banning left turns at locations where a turning vehicle may conflict with people walking in the crosswalk, where opposing traffic volume is high, or from a side street onto a busy two-way arterial street. Prohibiting people driving from turning left reduces pedestrian interaction with vehicles when crossing.
<b>Prohibit right turn on red</b>    	Prohibiting right turns on red can help prevent crashes between vehicles turning right on red from one street and through vehicles on the cross street, and crashes involving people walking. Consider prohibiting right turns on red at skewed intersections, or in combination with exclusive pedestrian “walk” phases, leading pedestrian intervals, sight distance issues or high pedestrian volumes.
<b>Prohibit turn during pedestrian phase</b>    	Restricting left or right turns during the pedestrian crossing phase at locations where a turning vehicle may reduce conflicts with people walking in the crosswalk.

 Intersection Treatment  
  Traffic Signal Treatment  
  Roadway Design  
  Speed Management

 Pedestrian Safety  
  Cyclist Safety  
  Transit Treatment

**TABLE 1: Proven Safety Countermeasures** (CONT'D)

COUNTERMEASURE	DESCRIPTION
<b>Protected turn phase</b> 	Protected turns provide an exclusive phase for left- or right-turning vehicles to enter an intersection separate from conflicting vehicle or pedestrian movements.
<b>Protected/separated bikeway</b> 	Designated bicycle lanes separated from vehicle traffic by a physical barrier (such as bollards, landscaping or parked cars) can increase safety for everyone by decreasing opportunities for encroachment on the bike lane by people driving. Protected and separated bikeways also reduce the risk of dooring.
<b>Raised median</b> 	Curbed sections in the center of the roadway that are physically separated from vehicular traffic can reduce travel speeds and also help control access to and from side streets and driveways, reducing conflict points.
<b>Rectangular rapid flashing beacon</b> 	Pedestrian-activated flashing lights and additional signage that enhance the visibility of marked crosswalks and alert people driving to a pedestrian crossing.
<b>Red light camera</b> 	Red light cameras can be used for automated enforcement to issue citations to people driving running red lights at signalized intersections, which may discourage red-light running.
<b>Road diet</b> 	Road diets reassign space in the roadway from vehicle travel lanes to create room for sidewalks, cycling facilities, or center turn lanes. Road diets optimize street space to benefit all users by improving the safety and comfort for people walking and cycling, and reducing speeds and the potential for rear-end crashes.
<b>Roundabout</b> 	Roundabouts are large circular islands, placed in the middle of an intersection, which direct flow in a continuous circular direction around the intersection. Roundabouts reduce the number of conflict points and decrease vehicle speeds due to intersection geometry.
<b>Rumble strips</b> 	Shoulder or centerline rumble strips are an effective countermeasure to reduce roadway departure crashes. Rumble strips result in noise and vibration to alert people driving when they leave the travelway.
<b>Shorten crossing distance</b> 	Shortening the crossing distance by adding a bulbout, removing a turn lane, tightening the turn radius or other means reduces the length of time required for people walking to cross an intersection. Shorten crossing distances can also visually narrow the roadway, which encourages people driving to slow down.
<b>Sidewalks</b> 	Sidewalks and walkways are pedestrian lanes that provide people with space to travel within the public right-of-way that is separated from motor vehicles. They are associated with reduced crashes where people walking were previously walking along the roadway. In most cases sidewalks should be provided on both sides of the street and designed in accordance with local street standards.
<b>Signal coordination</b> 	A series of coordinated traffic signals allows vehicles to travel a corridor at relatively uniform speed with minimal stopping and can reduce rear-end crashes.

 Intersection Treatment  
  Traffic Signal Treatment  
  Roadway Design  
  Speed Management  
 Pedestrian Safety  
  Cyclist Safety  
  Transit Treatment

