TOWARD ZERO DEATHS

ALASKA

STRATEGIC HIGHWAY SAFETY PLAN

Revised March 15, 2024

2023–2027

Front cover photo sources: highway (top), motorcycle, and child in booster seat – Getty Images; bicyclists and oversized vehicle – Alaska DOT&PF; and Commercial Vehicle Enforcement – Carl Brill.
All images in the plan are sourced to Getty Images unless otherwise noted.

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Transportation and Public Facilities

OFFICE OF THE COMMISSIONER
Ryan Anderson, P.E., Commissioner

PO Box 112500
Juneau, Alaska 99811-2500
Main: 907.465.3900
dot.alaska.gov

May 23, 2023

Dear Safety Partners:

The vast geography of our transportation system in Alaska challenges us in many ways. As Alaska's State Transportation Authority, the Alaska Department of Transportation and Public Facilities (DOT&PF) is committed to safety as a core value and strategic investment area across our vast system. The Alaska Highway Safety Office (AHSO) works to enhancing the health and wellbeing of Alaska's people through programs aimed at saving lives and preventing injuries on our roads regardless of how we choose to travel.

This Strategic Highway Safety Plan is the roadmap for the DOT&PF, AHSO, and our many safety partners to achieve a significant reduction of fatalities and serious injuries on Alaska's roadways. We can achieve this through implementation of the Safety System Approach and implementing strategies and actions focused on engineering, education, enforcement, and emergency medical services.

Creating a Safe System depends on all of us. We need each one of you to help foster a culture of safety that believes death and serious injury is unacceptable. Making safe driving, biking, and walking decisions can save lives and reduce injuries when combined with safe speeds, roadway design, vehicle technologies, and post-crash care. Through this shared responsibility, we can move Alaska *Toward Zero Deaths* and serious injuries.

Thank you to the many individuals who helped develop this plan and to the many more who will implement its strategies, projects, and programs to help develop our culture of safety. We appreciate your dedication to roadway safety in Alaska.

Sincerely,

Ryan Anderson, P.E.
Commissioner

"Keep Alaska Moving through service and infrastructure."

TABLE OF CONTENTS

INTRODUCTION

The Alaska Strategic Highway Safety Plan (SHSP) is focused on reducing highway fatalities and serious injuries on all public roads in Alaska.

As mandated by 23 U.S.C. §148 (c)(1), the SHSP is a federally required statewide, comprehensive safety plan that provides a coordinated framework around which safety stakeholders unite to reduce highway fatalities and serious injuries on all public roads. Federal law requires the SHSP to be updated every five years.

This 2023 through 2027 SHSP identifies Alaska's key safety needs, priorities, and actions over the next five years using the Safe System Approach. The plan reflects the nature of traffic safety in Alaska, as well as the people, organizations, and agencies serving essential roles to effectively and innovatively improve safety on Alaska's roadways.

This plan identifies opportunities to improve safety and provides guidance for all safety stakeholders to move Alaska *Toward Zero Deaths.*

This plan guides investment decisions and countermeasures with the most potential to save lives and prevent injuries based on data-driven goals, objectives, and strategies. The plan provides strategic direction by:

- **ESTABLISHING PERFORMANCE GOALS** for traffic-related fatalities and serious injuries
- **IDENTIFYING THE PRIORITY EMPHASIS AREAS** to focus resources on Alaska's most serious traffic safety problems
- **USING DATA TO IDENTIFY CRITICAL FACTORS** contributing to crashes and potential solutions
- **INCORPORATING THE SAFE SYSTEM APPROACH** into the plan's proven strategies and actions within each Emphasis Area
- **MONITORING PROCESS AND PERFORMANCE** to determine where Alaska is making progress and where more effort is needed

The Strategic Highway Safety Plan (SHSP) is the overarching safety plan identifying traffic safety problems and effective solutions for Alaska. The Alaska Department of Transportation and Public Facilities (DOT&PF) leads the SHSP with support from federal, state, regional, and local agencies, as well as private sector and non-profit/advocacy stakeholders.

The SHSP serves as the beacon guiding priorities and coordination for all other plans and programs in Alaska that touch upon traffic safety. This includes safety elements of the Statewide Long-Range Transportation Plan (LRTP), State Transportation Improvement Program (STIP), and Transportation Improvement Programs (TIPs) developed by Alaska's Metropolitan Planning Organizations (MPOs).

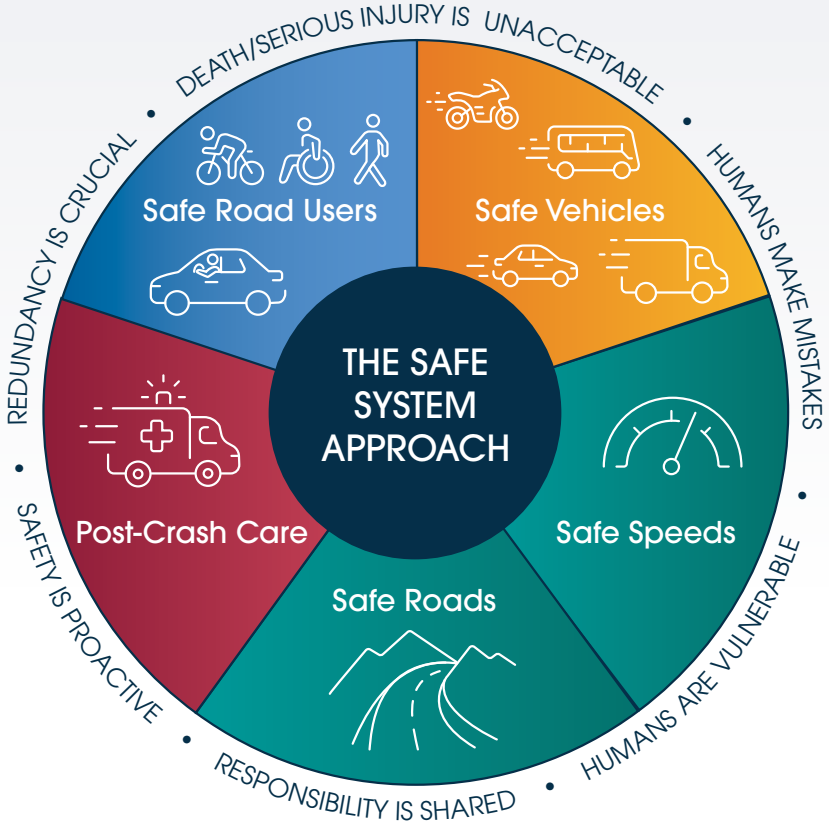
The SHSP guides DOT&PF plans and programs that specifically implement the SHSP: the Triennial Highway Safety Plan (3HSP), Highway Safety Improvement Program (HSIP), and the Commercial Vehicle Safety Plan (CVSP). The SHSP also influences existing and new safety plans, programs, and policies, such as the Alaska Statewide Active Transportation Master Plan (2019), Alaska's upcoming Complete Streets Policy, and the Safe Routes to School Program.

TOWARD ZERO DEATHS AND SAFE SYSTEM APPROACH

In its 2007 SHSP, Alaska adopted the goal *Toward Zero Deaths* with the aim to reduce traffic-related fatalities on public roads in Alaska to zero through proven countermeasures. The path forward has been dynamic and challenging, recognizing the state's unique climate and transportation modes, evolving transportation technologies, and a growing coalition of safety partners.

Today, Alaska continues to support and work *Toward Zero Deaths*, as well as zero serious injuries, through the adoption of the **Safe System Approach**. In 2022, the United States Department of Transportation (USDOT) announced the new National Roadway Safety Strategy[1] formally adopting the **Safe System Approach** to reach the goal of zero traffic deaths and serious injuries. The **Safe System Approach** consists of six principles and five elements, as shown in the figure to the right.

Alaska believes that all deaths and serious injuries on our transportation system are unacceptable. Humans are vulnerable and may make mistakes, and the transportation system must account for this reality through proactive and systemic programs, policies, processes, partnerships, and projects. Responsibility is shared amongst all stakeholders across levels of government, industry, non-profit and advocacy groups, and the public.



To prevent deaths and serious injuries, multiple elements of the transportation system should address risks and contributing factors to crashes, protecting people through redundancy in case one or more elements fail.

[1] USDOT National Roadway Safety Strategy.

The **Safe System Approach** is how Alaska and the nation will reach the goal of zero traffic deaths and serious injuries. This is borne out through stakeholders and countermeasures that span the **"4 Es of Traffic Safety"**: Engineering, Education, Enforcement, and Emergency medical services.

Alaska selected four Emphasis Areas and eight Focus Areas to concentrate resources and initiatives on the state's most serious traffic safety problems. Although these new Emphasis Areas diverge from previous Alaska SHSPs, many of the Focus Areas cover similar traffic safety priorities.

The Alaska SHSP Emphasis Areas are **Safe Road Users**, **Safe Vehicles**, **Safe Roads and Safe Speeds**, and **Post-Crash Care.** The Focus Areas are **Pedestrians and Bicyclists; Young Drivers and Older Drivers; Motorcycles, All-Purpose Vehicles, and Snowmachines; Dangerous Driving; Roadways; Speed Management; Vehicle Safety;** and **Emergency Response.**

In addition, the Alaska Highway Safety Office (AHSO) leads the Impaired Driving Task Force, Occupant Protection Task Force, and Alaska Traffic Records Coordinating Committee.

VISION AND MISSION

Alaska's vision and mission guide the actions we will take to move *Toward Zero Deaths* and serious injuries.

VISION: Towards zero deaths and serious injuries so all surface transportation users arrive safely at their destination.

MISSION: To improve the safety of all surface transportation users throughout Alaska through effective and equitable solutions using a Safe System Approach.

PERFORMANCE TARGETS

Alaska uses the following five federally mandated performance measures to track progress on improving safety on our roads:

- ***Number of fatalities***
- ***Number of serious injuries***
- ***Fatality rate per 100 million vehicle miles traveled (VMT)***
- ***Serious injury rate per 100 million VMT***
- ***Number of non-motorized fatalities and serious injuries***

To select measurable goals to reduce fatalities and serious injuries on Alaska's roadways, the SHSP Steering Committee reviewed current crash, fatality, and serious injury trends. The Steering Committee selected the goal to decrease fatalities and serious injuries on Alaska's roadways by 3.5 percent per year, in support of the *Toward Zero Deaths* vision.

Using a five-year rolling average, the ***goal*** *is to*

REDUCE FATALITIES

from **75** in **2020** to **57** or fewer in **2027**

and **SERIOUS INJURIES**

from **335** in **2020** to **253** or fewer in **2027.**

With a **3.5%** *per year decrease,*

fatalities and serious injuries in Alaska

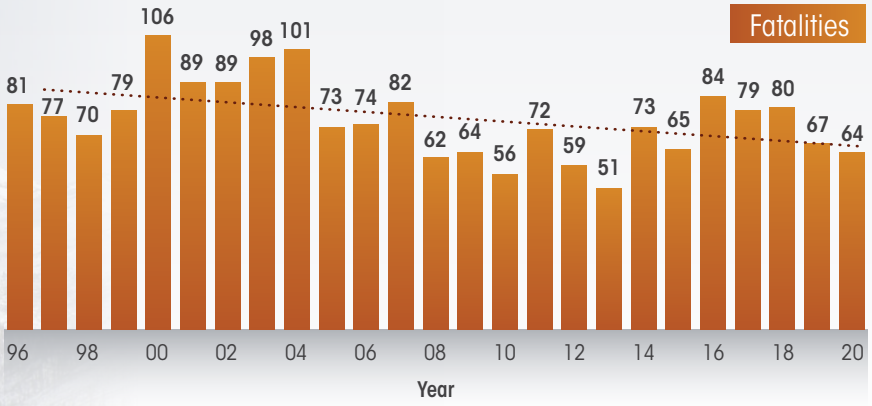
WOULD REACH 0 before 2050.

Source Alaska DOT&PF.

TRAFFIC SAFETY IN ALASKA

While total annual fatalities have fallen over the past 25 years, fatalities were higher between 2016 and 2020 than they were in the early 2010s.[2]

Figure 1. Traffic Fatalities Over the Past 25 Years



Since 2016, fatalities and serious injuries have decreased.

Percent change *2016 to 2020*

-23.8% *in* **FATALITIES**

-28.8% *in* **SERIOUS INJURIES**

Alaska is **below** *the national fatality rate*

2020 National Fatality Rate: **1.34** *per 100 million VMT*

2020 Alaska Fatality Rate: **1.21** *per 100 million VMT*

[2] Fatal and serious injury crash data: Alaska CARE, NHTSA Fatality Analysis Reporting System (FARS). At the time of analysis, 2020 was the latest available year of data.

Source: Photo courtesy of Carl Brill.

Figure 2. Number of Fatalities

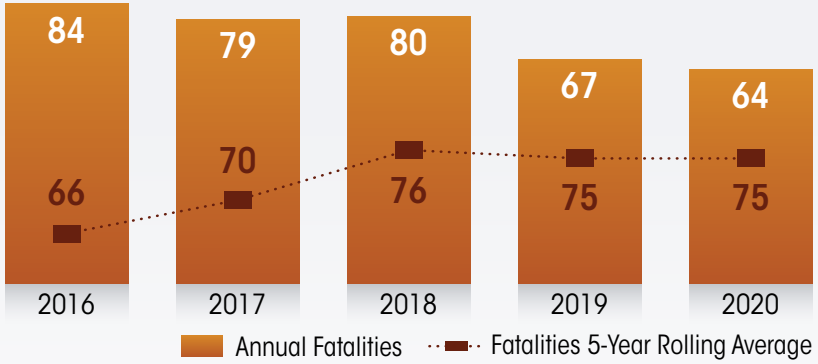


Figure 3. Rate of Fatalities (Per 100 Million VMT)

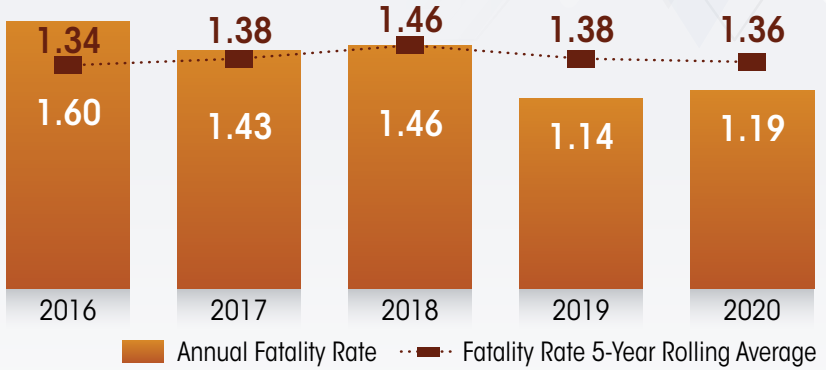


Figure 4. Number of Serious Injuries

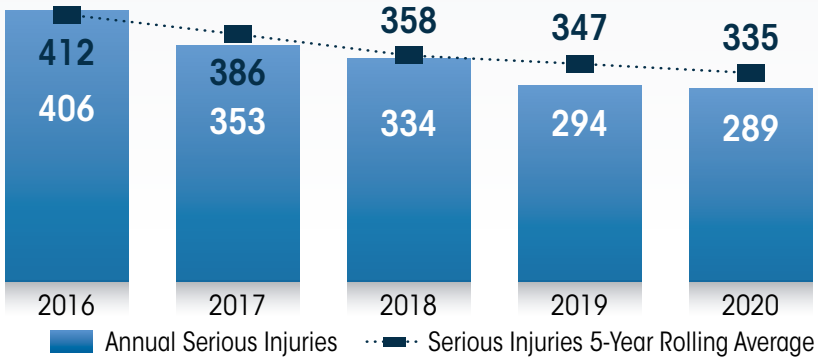


Figure 5. Rate of Serious Injuries (Per 100 Million VMT)

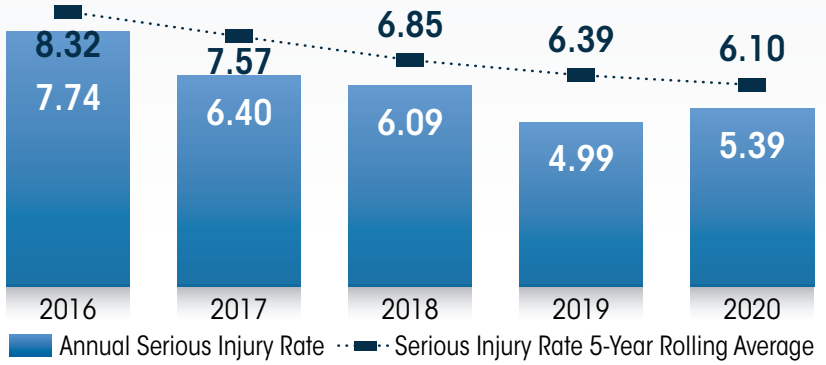
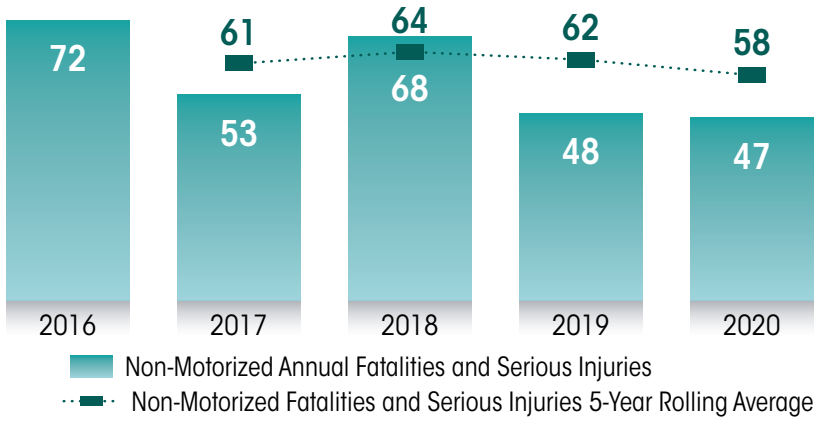
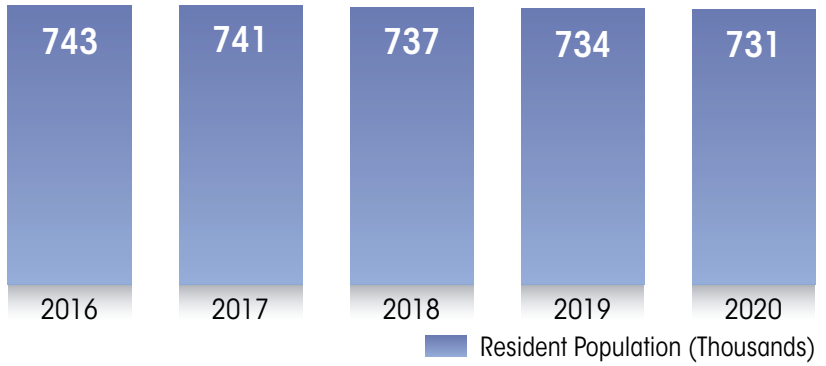


Figure 6. Number of Non-Motorized Fatalities and Serious Injuries



Note: The 2012-2016 average could not be calculated due to a change in reporting in 2012.

Figure 7. Resident Population in Alaska



Source: Alaska Department of Labor and Workforce Development.

Licensed drivers in Alaska in 2022:

75% of Alaska's drivers are between the age of **21** and **64**

19% of licensed drivers are age **65** or **OLDER**

6% of licensed drivers are **TEENS DRIVERS**

Source: Alaska Department of Administration, Division of Motor Vehicles, 2022.

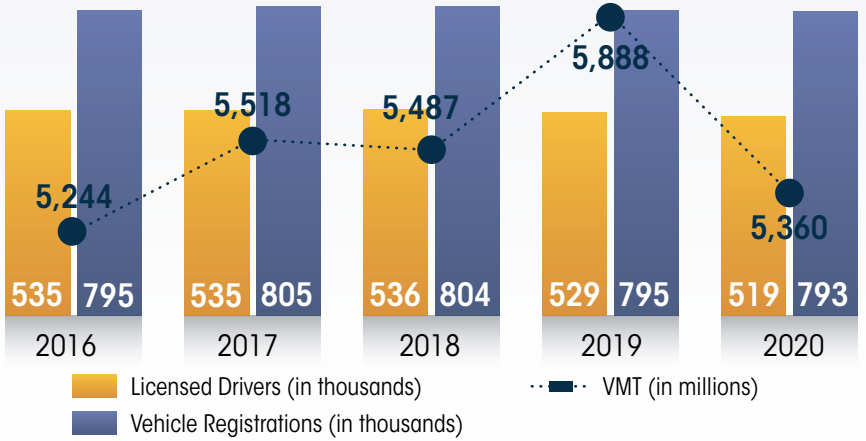
Commuting habits for workers (age 16 and older) in Alaska in 2021:

- **66.2%** drove alone in a car, truck or van
- **6.8%** walked
- **11.1%** carpooled
- **0.9%** used public transportation
- **0.9%** biked
- **3.9%** utilized taxicab, motorcycle or other means
- **10.3%** worked from home

Source: U.S. Census Bureau, 2021.

Despite fewer licensed drivers and decreasing vehicle registrations over the past five years, the **TOTAL NUMBER OF MILES VEHICLES TRAVELED INCREASED FROM 2016 THROUGH 2020.** This mean that overall, people are driving more miles in Alaska.

Figure 8. Licensed Drivers, Vehicle Registrations, and Vehicle Miles Traveled, 2016-2020



Source: Alaska Department of Administration, Division of Motor Vehicles; Alaska DOT&PF.

Despite the vast size of our state, Alaska doesn't have many miles of roads. Our roads are mostly in rural areas.

Only about one-third of Alaska's road miles are owned and managed by the state. Because the majority of public roads are owned and managed by boroughs, municipalities, or other jurisdictions, it is vital for DOT&PF to collaborate with other traffic safety stakeholders to reduce traffic deaths and serious injuries.

61% *of* **fatalities** *and* **42%** *of* **serious injuries** *occurred on* **RURAL ROADS**

Public road centerline miles in 2020:

Total miles: **17,681**

Total rural miles: **14,516**

Total urban miles: **3,165**

State-owned miles: **4,951** RURAL *and* **686** URBAN = **5,637** TOTAL MILES

Source: Federal Highway Administration, Highway Statistics 2020.

Figure 9. Fatalities and Serious Injuries in Rural Areas

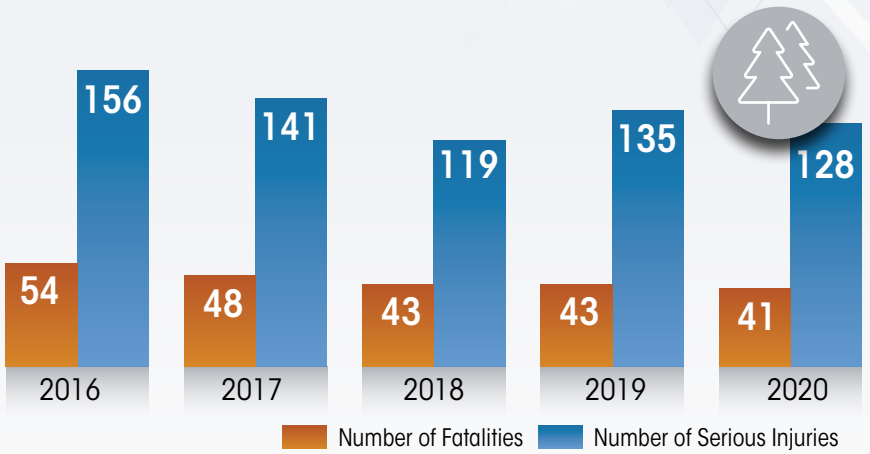
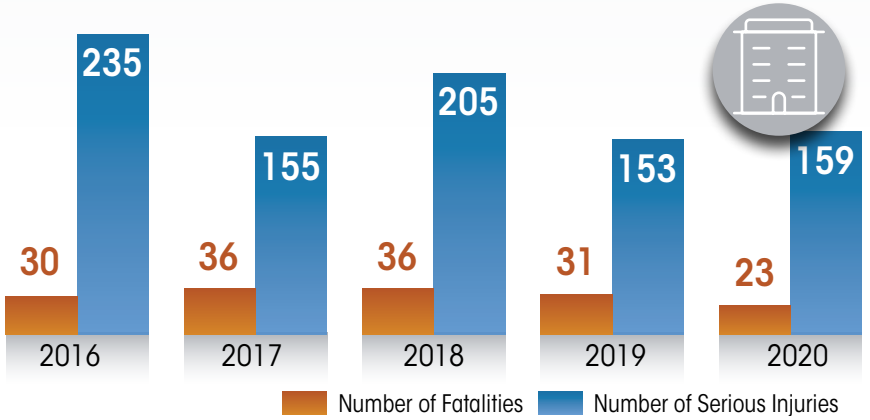


Figure 10. Fatalities and Serious Injuries in Urban Areas



SHSP ROLES AND RESPONSIBILITIES

All traffic safety stakeholders in Alaska share the responsibility to:

- Foster adoption of the Safe System Approach and the creation of a statewide traffic safety culture.
- Hold one another accountable for implementing actions Toward Zero Deaths and serious injuries on Alaska's roads.
- Recruit additional team members and local communities to participate.
- Identify a successor if no longer able to successfully serve in their role.

Alaska has defined the roles and responsibilities for each group who participates in the SHSP.

Source Alaska DOT&PF.

Source Alaska DOT&PF.

Executive Committee

- Review SHSP progress, provide guidance, and remove barriers in support of SHSP implementation within their organizations.
- Provide organizational resources to support and assist specific SHSP strategies and actions.
- Encourage collaboration among agencies and stakeholders.
- Align agencies with the SHSP's vision, mission, and goals while promoting the SHSP and the importance of traffic safety.

Steering Committee

- Meet three times annually and as needed to review Emphasis Area implementation progress, performance, and challenges.
- Approve mid-plan corrections, changes, and new actions proposed by the Focus Area teams.
- Provide guidance on and measure performance of SHSP-related campaigns, training, and programs.
- Actively work to further the SHSP objectives, overcome barriers, and solve problems.
- Report on SHSP status, challenges, and outcomes to the Executive Committee annually.
- Conduct strategic planning to update the SHSP when appropriate.

Tribal Advisory Committee

- Share insights and experiences on transportation safety challenges and needs within the specific contexts of Alaska's Tribes and Nations.
- Provide expertise on culturally appropriate solutions to meet the transportation safety needs for Alaska Native and American Indian people.
- Participate on relevant Focus Area Teams.

Source Alaska Tribal Transportation Work Group Annual Symposium 2023, photo courtesy of Ryan Klitzsch.

Emphasis Area Leaders

- Gather updates from Focus Area Team Leaders and report on progress and challenges to Steering Committee.
- Ensure Focus Area Team Leaders hold meetings and make progress on action plan implementation.

Focus Area Team Leaders

- Convene Focus Area Teams to meet three times annually and as needed, notifying participants and preparing meeting reports.
- Educate team members on specifics of their Focus Area, including common challenges, countermeasures, and ongoing initiatives.
- Maintain an updated tracking tool on implementation progress of the action plans.
- Notify the Emphasis Area Leaders of accomplishments, progress, challenges, and needs.
- Seek assistance from state and local partners and stakeholders to help implement a task or project or overcome a barrier.

Focus Area Team Members

- Review crash data and other relevant information for the Focus Area annually.
- Revise, add, or delete strategies and action steps in the action plan as action steps are completed, become obsolete, or new needs arise.
- Discuss the progress of action step implementation and coordinate next steps at Focus Area meetings three times or more annually.
- Leverage the diverse knowledge of the team to identify emerging or continuing issues, build partnerships, and seize new opportunities.

Source Alaska DOT&PF.

Action Champions

- Coordinate and work with partners to implement each action step.
- Update the Focus Area Team Leader three times annually on accomplishments.
- Report action implementation progress using the tracking tool at least annually.
- Notify the Focus Area Team Leader of problems or issues in implementation.

UPDATE PROCESS

Source: Photo courtesy of Meadow Bailey.

Updating the SHSP provides Alaska with the opportunity to improve traffic safety through data analysis, organizational structures, and programs and projects.

The update and implementation of the SHSP are dependent on stakeholder collaboration, partner engagement, implementation, and evaluation.

The SHSP is federally required to be updated every five years.

STAKEHOLDER ENGAGEMENT

Mar–May 2023
Drafted SHSP update

Mar 2023
Tribal stakeholders meeting in-person

Mar 2023
Steering Committee meeting to approve action plans

Jan–Feb 2023
Focus Area Team Meetings to draft action plans

Oct–Dec 2022
Recruited Focus Area Team Members and Leaders

Nov 2022
Steering Committee meeting to set goal targets and select Emphasis and Focus Areas

Oct 2022
In-person and virtual stakeholder meetings

Sep 2022
Steering Committee meeting to develop vision and mission

Sep–Oct 2022
SWOT analysis

Jun–Sep 2022
Crash data trend analyses, identified stakeholders and potential Steering Committee members

DATA ANALYSIS

Alaska analyzed crash trends from 2011 through 2020, the most recent data available at the time, to identify the most pressing safety problems on Alaskan roadways.

Data analysis incorporated annual state and federal crash data, vehicle registrations, licensed drivers, vehicle miles traveled, toxicology data, and the Occupant Protection Use Survey (OPUS) Report.

Stakeholders and the Steering Committee reviewed fatalities and serious injuries between 2016 and 2020 to shape the priority areas and goal targets for 2027. They examined how fatalities and serious injuries have changed for specific road users including young drivers, older drivers, pedestrians, bicyclists, and motorcyclists. The analysis also identified common risks such as speeding, impaired driving, animal-vehicle collisions, and not wearing a seat belt. The analysis looked at crash types and locations, including fatalities and serious injuries at intersections or resulting in a lane or roadway departure.

The Steering Committee also selected targets for the five federally required safety performance measures based on trends in five-year rolling averages for fatalities, serious injuries, and rates per vehicle miles traveled.

Figure 11 shows the total fatalities and serious injuries between 2016 and 2020 for each Sub-Emphasis Area identified in the previous SHSP.

Figure 11. Total Fatalities and Serious Injuries sorted by Sub-Emphasis Areas from the Previous SHSP, 2016-2020

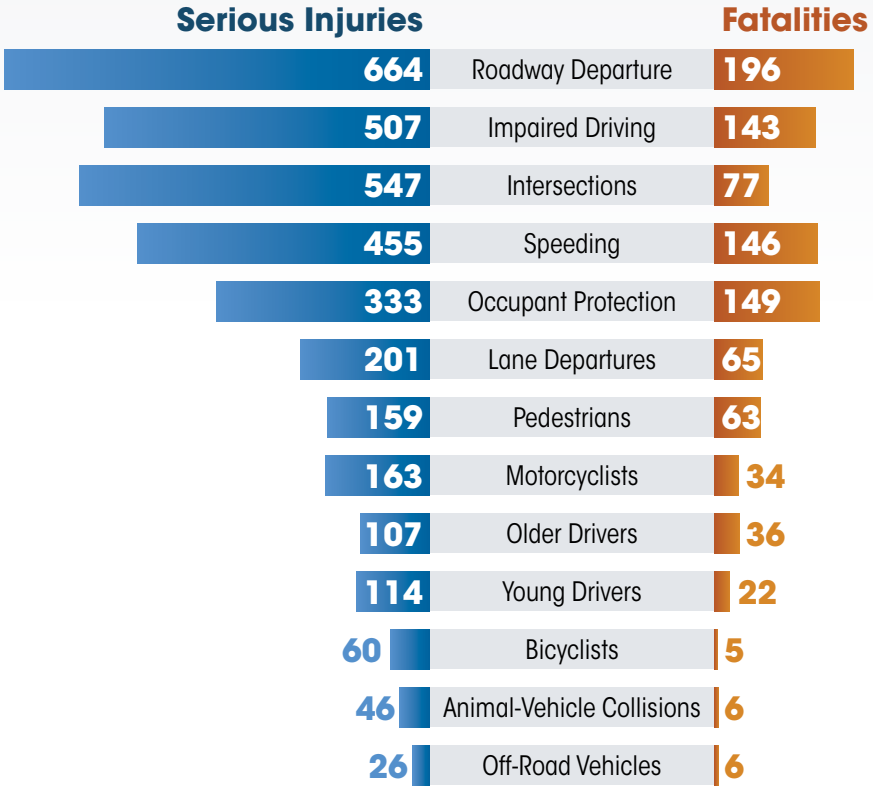
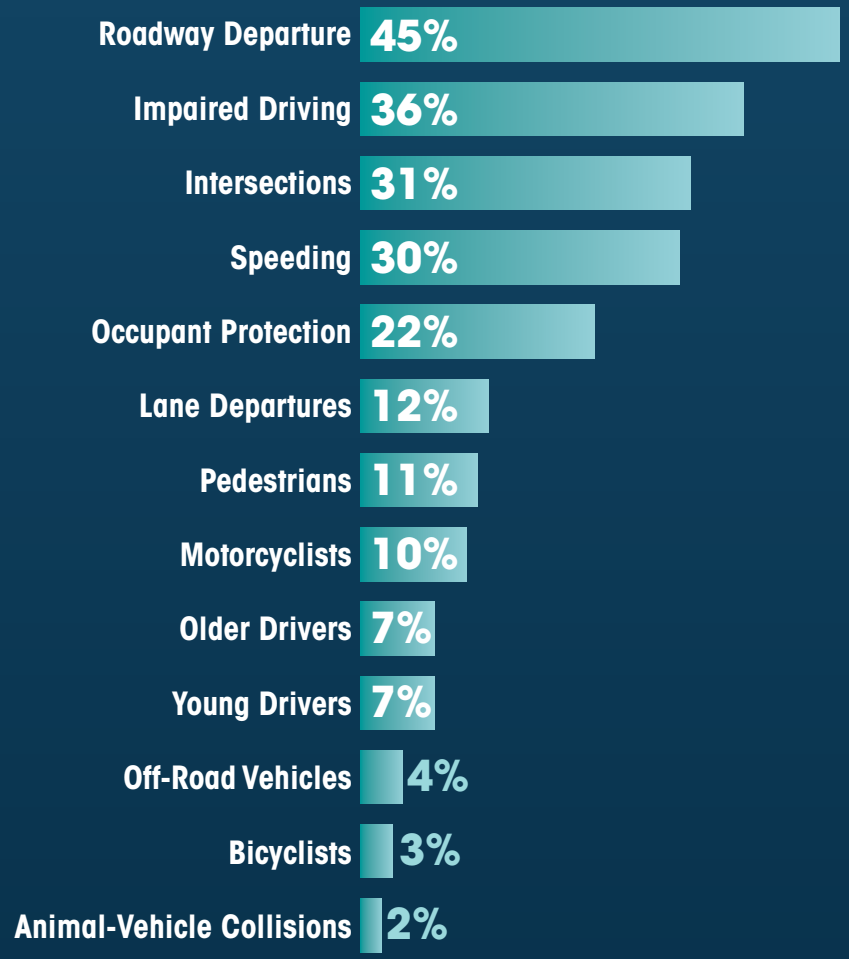


Figure 12 shows the percentage of combined total fatalities and injuries between 2016 and 2020 for each Sub-Emphasis Area identified in the previous SHSP.

Figure 12. Percent of Total Fatalities and Serious Injuries, 2016-2020



SWOT ANALYSIS

Alaska asked its Steering Committee members and other key traffic safety stakeholders to identify Strengths, Weaknesses, Opportunities, and Threats for the SHSP update, also known as a SWOT analysis.

Forty-six people shared insights via a survey about what was successful about Alaska's current safety programs and where there were opportunities for improvements in traffic safety. The respondents represent Alaska state agencies, Tribes and Nations, non-profit organizations, metropolitan and regional planning organizations, law enforcement, public health, and advocacy groups.

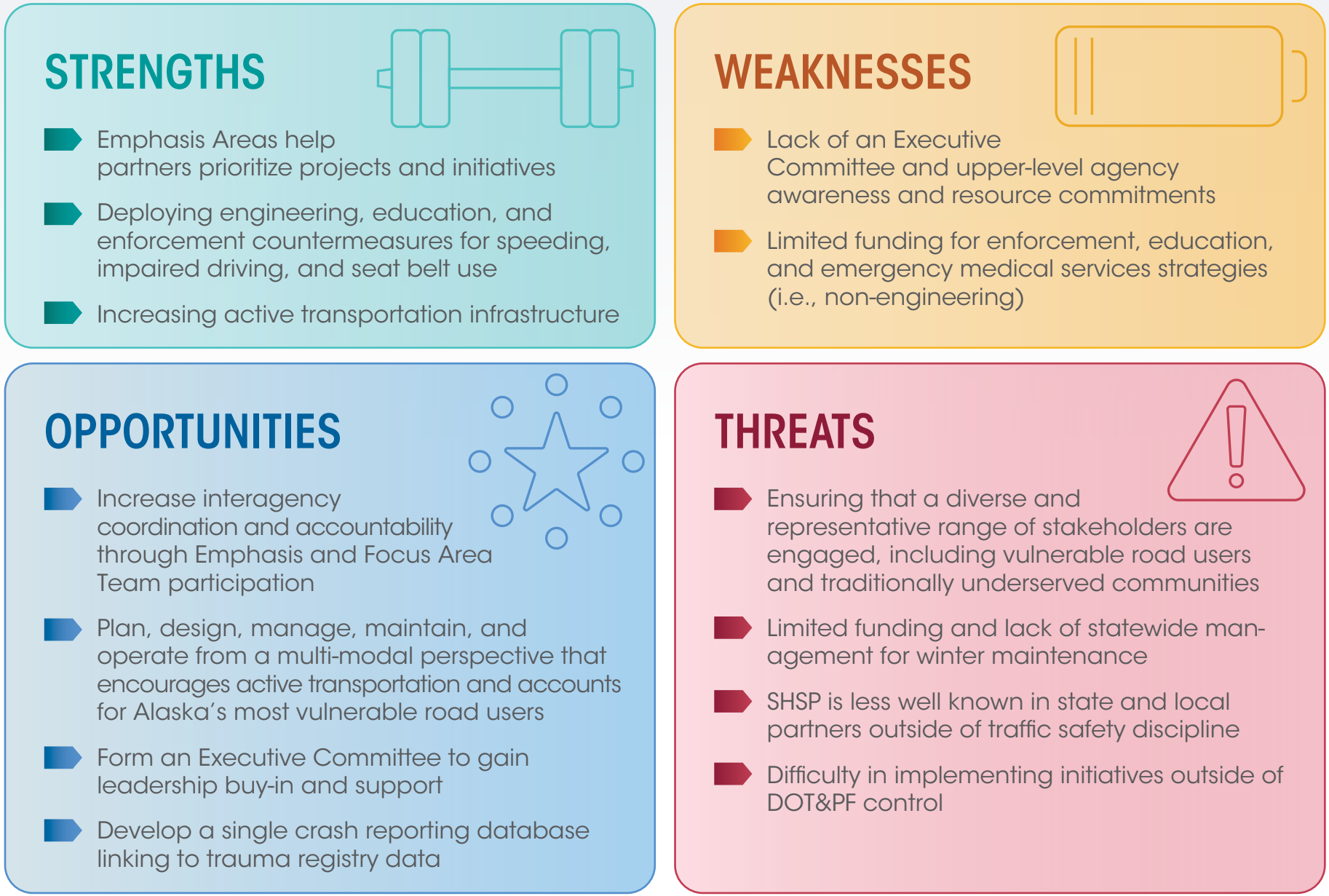
The SWOT analysis highlighted strengths in broadening stakeholder engagement, providing guidance to prioritize safety projects and obligate HSIP funds, and implementing engineering solutions that increase safety of the built environment.

The analysis also revealed some challenges, in particular implementing strategies throughout the COVID-19 pandemic and reporting on implementation progress. Stakeholders felt that many safety initiatives needed more top-level support and resource commitments, a sentiment also shared during the last SHSP update.

Stakeholders see many opportunities in Alaska, including a vision to increase safety for Alaska's most vulnerable road users by encouraging active transportation and prioritizing active transportation infrastructure in winter road maintenance. It will be importantly to engage with a diverse and representative range of Alaskan stakeholders throughout the process.

Figure 13 presents the most significant findings from the SWOT analysis.

Figure 13. SWOT Findings



SHSP PARTNERS AND STAKEHOLDERS

Stakeholder engagement was a key element of the SHSP update process to ensure the plan aligns with Alaskan citizens' priorities and with ongoing initiatives and transportation plans throughout the state.

This included in-person and virtual public meetings; a survey about SHSP strengths, weaknesses, opportunities, and threats; recruiting participants for Focus Area teams; sharing updates on the project website; and collaborating with key partners on the Steering Committee and Focus Area teams.

In October 2022, the AHSO hosted three in person stakeholder meetings in Juneau, Fairbanks, and Palmer in Matanuska-Susitna Borough, and one hybrid in-person and virtual meeting in Anchorage.

Almost 100 stakeholders participated, sharing their experiences with traffic safety, ideas for solutions, and input on potential targets and Focus Areas. Some attendees signed up to participate on Focus Area teams.

The Focus Area teams met virtually in January and February 2023 to draft strategies and actions for the plan. The Focus Area teams assigned a champion to each action to coordinate implementation progress and identify potential challenges.

The Steering Committee met four times between September 2022 and May 2023 to select the vision, mission, and goal targets; determine the Emphasis and Focus Areas; revise and approve the eight Focus Area action plans; and review the SHSP document.

Figure 14 shows Alaska's safety partners and stakeholder groups who participated in the SHSP process.

Source Alaska DOT&PF.

Figure 14. Participating Partners and Groups

STATE AGENCIES

- Alaska Bureau of Highway Patrol
- Alaska Court System
- Alaska Department of Administration, Division of Motor Vehicles
- Alaska Department of Health and Social Services, Division of Public Health
- Alaska Department of Public Safety
- Alaska Department of Transportation and Public Facilities
- Alaska State Troopers

REGIONAL AND LOCAL GOVERNMENT ORGANIZATIONS

- Alaska Association of Chiefs of Police
- Alaska Municipal League
- Anchorage Fire Department
- Anchorage Metropolitan Area Transportation Solutions
- Anchorage Office of Emergency Management
- Anchorage Police Department
- Capital City Fire Rescue
- Fairbanks Area Surface Transportation Planning
- Fairbanks Memorial Hospital
- Fairbanks North Star Borough
- Fairbanks Police Department
- Juneau Police Department
- Kenai Police Department
- Matanuska-Susitna Borough Department of Public Works
- Matanuska-Susitna Borough Emergency Medical Services
- Matanuska-Susitna Borough Fire Department
- Matanuska-Susitna Services for Children and Adults
- Municipality of Anchorage
- Providence Alaska Medical Center

NON-PROFIT, ADVOCACY, AND PROFESSIONAL ORGANIZATIONS

- ABATE of Alaska
- Alaska Outdoor Alliance
- Alaska Safe Riders (Palmer)
- Alaska Trucking Association
- Bike Anchorage
- Center for Safe Alaskans
- Challenge Alaska
- Elite Towing
- Fairbanks Safe Rider
- Horst Expediting and Remote Operation
- JN Consulting
- Juneau Tourism Best Management Practices
- Laborers' International Union of North America Local 942
- Rider Choices
- Sitka Bicycle Friendly Community Coalition and Walk Sitka
- United Freight and Transport
- University of Alaska, Fairbanks
- Yukon-Kuskokwim Health Corporation, Injury Control & Emergency Medical Services

TRIBES, NATIONS, AND COMMUNITY ORGANIZATIONS

- Alaska Native Tribal Health Consortium
- Association of Village Council Presidents
- Bristol Bay Native Association
- Chickaloon Native Village
- Chickaloon Tribal Police Department
- Craig Tribal Association
- Dot Lake Village Council
- Manokotak Village Council
- Native Village of Noatak
- Native Village of Tuntutuliak
- Organized Village of Kwethluk
- Sitka Tribe of Alaska
- Tlingit and Haida Indian Tribes of Alaska
- Village of Kotlik

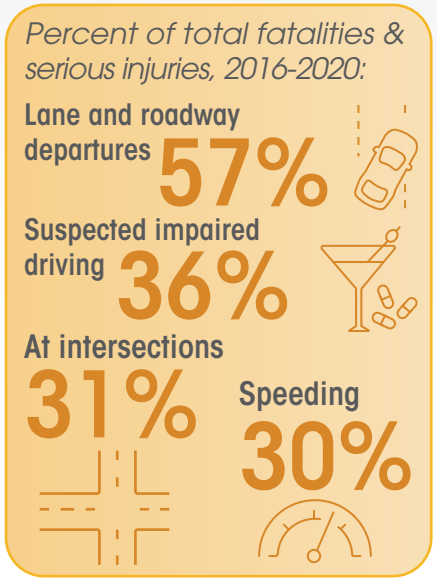
FEDERAL PARTNERS

- Bureau of Indian Affairs
- Federal Highway Administration
- Federal Motor Carrier Safety Administration
- National Highway Traffic Safety Administration

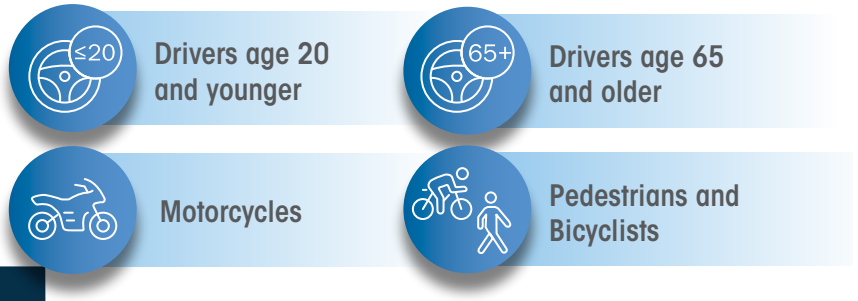
SELECTION OF EMPHASIS AREAS AND FOCUS AREAS

To ensure consistency with the National Roadway Safety Strategy, the Steering Committee reorganized the Emphasis and Focus Areas to align with the elements of the **Safe System Approach**. Many sub-emphasis areas from the previous SHSP were carried forward as Focus Area topics within four Emphasis Areas: **Safe Road Users**, **Safe Roads and Safe Speeds**, **Safe Vehicles,** and **Post-Crash Care**. The Steering Committee selected eight Focus Areas, building upon input from stakeholder meetings and data analysis.

The Steering Committee selected Focus Areas based on the most prevalent circumstances and contributing factors for fatal and serious injury crashes between 2016 and 2020.



The Steering Committee also selected Focus Areas to address crashes involving specific groups with a high number of fatalities and serious injuries. In particular, pedestrians and bicyclists are considered vulnerable road users.



In addition, the Steering Committee identified Focus Area topics worth pursuing despite limited available data. **All-purpose vehicles and snowmachines** are transportation methods commonly used by Alaskan citizens. Dangerous behaviors such as **aggressive, distracted, and drowsy driving** can be difficult to track in data but are worth addressing.

The Steering Committee also included **emergency response**, acknowledging the life-saving role that emergency medical services play post-crash, and **vehicle safety**, covering commercial motor vehicles and vehicle safety equipment, such as forward collision warning systems.

The Focus Area teams drafted action plans based on strategies and actions from the previous plan, stakeholder recommendations, and national best practices and proven countermeasures. Each action step has a champion who is responsible for coordinating implementation and reporting on progress and challenges. The Steering Committee approved the action plans for this SHSP update.

Over the next five years, the Focus Area teams and Steering Committee will meet periodically to track implementation progress, address challenges as they emerge, and reevaluate safety priorities and tactics as needed.

EMPHASIS AREAS

Emphasis Areas set the priorities for where Alaska should focus funding, resources, and effort to reduce fatalities and serious injuries. The four Emphasis Areas are Safe Road Users, Safe Roads and Safe Speeds, Safe Vehicles, and Post-Crash Care.

Each Emphasis Area has Focus Areas, which further direct Alaska's efforts for specific types of road users, behaviors, vehicles, and infrastructure. The eight Focus Areas are Pedestrians and Bicyclists; Young Drivers and Older Drivers; Motorcycles, All-Purpose Vehicles, and Snowmachines; Dangerous Driving; Roadways; Speed Management; Vehicle Safety; and Emergency Response.

In addition, Alaska has the Impaired Driving Task Force, Occupant Protection Task Force, and Traffic Records Coordinating Committee.

Each Focus Area has strategies and actions to address traffic safety through engineering, education, enforcement, and emergency medical services efforts. Focus Area action plans are included in Appendix B.

SAFE ROAD USERS

The **Safe Road Users** Emphasis Area seeks to encourage responsible, cautious, and courteous behaviors for all motorized and non-motorized users on Alaska's roadways.

This includes ensuring pedestrians, bicyclists, and other active transportation users can safely traverse on roads while feeling comfortable and secure. It means that novice drivers receive the education and support to become good drivers, while more experienced drivers have the ability to continue as safe drivers. This means ensuring motorized but unshielded roadway users such as motorcycles, all-purpose vehicles, and snowmachines can safely and responsibly share the roadway.

Safe Road Users also avoid dangerous driving behaviors such as distracted, drowsy, aggressive, and impaired driving. It aims for all roadway users to use proper occupant protection for their transportation mode, such as seat belts, child safety restraints, helmets, and high-visibility clothing.

PEDESTRIANS AND BICYCLISTS

Source: Alaska DOT&PF.

Pedestrians and bicyclists are Alaska's most vulnerable road users.

Between 2016 and 2020, almost ONE OUT OF EVERY FIVE FATALITIES in Alaska was a pedestrian or a bicyclist.

STRATEGIES FOR PEDESTRIANS AND BICYCLISTS

IMPLEMENT best practices and proven countermeasures and incorporate into state and local policies and manuals to support safe travel for pedestrians and bicyclists.

EDUCATE pedestrians, bicyclists, and other vulnerable road users about "rules of the road" and safety equipment.

DEVELOP and **IMPLEMENT** a statewide active transportation safety action plan and data collection plan.

Between 2016 and 2020,

63% *of* ***all bicyclist*** *fatalities & serious injuries*

and **38%** *of* ***all pedestrian*** *fatalities and serious injuries in Alaska occurred at an*

INTERSECTION

Percentage of all Alaska fatalities and serious injuries, 2016-2020

16% Pedestrian Fatalities

10% Pedestrian Serious Injuries

2% Bicyclist Fatalities

4% Bicyclist Serious Injuries

Between 2016 and 2020,

28% *of* ***all pedestrian*** *and* **20%** *of* ***all bicyclist*** *fatalities and serious injuries in Alaska involved someone*

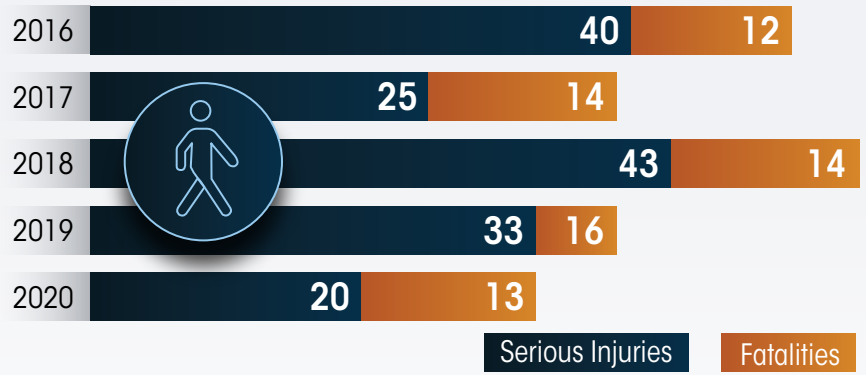
SUSPECTED TO BE IMPAIRED

It is imperative to design, maintain, and operate a transportation system that plans for and protects those who choose to walk, bike, and roll in their communities as they are more vulnerable than those who travel by vehicle.

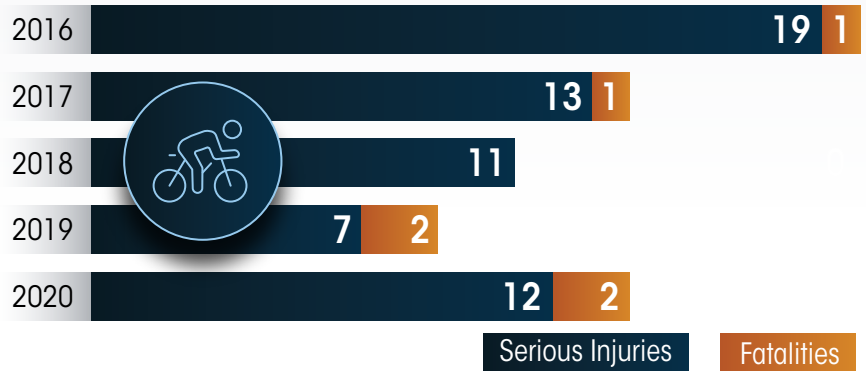
This means **PROVIDING VISIBLE AND PROTECTED SPACES FOR PEDESTRIANS AND BICYCLISTS TO MOVE FREELY.** It also means creating equitable environments where all people can walk regardless of mobility level, including older people, individuals with disabilities or mobility assistive devices, and caregivers with small children.

At the same time, **THE SAFETY OF PEOPLE WALKING AND BIKING ALSO DEPENDS ON THE BEHAVIOR OF VEHICLE DRIVERS.** Other Emphasis Areas will address dangerous driving behaviors including impaired driving, aggressive driving, or driving too fast for conditions, which all increase the risk of death for pedestrians and bicyclists.

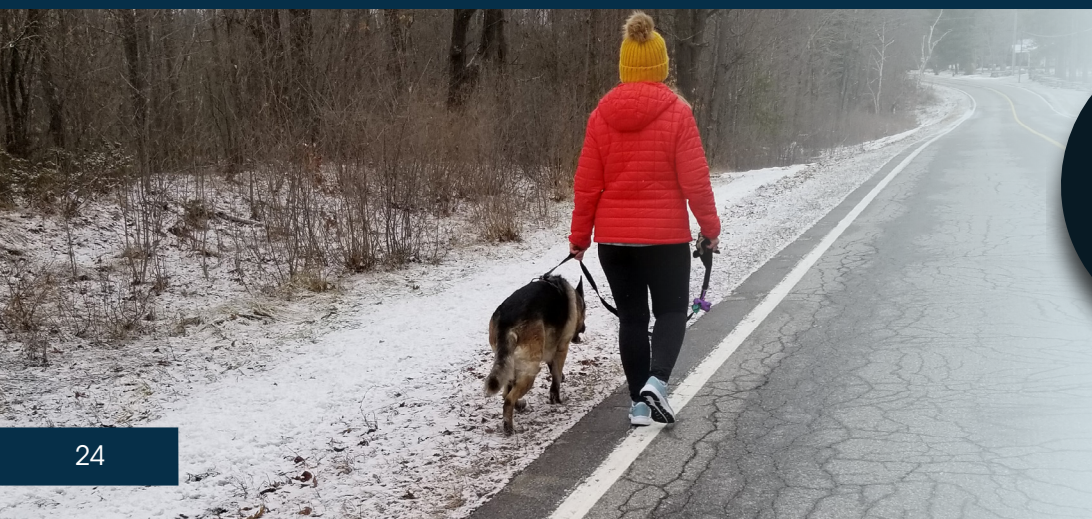
Pedestrian Fatalities and Serious Injuries, 2016 to 2020

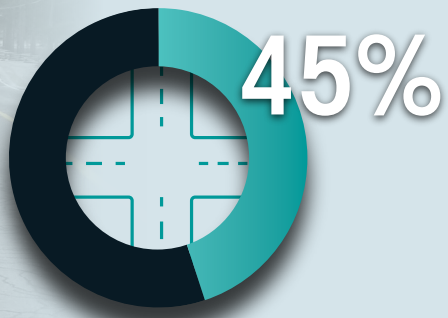


Bicyclist Fatalities and Serious Injuries, 2016 to 2020

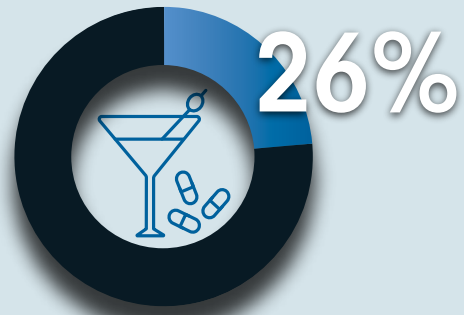


Pedestrian and Bicyclist Overlapping Emphasis Areas





Intersections



Impaired Drivers

MOTORCYCLES, ALL-PURPOSE VEHICLES, AND SNOWMACHINES

Motorcyclists represent about 10 PERCENT OF ALL FATALITIES AND SERIOUS INJURIES in Alaska, while riders on off-road vehicles represent about 2 percent. Often, these deaths and injuries include not wearing a helmet, speeding, driving while impaired, or unsafely leaving the travel lane or roadway.