**TABLE 1: Proven Safety Countermeasures** (CONT'D)

COUNTERMEASURE	DESCRIPTION
<b>Speed cameras</b> 	Speed cameras are a type of automated enforcement that use cameras as well as radar or in-ground sensors to detect speed and identify the associated vehicle. Speed cameras can substantially reduce speed-related crashes.
<b>Speed feedback sign</b> 	A roadway treatment that uses radar to alert people driving to their actual speed relative to the posted speed limit, encouraging people driving who exceed to the speed limit to slow down.
<b>Targeted enforcement</b> 	Targeted enforcement is used to reduce the most dangerous behaviors (such as speeding, distracted driving, aggressive driving, impaired driving, and red-light and stop sign running), particularly at locations with a history of such behaviors. People driving are less likely to participate in dangerous behaviors when they know there is a higher likelihood they will be caught.
<b>Traffic calming</b> 	Traffic calming refers to a full range of horizontal and vertical design elements intended to slow the movement of cars through a corridor. Examples include horizontal curvature, chicanes, narrow travel lanes, traffic circles, fewer lanes, bulbouts, medians, signals coordinated for slower speeds, and speed humps.
<b>Traffic signal</b> 	Traffic signals help to organize travel of all modes at an intersection, limiting interactions between vehicles and people walking/cycling with conflicting movements. New traffic signals can have a traffic calming effect on long, high-speed straightaways.
<b>Traffic signal bike detection</b> 	Bike detection is used at signalized intersections, either through use of buttons, in-pavement loops, or by video or infrared cameras, to call a green light for people biking and reduce delay for bicycle travel. Traffic signal bike detection discourages red-light running by people biking and increase convenience of bicycling.
<b>Two stage gap acceptance</b> 	Two-stage gap acceptance provides a refuge in the median for vehicles making a left turn onto a busy street in two stages. This design allows people driving to focus on finding a gap in traffic in one direction of travel instead of both.
<b>Variable speed limit</b> 	Speed limit signs that can be adjusted at various times of the day. Reducing the speed limit when conditions are less optimal such as at night, during inclement weather, poor road conditions or when there is heavy traffic can reduce the likelihood of severe crashes.
 Intersection Treatment  Traffic Signal Treatment  Roadway Design  Speed Management  Pedestrian Safety  Cyclist Safety  Transit Treatment	



## LOCAL EXAMPLES

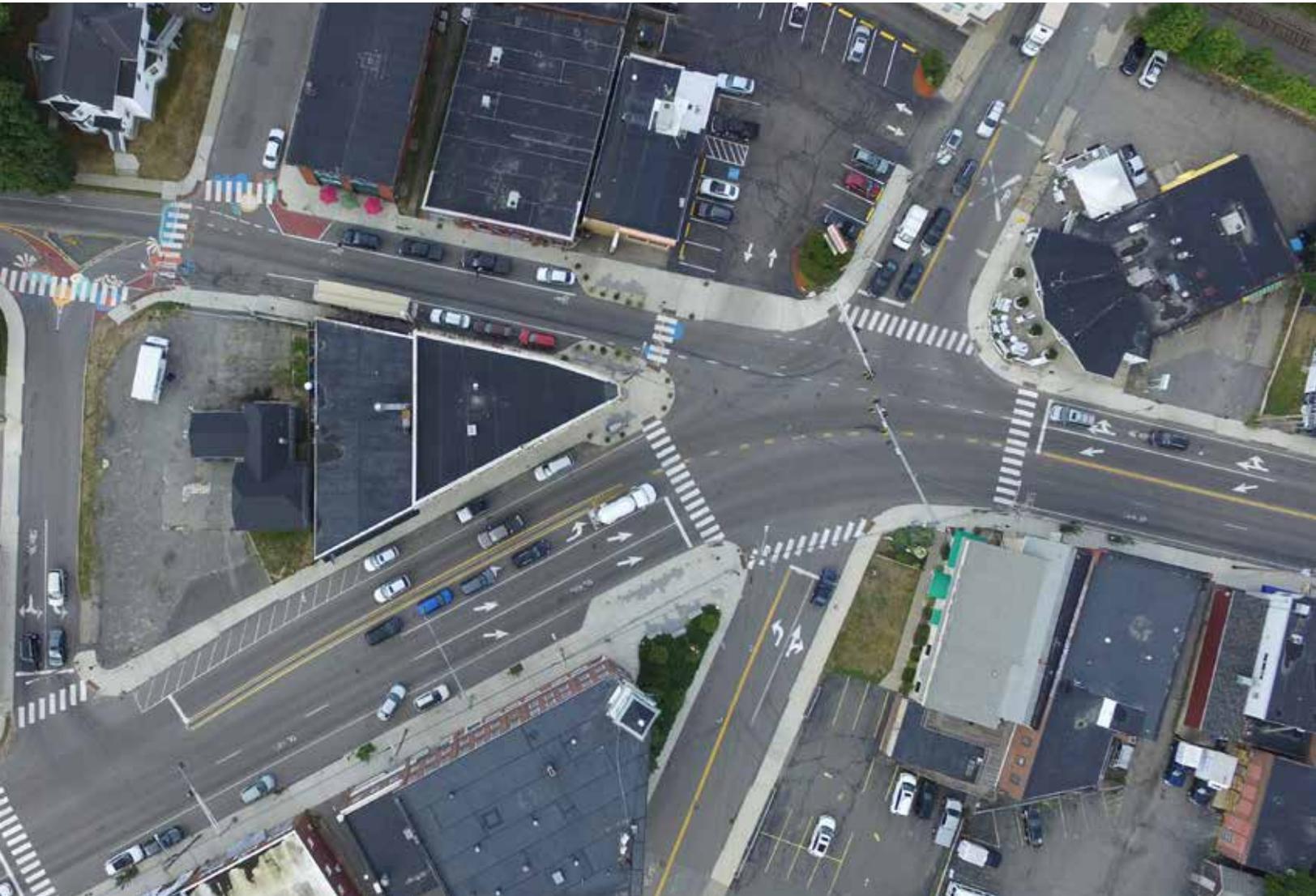
- A** Roundabout + raised crosswalks + pedestrian refuge islands + sidewalks  
Brighton Ave. @ Deering Ave., Portland