STRATEGIES FOR MOTORCYCLES, APVS, AND SNOWMACHINES

- **RESEARCH** current motorcycle, all-purpose vehicle (APV), and snowmachine policies, educational offerings, and data to better understand the state of safety education for these vehicle operators.
- **ESTABLISH** a state motorcycle and APV safety program.
- **PROVIDE** law enforcement with training specific to motorcycles, APVs, and snowmachines.
- **EDUCATE** motorcycle, APV, or snowmachine operators about pertinent laws and best practices for driving on Alaska roadways.

Percentage of all Alaska fatalities and serious injuries, 2016-2020

9% Motorcycle Fatalities

10% Motorcycle Serious Injuries

6% Off-Road Vehicle Fatalities

2% Off-Road Vehicle Serious Injuries

An **ALL-PURPOSE VEHICLE (APV)** *is an **All-Terrain Vehicle (ATV)** that is used on public roads or highways with a **speed limit of 45 miles per hour** or less in a community that has not prohibited its use*

You must
TITLE & REGISTER
*your APV if you intend to **operate it on a public road or highway***

Source: Alaska Department of Administration, Division of Motor Vehicles.

Wearing a **MOTORCYCLE HELMET** *is **required by law** in Alaska for:*

- ***Riders age 17 and younger***
- ***Riders with an instructional permit***
- ***All motorcycle passengers***

4.2 TIMES
*as many **men** have motorcycle licenses as **women***

Source: Alaska Department of Administration, Division of Motor Vehicles, 2022.

MOTORCYCLES *represented* **3.2%** *of **all registered vehicles** in Alaska in 2022*

SNOWMOBILES *represented* **4.7%** *of **all registered vehicles** in Alaska in 2022*

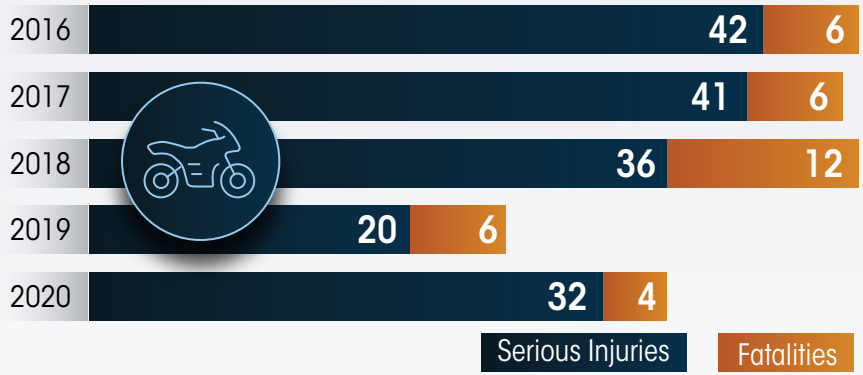
Riders of motorcycles, all-purpose vehicles, and snowmachines are unshielded, meaning they are not protected by a vehicle body while riding. Motorcycles, APVs, and snowmachines have unique steering and stability characteristics that require skill and training to operate safely.

It is essential that operators of these types of vehicle wear proper safety equipment (including helmets and high visibility clothing) on these types of vehicles. It is also important to educate other vehicle drivers on how to safely share the road with motorcycles, APVs, and snowmachines.

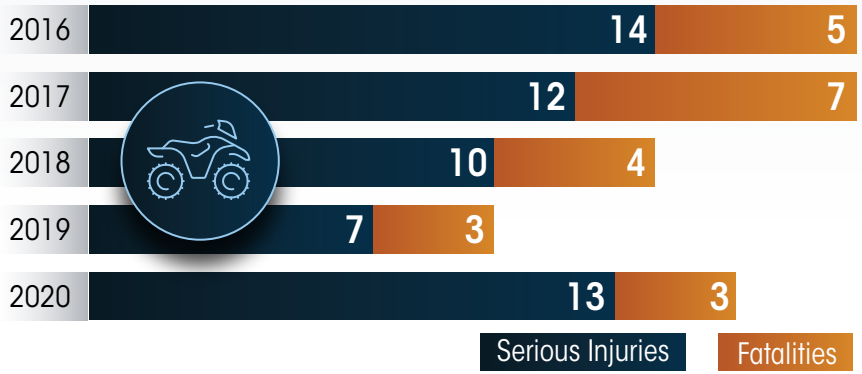
Despite only representing about three percent of all vehicle registrations in Alaska, motorcyclists represent about 10 percent of all traffic deaths and serious injuries.

One-third of riders killed or severely hurt on a motorcycle were **not wearing a helmet**. Nearly half of all motorcyclist deaths and serious injuries involved the motorcycle **leaving the travel lane or the roadway**. **Speeding** and **impaired driving** increase the risks and severity of these crashes.

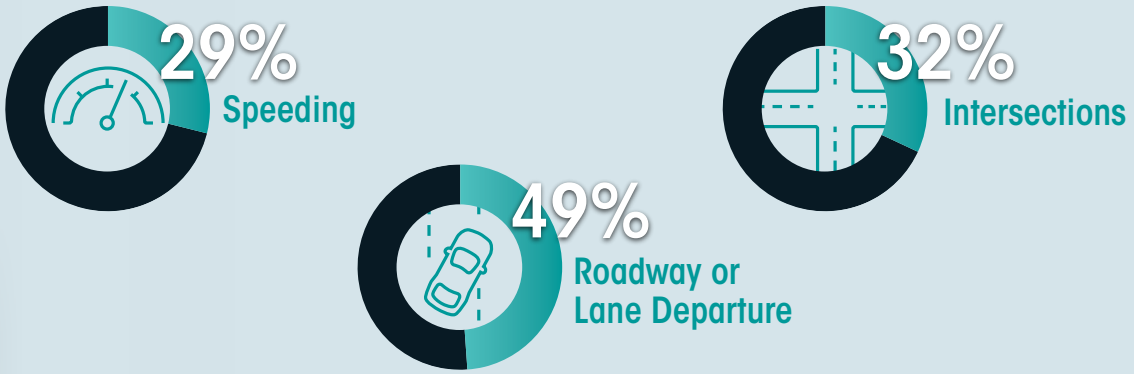
Motorcycle Fatalities and Serious Injuries, 2016 to 2020



Off-Road Vehicle Fatalities and Serious Injuries, 2016 to 2020



Motorcycle Overlapping Emphasis Areas



Source: Alaska DOT&PF.

Alaska's rural terrain and snowy winters make it a unique riding environment. APVs and snowmachines are common modes of transportation in Alaska, with snowmachines representing about five percent of all vehicle registrations.

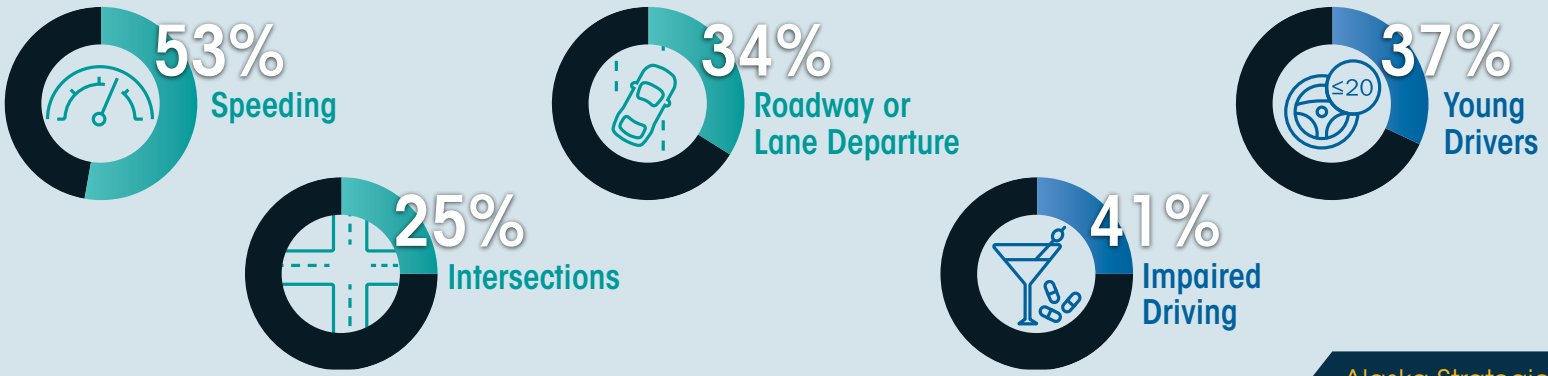
However, these atypical vehicles also mean the operators may not realize that all rules of the road apply to their vehicle, too. The vast majority of APV and snowmachine fatal and serious injury crashes occur on local-owned roads in rural areas, where emergency response times may be long.

Unsafe driving behaviors of an APV or snowmachine can lead to deadly consequences. One out of every two deaths or serious injuries on an off-road vehicle involved **speeding**. Two out of every five riders were **impaired**. **Young drivers** (age 20 or below) represent one out of every three deaths or serious injuries on an off-road vehicle.

There are also inequities resulting in the deaths and injuries of Alaska Native and American Indian people on ATVs and snowmachines. According to the Alaska Native Injury Atlas (2020)[3], between 2007 and 2016, four times as many Alaska Native and American Indian people were hospitalized for ATV injuries as non-Native people. Six times as many Alaska Native and American Indian people were hospitalized for snowmachine injuries as non-Native people.

[3] Alaska Native Tribal Health Consortium.

Off-Road Vehicle Overlapping Emphasis Areas



YOUNG DRIVERS AND OLDER DRIVERS

Young drivers (ages 20 and younger) and older drivers (ages 65 and older) **TOGETHER MAKE UP ABOUT 13 PERCENT OF TRAFFIC DEATHS AND SERIOUS INJURIES** on Alaska's roads. Although young drivers and older drivers have different driving experiences, both can benefit from positive messaging and education about vehicle safety features and safe driving behaviors.

STRATEGIES FOR YOUNG DRIVERS AND OLDER DRIVERS

- **CONDUCT** outreach and education to encourage young drivers to practice safe driving behaviors amongst their peers.
- **INCREASE** the knowledge of medical providers, law enforcement, licensing personnel, family and caregivers on the recognition and assessment of older at-risk drivers.
- **EDUCATE** drivers on how to properly use their vehicle's safety features.

Percentage of all Alaska fatalities and serious injuries, 2016-2020

6%

Young Driver Fatalities

7%

Young Driver Serious Injuries

9%

Older Driver Fatalities

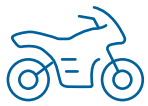
6%

Older Driver Serious Injuries

YOUNG DRIVERS *are people ages* **20 AND BELOW**

OLDER DRIVERS *are people ages* **65 AND ABOVE**

In 2022, **19%** *of all* **CLASS D & CLASS D/M1 MOTORCYCLE DRIVER LICENSES**



were people ages ***65 and above***

Source: Alaska Department of Administration, Division of Motor Vehicles, 2022.

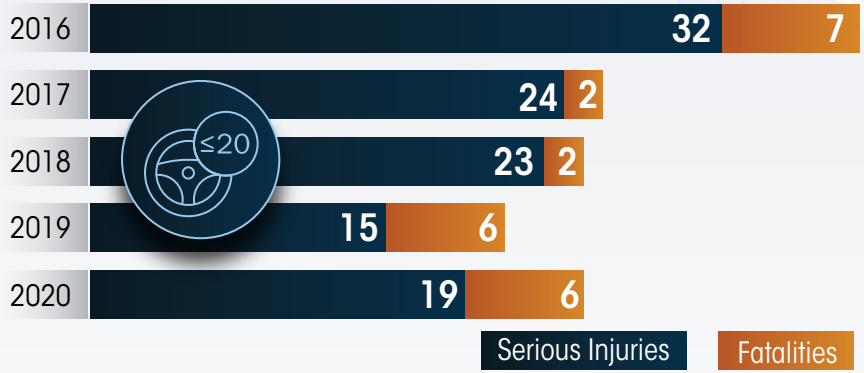
Young drivers are new to driving and less knowledgeable about the road. Young drivers may underestimate risks and therefore make unsafe decisions, such as driving while texting or speeding.

One out of every two young drivers killed or severely injured on Alaska's roads involved **speeding**. One out of every three young drivers killed or severely injured on Alaska's roads was **not wearing a seat belt**.

When a young driver leaves the travel lane or the roadway, they may not have the experience to safely recover and reenter the road. Three out of five young driver fatalities and serious injuries involved a **roadway** or **lane departure**.

Inexperience and risky decisions can have deadly consequences, particularly on alternative vehicle types like snowmachines and all-purpose vehicles; people aged 20 or younger represent one-third of all fatalities and serious injuries on **off-road vehicles**.

Young Driver Fatalities and Serious Injuries, 2016 to 2020



Each new driver also learns to drive in unique circumstances and environments. Some are taught by family members or caregivers, while others may take a formal class. New drivers may learn to drive in urban or rural areas, in winter or summer, or in different vehicle types. Some may practice driving frequently, while others receive little practice time. Alaska's Graduated Driver's Licensing law allows young drivers to gain experience on the road before receiving their full license.

Young Driver Overlapping Emphasis Areas

49% Speeding

33% Occupant Protection

61% Roadway or Lane Departure

20% Motorcycles, All-Purpose Vehicles, and Snowmachines

Distracted Driving

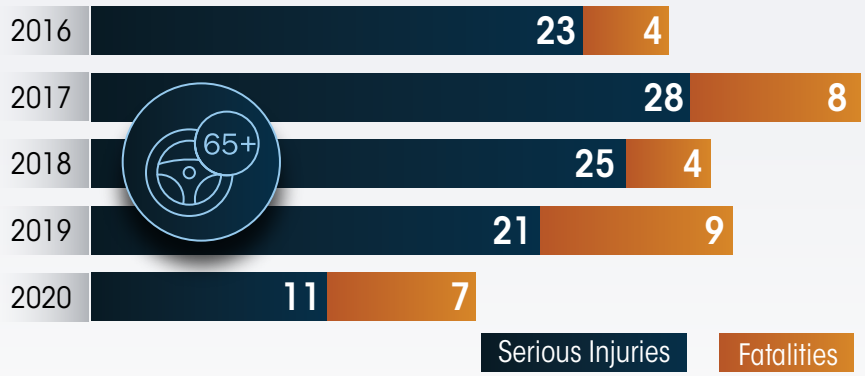
Young drivers are more susceptible to distracted driving. About 10% of teen drivers in recent fatal crashes nationwide were distracted at the time of the crash. NHTSA, 2020.

Driving is an essential way for many older adults to thrive in their communities, including access to recreation, food, and medical care. Mobility independence for older adults is vital and sometimes challenging with Alaska's long distances in rural regions, poor visibility during prolonged darkness, or snowy and icy roadway conditions in winter.

The challenges of Alaska's unique environment compound with naturally declining vision, memory, reaction times, and reflexes as people age, which occurs differently for each person. Some older drivers take legal and medically necessary over-the-counter or prescription drugs, which may have unintended impairing effects on a driver.[4]

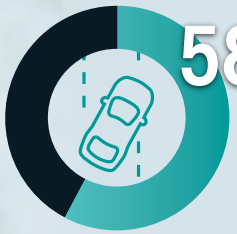
Three out of five older driver traffic deaths and serious injuries in Alaska involved the driver **leaving the travel lane or the roadway**. One in three took place at an **intersection**.

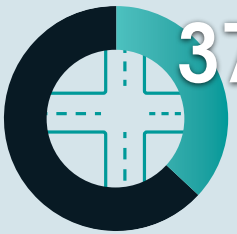
Older Driver Fatalities and Serious Injuries, 2016 to 2020

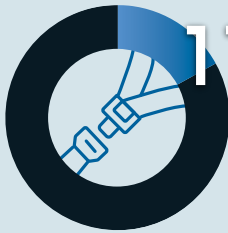


[4] National Transportation Safety Board, 2022.

Older Driver Overlapping Emphasis Areas







DANGEROUS DRIVING

It is essential to encourage safe driving and responsible behaviors for vehicle drivers and operators, i.e., giving the task of driving your complete attention. Dangerous driving behaviors – such as aggressive, distracted, or drowsy driving – mean the driver is not fully aware of their surroundings or does not accept their responsibility to drive safely. DANGEROUS DRIVERS PUT THEMSELVES AND ALL ROAD USERS AT RISK.

STRATEGIES FOR DANGEROUS DRIVING:

EXPLORE and implement best practices and policies to address dangerous driving behaviors.

IMPLEMENT media campaigns and educational trainings to discourage dangerous driving behaviors.

Dangerous driving behaviors can be difficult to prove after a crash and are likely underreported in crash data. **Speeding** and **impaired driving** are dangerous driving behaviors addressed by other Focus Areas.

AGGRESSIVE DRIVING includes racing, exceeding the speed limit, driving too fast for conditions, following a vehicle too closely, unsafe lane changes, or running stop signs or red lights.

DISTRACTED DRIVING means taking your eyes off the road, your hands off the wheel, or your mind off of driving. This includes texting or using handheld devices, eating, drinking, focusing on other car passengers, or fiddling with the stereo or navigation system.[5]

DROWSY DRIVING is driving while feeling sleepiness or fatigue, usually when a driver has not slept enough.

[5] NHTSA, 2021.

In Alaska between 2016-2020, aggressive and/ or distracted behaviors were a contributing factor in each of the following:

13% Young Driver Fatalities or Serious Injuries

13% Non-Seat Belt Use Fatalities or Serious Injuries

13% Impaired Driving Fatalities or Serious Injuries

13% Speeding Fatalities or Serious Injuries

9% Pedestrian and Bicycle Fatalities or Serious Injuries

Aggressive driving and **speeding** often happen together. Sometimes, aggressive driving behaviors are directed towards other road users specifically. Aggressive driving increases the risks of injury and death, such as running a red light at an **intersection** while **pedestrians and bicyclists** are crossing.

Drowsy driving can be an issue in Alaska, particularly during long Alaskan summers. When it is light for many hours, drivers may not realize how tired they are. A drowsy driver may have slower reaction times or may **swerve out of the travel lane or the roadway**. Drivers who have been driving for extended periods, such as **commercial motor vehicles**, may become drowsy if they don't take proper breaks and rest.

Taking attention away from the road can be deadly for the driver/operator and other road users. There are three types of distraction:

- **MANUAL**, such as taking your hands off the steering wheel
- **VISUAL**, including taking your eyes off the road
- **COGNITIVE**, in which you take your mind off driving

Texting while driving is all three types of distraction. People, objects, and new roadway environments and situations are occurring constantly on the road while you are distracted.

When you take your eyes off the roadway:

25 MPH *At 25 mph, you travel* **HALF THE LENGTH OF A FOOTBALL FIELD** *in* **5 SECONDS**

50 MPH *At 50 mph, you travel* **THE FULL LENGTH OF A FOOTBALL FIELD** *in* **5 SECONDS**

20% *of Alaskan drivers reported* **TALKING ON CELL PHONE WHILE DRIVING** *often or always*

96% *have strong belief that it is* **VERY OR SOMEWHAT DANGEROUS TO TEXT WHILE DRIVING**

54% *of Alaskan drivers* **HAVE READ, SEEN, OR HEARD MEDIA OR DISCUSSIONS ABOUT DISTRACTED DRIVING** *in Alaska*

Source: Alaska Highway Safety Office and Center for Safe Alaskans, 2022 Transportation Attitudinal Survey.

While data is limited for dangerous driving behaviors, there are still clear

OVERLAPPING EMPHASIS AREAS:

ROADWAY DESIGN

can help prevent dangerous driving behaviors
(for example, rumble strips for distracted/drowsy driving)

YOUNG DRIVERS

are more likely to ***text or make riskier decisions*** *while driving*

SPEEDING

is commonly ***paired with other aggressive driving behaviors***

OCCUPANT PROTECTION

Occupant protection is a necessary element of the Safe System Approach to **PROTECT HUMAN BODIES FROM THE FORCE IMPACTS OF CRASHES**. Two out of every five people killed on Alaska's roadways were not wearing a seat belt or helmet.

STRATEGIES FOR OCCUPANT PROTECTION

- **INCREASE** the number of law enforcement agencies and officers participating in high-visibility enforcement for occupant protection.
- **CONTINUE TO FUND** and support child passenger safety programs, including in rural areas.
- **TARGET EDUCATIONAL MEDIA** campaigns at vehicle occupants with low seat belt use.

Using lap and shoulder seat belts reduces the risk of:

FRONT SEAT PASSENGER CAR

occupant deaths by **45%**

occupant moderate to critical injuries by **45%**

FRONT SEAT LIGHT TRUCK

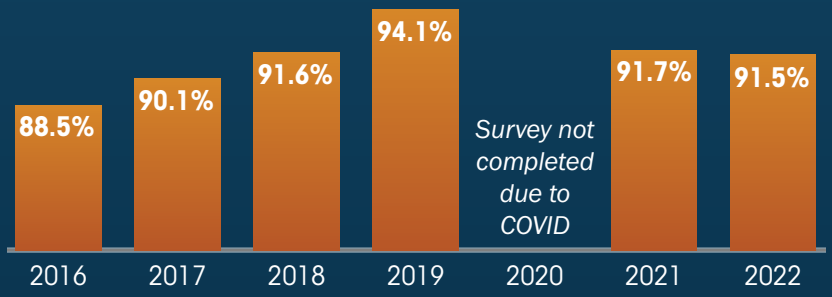
occupant deaths by **60%**

occupant moderate to critical injuries by **65%**

Source: NHTSA.

Percentage of all Alaska fatalities and serious injuries, 2016-2020

Weighted Observed Seatbelt Use Rate by Year



Source: Alaska Highway Safety Office and Center for Safe Alaskans, 2022 Occupant Protection Use Survey Report.

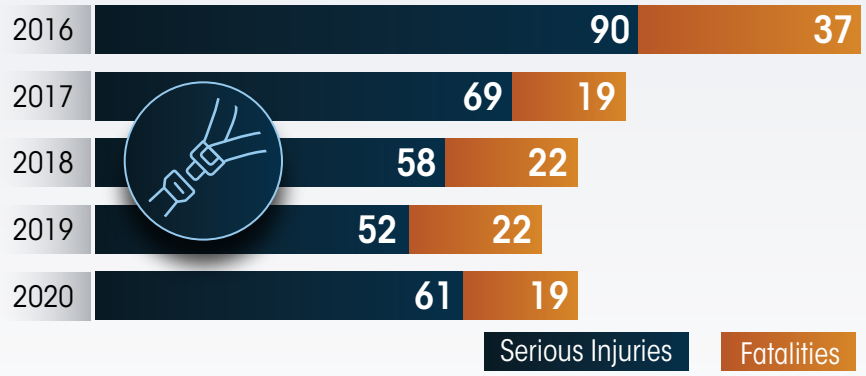
Occupant protection includes restraint devices and protective equipment that are meant to protect vehicle drivers and passengers during a crash. Restraint devices include seat belts and child safety seats. Protective equipment includes helmets and high visibility clothing for bicycle, motorcycle, all-purpose vehicle, and snowmachine riders.

Wearing a seat belt or a helmet are two of the greatest protections drivers, occupants, and riders can do to survive a crash.

Not wearing a seat belt can multiply the risks of death or injury in a crash, particularly when paired with **dangerous driving** or risky behaviors. Seat belts are the single best defense against **impaired drivers**, **speeding**, and **aggressive** or **distracted drivers**.

Two out of every three unbelted people who were killed or seriously injured were in a vehicle that either **left the travel lane or the roadway**. Often, lane and roadway departures lead to collisions with other vehicles or fixed objects such as trees or guardrails. Wearing a seat belt can save lives by preventing people from being thrown from the vehicle with the force of the impact.

Occupant Protection Fatalities and Serious Injuries, 2016 to 2020

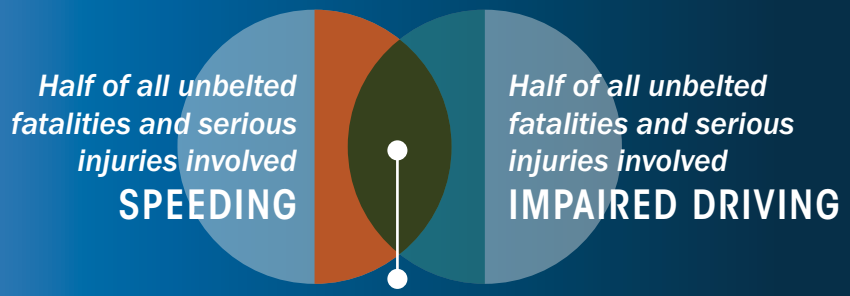


HELMETS

reduce the risk of head injury by **69%**

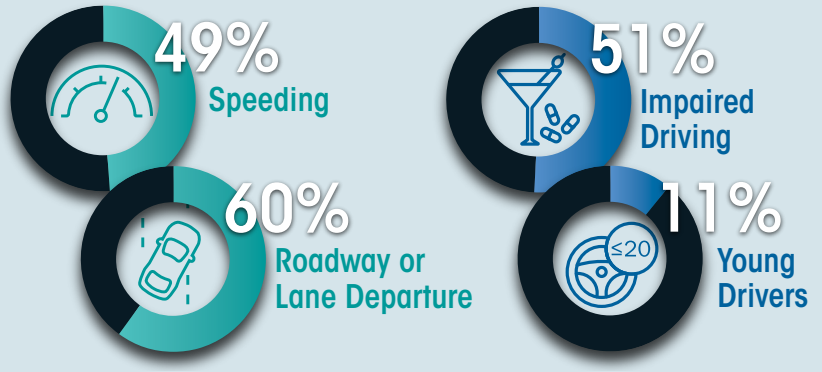
Source: Centers for Disease Control and Prevention.

***One out of every three* YOUNG DRIVERS *killed or seriously injured was* NOT WEARING A SEAT BELT OR HELMET**



***When combined: One out of every three unbelted people killed or severely injured was in a crash involving both* SPEEDING *and* IMPAIRED DRIVING**

Occupant Protection Overlapping Emphasis Areas

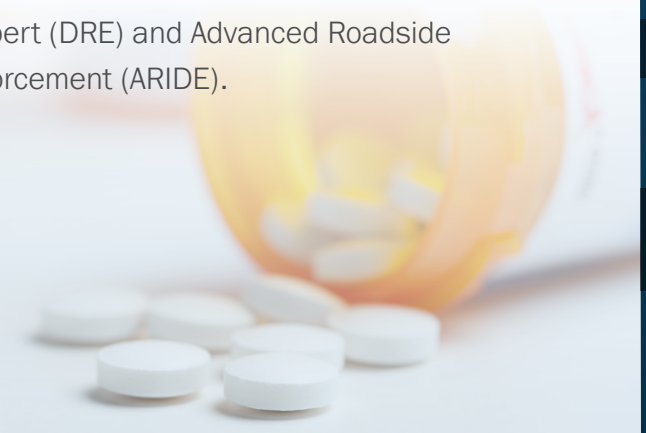


IMPAIRED DRIVING

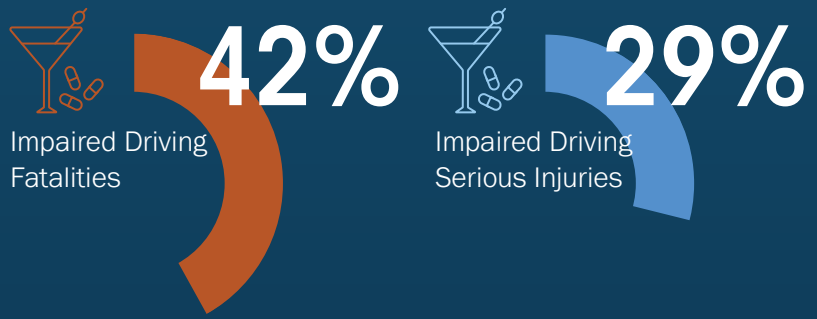
One-third of all traffic deaths and serious injuries on Alaska's roadways involved a driver under the influence of alcohol or drugs.
IF YOU FEEL DIFFERENT, YOU DRIVE DIFFERENT.[6]

STRATEGIES FOR IMPAIRED DRIVING

- **CONTINUE** saturation patrols statewide.
- **IMPROVE** the collection and quality of impaired driving data.
- **PREVENT** over-serving at establishments serving alcohol.
- **EXPLORE** the feasibility of a screening and treatment program for substance misuse disorder for convicted impaired drivers.
- **PROMOTE** statewide certifications for law enforcement for Drug Recognition Expert (DRE) and Advanced Roadside Impaired Driving Enforcement (ARIDE).



Percentage of all Alaska fatalities and serious injuries, 2016-2020



***In Alaska it is* AGAINST THE LAW TO OPERATE A VEHICLE, AIRCRAFT, OR WATERCRAFT UNDER THE INFLUENCE OF ALCOHOL.**

Driving Under the Influence means:

***Your breath or blood test result is* .08 G/DL OR GREATER**

***Your breath or blood test result is* .04 G/DL OR GREATER WHEN OPERATING A COMMERCIAL VEHICLE**

***You are under the* COMBINED INFLUENCE OF INTOXICATING LIQUOR AND A CONTROLLED SUBSTANCE**

Source: Alaska Department of Administration, Division of Motor Vehicles.

[6] NHTSA.

IMPAIRED DRIVING MEANS BOTH ALCOHOL-IMPAIRED AND DRUG-IMPAIRED DRIVING. Alcohol, cannabis, and other drugs, including over-the-counter, prescription, and illicit drugs, can negatively affect drivers' thinking, judgment, and reflexes.

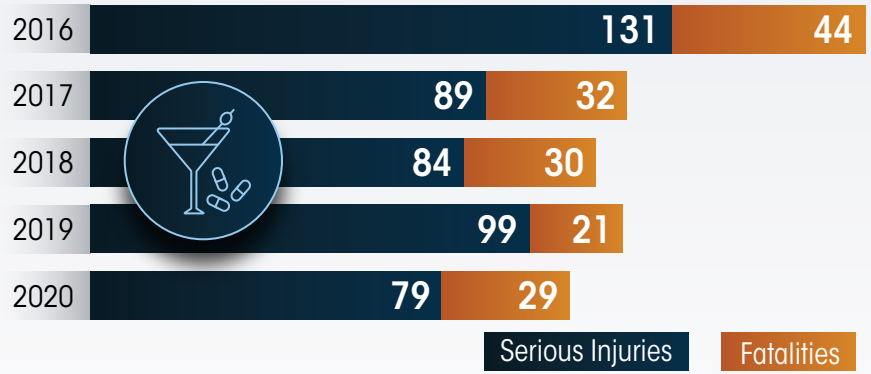
IMPAIRED DRIVERS CAN'T ACCURATELY EVALUATE THEIR OWN LEVEL OF IMPAIRMENT. When a driver is impaired, they may make riskier choices or drive dangerously. Impairment slows drivers' reaction times and affects body coordination, meaning it may take longer for a driver to notice and react to a pedestrian, bicyclist, another vehicle, or roadway condition.

Impairment includes drowsiness, dizziness, blurred vision, affected judgment, and slower reaction times. Over-the-counter and prescription drugs can impair driving performance, even when prescribed by a doctor and taken as recommended. Some over-the-counter and prescription drugs may have labels warning users to avoid driving or using heavy machinery while taking the drug. The same drug may affect different users in different ways. Alcohol and drugs or two drugs taken in combination may amplify impairing side effects.[7, 8]

[7] NHTSA.

[8] National Transportation Safety Board, 2022.

Impaired Driving Fatalities and Serious Injuries, 2016 to 2020

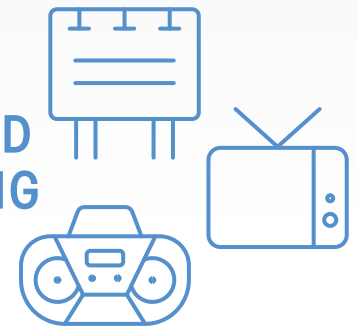


TWO-THIRDS

of Alaskan drivers have

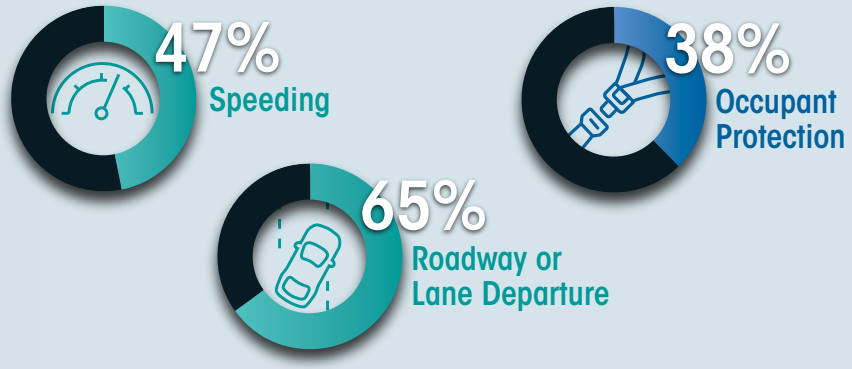
READ, SEEN, OR HEARD ABOUT DRUNK DRIVING ENFORCEMENT

in 2022



Source: Alaska Highway Safety Office and Center for Safe Alaskans, 2022 Transportation Attitudinal Survey.

Impaired Driving Overlapping Emphasis Areas

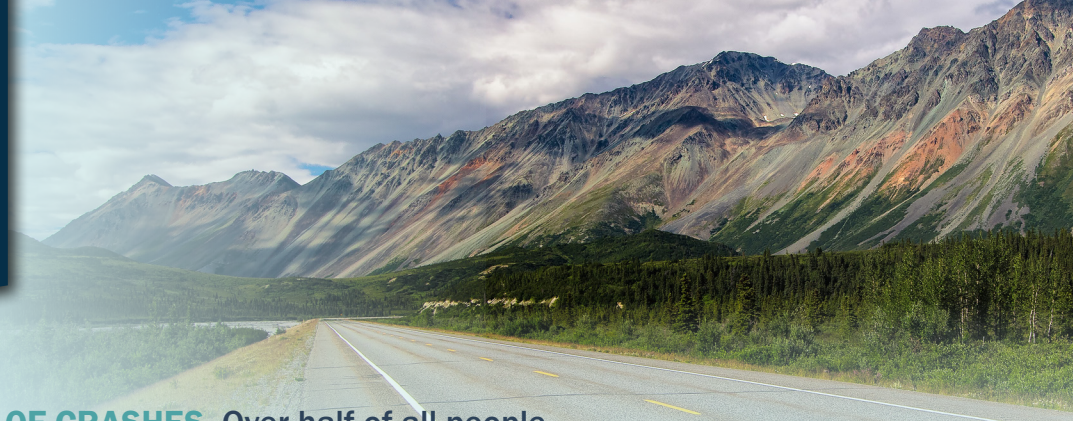


SAFE ROADS AND SAFE SPEEDS

The **Safe Roads and Safe Speeds** Emphasis Area uses design, operations, and maintenance to support a roadway environment that mitigates human mistakes, encourages safer behaviors, and protects vulnerable road users. Redundancy is key in roadway design to both prevent crashes and lessen the severity when crashes do occur.

Safe Roads and Safe Speeds seek to increase safety by lessening the most common types of fatal and serious injury crashes at intersections and due to lane or roadway departures. It also incorporates education, outreach, and enforcement about the transportation environment and safe driving behaviors such as speed management.

ROADWAYS



ROADWAY DESIGN INFLUENCES THE TYPES AND SEVERITY OF CRASHES. Over half of all people killed or seriously injured on Alaska's roadways were in a vehicle that veered into another lane or drove off the road. One out of every five people killed at an intersection is a pedestrian or a bicyclist.

STRATEGIES FOR ROADWAYS

- **UPDATE** DOT&PF policies and manuals to include effective countermeasures to mitigate lane and roadway departures.
- **PERFORM** timely and adequate winter weather maintenance for all road users.
- **IMPLEMENT** a media campaign to help road users understand how to navigate various roadway types and elements.

80% *of **public road centerline miles** in Alaska are* **RURAL ROADS**

LANE DEPARTURE

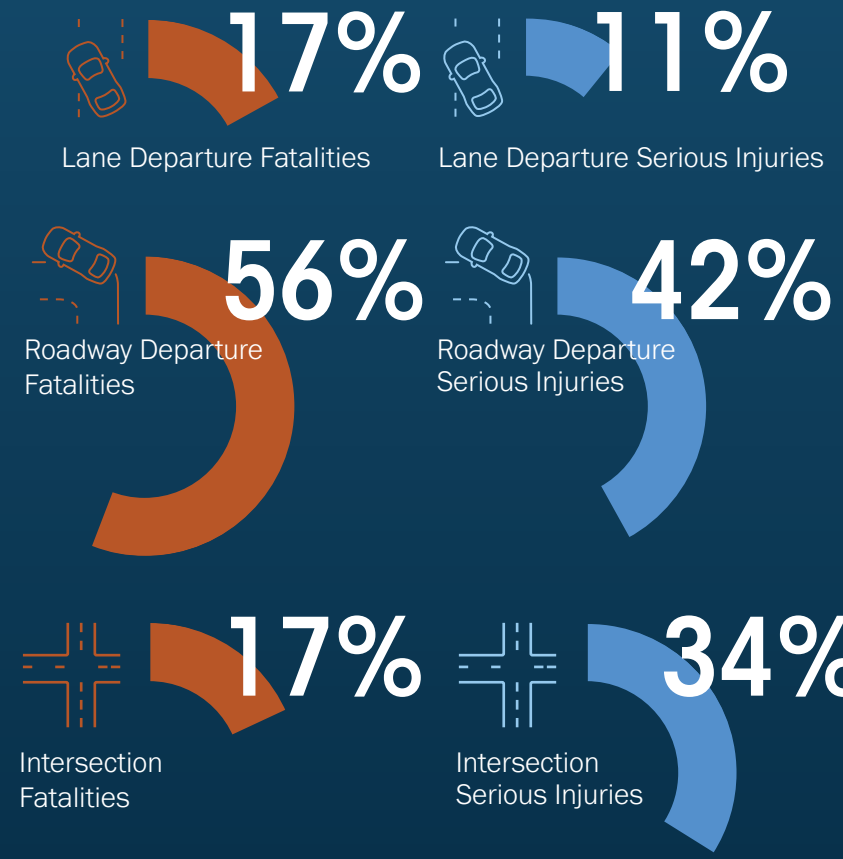
A vehicle leaves its travel lane but remains on the roadway.

ROADWAY DEPARTURE

A vehicle leaves the roadway, even if they re-enter the roadway.

Source: Federal Highway Administration, Highway Statistics 2020.

Percentage of all Alaska fatalities and serious injuries, 2016-2020



The design and operation of Alaska's roadways influences driver behaviors, vehicle speeds, and contributing circumstances to crashes. The roadway and surrounding environment provide cues to drivers such as how fast to drive, when to pass, and where to look for other cars or people. It is important to design roadways that protect all road users fitting the roadway's context and purpose.

The majority of public roads in Alaska are local, rural roads managed by boroughs, municipalities, or other jurisdictions. Collaboration will be crucial to address traffic safety on all roads.

Lane and roadway departure crashes occur when a vehicle leaves its lane and either has a non-collision crash or collides with another vehicle, people, structures, trees, and/or other objects. In a lane departure crash the vehicle remains on the roadway, whereas the vehicle completely leaves the roadway in a roadway departure crash.

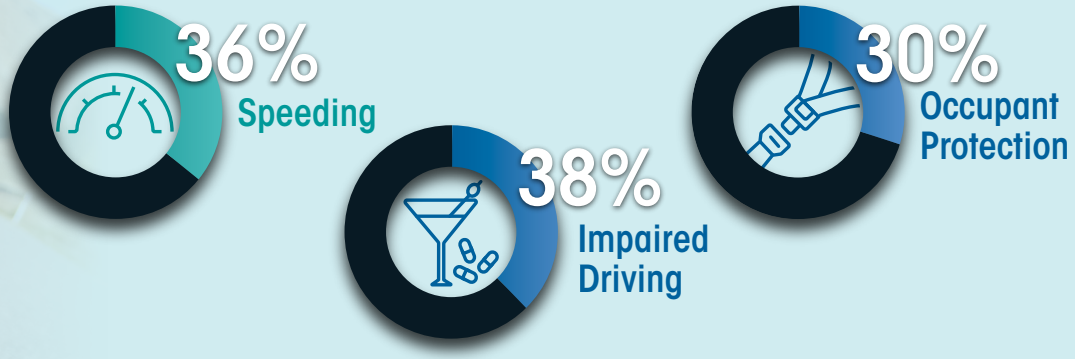
5 out of 10 DEATHS *on Alaska's roads involve a* ***roadway departure***

4 out of 10 SERIOUS INJURIES *on Alaska's roads involve a* ***roadway departure***

Leaving the travel lane could be due to improper passing, wrong way driving, weaving through traffic, swerving, overcorrecting, **speeding**, or **aggressive** or **distracted driving** behaviors. Drivers who are **impaired** or **drowsy** may struggle to stay in their lane. Poor weather and slippery road conditions also play a role.

When a vehicle leaves the paved roadway, it can be difficult for the vehicle to safely reenter the road. Roadway departures are more prevalent on rural roads, which are more likely to be unpaved or high-speed roads through mountainous terrain with worse surface conditions in winter.

Lane and Roadway Departure Overlapping Emphasis Areas



Intersections are roadways where vehicles traveling in different directions may come together, including at-grade rail crossings. Intersections are likely to have other types of road users present, including **pedestrians and bicyclists**.

This convergence of roadways creates conflict points that require the full attention of each road user to safely cross or pass through. Road users have to pay attention to traffic control devices, where and when other vehicles are going, and people in and near the roadway. Dangerous driving behaviors such as **speeding** or **driving impaired** can be deadly at an intersection.

2 out of 10 DEATHS &

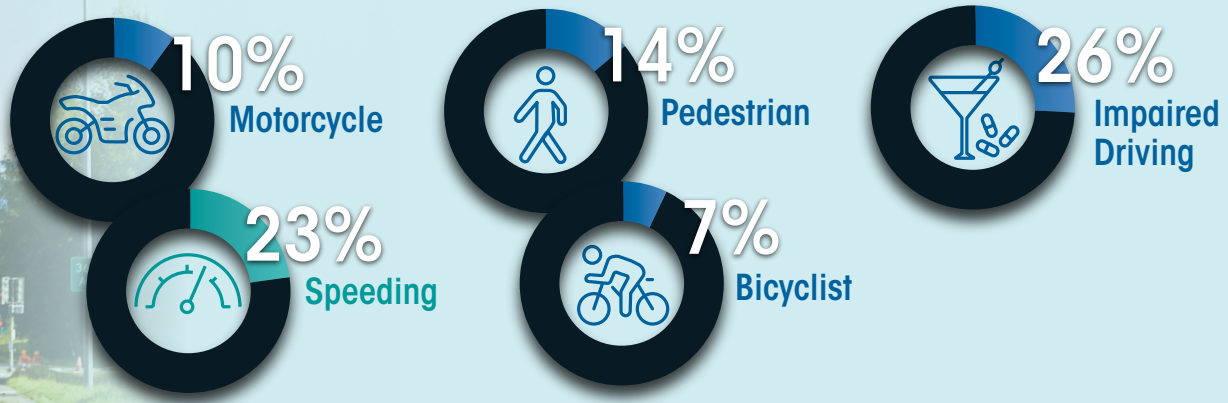
3 out of 10 SERIOUS INJURIES *took place at an* ***intersection***

2 out of 10 FATALITIES *at intersections are* ***pedestrians & bicyclists***

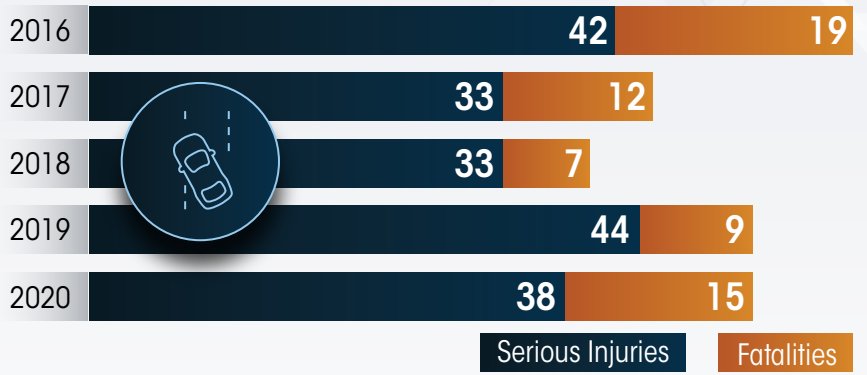
78% *of all* ***fatalities and serious injuries*** *at* **INTERSECTIONS** *were in* ***urban areas***

Intentional design and operation of intersections and surrounding corridors can provide redundancies to increase visibility of vulnerable road users and clarity of traffic movements and expectations.

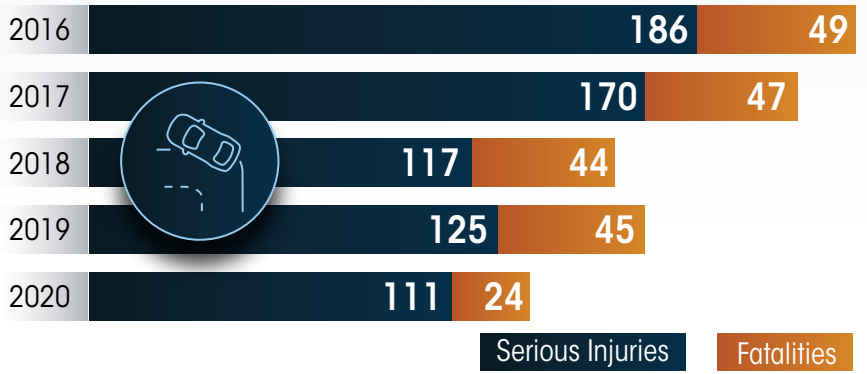
Intersection Overlapping Emphasis Areas



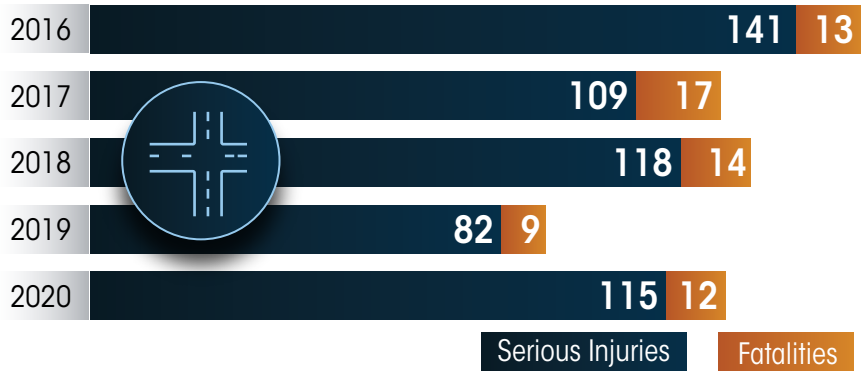
Lane Departure Fatalities and Serious Injuries, 2016 to 2020



Roadway Departure Fatalities and Serious Injuries, 2016 to 2020



Intersection Fatalities and Serious Injuries, 2016 to 2020



SPEED MANAGEMENT

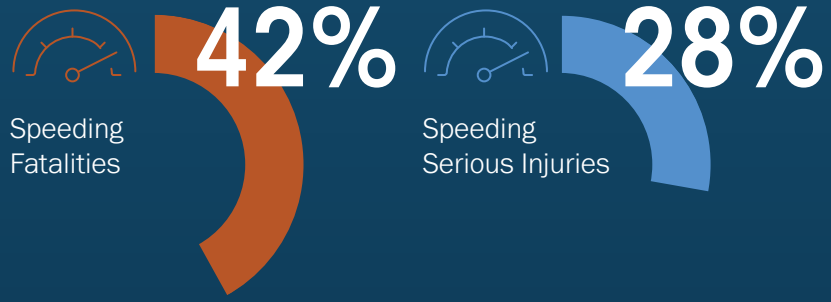
SPEEDING MAKES CRASHES MORE LIKELY AND MORE DEADLY. Driving too fast for conditions or exceeding the speed limit contributed to almost 30 percent of all traffic fatalities and serious injuries in Alaska.

STRATEGIES FOR SPEED MANAGEMENT

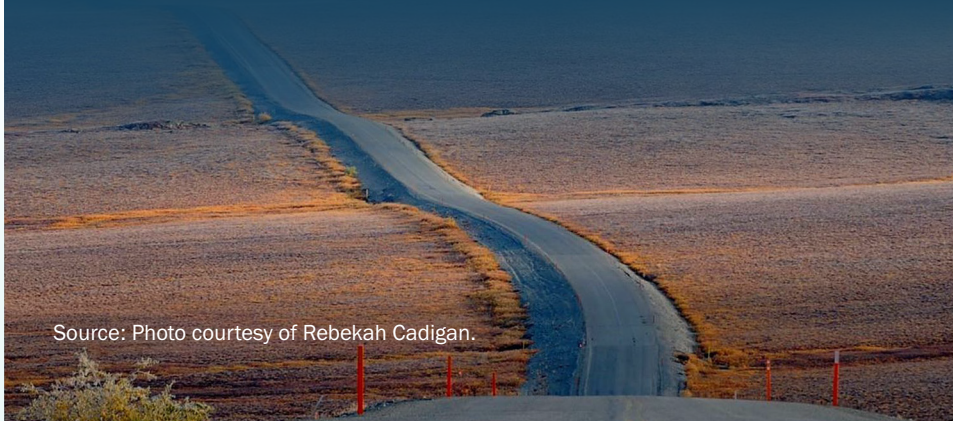
- **CONDUCT** high-visibility enforcement and awareness campaigns to reduce speeding.
- **DEVELOP** model policies and implement and innovative practices to reduce speeding.
- **USE DATA** to support policy, legislative, and enforcement efforts aimed at reducing speeding.
- **PROVIDE** training to law enforcement on best practices related to speed enforcement.

Speeding is dangerous to all road users. The human body is vulnerable, and increased speeds mean increased impact forces on the body during a crash – often fatal for vulnerable road users such as **pedestrians and bicyclists** even at lower speeds. **Motorcyclists, all-purpose vehicle riders**, and **snowmachine riders** are also more vulnerable to the physical impact of a crash.

Percentage of all Alaska fatalities and serious injuries, 2016-2020



75% *of speeding involved **fatalities and serious injuries** took place on* **STATE OWNED ROADS**



Source: Photo courtesy of Rebekah Cadigan.

The **RISK OF DEATH** *for a pedestrian struck by a vehicle* ***increases with vehicle speed.*** *When hit by a vehicle traveling at:*

23 MPH	32 MPH	42 MPH	50 MPH	58 MPH
10%	25%	50%	75%	90%
Risk of Death	*Risk of Death*	*Risk of Death*	*Risk of Death*	*Risk of Death*

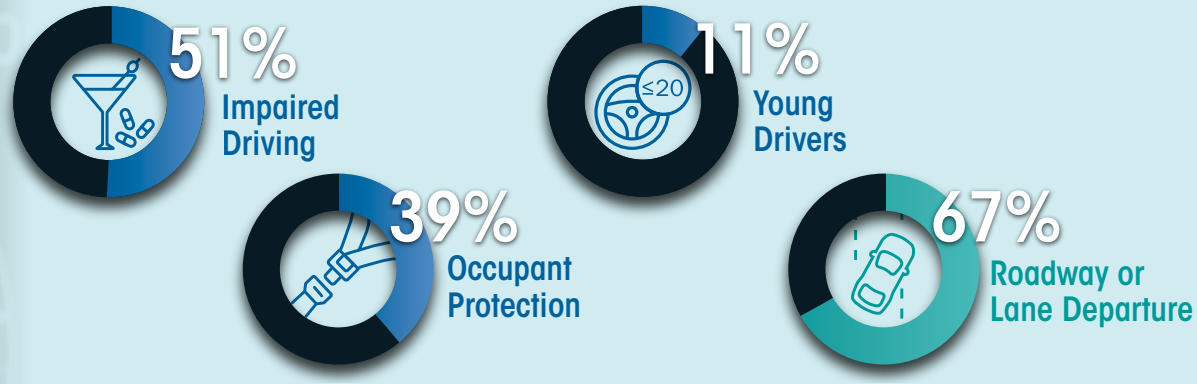
Source: AAA Foundation for Traffic Safety, 2011.

Pairing speeding with other dangerous driving behaviors increases the consequences of speeding-involved crashes. For example, an impaired driver may be more likely to make risky decisions such as driving too fast for conditions. One out of every two speeding related fatalities and serious injuries also involved an **impaired driver**.

Not wearing a seat belt can be a fatal decision when speeding, with unrestrained vehicle occupants potentially thrown from the vehicle. Two out of every five people killed or severely injured in a speeding-involved crash were **not wearing a seat belt.**

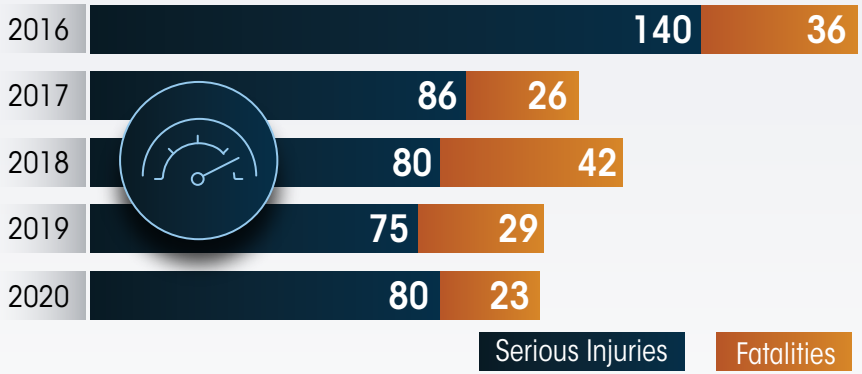
When speeding, a driver may lose control of the vehicle or run off the road. Two-thirds of speeding-related fatalities and serious injuries occurred when a vehicle **left the travel lane or roadway.**

Speeding Overlapping Emphasis Areas



Young drivers are disproportionately killed or seriously injured in speeding crashes, representing 11 percent of speeding-involved deaths and serious injuries, but only seven percent of all deaths and serious injuries. Young drivers may make riskier decisions like exceeding the speed limit. Young drivers are also less experienced and may not be able to react quickly or recover safely if they lose control of the vehicle.