# LOCAL EXAMPLES



## LOCAL EXAMPLES

- B** Parking protected bike lane | Park Ave., Portland
- C** Speed feedback sign | Rt. 77, South Portland
- D** Rectangular rapid flashing beacon + pedestrian refuge island | Forest Ave., Portland
- E** Separated multi-use path | Westbrook St., South Portland



## LOCAL EXAMPLES

**F** Intersection tightening + removal of slip lane + place-making | Woodford's Corner, Portland

# LOCAL EXAMPLES



G



H



I

## LOCAL EXAMPLES

- G** Bulb out + enhanced pedestrian crossing | Cottage Rd., South Portland
- H** Raised crosswalk + co-located transit stop | Stevens Ave., Portland
- I** Raised median | Washington Ave., Portland

## LOCAL EXAMPLES



### LOCAL EXAMPLES

- J** Flashing stop sign (all-way) | Deering Ave. Portland
- K** Extend bike lane through intersection | W. Commercial St. @ Beach St., Portland
- L** Bike lane + buffered sidewalk + pedestrian-scale lighting | Rt. 26, Falmouth

# LOCAL EXAMPLES



## NEIGHBORHOOD BYWAYS

A BICYCLE-PEDESTRIAN NETWORK THAT FOCUSES ON SAFETY, ACCESSIBILITY & CONNECTIVITY



### SAFETY & ACCESS

CREATE A SAFER ALTERNATIVE TO BUSY ARTERIALS WITH SUPPORTIVE AND ACCESSIBLE INFRASTRUCTURE

- Utilizes local streets with lower traffic volumes and speeds and enhanced bike-friendly connections
- Busy street crossings are high visibility, and feature ADA crosswalks and advisory signage
- Introduces traffic calming measures such as islands and speed bumps to discourage thru-traffic
- Features seating, lighting, and other amenities at frequent intervals

### CONNECTIVITY

DEVELOP RELIABLE AND CONVENIENT TRANSPORTATION CONNECTIONS BETWEEN KEY DESTINATIONS

- Connects the places people live, work, play, shop and learn
- Emphasizes connections between Portland schools, neighborhood centers and major open spaces/parks
- Routes feature signs for wayfinding with key destinations, as well as road markings
- Transit stops and stations are reachable by foot and bicycle

FOR MORE INFORMATION, VISIT [HTTP://WWW.PORTLANDMAINE.GOV/1856/PORTLANDS-NEIGHBORHOOD-BYWAY-PROGRAM](http://www.portlandmaine.gov/1856/PORTLANDS-NEIGHBORHOOD-BYWAY-PROGRAM)