Speeding Fatalities and Serious Injuries, 2016 to 2020



30 MPH

14%

*of Alaskan drivers **often or always drive** FASTER THAN 35 MPH on a local road with **30 mph speed limit***

65 MPH

13%

*of Alaskan drivers **often or always drive** FASTER THAN 70 MPH on a local road with **65 mph speed limit***

23%

*of Alaskan drivers thought the **chances of getting a speeding ticket** for driving over the speed limit were **unlikely** (39% thought likely)*

Source: Alaska Highway Safety Office and Center for Safe Alaskans, 2022 Transportation Attitudinal Survey.

SAFE VEHICLES

The **Safe Vehicles** Emphasis Area acknowledges that different types of vehicles and safety technologies can influence the occurrence and severity of crashes. **Safe Vehicles** means that commercial vehicle drivers drive responsibly, while other roadway users operate safely around commercial vehicles. Vehicle safety equipment also plays a key role in mitigating the harm of crashes with both long-standing and emerging safety technologies. It is important that vehicle operators know how to use – and don't turn off – their vehicle's safety features.

VEHICLE SAFETY


Source: Alaska DOT.

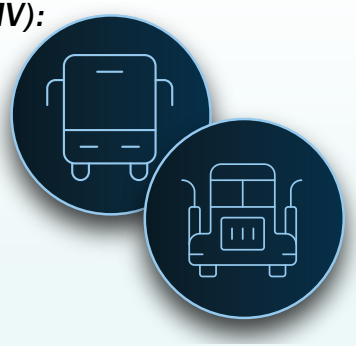
The majority of road users and commercial goods travel by vehicle on Alaska's roads. Utilizing the safety features of our vehicles can both PREVENT CRASHES AND LESSEN THE IMPACTS OF CRASHES on the human body.

STRATEGIES FOR VEHICLE SAFETY

- **EDUCATE** drivers on how to properly use their vehicle's safety features, such as lane assist and forward collision warning systems.
- **UPDATE** and share safe driving best practices with tourism commercial vehicle operators and owners.
- **CONDUCT** education and outreach about regulations and safety topics related to commercial motor vehicles.
- **ENFORCE** commercial motor vehicle regulations.

A large commercial motor vehicle (CMV):

- ☑ MANEUVERS LESS NIMBLY THAN PASSENGER CARS
- ☑ HAS LARGE BLIND SPOTS
- ☑ TAKES LONGER TO COME TO A COMPLETE STOP
- ☑ HAS HIGHER IMPACT FORCE



Percentage of all Alaska fatalities and serious injuries, 2016-2020

6%
Commercial Motor Vehicle Fatalities

21 TOTAL CMV FATALITIES

4%
Commercial Motor Vehicle Serious Injuries

60 TOTAL CMV SERIOUS INJURIES

It is important for commercial vehicle drivers to operate responsibly, including practicing safe driving behaviors, following federal hours of service requirements, and carrying properly permitted and sized loads. It is also vital for other roadway users to drive safely around commercial vehicles.

Vehicle safety equipment and technologies help prevent and mitigate the harm of crashes. Long-standing safety features like seat belts and air bags protect vehicle occupants. Advanced driver assistance system technologies help drivers to be fully aware of their surroundings, stay in their lane, and brake to avoid a collision.

Alaska will need to anticipate, regulate, and plan for new and emerging vehicle technologies, such as connected vehicles and automated vehicles.

96%

of CMV Fatalities & Serious Injuries occurred on **STATE OWNED ROADS**

69%

of CMV Fatalities & Serious Injuries occurred in **RURAL AREAS**

6.7%

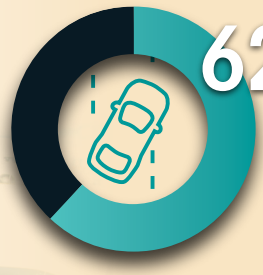
of all vehicles registered in Alaska in 2022 were a **COMMERCIAL TRUCK, COMMERCIAL TRAILER, OR BUS**

Source: Alaska Department of Administration, Division of Motor Vehicles, 2022.

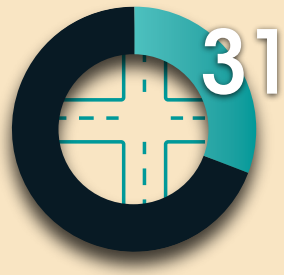
Advanced Driver Assistance System Technologies include:

- **REAR AND SIDE CAMERAS**
- **BLIND SPOT DETECTION**
- **AUTOMATED BRAKING**
- **FORWARD COLLISION WARNING**
- **LANE MONITORING AND LANE DEPARTURE WARNING**
- **ADAPTIVE CRUISE CONTROL**

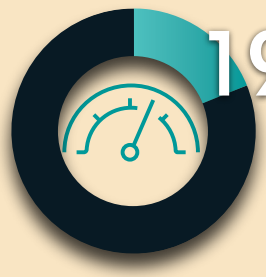
Vehicle Safety Overlapping Emphasis Areas



Roadway or Lane Departure



Intersections



Speeding

POST-CRASH CARE

The **Post-Crash Care** Emphasis Area seeks to increase the survivability of crashes while preventing secondary crashes. **Post-Crash Care** promotes the timely arrival and on-scene protection of emergency medical services, law enforcement, tow operator, and fire department responders. It also includes collecting, sharing, and linking crash and traffic information with other key data repositories to support informed decision-making by all traffic safety stakeholders.

POST-CRASH CARE

EMERGENCY RESPONSE

After a crash, prompt emergency response and effective incident management can make the DIFFERENCE BETWEEN AN INJURY AND A DEATH.

STRATEGIES FOR EMERGENCY RESPONSE

- **IDENTIFY** the contributing factors for crashes involving first responders and emergency vehicles.
- **PROTECT** first responders at crashes through tools, techniques, technology, and information-sharing practices.
- **IMPLEMENT** a media campaign about Alaska's Move Over Law.

THE QUICK ARRIVAL OF EMERGENCY RESPONDERS CAN SAVE LIVES. However, in Alaska's rural areas, emergency response times may be long as first responders must travel great distances. These prolonged response times mean life-saving medical treatment is delayed for injured crash victims.

EFFECTIVE AND EFFICIENT TRAFFIC INCIDENT MANAGEMENT CAN PREVENT FURTHER INJURIES. Quickly and safely clearing a crash scene can save additional lives by minimizing the risk of a secondary crash. It also protects the lives of emergency responders, emergency medical services, fire departments, law enforcement, road service workers, and tow operators at the scene of the crash.

As one of the 4 Es of traffic safety, collaboration is essential between DOT&PF and state and local emergency response partners.

ENGINEERING

ENFORCEMENT

EDUCATION

EMERGENCY RESPONSE

SLOW DOWN AND MOVE OVER

It is the law in Alaska to **slow down** when approaching a stationary ambulance, fire vehicle, law enforcement vehicle, tow truck, maintenance vehicle, or vehicle with emergency flashing lights.

If the road has two or more lanes traveling in the same direction, also **move over** to the lane farther away from the stationary vehicle. (Alaska Statute 28.35.185)

TRAFFIC RECORDS

Traffic records are a key component to move Alaska *Toward Zero Deaths* on our roadways. Crash data analysis can help identify, deploy, and evaluate traffic safety countermeasures. The traffic records systems underpin all efforts to make data-driven decisions and efficiently use all resources.

The Alaska Traffic Records Coordinating Committee (ATRCC) is invested in **IMPROVING THE TIMELINESS, ACCURACY, COMPLETENESS, UNIFORMITY, INTEGRATION, AND ACCESSIBILITY** of traffic records data. Representatives include the AHSO, DOT&PF, Division of Motor Vehicles, Alaska Court System, and state and local law enforcement agencies.

The ATRCC Traffic Records Strategic Plan describes specific, quantifiable, and measurable improvements planned for Alaska's core safety databases. The Strategic Plan facilitates communication, coordination, and assistance among collectors, managers, and users of Alaska's traffic records systems.

Alaska's core safety databases include data about:

ATRCC VISION

Provide users with ***timely, accurate, complete, consistent, and well-documented traffic records information*** enabling analysis and supporting timely decision-making.

ATRCC MISSION

Support data and data exchange improvements and identify and secure the necessary resources for these improvements through coordinated multi-agency leadership to maximize the efficiency and effectiveness of traffic records data collection and analysis and facilitate timely data sharing and use.

Current projects seek to improve traffic records data by integrating injury surveillance, citation, and crash report data sets. Leveraging these combined data sets could point to strategies to address complex crashes.

IT IS IMPORTANT THAT HIGH-QUALITY CRASH DATA IS AVAILABLE IN A TIMELY MANNER TO IDENTIFY CRASH TRENDS. THIS ALLOWS APPROPRIATE COUNTERMEASURES TO BE DEPLOYED WHERE AND WHEN NEEDED. The AHSO is currently working with a vendor to catch up on the backlog of crash data entry into the state's crash system.

Additionally, the AHSO continues to provide a software system free of charge to all law enforcement agencies who choose to use it so they can report crashes and citations electronically. Electronic reporting of crashes and citations improves the accessibility, timeliness, uniformity, completeness, and integration of all aspects of these records over paper crash reports and citations.

IMPLEMENTATION AND EVALUATION

Alaska will implement the SHSP Emphasis Areas strategies and actions over the next five years through its statewide transportation planning and programming processes. DOT&PF will collaborate and coordinate with many safety partners to address roadway safety on all public roads in Alaska.

The Focus Area teams will assist with and evaluate implementation progress, while the Steering Committee and AHSO will continue to track fatality and serious injury trends over this period with Executive Committee oversight.

Source: Alaska DOT&PF.

IMPLEMENTATION

This updated SHSP and the accompanying Safe System Emphasis Area action plans provide a roadmap for effective implementation of the SHSP vision, mission, and goals.

Creating Alaska's 2023-2027 SHSP improved our understanding of Alaska's safety challenges and increased the network of diverse stakeholders across the state, which will aid in the implementation of this plan.

Alaska Highway Safety Office staff will manage the ongoing coordination and implementation. Support and accountability for implementation comes from DOT&PF and other statewide agencies, MPOs, Tribes and Nations, boroughs, and local government through Focus Area team and Steering Committee participation, and other partnerships forged in the SHSP development process.

The roles and responsibilities of the SHSP Executive Committee, Steering Committee, Emphasis Area Leaders, Focus Area Team Leaders and Members, and Action Champions are defined in the "SHSP Roles and Responsibilities" chapter.

New to this SHSP is the integration of the **Safe System Approach.** Alaska must work diligently to build our safety culture within DOT&PF, with all relevant safety agencies and partners, and with the public. Alaska must also address inequities in how transportation improvements have been implemented, particularly in underserved communities.

To accomplish the goal of moving *Toward Zero Deaths* and serious injuries, Alaska's engineers, planners, law enforcement officers, education specialists, emergency response personnel, communities, and citizens must work together to create a safe and efficient roadway system for all users.

The SHSP will also integrate the experiences and expertise of Alaska Native and American Indian people through the newly established Tribal Advisory Committee.

The Focus Area action plans will guide the implementation process (included in Appendix B). These action plans identify the agency or organization responsible for coordinating implementation, reporting progress and identifying barriers for each project or program. The action plans also list how Alaska will determine the action step was successfully implemented by tracking the output or outcome measures and data sources within a projected timeframe.

Source: Alaska DOT&PF.

Another new aspect of this SHSP is the re-establishment of an SHSP Executive Committee. Although the Alaska DOT&PF will lead the SHSP effort, Alaska cannot achieve zero fatalities and serious injuries without partnerships across the state. Many of the strategies outlined in the SHSP involve other state and local agencies and communities to be successful. The role of the Executive Committee is to provide organizational resources; remove barriers to support the SHSP goals, objectives, and strategies; ensure statewide accountability; and support adoption of the **Safe System Approach**.

The Steering Committee will meet a minimum of three times annually to track progress, address challenges, and determine evolving or new needs. In advance of each Steering Committee meeting, Focus Area and Emphasis Area Team Leaders will provide updates on their progress and challenges for the Steering Committee. One Focus Area Team's work will be spotlighted in each Steering Committee meeting with a speaker or best practices presentation.

Annually, DOT&PF will provide a presentation to the SHSP Steering Committee about Emphasis Area trends, performance, and progress toward the SHSP objectives. This annual update will be coordinated with the availability of new traffic fatality and serious injury data.

The Emphasis Area Teams will meet a minimum of three times each year to review action plans and provide updates on activities for each Focus Area. Action champions and Focus Area team members will coordinate with partners and organizations to track progress and report on strategy and action implementation.

For the Alaska SHSP to be successfully implemented, all of Alaska's partners must play a part in eliminating fatalities and serious injuries. This includes:

- Updating state, MPO, and local government safety plans to align with the SHSP's vision, mission, and strategies
- Demonstrating shared accountability in implementing SHSP strategies and promoting the **Safe System Approach** principles
- Educating employees on the **Safe System Approach** and encouraging them to be ambassadors instilling a safety culture throughout their organization
- Promoting initiatives that enhance our safety culture by increasing roadway users' understanding of Alaska's most significant traffic safety problems and their shared responsibility in reducing fatalities and serious injuries
- Supporting and advocating for national, state, and local initiatives, policies, and projects that promote highway safety

Source: Alaska DOT&PF.

EVALUATION

Evaluation is critical to understanding what works and should continue versus what is not working and should be modified or discontinued.

The Focus Area action plans include performance measures for each of the proposed action steps. This will enable Alaska to determine if, when, and to what degree each action has been implemented thus far. It may also indicate if additional project-level evaluation is needed. The Steering Committee and Focus Area Teams will monitor performance and progress toward meeting our fatality and serious injury targets.

To track and evaluate implementation, DOT&PF will develop and publish an online dashboard tracking both overall and Focus Area-specific traffic fatalities and serious injuries. The dashboard may also track Focus Areas action plans and performance. The dashboard will serve as the primary tool to report, track, and evaluate the effectiveness of SHSP strategies. The dashboard will be updated prior to each Focus Area team meeting.

Additionally, the Steering Committee will use the Federal Highway Administration (FHWA) Evaluation Process Model reporting during the second or third year of this SHSP cycle. This will help identify how Alaska could both improve the SHSP update process and better evaluate progress. The FHWA guide will enable Alaska to determine the effectiveness of their organizational structure, whether there was multidisciplinary coordination, how data was used to identify problems and solutions, and how well the plan adhered to the principles and elements of the **Safe System Approach**.

DOT&PF also intends to develop a website to serve as a resource for the public and stakeholders to help move the state *Toward Zero Deaths* and serious injuries. This website will have an element to gather the public's input and safety concerns. The website will share information about upcoming safety events, track SHSP implementation progress, and provide another opportunity for accountability for the SHSP. This will help make the plan more recognizable to safety stakeholders and the public.

Source: Alaska DOT&PF.

APPENDIX A
ACRONYMS

3HSP	Triennial Highway Safety Plan
ADA	Americans with Disabilities Act
AHSO	Alaska Highway Safety Office
AMATS	Anchorage Metropolitan Area Transportation Solutions
APV	All-Purpose Vehicle
ATRCC	Alaska Traffic Records Coordinating Committee
ATV	All-Terrain Vehicle
BIL	Bipartisan Infrastructure Law
BPAC	Bicycle and Pedestrian Advisory Committee
CMF	Crash Modification Factor
CMV	Commercial Motor Vehicle
CVSP	Commercial Vehicle Safety Plan
DMV	Division of Motor Vehicles
DOT&PF	Alaska Department of Transportation and Public Facilities
EMS	Emergency Medical Services
FARS	Fatality Analysis Reporting System
FAST	Fairbanks Area Surface Transportation Planning
FHWA	Federal Highway Administration
HIN	High Injury Network

HSIP	Highway Safety Improvement Program
MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
NHTSA	National Highway Traffic Safety Administration
OPUS	Occupant Protection Use Survey
SHSP	Strategic Highway Safety Plan
SSA	Safe System Approach
STIP	State Transportation Improvement Program
SWOT	Strengths, Weaknesses, Opportunities, Threats
TAC	Tribal Advisory Committee
TIP	Transportation Improvement Program
TZD	Toward Zero Deaths
USDOT	United States Department of Transportation
VMT	Vehicle Miles Traveled
VRU	Vulnerable Road User

APPENDIX B
EMPHASIS AREA ACTION PLANS

Revised March 15, 2024

The SHSP has four Emphasis Areas: Safe Road Users, Safe Vehicles, Safe Roads and Safe Speeds, and Post-Crash Care. Each Emphasis Area has one or more Focus Areas with dedicated strategies and action steps to eliminate all fatalities and serious injuries on Alaska's roadways. The Focus Areas are Pedestrians and Bicyclists; Young Drivers and Older Drivers; Motorcycles, All-Purpose Vehicles, and Snowmachines; Dangerous Driving; Roadways; Speed Management; Vehicle Safety; and Emergency Response.

Each Focus Area has strategies and actions to address traffic safety through engineering, education, enforcement, and emergency medical services countermeasures. The Focus Area Teams drafted action plans based on strategies and actions from the previous SHSP, stakeholder input, and proven countermeasures and national best practices.

The Focus Area action plans include champions and estimated timeframes to ensure actions are implemented or challenges to implementation are brought to the attention of the Steering Committee.

The AHSO also has the Impaired Driving Task Force, Occupant Protection Task Force, and Alaska Traffic Records Coordinating Committee; however, those strategic plans are not included here.

PEDESTRIANS AND BICYCLISTS

(Vulnerable Road Users)

***STRATEGY 1:** Implement best practices and proven countermeasures and incorporate into state and local policies and manuals to support safe travel for pedestrians and bicyclists.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
1.1	Review existing state and municipality administrative codes, policies, and manuals to identify gaps and update them as needed to include pedestrians, bicyclists, and other active transportation users.	Alaska Outdoor Alliance DOT&PF	Memorandum detailing proposed updates to the Alaska Administrative Code for VRU safety developed. Policy adopted and Alaska Administrative Code updated. Additional proposed updates to policies identified, as needed.	Year 1, ongoing
1.2	Leverage the federal revisions to the Safe Routes to School (23 U.S. C. § 208) program to revitalize and expand Alaska's infrastructure and non-infrastructure projects offered under the program and coordinate with school districts.	Department of Health, Division of Public Health DOT&PF Center for Safe Alaskans	Statewide inventory and map of SRTS plans created. Gaps and opportunities for future SRTS projects and plans identified.	Year 1, ongoing
1.3	Develop and implement a statewide Complete Streets construction, design, and maintenance policy that considers local-level Complete Streets policies.	DOT&PF	Policy language drafted. Policy language implemented. Stakeholders made aware of policy change(s) and rationale for change(s).	Years 1-2
1.4	Research and implement low-cost, quick-build engineering solutions and pedestrian-focused lighting pilot projects at roadway crossings for active transportation users.	DOT&PF Bike Anchorage University of Alaska Fairbanks Center for Safe Alaskans	Research memorandum and recommendations produced. Effectiveness of VRU-related engineering solutions evaluated. One VRU roadway crossing pilot projects annually.	Years 2-4
1.5	Develop the Pedestrian Standards section (section 1220) of the Alaska Highway Preconstruction Manual.	DOT&PF	Standards developed and adopted. Manual updated.	Year 3

STRATEGY 2: Educate pedestrians, bicyclists, and other vulnerable road users about "rules of the road" and safety equipment.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
2.1	Develop model language and fact sheets for statewide "stop for pedestrians in crosswalks" and "right turn on red" policies.	Bike Anchorage University of Alaska Fairbanks DOT&PF Center for Safe Alaskans	Policy model language developed. Fact sheets developed.	Years 1-2
2.2	Develop and evaluate the effectiveness of comprehensive education campaigns targeting pedestrians, bicyclists, and other active transportation users in Alaskan communities on topics including "rules of the road" and using helmets, high-visibility gear, and other protective equipment.	Department of Health, Division of Public Health Center for Safe Alaskans University of Alaska Fairbanks	VRU educational campaigns developed. Changes in active transportation users' awareness and/or behavior as identified in attitudinal surveys and pre and post campaign behavior observations; percent increase annually.	Years 2-5

STRATEGY 3: Develop and implement a statewide active transportation safety action plan and data collection plan.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
3.1	Develop a strategic data collection plan to obtain pedestrian and bicycle counts, including researching methods to crowdsource count data.	DOT&PF University of Alaska Fairbanks	Request for Proposal to secure a consultant initiated by the beginning of 2024. Strategic plan completed by end of 2025.	Years 2-3
3.2	Develop a DOT statewide active transportation safety action plan in coordination with municipal and Metropolitan Planning Organization plans.	DOT&PF Center for Safe Alaskans	Plan developed.	Year 3

MOTORCYCLES, ALL-PURPOSE VEHICLES, AND SNOWMACHINES

***STRATEGY 1:** Research current motorcycle, all-purpose vehicle (APV), and snowmachine policies, educational offerings, and data to better understand the state of safety education for these vehicle operators.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
1.1	Research and compile data into an annual report about motorcycle licenses, registrations, education programs, or other available statistics.	JN Consulting	Report submitted annually to the FA team and available as an online publication by the second quarter of each year.	Years 1-5, ongoing
1.2	Compile information and develop fact sheets to inform legislators and executives and support legislation and/or policies regarding the use of safety gear (including helmets), addressing penalties for riding without an endorsement (as appropriate), and behaviors unsafe to the operation of motorcycles and APVs.	FAST Planning University of Alaska, Fairbanks	Fact sheets drafted and shared with Focus Area team for review. Fact sheets finalized and available for distribution in Year 1. Fact sheets are distributed electronically to target audiences no later than Year 2. Number of changes in legislation, number of new policies implemented.	Years 1-2
1.3	Review existing state and municipal policies, statutes, regulations, and manuals to identify gaps in consideration of motorcycles, All-Purpose Vehicles (APVs), and snowmachines.	University of Alaska, Fairbanks	Memorandum developed summarizing existing policies, manuals, and identified gaps. Model language developed and distributed to state and local agencies.	Year 2, ongoing
1.4	Compile information and develop fact sheets to inform public outreach, law enforcement, and legislators about jurisdictional and state requirements for operation of APVs on roadways.	FAST Planning University of Alaska, Fairbanks	Data collected, best practices identified, and fact sheets drafted and shared with Focus Area team for review. Fact sheets finalized and available for distribution in Year 2. Fact sheets are available as an online publication and distributed electronically statewide no later than Year 3.	Years 2-3
1.5	Develop data collection processes to increase understanding of risk-tolerant behaviors when riding motorcycles and APVs.	University of Alaska, Fairbanks	Data collected and best practices identified.	Year 3

STRATEGY 2: Establish a state motorcycle and APV safety program.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
2.1	Establish a state motorcycle/APV safety program responsible for establishing and overseeing motorcycle and APV training standards, an annual rider education professional development program, a training quality assurance program, and creation and distribution of program information/promotion. The program's state coordinator should be a certified rider coach/ instructor trainer who also collaborates on pertinent DMV tasks and on motorcycle and APV-related communications and outreach activities.	JN Consulting ABATE of Anchorage AHSO	Funding sources identified and approval to establish the program secured in Year 1. Qualified program state coordinator selected within 6 months of approval to establish the program. Coordinator is an active member of the FA team. Motorcycle/APV training information developed and electronically available annually by Year 2. Training standards, rider education professional development program, and training quality assurance programs established and operational before Year 3. Collaboration with the DMV on motorcycle/APV communications and outreach programs occurs annually.	Years 1-5, ongoing

STRATEGY 3: Provide law enforcement with training specific to motorcycles, APVs, and snowmachines.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
3.1	Provide training to law enforcement on crash investigation practices and state and jurisdictional laws and policies specific to motorcycles and APVs.	AHSO	Training needs assessed and training schedule developed to match needs. Online course materials developed and implemented. Data collected about the number of officers trained and agencies using new course materials annually.	Year 2, ongoing

STRATEGY 4: Educate motorcycle, APV, or snowmachine operators about pertinent laws and best practices for driving on Alaska roadways.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
4.1	Research existing education courses, trainings, and best practices for off-road vehicle operators and on-road APVs and develop recommendations for on-road APV rider education training.	University of Alaska, Fairbanks	Research memorandum and recommendations produced.	Year 1

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
4.2	Develop a booklet for distribution to motorcycle course graduates on topics including pertinent laws, motorcycling best practices, tips for riding in Alaska, and other appropriate topics.	JN Consulting	Booklet developed and shared with Focus Area team for review. Booklet finalized and available for distribution in Year 1. Online version posted by Year 2 and 5,000 copies of print booklet distributed statewide to appropriate organizations (DMV, motorcycle dealers, rider education organizations and clubs, etc.) in Year 2. Booklet reviewed annually, updated as needed, and printed for distribution in Years 3-5.	Years 1-5, ongoing
4.3	Develop a booklet for distribution to owners and riders of snowmachines and APVs on topics including pertinent laws, best practices, tips for riding in Alaska, and other appropriate topics.	FAST Planning	Booklet developed and shared with Focus Area team for review. Booklet finalized and available for distribution in Year 1. Online version posted by Year 2 and 5,000 copies of print booklet distributed statewide to appropriate organizations (DMV, APV/snowmachine dealers, rider education organizations and clubs, etc.) in Year 2. Booklet reviewed annually, updated as needed, and printed for distribution in Years 3-5.	Years 1-5, ongoing
4.4	Conduct a comprehensive education campaign that provides information for both motorists and motorcycle riders about motorcycle safety needs, protective equipment, visibility, speeding, and perception-reaction times.	AHSO	Campaign creative developed. Campaign conducted. Number of impressions/views, and annual increase. Changes in awareness and/or behavior as identified in public survey pre- and post-campaigns.	Years 3-5, ongoing
4.5	Conduct a comprehensive education campaign about licensing, registration, and insurance requirements and using protective equipment to operate APVs on public roads.	AHSO	Campaign creative developed. Campaign conducted. Number of impressions/views, and annual increase. Changes in awareness and/or behavior as identified in public survey pre- and post-campaigns.	Years 3-5,

YOUNG DRIVERS AND OLDER DRIVERS

***STRATEGY 1:** Conduct outreach and education to encourage young drivers to practice safe driving behaviors amongst their peers.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
1.1	Implement peer-to-peer education programs to promote safe driving, walking, and riding to young people that encourage young people to speak up if someone is drinking and driving and participating in other dangerous driving behaviors.	Center for Safe Alaskans Providence Alaska Medical Center	25 youth involved in designing education initiatives annually. 1,000 youth reached through peer-to-peer education initiatives annually. Five percent increase in observed youth seatbelt use based on pre- and post-observations. Changes in community/state-wide Youth Risk Behavior Survey responses from 2023 baseline to 2027.	Years 1-5, ongoing
1.2	Conduct a comprehensive education campaign to curtail risky driving behaviors of young drivers.	AHSO	Campaign creative developed. Campaign conducted. Number of impressions/views, and annual increase. Changes in awareness and/or behavior as identified in public survey pre- and post-campaigns.	Years 1-5, ongoing
1.3	Develop education campaigns for young drivers and caregivers on Alaska's graduated drivers licensing law and driver education opportunities.	Center for Safe Alaskans	One annual campaign conducted reaching target audiences. 500 people reached annually.	Years 2-5, ongoing

***STRATEGY 2:** Increase the knowledge of medical providers, law enforcement, licensing personnel, family and caregivers on the recognition and assessment of older at-risk drivers.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
2.1	Develop educational campaigns to promote procedures for assessing medical fitness to drive and provide frontline licensing personnel, health care providers, family and caregivers with resources to recognize and assess at-risk older drivers.	Center for Safe Alaskans	One campaign conducted annually reaching target audiences. 500 people reached annually. One new resource developed with updates as needed.	Years 2-5, ongoing

***STRATEGY 3:** Educate drivers on how to properly use their vehicle's safety features.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
3.1	Work with nonprofits to expand the CarFit program statewide.	Center for Safe Alaskans	Five new locations providing CarFit by 2027. Five CarFit events annually.	Years 1-5, ongoing

DANGEROUS DRIVING

***STRATEGY 1:** Explore and implement best practices and policies to address dangerous driving behaviors.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
1.1	Add criteria and standards in the Alaska Traffic Manual for: » A data driven process to identify candidate locations for urban traffic safety corridors; » Required agreements, prior to the designation of urban traffic safety corridors, between state and local engineering, enforcement, and educational agencies with jurisdiction for coordinated traffic control planning and monitoring activities/ responsibilities; and » Deployment of traffic control devices.	DOT&PF	New language approved by FHWA and incorporated into the Alaska Traffic Manual.	Years 1-2
1.2	Investigate solutions to improve the collection and quality of data on aggressive, distracted, and drowsy driving.	Center for Safe Alaskans Transportation Injury Prevention Community of Practice	Research summary memo developed.	Years 1-2
1.3	Develop fact sheets and model language for statewide and municipal “hands-free devices only” policies in work zones, active school zones, and safety corridors to encourage statewide adoption of a “hands-free devices only” policy on all Alaska roads.	Anchorage Police Department Center for Safe Alaskans Transportation Injury Prevention Community of Practice	One fact sheet created. Policy/legislation model language created. Three municipalities adopting a “hands-free devices only” policy annually.	Years 2-3

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
1.4	Review the existing *Alaska Driver Manual* and research and incorporate effective best practices for safe driving behaviors.	Department of Administration, Division of Motor Vehicles	Review of Driver Manual conducted, and gaps identified. Driver Manual revised to incorporate identified topics, as needed.	Years 2 & 5
1.5	Assemble a Task Force to address street racing.	Anchorage Police Department JN Consulting	Task force members identified and commitments to participate secured. Actions, champions and performance measures to address street racing identified.	Years 2-3

STRATEGY 2: Implement media campaigns and educational trainings to discourage dangerous driving behaviors.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
2.1	Conduct public education and awareness campaign to demonstrate negative impacts of distracted driving, model safe driving behaviors, and encourage vehicle passengers to speak up when witnessing dangerous driving behaviors.	Center for Safe Alaskans	One campaign conducted reaching target audiences. Three resources developed. Five percent increase, from baseline, in awareness and/or self-reported behavior as identified in the annual attitudinal survey.	Years 1-5, ongoing
2.2	Provide evidence-based "mindfulness training" for drivers provided by the Department of Public Health - Injury Prevention and Center for Safe Alaskans.	Center for Safe Alaskans	30 drivers trained annually. Five percent increase in level of mindfulness and five percent decrease in propensity for angry driving measured validated and reliable using pre- and post- intervention surveys.	Years 1-5, ongoing
2.3	Conduct comprehensive education campaigns about aggressive, distracted, and drowsy driving, while continuing statewide, high-visibility enforcement (HVE) and saturation enforcement in active school zones, safety corridors, and work zones.	AHSO	Campaign creative developed. Campaign conducted. Number of impressions/views, and annual increase. Changes in awareness and/or behavior as identified in public survey pre- and post-campaigns.	Years 1-5, ongoing

ROADWAYS

***STRATEGY 1:** Update DOT&PF policies and manuals to include effective countermeasures to mitigate lane and roadway departures.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
1.1	Revise Chief Engineer's Directive on rumble strips to update designs, uses, and techniques.	DOT&PF	New Directive issued. Directive change and rationale communicated to stakeholders.	Year 1
1.2	Update the Alaska Highway Preconstruction Manual to require all new roads and repaving of roads to include the SafetyEdgeSM technology.	DOT&PF	Policy developed and adopted. Manual updated.	Years 2-5

***STRATEGY 2:** Perform timely and adequate winter weather maintenance for all road users.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
2.1	Identify DOT&PF Maintenance and Operations Lead to coordinate winter weather maintenance needs and secure and prioritize sustainable funding for weather maintenance of service for all road users.	DOT&PF	Statewide M&O lead identified. Research conducted to determine level of funding necessary. Funding secured. Budget established.	Year 2, ongoing
2.2	Coordinate with local agencies, jurisdictions, and community stakeholders to develop a priority system and plowing sequence on routes for winter maintenance on motorized and non-motorized facilities.	DOT&PF Municipality of Anchorage Center for Safe Alaskans	Priority routes and targets identified. DOT&PF, local agencies, and jurisdictions coordinate annually on priority routes.	Year 2, ongoing

STRATEGY 3: Implement a media campaign to help road users understand how to navigate various roadway types and elements.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
3.1	Conduct a comprehensive education campaign on roadway facility types, elements, and topics that contribute to the top crash types.	AHSO	Campaign creative developed. Campaign conducted. Number of impressions/views and annual increase. Changes in awareness and/or behavior as identified in attitudinal phone survey pre- and post-campaign, and annual increase.	Years 2-5, ongoing

STRATEGY 4: Implement Highway Safety Improvement Program (HSIP) qualified projects.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
4.1	Implement HSIP projects.	DOT&PF	Complete HSIP nomination cycle annually. Fully obligate any HSIP penalty funding.	Years 1-5

Source: Alaska DOT&PF.

SPEED MANAGEMENT

STRATEGY 1: Conduct high-visibility enforcement and awareness campaigns to reduce speeding.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
1.1	Conduct high visibility enforcement (HVE) mobilizations/patrols and operations through local law enforcement and Alaska State Troopers, using a data-driven approach to select enforcement times and locations.	AHSO	Participation of 12 or more agencies in HVE annually by 2027. Total number of contacts made annually, percent increase annually.	Years 1-5, ongoing
1.2	Conduct a comprehensive education campaign on the dangers of speeding in Alaska, risks to vulnerable road users, and driving appropriately in inclement weather conditions.	AHSO	Campaign creative developed. Campaign conducted. Number of impressions/views, and annual increase. Changes in awareness and/or behavior as identified in public survey pre- and post-campaigns.	Years 1-5, ongoing

STRATEGY 2: Develop model policies and implement and innovative practices to reduce speeding.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
2.1	Develop a model urban speed limit setting policy that encourages speeds appropriate for the road's purpose, considers all mode users, and is consistent across the state, regions, and municipalities.	Municipality of Anchorage DOT&PF	Model policy language developed.	Year 1
2.2	Investigate the use of the Transportation System Management & Operations (TSMO) strategies such as integrating traffic and road weather information sensors into Variable Speed Limit (VSL) practices and other "big data" sources to manage speeds on the named highway system.	DOT&PF	Recorder/sensor deployment plan leading to a robust VSL network on appropriate corridors developed by 2027. One VSL corridor pilot project implemented by Year 3.	Year 2, ongoing

STRATEGY 3: Use data to support policy, legislative, and enforcement efforts aimed at reducing speeding.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
3.1	Provide law enforcement with access to existing traffic recorder/sensor speed data in Alaska's Traffic Data System.	DOT&PF	Law enforcement agencies provided live access to data.	Year 1, ongoing
3.2	Collect data to support the future use of automated speed enforcement, red light cameras, higher fines for speeding, and other tools and techniques to reduce speeding, and to inform legislators and executives about the state of speeding in Alaska and national automated enforcement best practices.	DOT&PF Bureau of Highway Patrol	Data collected and automated enforcement best practices identified. Action plan developed and executed in coordination with DOT&PF and Department of Public Safety Legislative Liaisons for education campaign targeted at departmental executives and legislators.	Years 1-3

STRATEGY 4: Provide training to law enforcement on best practices related to speed enforcement.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
4.1	Develop online course materials to be completed in conjunction with in-person checks to train police officers on speed enforcement best practices and current law.	AHSO Department of Public Safety	Training needs assessed and training schedule developed to match needs. Online course materials developed and implemented. Data collected about the number of officers trained and agencies using new course materials annually.	Year 2, ongoing
4.2	Provide training on basic and advanced speed measuring devices and high-visibility enforcement best practices to new law enforcement officers and as continuing career education.	AHSO Department of Public Safety	Training needs assessed and training schedule developed to match needs. Online course materials developed and implemented. Data collected about the number of officers trained and agencies using new course materials annually.	Year 2, ongoing

VEHICLE SAFETY

STRATEGY 1: Educate drivers on how to properly use their vehicle's safety features.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
1.1	Expand offerings of the CarFit program to educate all vehicle drivers on how to correctly adjust their vehicle to fit them and properly use the vehicle safety features (including emerging driver assistance technologies).	Center for Safe Alaskans	50 drivers/vehicles checked annually. Five events held annually.	Year 1, ongoing

STRATEGY 2: Update and share safe driving best practices with tourism commercial vehicle operators and owners.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
2.1	Review current Tourism Best Management Practices (TBMP) guidelines, incorporate additional guidelines addressing transportation safety topics, and share relevant information with tourism owners and operators.	Juneau Tourism Best Management Practices	Model guideline language drafted. Guidelines adopted.	Years 1-2

STRATEGY 3: Conduct education and outreach about regulations and safety topics related to commercial motor vehicles.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
3.1	Provide education and outreach to various industry groups and carriers on CMV safety topics including hours of service requirements and use of safety belts.	DOT&PF	Ten outreach events and activities held annually.	Years 1-5, ongoing
3.2	Conduct safety outreach events to teenagers about how to interact safely with CMVs.	DOT&PF	One event held annually.	Years 1-5, ongoing
3.3	Provide outreach and training to law enforcement on CMV identification, relevant regulations, and crash reporting based on state and federal definitions.	DOT&PF	Six outreach events and activities held annually.	Years 1-5, ongoing

STRATEGY 4: Enforce commercial motor vehicle regulations.

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
4.1	Conduct CMV inspections to enforce CMV regulations, to include but not limited to weight regulations and hours of service requirements.	DOT&PF	6,000 documented inspections conducted annually.	Years 1-5, ongoing

Source: Alaska DOT&PF.

EMERGENCY RESPONSE

***STRATEGY 1:** Identify the contributing factors for crashes involving first responders and emergency vehicles.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
1.1	Review best practices to efficiently collect, analyze, and share data from crashes that involve first responders and emergency vehicles.	AHSO ATRCC	Review of best practices conducted. Memorandum on best practices issued. Data on number of crashes involving first responders and emergency vehicles collected and distributed.	Year 1

***STRATEGY 2:** Protect first responders at crashes through tools, techniques, technology, and information-sharing practices.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
2.1	Re-introduce and improve Traffic Incident Management (TIM) policies and training to include regional incident response protocols and incident debriefing.	AHSO	Model TIM policies developed. TIM training opportunities identified, and materials developed and implemented.	Years 1-2
2.2	Identify emerging technologies and tools to protect the first responders and other emergency vehicles on the incident scene.	Mat-Su Borough Fire Department	Information on new tools and technologies identified and disseminated annually.	Years 1-5, ongoing
2.3	Identify and share methods to deliver prompt and accurate reporting, detection and verification of traffic incidents, and prompt and accurate notification to responders and through traveler information systems.	Tlingit and Haida Indian Tribes of Alaska AHSO	Review of methods conducted. Webinar to share information conducted. Informational piece or website format developed and distributed.	Year 2

STRATEGY 3: *Implement a media campaign about Alaska's Move Over Law.*

#	ACTION	AGENCY	PERFORMANCE MEASURE	TIMEFRAME
3.1	Conduct a comprehensive education campaign to inform the public of Alaska's Move Over law (Alaska Statute 28.35. 185 - Overtaking and Passing Certain Stationary Vehicles) when approaching a stationary emergency vehicle.	AHSO	Add question to telephone survey on knowledge about Move Over Law. Campaign creative developed. Campaign conducted. Number of impressions/views, and annual increase. Changes in awareness and/or behavior as identified in public survey pre- and post-campaigns.	Years 1-5, ongoing

APPENDIX C
SHSP STAKEHOLDERS

Source: Photo courtesy of Brian Chandler.

Traffic safety is the responsibility of everyone throughout Alaska. DOT&PF recognizes and thanks the many organizations and individuals across the State for their commitment and contributions to move us Toward Zero Deaths and serious injuries on Alaska's roads. DOT&PF appreciates our partners' ongoing dedication and action to implement the SHSP through 2027.

The people listed here participated in the SHSP update through May 2023 as a member of the Steering Committee, Emphasis Areas and Focus Area teams, and/or as a reviewer. These stakeholders represent the **4 Es of Traffic Safety: engineering, education, enforcement, and emergency response.**

ABATE OF ANCHORAGE
Bonnie Welsh

ALASKA BUREAU OF HIGHWAY PATROL
Todd Moehring

ALASKA COALITION ON ACTIVE TRANSPORTATION
Lee Hart

ALASKA SAFE RIDERS
Mike Buck

ANCHORAGE FIRE DEPARTMENT
Ben Lewis

ANCHORAGE METROPOLITAN AREA TRANSPORTATION SOLUTIONS
Aaron Jongenelen

ANCHORAGE OFFICE OF EMERGENCY MANAGEMENT
Amanda Loach

ANCHORAGE POLICE DEPARTMENT
David Noll

BIKE ANCHORAGE
Devora Barrera
Emily Weiser

CENTER FOR SAFE ALASKANS
Evy Hail
Mandi Seethaler
Marcia Howell

CHALLENGE ALASKA
Nathan Boltz

CHICKALOON TRIBAL POLICE DEPARTMENT
Donna Anthony

DEPARTMENT OF ADMINISTRATION
Tiffany Thomas

DEPARTMENT OF HEALTH AND SOCIAL SERVICES
Jessie Doherty
Margy Hughes

DEPARTMENT OF PUBLIC SAFETY
Lori Criqui

DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Adam Bower
Alex Surnin
Anna Bosin
Chris Post
Derrick Grimes
Desiree Downey
Eric Taylor
Julius Adolfsson
Katy Hogan
Matt Murphy
Matt Walker
Pamela Golden
Sarah Cripe
Scott Thomas
Steven Thater
Tammy Kramer

ELITE TOWING
Cody Gray

FAIRBANKS AREA SURFACE TRANSPORTATION PLANNING
Corey DiRutigliano
Jackson Fox
Olivia Lunsford
Peter Stern

FAIRBANKS MEMORIAL HOSPITAL
Angela Adams

FAIRBANKS NORTH STAR BOROUGH
Donald Galligan
Kellen Spillman

JN CONSULTING
Johanna Noble

JUNEAU TOURISM BEST MANAGEMENT PRACTICES
Elizabeth Arnett

MAT-SU BOROUGH
Andy Dean
Jamie Taylor

MAT-SU BOROUGH EMERGENCY MEDICAL SERVICES
Tracey Loscar

MAT-SU BOROUGH FIRE DEPARTMENT
Brian Davis

MUNICIPALITY OF ANCHORAGE
Bart Rudolph
Bradly Coy
Brandon Telford

PROVIDENCE ALASKA MEDICAL CENTER
Sara Penisten Turcic

RIDER CHOICES
Donald Green

TLINGIT AND HAIDA INDIAN TRIBES OF ALASKA
Corey Padron
Jason Wilson
Sabrina Boone
Sherry Aitken

UNIVERSITY OF ALASKA, FAIRBANKS
Nathan Belz

SITKA BICYCLE FRIENDLY COMMUNITY COALITION AND WALK SITKA
Charles Bingham

FEDERAL PARTNERS
Al Fletcher (Federal Highway Administration)
John Westerhold (National Highway Traffic Safety Administration)
Katherine Hensley (Federal Motor Carrier Safety Administration)

APPENDIX D
HSIP SPECIAL RULES

Source: Alaska DOT&PF.

The Bipartisan Infrastructure Law (BIL), signed into law on November 15, 2021, established or continued three special rules under the Highway Safety Improvement Program (HSIP), which is legislated under Section 148 of Title 23, United States Code (23 U.S.C. 148).

HIGH RISK RURAL ROADS

Alaska defines **High Risk Rural Roads** as "rural segments of roads and highways functionally classified as major collector, minor collector, and local roads with significant safety risks as evaluated by frequency and/or rates of fatal and major injury crashes." This definition is aligned with 23 U.S.C. 148(g)(1).

The High Risk Rural Roads special rule applies to DOT&PF if the fatality rate on rural roads in Alaska increased over the most recent two-year period, using five-year averages. If this rule applies to Alaska, then Alaska is required to obligate a minimum of $900,000 for high risk rural road projects in the next fiscal year.

For the FY 2024 HSIP, the High Risk Rural Roads special rule does not apply in Alaska because the fatality rate on rural roads decreased from the Calendar Year (CY) 2015-2019 average to the CY 2017-2021 average.

OLDER DRIVERS AND PEDESTRIANS

In accordance with 23 U.S.C. 148(g)(2), the **Older Drivers and Pedestrians** special rule is triggered if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in Alaska increases over the most recent two-year period, using five-year averages.

If the **Older Drivers and Pedestrians** special rule applies, then DOT&PF must include strategies in the SHSP to address the increases in those rates, such as recommendations in the FHWA *Highway Design Handbook for Older Drivers and Pedestrians* (FHWA-RD-01-103).

For the FY 2024 HSIP, the Older Drivers and Pedestrians special rule does not apply in Alaska because the traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 decreased from the CY 2015-2019 average to the CY 2017-2021 average.

Although the special rule does not apply, this SHSP includes strategies and actions to decrease older driver fatalities and serious injuries on Alaska's roadways in the Young Drivers and Older Drivers Focus Area, including:

- Increase the knowledge of medical providers, law enforcement, licensing personnel, family and caregivers on the recognition and assessment of older at-risk drivers.
- Educate drivers on how to properly use their vehicle's safety features.

This SHSP includes strategies and actions to decrease older pedestrian fatalities and serious injuries on Alaska's roadways in the Pedestrians and Bicyclists Focus Area, including:

- Implement best practices and proven countermeasures and incorporate into state and local policies and manuals to support safe travel for pedestrians and bicyclists.
- Educate pedestrians, bicyclists, and other vulnerable road users about "rules of the road" and safety equipment.
- Develop and implement a statewide active transportation safety action plan and data collection plan.

Source: Alaska DOT&PF.

VULNERABLE ROAD USER SAFETY

The Vulnerable Road Users (VRU) Safety special rule (23 U.S.C. 148(g)(3)) is triggered when the number of traffic fatalities for vulnerable road users is equal to or greater than fifteen percent of the total statewide fatalities in a single year period.

The definition of "vulnerable road user" is provided in 23 U.S.C. 148(a)(15) as a non-motorist with a Fatality Analysis Reporting System person attribute code for pedestrian, bicyclist, other cyclist, person on personal conveyance, or an injured person equivalent to a pedestrian or pedalcyclist. Vulnerable road users include highway workers on foot in work zones. The definition for vulnerable road user does not include a motorcyclist.

If the VRU special rule applies to Alaska, then DOT&PF is required to obligate 15 percent or more of the next fiscal year HSIP funds allocated under 23 U.S.C. 104(b)(3) to projects specifically addressing the safety of vulnerable road users.

For the FY 2024 HSIP, the Vulnerable Road Users (VRU) Safety special rule applies because the total annual fatalities for VRUs is equal to or greater than 15 percent of total annual crash fatalities in Alaska in CY 2021. Therefore, in the FY 2024 HSIP Alaska will obligate a minimum of 15 percent of the amount apportioned under 23 U.S.C. 104(b)(3) for highway safety improvement projects to address the safety of vulnerable road users.

Source: Alaska DOT&PF.

APPENDIX E
VULNERABLE ROAD USER SAFETY ASSESSMENT

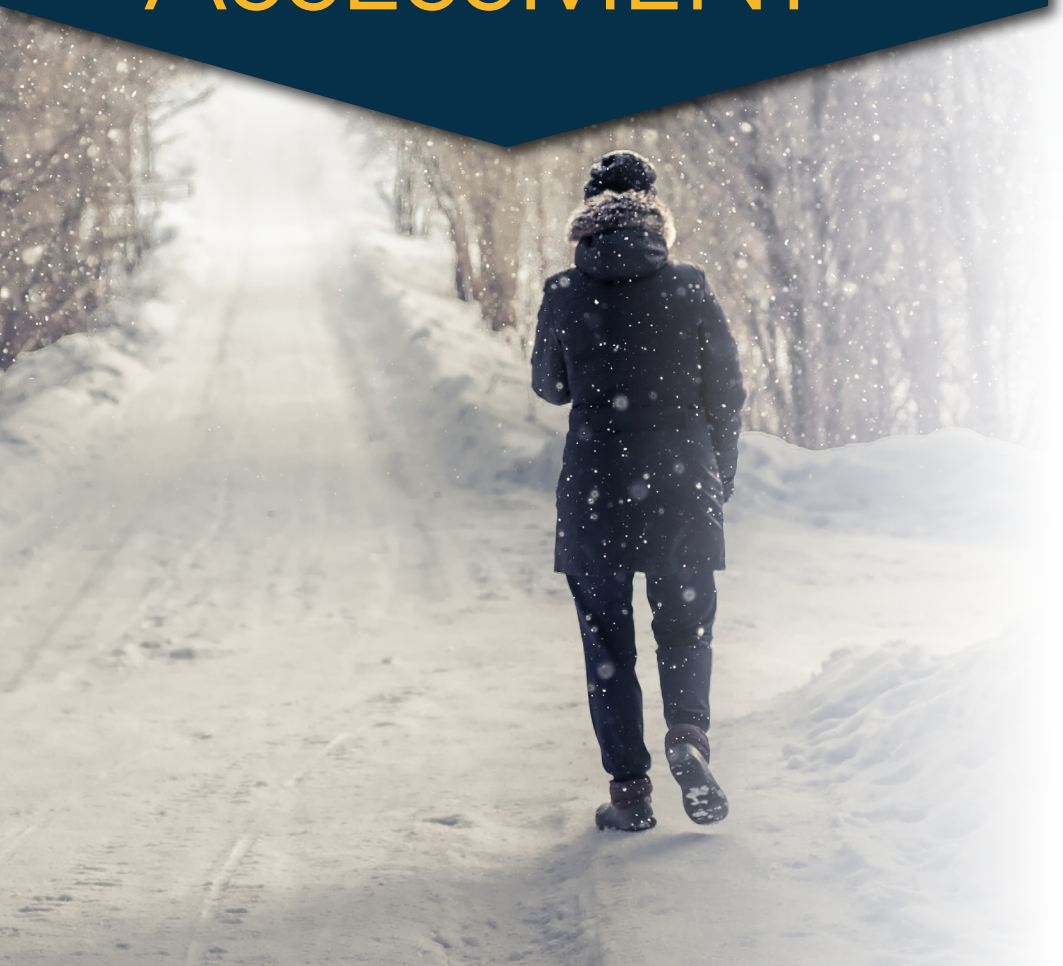


TABLE OF CONTENTS

Appended to the *Alaska Strategic Highway Safety Plan* on November 15, 2023.

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Transportation and Public Facilities

ALASKA HIGHWAY SAFETY OFFICE

3132 Channel. Suite 200
P.O. Box 112500
Juneau, Alaska 99811-2500
Main: (907) 465-4070
dot.alaska.gov

November 15, 2023

Mr. Al Fletcher
Federal Highway Administration
709 West 9th St.
Juneau, AK 99802

Re: Alaska Vulnerable Road User Safety Assessment

Dear Mr. Fletcher:

All states are required to develop a Vulnerable Road User (VRU) Safety Assessment under the Bipartisan Infrastructure Law (BIL)/ Infrastructure Investment and Jobs Act (IIJA) as described in 23 U.S.C. 148(l). The Alaska Department of Transportation & Public Facilities has completed a VRU Safety Assessment in accordance to the guidance outlined in the October 21, 2022, from the Federal Highway Administration to improve safety for Vulnerable Road Users.

The Alaska VRU Safety Assessment identifies areas of high risk to VRU's and outlines specific safety strategies to be considered for reducing safety risks to VRUs.

The VRU Safety Assessment will be included as an addendum to Alaska's Strategic Highway Safety Plan, which was approved earlier this year. The final VRU SA can be found at: https://dot.alaska.gov/stwdplng/shsp/shsp_plan.shtml

As the Governor's Highway Safety representative, I approve Alaska's VRU Safety Assessment.

Sincerely,

Tammy Kramer

Tammy Kramer
Governor's Highway Safety Representative
Alaska Highway Safety Office Manager
Alaska Department of Transportation & Public Facilities

SECTION 1. INTRODUCTION

The Bipartisan Infrastructure Law (BIL), signed into law on November 15, 2021, requires all states to develop a Vulnerable Road User (VRU) Safety Assessment as a part of their Highway Safety Improvement Program (23 U.S.C. 148(1)). The Alaska Department of Transportation and Public Facilities (DOT&PF) and the Alaska Highway Safety Office (AHSO) completed the VRU Safety Assessment in alignment with federal requirements, including using a data driven process, consulting with local stakeholders in high-risk areas, and developing a program of strategies to address safety for vulnerable road users.

This appendix describes the analysis methodology, consultation process, common themes that emerged, and the program of strategies. This appendix was added to the SHSP on November 15, 2023.

Who is a "Vulnerable Road User"?

A VULNERABLE ROAD USER is any person who chooses to walk, bike, or roll on Alaska's roadways. VRUs include, but are not limited to, pedestrians, bicyclists, people in wheelchairs or using mobility assistive devices, people on skateboards or roller skates, children playing, and highway workers on foot in work zones.

Vulnerable road users are considered "vulnerable" because they lack the visibility, protection, and deference given to motor vehicles. The **Safe System Approach** acknowledges the human body may tolerate only a limited amount of impact force before death or serious injury happens. The **Safe System Approach** encourages proactive collaboration and a shared responsibility to implement redundant roadway, vehicle, and traffic control designs to protect VRUs.

Furthermore, many people who walk, bike, or roll on our roadways are members of historically underserved or disadvantaged communities. In alignment with Presidential Executive Order 13985,[1] underserved communities are groups who have been systematically denied access to safe, reliable, healthy, and equitable mobility options. This may include members in low-income, Environmental Justice, transportation disadvantaged, and rural

[1] https://www.govinfo.gov/app/details/DCPD-202100054/

communities. It also may encompass Alaska Native and American Indian people, people of color, people with disabilities, people experiencing housing insecurity or homelessness, and people with limited English proficiency. By implementing strategies that promote the mobility and safety of vulnerable road users, Alaska also works toward a more equitable transportation system.

The federal definition of "vulnerable road user" is provided in 23 U.S.C. 148(a)(15) as a non-motorist with a Fatality Analysis Reporting System (FARS) person attribute code for pedestrian, bicyclist, other cyclist, person on personal conveyance, or an injured person equivalent to a pedestrian or pedalcyclist as defined in ANSI D16.1-2007. By definition, motorcycle riders are not considered VRUs.

Purpose and Process

The VRU Safety Assessment serves as a dynamic, strategic planning document to guide transportation safety improvement decision-making and investments for vulnerable road users. The VRU Safety Assessment is not intended to identify specific safety projects or obligate funds.

The VRU Safety Assessment builds upon the foundation of ongoing state and local initiatives, including statewide implementation of the Strategic Highway Safety Plan, the infrastructure-based Highway Safety Improvement Program, and the behavior-based Highway Safety Plan. Together, these plans and programs support our ultimate goal *Toward Zero Deaths* and serious injuries on Alaska's public roadways.