## LOCAL EXAMPLES

**M** Bicycle boulevard pavement marking | Beacon St., Portland

**N** Neighborhood byways flier | City of Portland

**O** Neighborhood byways sign | Prospect St., Portland

# LOCAL EXAMPLES



## LOCAL EXAMPLES

**P** Road diet + raised median + streetscaping | Route 1, Falmouth

## LOCAL EXAMPLES



### LOCAL EXAMPLES

- Q** Prohibit left turn | Broadway, South Portland
- R** Conversion of two-way stop to all-way stop | Beacon St. @ Ashmont St., Portland
- S** Advanced warning sign | Skillin Rd., Cumberland

# LOCAL EXAMPLES



## LOCAL EXAMPLES [FUTURE]

- T Conversion to two-way street + raised cycle track + enhanced streetscape + paired bus stops**  
Libbytown Safety and Accessibility Project, Congress St., Portland

## DEMONSTRATION PROJECTS



Painting a shared lane marking, North Yarmouth | Photo: Bicycle Coalition of Maine

Demonstration projects are temporary, low-cost street safety improvements that allow communities to pilot a new road design or traffic pattern to see how it works. The projects offer a chance to address concerns community members may have about the infrastructure, prove the value a permanent project may provide, and finalize design before a final installation. Examples of demonstration projects include creating make-shift bicycle lanes with cones, closing slip lanes with moveable barriers, or enhancing crosswalks with high visibility posts or colored paint.

Since 2014, the Bicycle Coalition of Maine has been a leader in demonstration projects across Maine via its [Imagine People Here](#) campaign. Through this initiative, the organization works with local advocates and municipal officials to create demonstration projects. The coalition also performs speed and yield studies before and after installation of the demonstration project to evaluate effectiveness.

Photos: Bicycle Coalition of Maine



Top Left: Bike lane | Cottage Rd., South Portland  
Middle Left: Enhanced crossing | Broadway, South Portland  
Bottom Left: Enhanced crossing | Main St., Westbrook

Top Right: Painting a bike lane | Cottage Rd., South Portland  
Middle Right: Shared lane marking | North Yarmouth  
Bottom Right: Enhanced crossing | Woodford St., Portland



# Taking Action

From increased awareness and policy changes to updated infrastructure and data collection methods, there are many ways we can take action to reach our goal of zero.

# Action Steps

FOR OPTIMUM SAFETY in our transportation system, we must reinforce six layers of protection: Safer Streets, Safer Speeds, Safer Vehicles, Safer People, Post-crash Care, and Programmatic Support & Funding. The actions in this plan are organized in accordance with these objectives.

Within each objective, action steps are arranged by timeframe, from shortest to longest, with ongoing actions at the top. Actions with specific timeframes are expected to be accomplished within that period. Each action step also includes a “WHO” column designating the lead agency responsible for driving the action with others who can offer support. Finally, there is a “METRICS” column describing how we will measure progress.

## OVERVIEW OF OBJECTIVES

### **Objective 1: Programmatic Support & Funding**

This work requires both human and financial capital. Actions under this objective seek to strengthen partnerships, bring in more allies, secure new funds, and establish steady revenue streams dedicated to increasing safety.

### **Objective 2: Safer Roads**

Streets that slow vehicles, separate conflicting movements, and provide dedicated spaces for different modes are essential for long term, sustainable progress toward our goal. Actions under this objective prioritize infrastructure improvements and roadway design changes to address critical threats and provide safer bicycle and pedestrian networks.

### **Objective 3: Safer Speeds**

In our region from 2016-2022, speed was a factor in 1 out of every 6 fatal or severe crashes. Pedestrians and cyclists are less likely to survive collisions with vehicles traveling at higher speeds. Actions under this objective focus on determining the correct speeds for the correct contexts,

expanding municipalities' ability to influence local speed limits, and finding the most effective, efficient, and equitable ways to use enforcement to curb speeding.

### **Objective 4: Safer People**

Safe road users are an integral part of a safe system. Regardless of how people navigate our roadways, we want them to make good choices. This can include wearing seatbelts or helmets, driving at or below posted speeds, and yielding to vulnerable users regardless of the rules. Actions under this objective promote awareness and understanding of Vision Zero and safe behaviors.

### **Objective 5: Safer Vehicles**

Emergent technologies help protect people outside and inside vehicles by preventing crashes or absorbing crash impacts. Still, taking public transit is safer than traveling in personal vehicles, and some larger personal vehicles pose greater safety risks to people walking and cycling due to their weight and blind spots. Actions under this objective ensure municipal and state fleets have right-sized vehicles with up to date safety features, encourage a mode shift from single occupancy vehicles to public transit, and provide education on the correlation between vehicle size and crash severity.