Through a data-driven process and local consultation, the VRU Safety Assessment examines Alaska's safety performance for vulnerable road users, as well as identifies strategies to improve their safety. In accordance with FHWA guidance, the VRU Safety Assessment consists of the following steps:

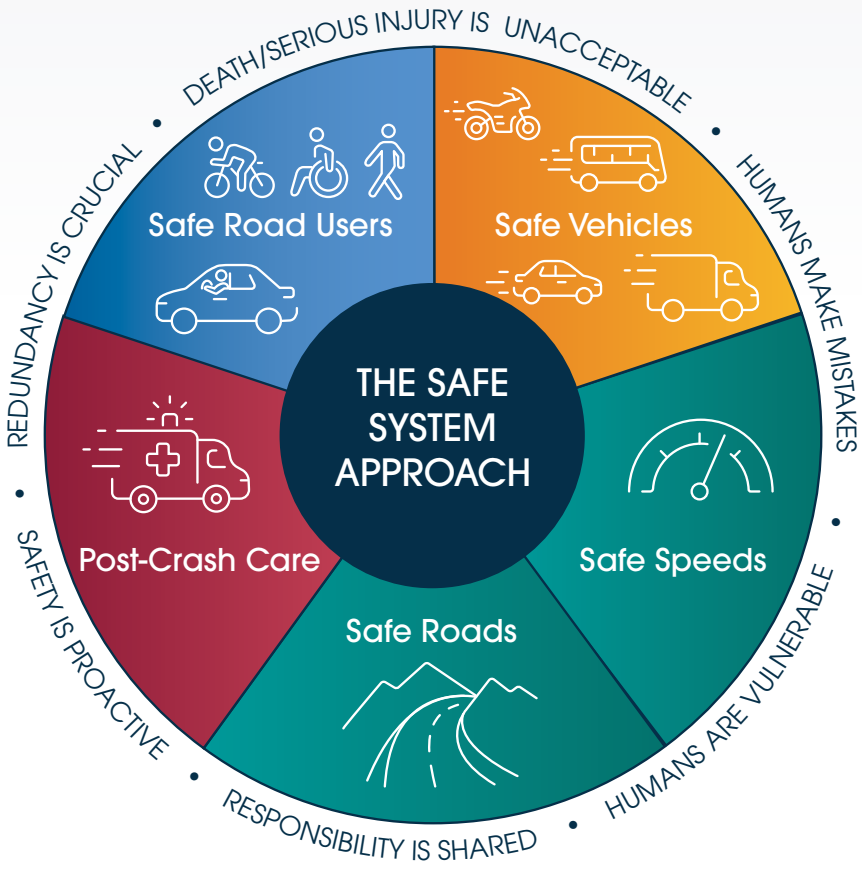
- AHSO identified VRU high-risk areas through a network screening analysis of pedestrian and pedalcyclist deaths and serious injuries on state and local roads. The analysis revealed a series of current high-risk corridors and intersections, as well as prevalent crash characteristics, demographics, and contributing factors.

- Equity was considered throughout the process. The network screening analysis prioritized high-risk locations that overlapped with census tracts representing disadvantaged communities. Local consultation also sought to reach a diverse range of groups, including members of underserved and disadvantaged communities.

- AHSO consulted with local and Tribal governments, metropolitan and regional planning organizations, and community members representing the identified high-risk areas. The consultations provided local knowledge and perspectives on high-risk locations, factors that contribute to safety issues, VRU safety needs, and possible solutions.

- The analysis results and consultation insights were combined to identify key takeaways about VRU safety risks. These common themes informed a program of strategies to improve the safety of VRUs on state and locally owned public roads throughout Alaska.

The **Safe System Approach** was integrated throughout the VRU Safety Assessment. The six principles lay the foundation for how DOT&PF, AHSO, and our many safety partners will address traffic safety statewide. The stakeholder consultation meetings invited participants in disciplines representing all five elements. Alaska will comprehensively address VRU and other road user safety through the lens of a Safe System as the strategies identified in this VRU Safety Assessment and the SHSP Focus Area action plans are put into action.



Organization

The VRU Safety Assessment is organized as follows:

- **SECTION 1** introduces the VRU Safety Assessment by defining vulnerable road users, sharing the purpose and process, and describing the report organization.
- **SECTION 2** presents the network screening analysis, including identifying data sources, highlighting historical safety trends involving VRUs, and describing the methodology and results of the high-injury network screening analysis.
- **SECTION 3** highlights the objectives, process, and meeting summaries for local consultation meetings held with stakeholders in communities with identified high-priority areas.
- **SECTION 4** draws upon the findings of the network screening analysis and local consultation to identify eight common themes that drive VRU safety in Alaska.
- **SECTION 5** describes the program of strategies that DOT&PF and our safety partners will use to make all public roadways in Alaska safer for vulnerable road users. This includes drawing connections to existing SHSP Focus Area strategies that promote VRU safety and new strategies that target the issues identified through the network screening and local consultation.
- **SECTION 6** contains the list and maps of the top high priority corridors and intersections throughout Alaska.

SECTION 2. DATA ANALYSIS

As part of the Vulnerable Road User Safety Assessment, Alaska is required to include a data-driven analysis of the state's safety data that ultimately identifies areas as "high-risk" to vulnerable road users. The AHSO performed the following High Injury Network (HIN) analysis:

- AHSO analyzed the location of crashes throughout the state, performing a sliding window safety analysis that mapped crashes to their nearest intersection (if applicable).
- AHSO used publicly available intersection and roadway segment information to understand roadway conditions such as roadway functional classification, design speed, and speed limit.
- AHSO overlaid equity data from the Justice40 initiative to ensure the consideration of disadvantaged demographic groups, which include race, ethnicity, income, and Tribal affiliation.

The analysis concludes with a list of the top selected high-risk corridors and intersections across Alaska. However, AHSO and DOT&PF acknowledge that the high-risk areas only capture crashes across one period: 2016 to 2021. Where crashes happen, infrastructure conditions, and other safety trends may shift over time. Therefore it is important to be flexible and follow where the data may lead us over time.

Data Sources

DOT&PF used three main sources for this analysis.

1. **ALASKA CARE CRASH DATA:** This dataset contains georeferenced crashes with tags for crash attributes such as severity, location, collision type, and more. The latest dataset available at the time of analysis was for the years 2016 to 2021. This was the main source of data for this crash analysis. Total crash numbers for the time period analyzed may be different for each figure or table below as each crash may not have all relevant crash attributes tagged.

2. **OPENSTREETMAP:** AHSO used this free geographic database to pull roadway information, in order to map crashes to an underlying road network with associated characteristics. While not exhaustive, OpenStreetMap is a trusted database maintained by a community of volunteers via open collaboration.

3. **CLIMATE AND ECONOMIC JUSTICE SCREENING TOOL:** This dataset (referred to as Justice40) is from the White House's Council on Environmental Quality and their Justice40 initiative, which is an initiative to provide 40 percent of overall benefits of certain federal investments to disadvantaged communities.[2] This tool was used to identify underserved census tracts in Alaska.

[2] https://screeningtool.geoplatform.gov/en/#3/64.97/-159.68

Vulnerable Road User Safety Trends

First, it is beneficial to understand historical safety trends for vulnerable road users statewide. This section breaks down fatalities and serious injuries to non-motorized users by year, location, person type, circumstances surrounding the crash, suspected alcohol and drug usage, lighting conditions, race/ethnicity, and Justice40 areas. These analyses show patterns in non-motorized crash data and reveal trends that help tailor the recommended strategies in Section 5 to most effectively reduce fatalities and serious injuries in Alaska and ultimately achieve the state's goal of *Toward Zero Deaths*.

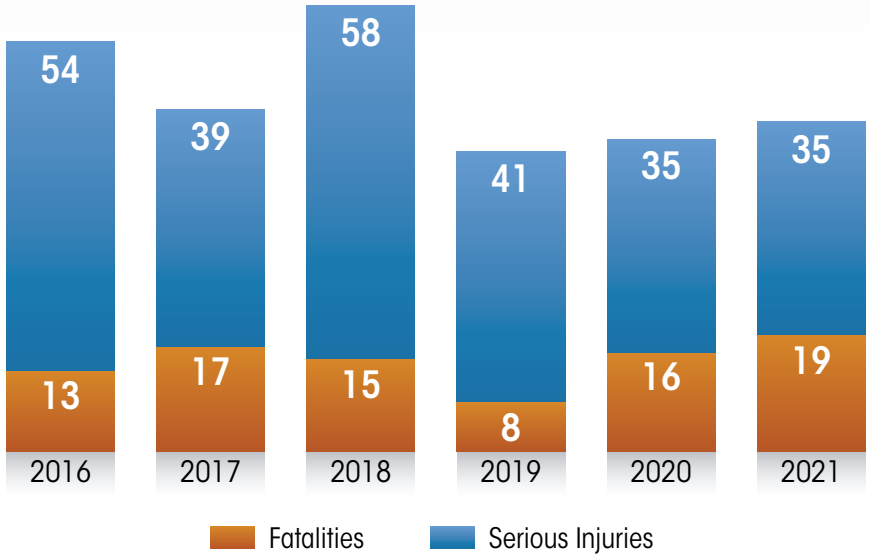
For this analysis, a pedestrian is defined as any person on foot, walking, running, jogging, hiking, sitting, or laying down. A pedalcyclist is defined as a bicyclist or other cyclist including two-wheel non-motorized vehicles, tricycles, and unicycles.

HISTORICAL SAFETY TRENDS

Figure 15 shows the annual number of non-motorized fatalities and serious injuries between 2016 and 2021. The five-year rolling average of combined non-motorized fatalities and serious injuries is one of five standard safety performance targets tracked in the SHSP and HSIP.

An improvement in the number of non-motorized serious injuries can be observed from the first three years (2016-2018) compared to the last three years (2019-2021). The average number of non-motorized fatalities per year hovered around 14.7 per year, with 2019 reaching an unusually low fatality count of 8. The most recent year of available data, 2021, was the deadliest for VRUs, with a fatality count of 19.

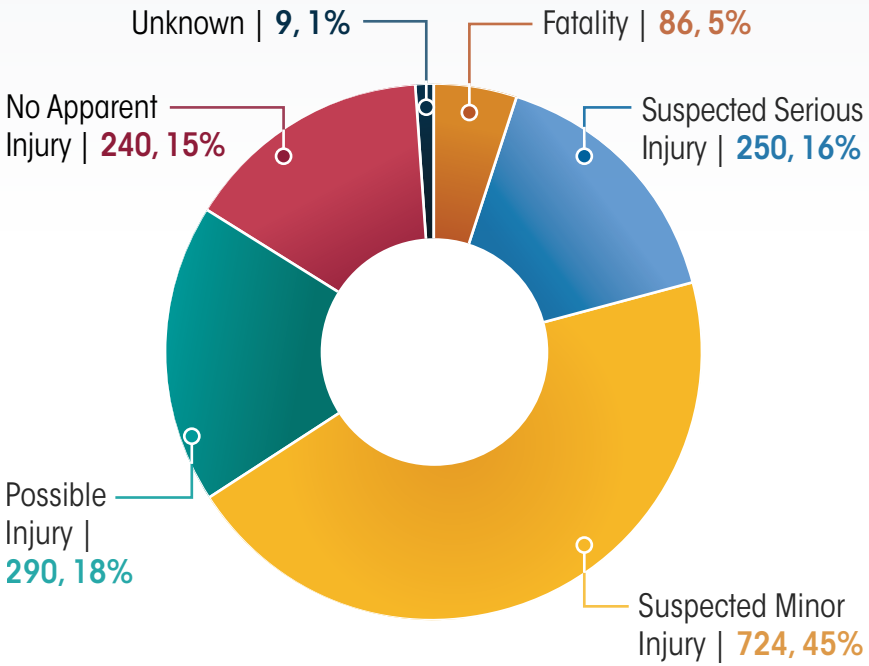
Figure 15. Non-Motorized Fatalities and Serious Injuries, *2016-2021*



Source: Alaska CARE and FARS, 2016-2021.

Figure 16 shows non-motorist crashes by the worst severity type in each crash. It is observed that 86 of the 1,599 total crashes reported (5.4 percent) resulted in fatalities; 250 (15.6 percent) of crashes resulted in suspected serious injuries. Still many more crashes resulted in minor or no apparent injuries. (*Note:* these numbers do not represent the total fatalities or serious injuries; instead they represent total crashes by the worst severity inflicted on a non-motorist.)

Figure 16. Non-Motorized Crashes by Worst Severity Type, *2016-2021*



Source: Alaska CARE and FARS, 2016-2021.

Table 1 shows non-motorist fatalities and serious injuries by borough or municipality between 2016 and 2021. Anchorage Municipality had 220 vulnerable road user fatalities and serious injuries (62.9 percent of the statewide total), the largest in the state by far. While it is unsurprising that Anchorage took the top spot as the state's largest urban sector and economic engine, Anchorage Municipality experiences a disproportionate share, given that approximately 40 percent of the Alaskan population lives in Anchorage.[3] Larger urbanized areas generally have more people walking and biking due to higher land use and population densities, accompanying public transportation, and existing or improved pedestrian- and pedalcyclist-specific infrastructure.

Other municipalities and boroughs throughout Alaska also experienced vulnerable road user deaths and serious injuries. Matanuska-Susitna Borough had 35 non-motorized fatalities and serious injuries, followed by Kenai Peninsula with 14 fatalities and serious injuries. Fairbanks North Star Borough and Juneau City and Borough each had 12 fatalities and serious injuries, followed by Ketchikan Gateway Borough with 10. An additional 28 non-motorized fatalities and serious injuries took place in unorganized boroughs. Figure 17 shows the distribution of pedalcyclist fatalities and serious injuries across Alaska between 2016 and 2021, while Figure 18 shows the distribution of pedestrian fatalities and serious injuries.

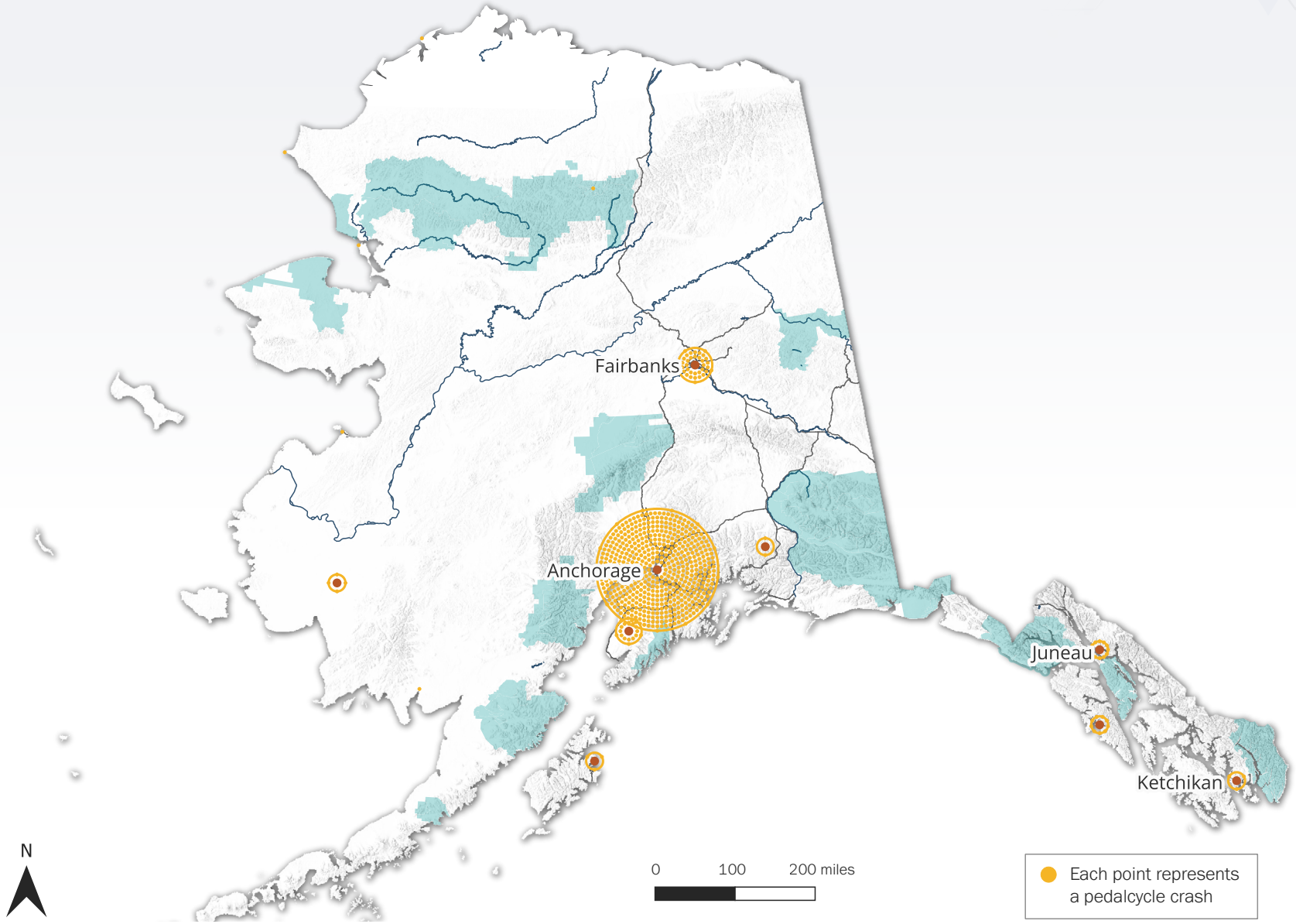
[3] https://www.census.gov/quickfacts/fact/table/AK/PST045222

Table 1. Non-Motorist Fatalities and Serious Injuries by Borough, *2016-2021*

BOROUGH OR MUNICIPALITY	FATALITIES	SERIOUS INJURIES	SUM OF FATALITIES & SERIOUS INJURIES	PERCENT OF STATEWIDE TOTAL
Anchorage Municipality	52	168	220	62.9%
Matanuska-Susitna Borough	9	26	35	10.0%
Unorganized Borough	9	19	28	8.0%
Kenai Peninsula Borough	2	12	14	4.0%
Fairbanks North Star Borough	3	9	12	3.4%
Juneau City and Borough	5	7	12	3.4%
Ketchikan Gateway Borough	2	8	10	2.9%
Sitka City and Borough	1	4	5	1.4%
North Slope Borough	0	5	5	1.4%
Northwest Arctic Borough	2	1	3	0.9%
Bristol Bay Borough	2	0	2	0.6%
Kodiak Island Borough	0	2	2	0.6%
Petersburg Borough	0	1	1	0.3%
Denali Borough	1	0	1	0.3%
Yakutat City and Borough	0	0	0	0.0%
Skagway Municipality	0	0	0	0.0%
GRAND TOTAL	88	262	350	100.0%

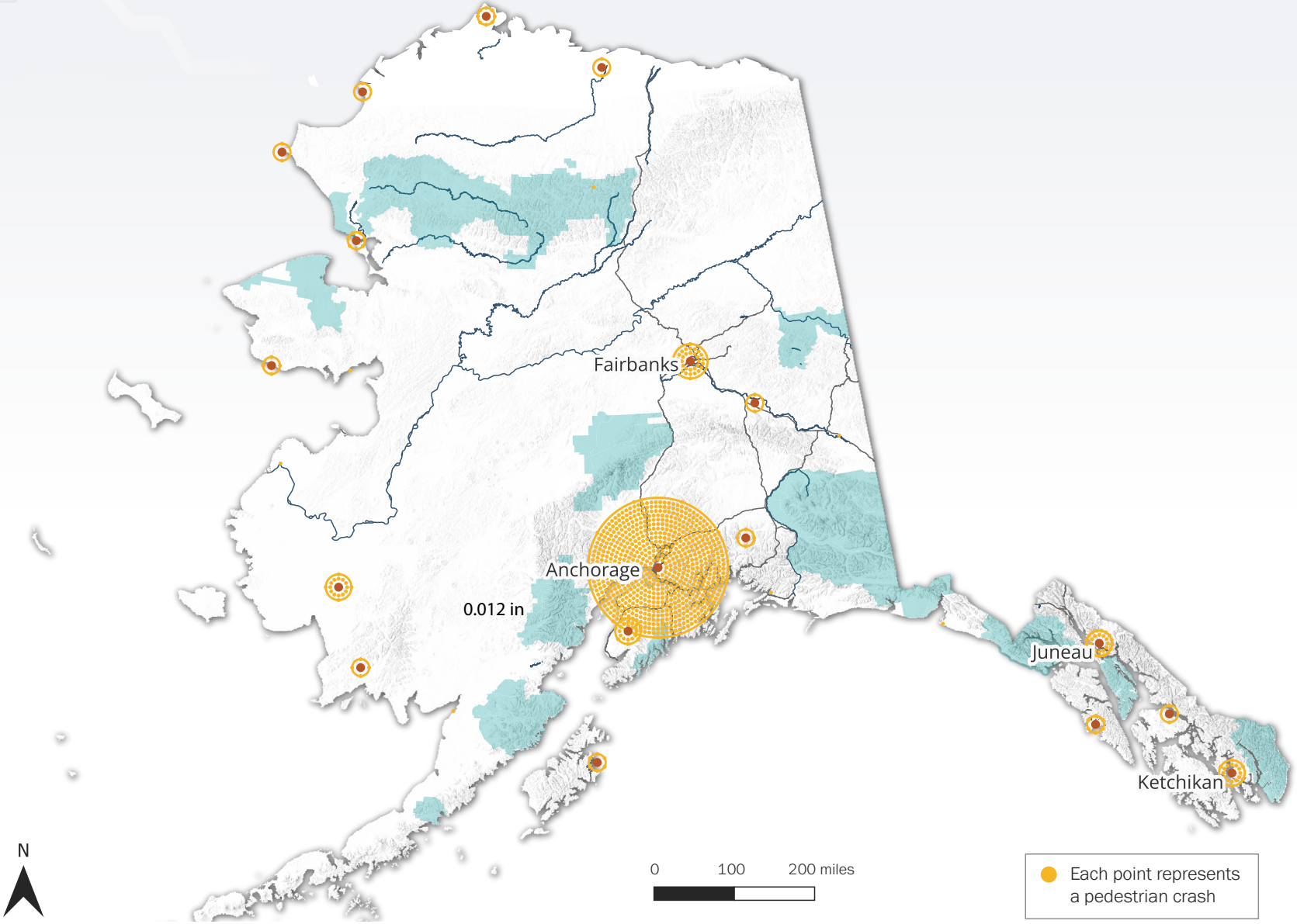
Source: Alaska CARE and FARS, 2016-2021.

Figure 17. Statewide Map of Pedalcycle Crashes



Source: Alaska CARE and FARS, 2016-2021; Cambridge Systematics, Inc.

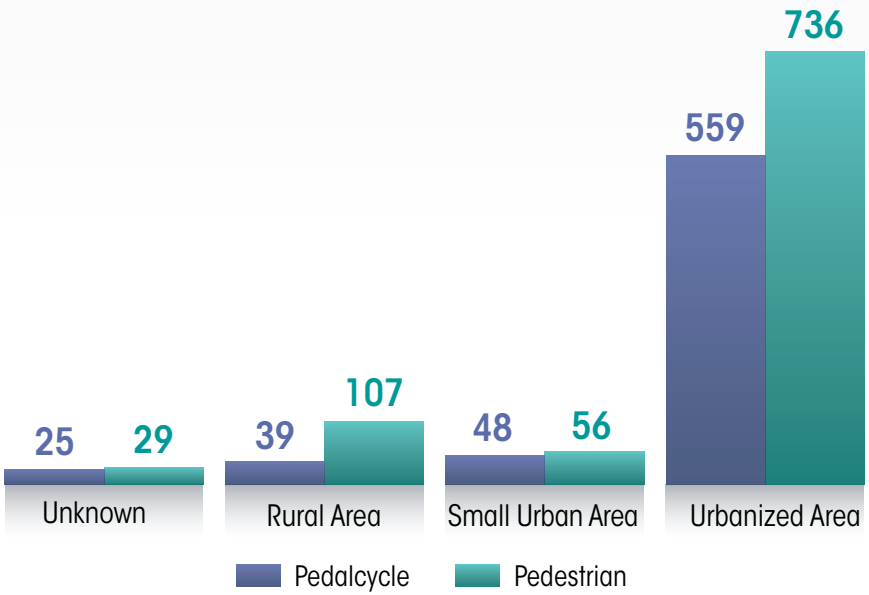
Figure 18. Statewide Map of Pedestrian Crashes



Source: Alaska CARE and FARS, 2016-2021; Cambridge Systematics, Inc.

Although crashes involving vulnerable road users are more likely to occur in urban environments, rural and small urban areas are also impacted. Figure 19 illustrates that between 2016 and 2021, 107 of 928 total pedestrian crashes (11.5 percent) and 39 of 671 pedalcyclist crashes (5.8 percent) occurred in a rural region of Alaska. This highlights the need to deploy VRU safety strategies that are appropriate for a given location's context, such as population demographics and surrounding land uses and density. This concept is further explored in Section 5.

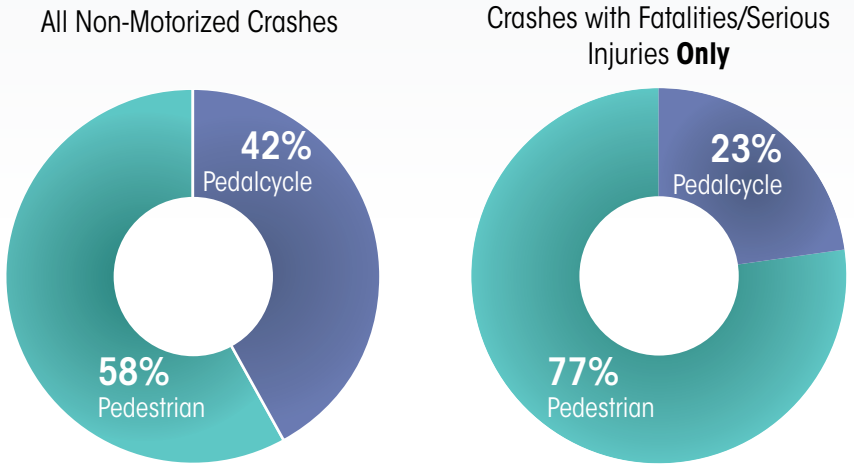
Figure 19. Total Crashes by Area Type, *2016-2021*



Source: Alaska CARE and FARS, 2016-2021.

Figure 20 compares the distribution between pedalcyclists and pedestrians for all crash severities (left) and for fatal and serious injury crashes only (right). About 58 percent of all non-motorized crashes between 2016 and 2021 involved a pedestrian, while 42 percent involved a pedalcyclist. In comparison, for crashes that resulted in fatalities or serious injuries, this distribution skewed greatly towards pedestrians, with 77 percent seriously injuring or killing a pedestrian and 23 percent seriously injuring or killing a pedalcyclist.

Figure 20. Distribution of Non-Motorized Crashes by Mode Type

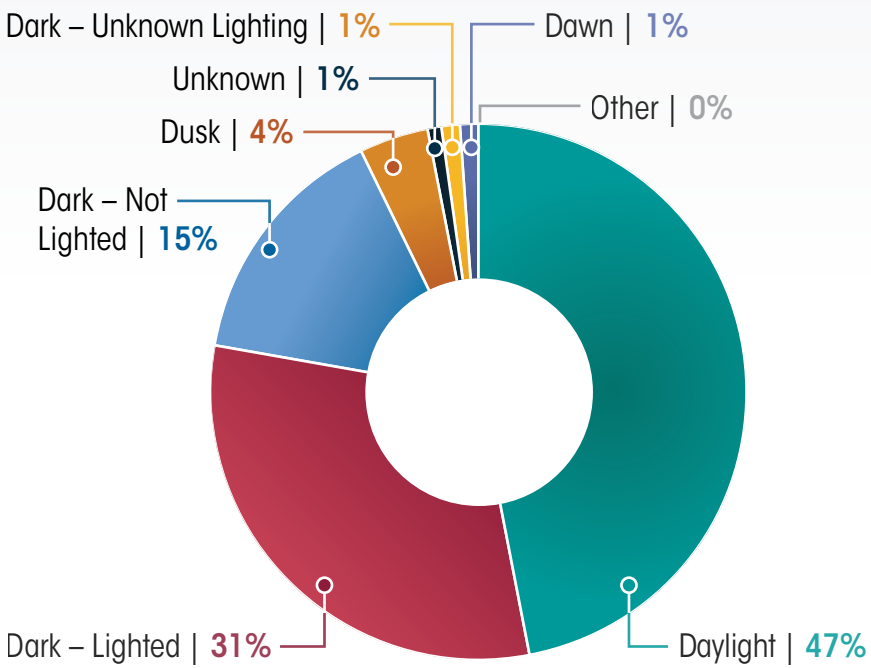


Source: Alaska CARE and FARS, 2016-2021.