### **Objective 6: Post-Crash Care**

We can increase crash survivability by ensuring quick access to emergency services. Post-crash care also includes good incident management and follow-up in the form of data collection and analysis that will help us make informed decisions and track our progress toward our goal of zero. Actions under this objective focus on continuing to examine traffic incident management and ensuring we collect the right data, make it accessible to the public, and regularly communicate our progress.



OBJECTIVE 1:  
**PROGRAMMATIC  
SUPPORT & FUNDING**

GPCOG, along with other relevant agencies/ organizations, have made programmatic and financial commitments to support and implement Vision Zero in Greater Portland.

**TABLE 2: Action Steps**

#	ACTION	WHO	TIMEFRAME	METRICS
<b>PF1</b>	Continue to convene the Vision Zero Advisory Panel for the purpose of monitoring and guiding progress on the plan.	<ul style="list-style-type: none"> <li>GPCOG (LEAD)</li> <li>Advisory panel</li> </ul>	Ongoing	Minimum of two meetings per year.
<b>PF2</b>	Invite allied organizations to attend and participate with the Vision Zero Advisory Panel as appropriate.  (Ex. organizations from: social services, economic development, homelessness, religious and spiritual communities, and other community-based organizations).	<ul style="list-style-type: none"> <li>GPCOG (LEAD)</li> <li>Advisory panel</li> </ul>	Ongoing	Number of representatives of allied organizations included in meetings annually.
<b>PF3</b>	Identify and apply for grants to help implement plan strategies throughout the region.	<ul style="list-style-type: none"> <li>GPCOG (LEAD)</li> <li>Municipalities</li> <li>MaineDOT</li> </ul>	Ongoing	Number of grants applied for and/or awarded.
<b>PF4</b>	Work with MaineDOT to prioritize funding for Complete Streets, managing speeds for safety, traffic calming projects that protect all road users, and investments that encourage mode shift.	<ul style="list-style-type: none"> <li>GPCOG (LEAD)</li> <li>MaineDOT</li> </ul>	Ongoing	GPCOG participation in MaineDOT's Statewide Safety Plan process.
<b>PF5</b>	Encourage municipalities to adopt this Vision Zero Action Plan and/or a community-specific one.	<ul style="list-style-type: none"> <li>GPCOG (LEAD)</li> <li>Municipalities</li> </ul>	3 years	Number of municipalities that have adopted this plan and/or one of their own.  Goal: 80% of municipalities in 3 years.
<b>PF6</b>	Secure a stable transportation funding source dedicated to road safety.	<ul style="list-style-type: none"> <li>GPCOG (LEAD)</li> <li>MaineDOT</li> <li>Municipalities</li> <li>Nonprofits</li> </ul>	3 years	Stable funding source secured.
<b>PF7</b>	Prioritize high impact safety projects along critical safety corridors and intersections.	<ul style="list-style-type: none"> <li>GPCOG (LEAD)</li> <li>MaineDOT</li> <li>Municipalities</li> </ul>	5 years	PACTS transportation investments (\$).



**OBJECTIVE 2:  
SAFER ROADS**

Roads are designed to mitigate human error. Road design that prioritizes safe, healthy, equitable access for all can also reduce the potential for high impact crashes, encourage safe behaviors, and facilitate safe travel for all modes.

**TABLE 2: Action Steps** (CONT'D)

#	ACTION	WHO	TIMEFRAME	METRICS
<b>SR1</b>	Implement safety counter-measures along critical safety corridors/intersections.	<ul style="list-style-type: none"> <li>• MaineDOT (LEAD)</li> <li>• Municipalities (LEAD)</li> <li>• GPCOG</li> </ul>	Ongoing	Biannual count of safety projects implemented.
<b>SR2</b>	Identify regional safety-focused quick-build projects.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• Bicycle Coalition of Maine (BCM)</li> <li>• Municipalities</li> <li>• MaineDOT</li> </ul>	Ongoing	Living list of identified projects.
<b>SR3</b>	Conduct safety audits to identify safety issues and barriers. Prioritize audits in disadvantaged communities.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• MaineDOT</li> <li>• Municipalities</li> <li>• Nonprofits</li> </ul>	Ongoing	Number of audits conducted. Goal: 2 per year.
<b>SR4</b>	Maintain existing facilities and explore opportunities for low-cost safety treatments.	<ul style="list-style-type: none"> <li>• MaineDOT (LEAD)</li> <li>• Municipalities (LEAD)</li> <li>• GPCOG</li> </ul>	Ongoing	Monitor asset management in annual budgets.
<b>SR5</b>	Support legislation that prioritizes safety for vulnerable users in road design.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• MaineDOT</li> <li>• Municipalities</li> <li>• Nonprofits</li> </ul>	Ongoing	Number of legislative bills supported and/or passed.
<b>SR6</b>	Explore creating a sustainable, dedicated funding source for quick-build demonstration projects to pilot safety improvements.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• MaineDOT</li> </ul>	2 years	Dedicated funding source at PACTS by 2025.
<b>SR7</b>	Obtain funding to implement quick-build demonstration projects at high priority locations.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• MaineDOT</li> <li>• Municipalities</li> <li>• Nonprofits</li> </ul>	3 years	Amount of funding obtained. Number of quick-build projects.
<b>SR8</b>	Work to align relevant local, regional, and state street design guidelines with Vision Zero and Safe System Approach principles.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• Municipalities</li> <li>• MaineDOT</li> </ul>	5 years	Number of consistent and/or complementary guidelines.
<b>SR9</b>	Encourage municipalities to adopt the PACTS Regional Complete Street Policy and/or a community-specific one.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• Municipalities</li> </ul>	5 years	Number of municipalities with Complete Street policies. Goal: 80% of PACTS municipalities have policies.



OBJECTIVE 3:  
**SAFER SPEEDS**

We need the right speeds for the right contexts, and to design roads that encourage people to drive at the right speeds for the right contexts. We can also encourage people to drive appropriate speeds through education, outreach campaigns, and enforcement.

**TABLE 2: Action Steps** (CONT'D)

#	ACTION	WHO	TIMEFRAME	METRICS
<b>SS1</b>	Assist municipalities to examine speed limits and identify locations that would benefit from speed limit reductions.	<ul style="list-style-type: none"><li>• GPCOG (LEAD)</li><li>• Police Dept.'s</li><li>• MaineDOT</li><li>• Municipalities</li><li>• Nonprofits</li></ul>	Ongoing	Annual number of engagements with municipalities.
<b>SS2</b>	Collaborate with municipalities and stakeholders to maximize resources and ensure the most equitable and effective use of enforcement.	<ul style="list-style-type: none"><li>• Police Dept.'s (LEAD)</li><li>• Municipalities</li><li>• MaineDOT</li></ul>	Ongoing	Annual number of meetings with stakeholders.
<b>SS3</b>	Support legislation to allow safety cameras as an enforcement technique, including for red-light running and speeding.	<ul style="list-style-type: none"><li>• GPCOG (LEAD)</li><li>• Police Dept.'s</li><li>• MaineDOT</li><li>• Municipalities</li><li>• Nonprofits</li></ul>	Ongoing	Amended legislation.
<b>SS4</b>	Explore funding to obtain speed feedback signs for use by municipalities.	<ul style="list-style-type: none"><li>• GPCOG (LEAD)</li><li>• Police Dept.'s</li><li>• MaineDOT</li><li>• Municipalities</li><li>• Nonprofits</li></ul>	2 years	Number of signs obtained.
<b>SS5</b>	Explore opportunities for municipalities to have more discretion over setting speed limits.	<ul style="list-style-type: none"><li>• GPCOG (LEAD)</li><li>• Police Dept.'s</li><li>• MaineDOT</li><li>• Municipalities</li><li>• Nonprofits</li></ul>	5 years	Ability for municipalities to influence speed limits.
<b>SS6</b>	Monitor and evaluate results of speed limit changes and recommend needed improvements based on results.	<ul style="list-style-type: none"><li>• GPCOG (LEAD)</li><li>• Police Dept.'s</li><li>• MaineDOT</li><li>• Municipalities</li><li>• Nonprofits</li></ul>	5 years	Number of studies.



**OBJECTIVE 4:  
SAFER PEOPLE**

Whether walking, biking, driving, riding transit, or traveling by another mode, people need to make choices that help them to be safe and arrive at their destinations unharmed. This includes behaviors like wearing a seatbelt, making sure bicycles have reflectors, following the rules of the road, sharing the road, and not driving impaired or distracted.

**TABLE 2: Action Steps** (CONT'D)

#	ACTION	WHO	TIMEFRAME	METRICS
<b>SP1</b>	Continue public education campaigns to deter speeding and distracted driving.	<ul style="list-style-type: none"> <li>Bureau of Highway Safety (LEAD)</li> <li>MaineDOT</li> <li>Nonprofits</li> </ul>	Ongoing	Number of campaigns.
<b>SP2</b>	Promote consistent messaging and crash reporting language to media outlets.	<ul style="list-style-type: none"> <li>GPCOG (LEAD)</li> <li>Police Dept.'s</li> <li>MaineDOT</li> <li>Municipalities</li> <li>Nonprofits</li> </ul>	Ongoing	Visible change in reporting.
<b>SP3</b>	Connect with driver education programs and encourage them to share Vision Zero information in their trainings.	<ul style="list-style-type: none"> <li>GPCOG (LEAD)</li> <li>Driver's Ed. Programs</li> <li>MaineDOT</li> <li>Municipalities</li> <li>Nonprofits</li> </ul>	2 years	Number of participating programs.
<b>SP4</b>	Agree to add "How's My Driving?" stickers to fleet vehicles.	<ul style="list-style-type: none"> <li>Municipalities (LEAD)</li> <li>Counties (LEAD)</li> <li>State Agencies (LEAD)</li> </ul>	2 years	Number of participating public fleets.
<b>SP5</b>	Provide initial round of Vision Zero information, resources, and trainings to community members and media outlets.	<ul style="list-style-type: none"> <li>Nonprofits (LEAD)</li> <li>GPCOG</li> <li>MaineDOT</li> <li>Municipalities</li> </ul>	3 years	Number of events held. Materials produced/distributed.
<b>SP6</b>	Develop and launch educational programming aimed at pedestrian and cyclist safety and awareness.  (Focus on transportation disadvantaged communities and schools within 1/4 mile of the high injury network).	<ul style="list-style-type: none"> <li>Nonprofits (LEAD)</li> <li>GPCOG</li> <li>MaineDOT</li> <li>Municipalities</li> </ul>	5 years	Number of events held. Materials produced/distributed.
<b>SP7</b>	Use fleet vehicles as moving billboards to promote Vision Zero messaging.  (Use bumper stickers and/or removable vinyl decals).	<ul style="list-style-type: none"> <li>Municipalities (LEAD)</li> <li>Counties (LEAD)</li> <li>State Agencies (LEAD)</li> <li>Police Depts. (LEAD)</li> <li>GPCOG</li> <li>Nonprofits</li> </ul>	5 years	Number of participating public fleets.



OBJECTIVE 5:  
**SAFER VEHICLES**

Vehicles should be designed with safety features and systems to help prevent crashes, and, when they do occur to minimize the impact of crashes on both occupants and non-occupants.

**TABLE 2: Action Steps** (CONT'D)

#	ACTION	WHO	TIMEFRAME	METRICS
<b>SV1</b>	Promote mode shift from single occupancy vehicles to public transit wherever appropriate.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• Transit Agencies</li> <li>• Nonprofits</li> <li>• MaineDOT</li> <li>• Municipalities</li> <li>• Counties</li> </ul>	Ongoing	Transit ridership numbers.  Vehicle counts on transit corridors.
<b>SV2</b>	Require that all new fleet vehicles have the latest crash reduction technology and safety equipment available.  (Ex. back-up cameras, blind spot detection).	<ul style="list-style-type: none"> <li>• Municipalities (LEAD)</li> <li>• Counties (LEAD)</li> <li>• State Agencies (LEAD)</li> </ul>	Ongoing	Percent of vehicles with crash reduction technology.
<b>SV3</b>	Right-size fleet vehicles.  (Smaller vehicles are less lethal in crashes and more fuel-efficient).	<ul style="list-style-type: none"> <li>• Municipalities (LEAD)</li> <li>• Counties (LEAD)</li> <li>• State Agencies (LEAD)</li> </ul>	Ongoing	Number of vehicles right-sized.
<b>SV4</b>	Provide education on the correlation between vehicle size and crash severity.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• Nonprofits (LEAD)</li> <li>• Municipalities</li> <li>• Counties</li> <li>• State Agencies</li> </ul>	Ongoing	Materials produced/distributed.



**OBJECTIVE 6:  
POST-CRASH CARE**

We can increase survivability from crashes by ensuring quick access to emergency and trauma care.

More robust data collection and analysis can help ensure programs and safety improvements are prioritized where they are needed most.

**TABLE 2: Action Steps** (CONT'D)

#	ACTION	WHO	TIMEFRAME	METRICS
<b>PC1</b>	Continue to convene the Traffic Incident Management (TIM) committee.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• Police/Fire Depts.</li> <li>• MaineDOT</li> <li>• Maine Turnpike Authority</li> <li>• Towing Companies</li> </ul>	Ongoing	Quarterly TIM committee meetings.
<b>PC2</b>	Prepare a brief annual assessment that summarizes yearly crash statistics and outlines progress towards Vision Zero goals.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• MaineDOT</li> <li>• Municipalities</li> </ul>	Ongoing	Annual assessment.
<b>PC3</b>	Explore ways to collect demographic information at crash sites to help assess equity.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• Police Depts.</li> <li>• MaineDOT</li> <li>• Municipalities</li> <li>• Nonprofits</li> </ul>	3 years	Updated data collection forms.
<b>PC4</b>	Update the High Injury Network, High Risk Network, and Transportation Equity map layers with most current data.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> </ul>	Every 3 years	Updated map layers.
<b>PC5</b>	Develop an interactive safety dashboard where members of the public can easily access crash data and filter it by location, crash type, crash factors, and permissible available demographic information.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• Police Dept.'s (Local/State)</li> <li>• MaineDOT</li> <li>• Municipalities</li> <li>• Nonprofits</li> </ul>	5 years	Interactive safety dashboard.
<b>PC6</b>	When demographic data becomes available, analyze data on racial disparities in serious and fatal crashes.	<ul style="list-style-type: none"> <li>• GPCOG (LEAD)</li> <li>• MaineDOT</li> </ul>	5 years	Findings incorporated into annual assessment (PC2).

# Monitoring & Reporting

WE HAVE EMBEDDED multiple action steps in this plan to guarantee consistent monitoring and reporting. These are shown in Table 3 below.

**TABLE 3: Monitoring & Reporting Actions**

ACTION	DESCRIPTION
PF1	Continue to convene the Vision Zero Advisory Panel to monitor and guide plan implementation
PF2	Bring in more allies in to inform, observe, and guide this work
SR1	Keep a biannual count of the number of safety project implemented
PC2	Prepare an annual assessment to increase the ease of access
PC3	Develop a safety dashboard to increase the ease of access to crash data for the public
PC5	Update the High Injury Network, High Risk Network, and Equity maps with most current data every 3 years

# On the Shoulders of Giants

THIS ACTION PLAN will help our region make significant strides toward eliminating fatalities and serious injuries on our roadways. It was developed through a comprehensive regional process, and we never would have been able to put it together without the cooperation and collaboration of our communities. To that end, it is worth noting some of the great work our municipalities have already done to increase safety on the region’s roadways. Indeed, this plan stands on the shoulders of many other plans that preceded this work and helped to pave the way for a smooth action planning process.

**TABLE 4: Related Plans & Policies**

MUNICIPAL
Town of Cape Elizabeth   <a href="#">Complete Streets Policy</a>
Town of Falmouth   <a href="#">Bicycle &amp; Pedestrian Plan</a>
Town of Freeport   <a href="#">Complete Streets Policy</a>
Town of Gorham   <a href="#">Bicycle &amp; Pedestrian Plan for Gorham Village</a>
City of Portland   <a href="#">Complete Streets Policy</a>
City of Saco   <a href="#">Bicycle &amp; Pedestrian Master Plan</a>
Town of Scarborough   <a href="#">Complete Streets Policy</a>
City of South Portland   <a href="#">Complete Streets Policy</a>
Town of Windham   <a href="#">Complete Streets Policy</a>
Town of Yarmouth   <a href="#">Complete Streets Policy</a>
REGIONAL / STATE
PACTS   <a href="#">Regional Complete Streets Policy</a>
MaineDOT   <a href="#">Complete Streets Policy</a>