Non-motorized users are particularly vulnerable during nighttime hours and in dark lighting conditions. Often pedestrians and bicyclists do not have any lights on their person or lighting the roadway to indicate their presence to drivers. Furthermore, due to its northerly latitudes, Alaska experiences much longer nights than other states during the winter. Figure 21 shows total

fatalities and serious injuries by the lighting condition at the time of each crash. Over half occurred during nighttime, dusk, or dawn hours, with 15 percent occurring in a location with no external roadway lighting. Given that more non-motorized users typically walk, bike, or roll during daylight hours, it is significant how many deaths and serious injuries take place at night, highlighting how important well-lit environments are to vulnerable road user safety.

Figure 21. Total Fatalities and Serious Injuries by Lighting Condition



Source: Alaska CARE and FARS, 2016-2021.

EQUITY AND VULNERABLE ROAD USER SAFETY

Data from White House Justice40 Initiative was used to analyze non-motorist safety for groups who may disproportionately experience roadway harm. Within the Justice40 framework, there are eight ways a census tract can be considered "disadvantaged":[4]

- **CLIMATE CHANGE:** The burdens in this category aim to measure expected agricultural value, building value, and population loss due to climate-related natural hazards, as well as projected wildfire risk and projected flood risk due to climate change.
- **ENERGY:** The burdens in this category aim to measure the energy cost as well as energy-related pollution within a census tract.
- **HEALTH:** The burdens in this category aim to identify areas facing high rates of asthma, diabetes, heart disease, and low life expectancy within a census tract.
- **HOUSING:** These burdens aim to measure the housing cost, the degree of lead paint exposure in housing, historic underinvestment due to redlining, lack of green space, and the share of homes without indoor plumbing or kitchens within a census tract.
- **LEGACY POLLUTION:** These burdens aim to measure how legacy, current, and potential pollution a census tract has through proximity to hazardous waste, Superfund sites (otherwise known as National Priorities List), Risk Management Plan facilities, abandoned mine land, and Formerly Used Defense Sites.
- **TRANSPORTATION:** This burden measures the transportation-related pollution, transportation barriers, and traffic-related noise and proximity to a census tract.
- **WATER AND WASTEWATER:** This measures the census tract's proximity to toxicity-weighted wastewater discharges and underground storage tanks that may leak.
- **WORKFORCE DEVELOPMENT:** This burden aims to identify census tracts that would benefit from greater workforce development, such as areas with low median income as a percentage of area median income, percent of households in linguistic isolation, percent of the workforce experiencing unemployment, and percentage of a census tract's population in households where the household income is at or below the federal poverty level.

[4] White House Council on Environmental Quality. Version 1 of the CEJST: Technical Support Document. Available at https://static-data-screeningtool.geoplatform.gov/data-versions/1.0/data/score/downloadable/1.0-cejst-technical-support-document.pdf.

A census tract can be marked as disadvantaged for meeting any one of these burdens, but multiple burdens may be applicable for a particular census tract.

The equity dataset was incorporated via the mapping component of the high-injury corridor identification methodology. Justice40 maps were used to differentiate corridors with similar total crash scores respective to the sliding windows. For example, a corridor in a disadvantaged community was prioritized over a corridor of a similar total crash score in a non-Justice40 community. As another example, several corridors were extended to reach nearby disadvantaged census tracts.

Table 2 lists the total population residing in Justice40 communities throughout the state by each disadvantaged focus area, the total number of non-motorized fatalities and serious injuries, as well as the corresponding index per one million residents. Over 10,000 people live in transportation-disadvantaged communities. A total of 23 deaths and serious injuries to vulnerable road users took place in transportation-disadvantaged communities between 2016 and 2021. **Transportation disadvantaged communities have a rate of fatalities and serious injuries FIVE TIMES HIGHER than non-disadvantaged census tracts throughout Alaska.**

Table 2. Alaskan Non-Motorist Fatalities and Serious Injuries by Justice40 Area, *2016-2021*

JUSTICE40 AREA	DISADVANTAGED POPULATION	NON-MOTORIZED FATALITIES AND SERIOUS INJURIES	NON-MOTORIZED FATALITIES + SERIOUS INJURIES PER 1 MILLION PEOPLE
Housing	73,574	65	883.5
Workforce Development	65,866	61	926.1
Climate Change	60,744	65	1,070.1
Pollution	58,729	19	323.5
Health	56,581	58	1,025.1
Energy	47,106	16	339.7
Transportation	10,341	23	2,224.2
Water and Wastewater	9,840	36	3,659.5
All Justice40 Areas	130,764	107	818.3
All Non-Justice40 Areas	598,054	241	403.0

High-Injury Corridors and Intersections

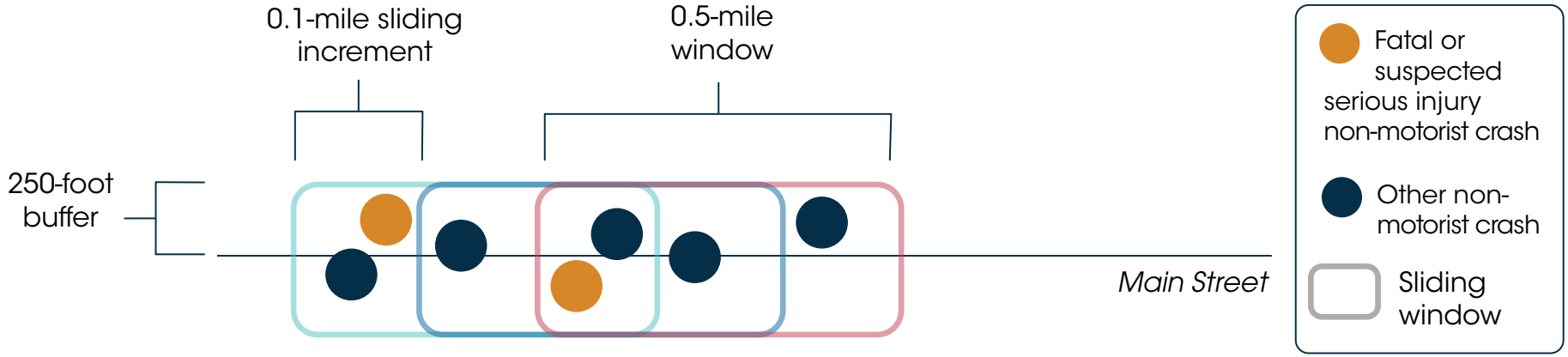
This section outlines the methodology and results of identifying VRU-specific high-injury corridors and intersections throughout Alaska. A sliding window analysis identified HINs with a weighting process to prefer corridors and intersections with a higher concentration of severe or fatal crashes involving vulnerable road users.

Crashes that resulted in a fatality or severe injury were weighted three times greater than all other crash severities. Each crash received a "crash score," in which crashes with fatalities or serious injuries were assigned three points, and all other crash severities were assigned one point. For instance, a segment with three crashes at approximate geographic coordinates that each resulted in a minor injury (three one-point crashes) would have the same crash score as a different segment with one crash that resulted in a fatality (one three-point crash).

HIGH-INJURY CORRIDOR IDENTIFICATION: SLIDING WINDOW ANALYSIS

This analysis utilized a sliding window approach, a recognized method supported by FHWA in the *Guidebook on Identification of High Pedestrian Crash Locations* (Chapter 7 Supplemental Materials).[5] This approach has been widely used in Vision Zero studies to identify High Injury Networks where urgent attention and targeted safety interventions are needed to mitigate the risks faced by vulnerable road users and enhance overall road safety.

Figure 22. Graphic Detailing Sliding Windows Analysis



Source: Cambridge Systematics, Inc.

[5] Federal Highway Administration. *Guidebook on Identification of High Pedestrian Crash Locations.* Available at https://www.fhwa.dot.gov/publications/research/safety/17106/17106.pdf.

The sliding windows analysis is a technique employed to smooth out errors in crash location reporting and improve the accuracy of crash reporting by examining crashes within short segments along roadways. This process involves creating roadway segments, or “windows,” that cover the transportation road network, with each window offset by a short distance from the previous one. The analysis is repeated until the entire road network is covered.

Within the context of this study, 0.5-mile windows were built along all U.S., state, and local public roads with the same name, functional class, and proximity to each other. The windows were offset, or stepped, along the network in 0.1-mile increments. The analysis leveraged all crashes with geolocation information between 2016 and 2021. The road network layer used in this analysis was extracted from OpenStreetMap, providing comprehensive geospatial data with a high level of detail, including street names and functional classification. OpenStreetMap is a collaborative and open-source mapping platform that allows individuals and organizations to contribute and access detailed geographic data to create accurate and freely available maps for various purposes.

All crashes within 250 feet were assigned a severity-weighted score for each window segment (three points for fatal and severe crashes; one point for all other crash severities). Window segment scores were thoroughly reviewed by the project team to verify accuracy. Using the results from the sliding windows analysis, the project team identified high injury corridors across different jurisdictions and location types throughout Alaska.

HIGH-INJURY INTERSECTION IDENTIFICATION: POINT ANALYSIS

In addition to a sliding window analysis to identify high-injury corridors, a point analysis was used to identify high-injury intersections. The OpenStreetMap layer was imported to the analysis software and crashes were mapped to their nearest intersection (rather than the nearest sliding window segment). Crashes were determined to be within an intersection's area of influence if within 150 feet of the intersection centroid. Only crashes within this distance of any intersection on the road network were included in this analysis. The same crash score weighting system as the sliding windows analysis was applied to the point analysis, and a total crash score was calculated for each intersection in the entire state.

ANCHORAGE AND NON-ANCHORAGE STRATIFICATION

Following the completion of the sliding window and point analyses, AHSO mapped and ranked the high-injury corridors and intersections throughout the state. It became clear that a separate process would have to be developed for Anchorage versus the remainder of the state, as 49 of the 50 highest-injury intersections and all 50 highest-injury corridors were located in the Municipality of Anchorage.

The purpose of this Vulnerable Road User Safety Assessment is to identify high-injury networks throughout the state – not solely in Anchorage – leading to a stratification of the dataset into Anchorage and non-Anchorage geographies. A stratum of a non-Anchorage geography allowed other high-risk networks in the state to be identified across many Alaskan cities, towns, and rural areas.

IDENTIFIED HIGH-INJURY CORRIDORS AND INTERSECTIONS

As the result of the network screening analysis, AHSO identified the top 16 high-injury corridors and top 15 high-injury intersections across Alaska. Ultimately, AHSO selected the top 7 high-injury corridors and 8 high-injury intersections located in Anchorage, as well as the top one or two high-injury intersections and corridors each within the communities of Fairbanks, Ketchikan, Palmer, Juneau, Wasilla, Sitka, and Bethel. For the list of the top selected VRU high-injury corridors and intersections, refer to Section 6.

The final selection of high-injury corridors and intersections included post-processing. The output of the sliding window analysis was a geographic list of polylines that can be ranked by the total combined pedestrian and pedalcyclist crash score. AHSO evaluated the sliding windows mapped interactively in QGIS – along with the Justice40 layer – in addition to this ranked list. As examples, Figure 23 and Figure 24 show the sliding window analyses for Anchorage and Fairbanks.

Figure 23. Map of Anchorage Sliding Windows Analysis with Combined Crash Score

Source: Alaska CARE and FARS, 2016-2021; Cambridge Systematics, Inc.

Figure 24. Map of Fairbanks Sliding Windows Analysis with Combined Crash Score

Source: Alaska CARE and FARS, 2016-2021; Cambridge Systematics, Inc.

Initially, 15 high-injury corridors were identified through this process. Given the state population breakdown, AHSO selected the top-ranked seven corridors within the Municipality of Anchorage and the top-ranked eight corridors outside of Anchorage, which included Fairbanks, Ketchikan, Palmer, Juneau, Wasilla, and Sitka. AHSO selected one additional top high-injury corridor representing a rural community with a majority of Alaska Native and American Indian residents, which was also an identified Justice40 community: Bethel.

The high-injury corridors in Anchorage were primarily arterials with higher vehicular speeds and thus higher risk for serious injuries or fatalities. Outside of Anchorage, corridors were either arterials, places with high localized VRU volumes, or main town thoroughfares.

For the selection process for intersections, a ranked list was produced in the same manner as the corridors, with the intersections with highest pedestrian and pedalcyclist crash scores rising to the top. The Justice40 layer was geographically joined to each high-scoring intersection to incorporate equity.

Only seven intersections outside of Anchorage received a weighted crash score of four points or greater. Wanting to prevent arbitrary tie breaking methods amongst the many intersections with three points, the analysis team chose these top 7 non-Anchorage high-injury intersections. The 8 top-ranked high-risk intersections in Anchorage were also selected; in general, intersections in Anchorage had much higher combined crash scores than non-Anchorage intersections. The top 15 high-injury intersections are located along identified high-risk corridors, frequently where two busy roads meet or where there may be limited or no marked crossing infrastructure.

It is crucial to note that the roads identified in this study are not the only ones where safety improvements for vulnerable road users should be implemented. The purpose of identifying these roads is to identify common factors that pose a risk to vulnerable road users. For instance, many of these local roads pass through downtown areas with land uses conducive to neighborhood shops and services, while many of the state roads are located along arterials with suburban-style land uses. It is also important to note that sample size in the crash data is a concern in many smaller Alaskan towns. AHSO emphasizes it is not sufficient to base funding decisions on this type of analysis alone.

Furthermore, this analysis captured high-risk areas based on crash data between 2016 and 2021. AHSO and DOT&PF acknowledge that flexibility is needed to follow where future data may lead; future HIN analyses using newer years of crash data may result in a different set of high-risk areas.

SECTION 3. LOCAL CONSULTATION

For the VRU Safety Assessment, the AHSO conducted local consultations with stakeholders representing VRU high-risk areas identified by network screening. This section summarizes outreach objectives, the consultation process, and key takeaways from each meeting.

Objectives

While data are useful for identifying historical trends and risk factors, crash reports and demographics alone can't tell the whole story. The people who live, work, and play in a community are the best people to discuss its challenges and successes. By consulting with local and Tribal governments, transportation and planning organizations, and community groups and individuals, AHSO gained valuable perspective and first-hand knowledge of VRU safety issues and context-sensitive solutions.

The objectives of consultation with local stakeholders included:

- Providing an overview of the VRU Safety Assessment purpose, requirements, and process, including the network screening methodology.
- Showing VRU safety performance and trends in Alaska, and how existing SHSP strategies seek to address these trends.
- Reviewing initial findings from the network screening analysis, gaining confirmation on the identified high priority corridors and intersections, and identifying contributing factors and similar locations experiencing VRU safety risks.
- Listening to local insights about the challenges communities experience, additional data and available information such as local safety plans and solutions already being implemented, and specific challenges faced by VRUs in underserved communities.
- Identifying possible strategies that address each unique community's needs in order to reduce VRU deaths and serious injuries.

Process

The network screening analysis resulted in a list of the top 16 corridors and top 15 intersections that represent the greatest risks for vulnerable road users (see Section 2 for methodology and summary results, and Section 6 for the location lists). These locations spanned across Anchorage, Palmer, Wasilla, Fairbanks, Sitka, Ketchikan, Juneau, and Bethel, representing a diversity of communities throughout Alaska.

The Alaska Highway Safety Office leveraged our network of safety partners to invite community representatives to participate in virtual consultation meetings for their communities. Participants spanned local governments, Tribal governments and organizations, metropolitan planning organizations, law enforcement, academia, transit providers, non-profit and advocacy organizations, and community members.

AHSO discussed the network screening methodology and results with participants. Representatives shared verbal and written feedback, including using the polling software Mentimeter. Participants offered invaluable insights, personal knowledge, and local perspectives about VRU safety challenges in their communities, as well as ongoing and planned solutions, projects, and related plans. Meeting discussions are summarized in the following section.

After all consultation meetings were conducted, the stakeholders' input informed common themes (described further in Section 4) and strategies to increase VRU safety (Section 5).

Meeting Summaries

The team held five virtual consultation meetings for different regions across Alaska, covering Anchorage (two meetings); Palmer, Wasilla, and Fairbanks; Sitka, Ketchikan, and Juneau; and Bethel. Almost 500 people participated in one or more meetings to share their insights and experiences. Community representatives included:

- Fairbanks Area Surface Transportation (FAST) Planning
- University of Alaska, Fairbanks
- Fairbanks Safe Rider Program
- Anchorage Metropolitan Area Transportation Solutions (AMATS)
- Municipality of Anchorage
- Anchorage Police Department
- Bike Anchorage
- Center for Safe Alaskans
- Anchorage School District
- City of Ketchikan
- City of Sitka
- Sitka Tribe of Alaska
- Capital Transit
- Bethel Fire Department
- Alaska DOT&PF
- Alaska Department of Public Health

The meetings are summarized in the next section, including discussions of common VRU safety challenges, network screening results, additional locations experiencing similar issues, and recent projects and successes. For the complete list of network screening high-risk corridors and intersections for each location, please refer to Section 6.

ANCHORAGE – SPRING 2023

The Anchorage region experienced the vast majority of VRU deaths and serious injuries in Alaska between 2016 and 2021. For both the VRU Safety Assessment and for Public Participation and Engagement as a part of the Highway Safety Plan, the AHSO partnered with the Anchorage Metropolitan Area Transportation Solutions (AMATS) in May 2023 to host a virtual safety forum. Engagement from this community was determined to be critical because of the continual increase in VRU fatalities in recent years.

The forum featured live polling and focused on the work of the Bicycle and Pedestrian Advisory Committee (BPAC) and AMATS Safety campaign and plan. The forum also provided an opportunity for residents to ask questions and share their experiences and insights. In total, 444 people participated in the event with relatively even age and gender distribution representing residents of over 12 neighborhoods in the area. Approximately 80 percent of participants identified as white, 5 percent American Indian or Alaska Native, and 3 percent Hispanic, Latino, or Spanish.

Respondents indicated 82 percent of the time they drive, 13 percent of the time bike, 3 percent of the time walk, and 2 percent of the time take public transportation for where they need to go. Many residents do not feel safe when biking or walking, particularly when it is dark outside or on busy streets.

Participants expressed the desire for greater enforcement of traffic laws and better education on the importance of transportation safety. Almost 85 percent of respondents wished for roads designed to support surrounding land uses (i.e., slower speeds, separated pathways for non-motorized travel, and more crosswalks). Maintenance of roads, sidewalks, and multiuse pathways in all seasons was ranked as the top challenge to transportation safety, followed by unsafe driving behaviors, lack of separation from vehicles, lack of bike lanes, and lack of crosswalks.

ANCHORAGE – FALL 2023

In fall 2023, AHSO held a second, virtual local consultation meeting with representatives of organizations and communities in Anchorage. Participants highlighted three top challenges for VRU safety:

1. **Inadequate winter weather maintenance** and snow storage blocks non-motorized facilities, including sidewalks, bus stops, and bike lanes. Poorly maintained pathways create dangerous and slippery walking and biking conditions. Often, ice and snow force pedestrians and bicyclists to travel in the road instead, placing them in conflict with passing vehicles. This danger is amplified during the prolonged periods of darkness in winter in areas without lighting.

2. **Roads are designed for cars,** not VRUs. Many key corridors are "stroads": roads that serve both as a high-flow, high-speed vehicle facility and a high-access, local facility with many driveways and destinations. These types of roads do not prioritize the safety and movements of pedestrians and bicyclists, and often lack adequate sidewalks, bicycle lanes, pedestrian-scale lighting, and designated crossings.

3. **Dangerous driving behaviors** represent serious risks for VRUs, such as speeding, inattentiveness and distracted driving, aggressive driving, and driving under the influence of alcohol or drugs. Participants identified a lack of enforcement addressing dangerous driving behaviors, especially in areas with many people walking, biking, and rolling to key destinations such as schools, community centers, and retail.

When discussing the high-priority corridors and intersections, representatives expressed that nearly every arterial road in Anchorage represents a danger zone for vulnerable road users. While network screening primarily identified east-west-oriented corridors, participants shared that north-south corridors (and associated intersections) also experience these same challenges. Examples include C Street, Seward Highway, Gambell Street, Ingra Street, Lake Otis Parkway, Airport Heights Drive, and Minnesota Drive/Walter J. Hickel Parkway.

Stakeholders identified that increasing and maintaining dedicated VRU infrastructure (shared use paths, sidewalks, walkways, bike lanes, and crossings) would have the greatest impact on improving VRU safety in the Anchorage area. Additionally, deploying self-enforcing roadways, road diets, increased lighting, curb extensions, and pedestrian crossing signals (such as pedestrian hybrid beacons and all-phase-stop signals) would greatly benefit VRU safety. Participants suggested linking available crash datasets to hospitalized injury databases and the Alaska Trauma Registry.

AMATS, the Municipality of Anchorage, and their partners are proactive in addressing the safety of vulnerable road users. The AMATS *Non-Motorized Plan* (2021)[6] identifies existing conditions, network development, prioritization, and six locations with preliminary concept-level designs. The *Non-Motorized Plan* also promotes non-motorized facility design best practices. Additionally, AMATS is currently developing the Safety Plan, an implementable framework identifying behavioral and engineering solutions to reduce severe crashes.

[6] https://www.muni.org/Departments/OCPD/Planning/AMATS/Documents/Nonmotorized/update_2020/20221019_Anchorage_Non_Motorized_Plan_Final%20Document.pdf

Alaska DOT&PF has multiple HSIP projects in design/construction or planning stages to increase VRU safety in the Anchorage region. These include LED lighting increases on corridors with many night-time VRU crashes (including Muldoon Road, Seward Highway, Gambell Street, Minnesota Drive, and Tudor Road); shortening pedestrian crossings at the C Street intersections with Tudor Road and Dimond Boulevard; and Seward Highway parking and pathway improvements. Alaska DOT&PF is also considering further ways to improve connectivity of VRU facilities, improve enforcement tools for hit-and-run drivers, continue improving lighting conditions, install spot improvements at high crash locations, and establish urban safety corridors.

PALMER, WASILLA, AND FAIRBANKS

Representatives from Fairbanks, Palmer, and Wasilla identified similar top VRU challenges as Anchorage participants, including lack of winter maintenance on non-motorized facilities; congested "stroads" with high-volume, high-speed vehicles but also many driveways cutting across sidewalks or pathways; and dangerous driving behaviors such as impaired driving.

Stakeholders also identified the following critical issues:

- **Lack of lighting** is a significant risk for the safety, security, and visibility of VRUs. Given how far north Alaska is (and in particular Fairbanks), it is dark for the majority of the day during wintertime.

- **Poor visibility in crosswalks and infrequent crossing locations** put pedestrians and other VRUs at risk when crossing the road. Locations where people frequently want or need to cross the road do not have marked, visible crosswalks. Sight distance issues (such as vegetation, buildings, or fences blocking drivers' views) and poorly marked crosswalks (lacking appropriate pavement markings, signs, or lighting) limit drivers' awareness of VRUs in the roadway.

Participants shared examples of long distances between marked crossing locations. In Fairbanks, there is over a mile between marked crosswalks along College Road between University Avenue and Aurora Drive. Following the recent closure of a pedestrian bridge due to deteriorating conditions, stakeholders expressed concern that nearby high school students may run across Geist Road, rather than walk the far distance to the nearest intersection crossing.

Representatives agreed with the identified high-priority corridors and intersections, which often have narrow sidewalks, poor VRU infrastructure, and no marked crosswalks. Participants suggested additional locations with similar issues in Fairbanks, including the Mitchell Expressway/Parks Highway/Route 3 corridor and extending the Geist Road corridor eastward to University Avenue. Another area of concern is the GARS Intersection, a complex intersection where Gaffney Road, Airport Way, Richardson Highway, and Steese Highway meet. This area recently underwent improvements and a new traffic pattern, yet the community is struggling to navigate its new configuration, including how pedestrians move through the intersection.

South Fairbanks, bounded by Lathrop Street, Parks Highway, and Cushman Street, has many low-income and transportation disadvantaged community members. Residents rely on walking and biking year-round to reach everyday places like grocery stores and schools. Although FAST Planning (the Fairbanks MPO) has performed improvements, more could be done to enhance VRU safety throughout the neighborhood.

Infrastructure-based enhancements such as lighting, medians, pedestrian refuge islands, pavement markings, rectangular rapid flashing beacons, road diets, and curb extensions are essential solutions that enhance the visibility of VRUs. Participants also emphasized that VRU safety education is essential for all road users, including both vehicle drivers and vulnerable road user groups. Performing corridor safety studies on identified locations presents an opportunity to identify site-specific problems and engage with community members.

Regarding winter weather maintenance, the City of Fairbanks and FAST Planning developed a priority map for non-motorized route clearance, indicating which sidewalks should be cleared first and in priority order. Stakeholders representing cities throughout Alaska exchange best practices and ideas to sustainably prioritize and fund winter maintenance for both motorized and non-motorized facilities.

Matanuska-Susitna Borough (often referred to as Mat-Su), which contains both Wasilla and Palmer, developed the 2023 *Bicycle and Pedestrian Plan* to improve the Borough's non-motorized transportation network through near, medium, and long term infrastructure, policy, and program recommendations.[7] Examples of recommendations include developing a Complete Streets policy, developing a snow-clearing policy, conducting a level of service assessment for bicyclists and pedestrians, and conducting annual counts at key locations, in addition to a wealth of site-specific safety improvements.

Stakeholders also suggested the need to plan ahead for the growing numbers of electric bikes and other electric-assist mobility devices. As e-bikes grow in popularity, local and state governments must consider how these devices interact with non-motorized facilities. The University of Alaska, Fairbanks is drafting a policy for e-bike use on sidewalks, pathways adjacent to roadways, and off-road trails.

[7] https://matsugov.us/projects/bike-pedestrian-plan

SITKA, KETCHIKAN, AND JUNEAU

Located on the Southeast coast of Alaska, Sitka, Ketchikan, and Juneau are popular tourism destinations, each with growing numbers of cruise passengers and other visitors. These cities experience similar challenges to other Alaskan regions, such as dangerous driving behaviors, lack of marked crossings and sidewalks, poor VRU visibility, insufficient lighting, and lack of winter maintenance. These issues are common along corridors and intersections frequently traveled by VRUs to reach essential retail, grocery, social, and employment locations.

Representatives also identified several additional VRU safety challenges:

- **Roads with narrow right-of-way** have limited capacity to accommodate bicyclists or widen sidewalks. Sidewalks are often narrow (if present at all), and some have utility poles placed in the middle. In town centers, buildings often extend to the edge of the public right-of-way, limiting sight distances and preventing road widening.

- **Seasonal swells of out-of-town visitors** amplify all of the aforementioned challenges. High volumes of pedestrians in summertime have to travel along narrow sidewalks. Tourists may cross roads in locations without marked crosswalks. There is a general increase in vehicle congestion, accelerating wear and tear on roadway infrastructure. Tourism buses, shuttles, and other large commercial vehicles (which have large blind spots) often share curb-side space with pedestrians and bicyclists, and traverse along roadways where pedestrians may be crossing.

Meeting participants agreed with the high-priority locations identified by the network screening analysis and shared additional locations that experience the aforementioned challenges. Participants shared that the Glacier Highway in the Lemon Creek area of Juneau has recently received many improvements, including a roundabout, new traffic signal, and sidewalks on both sides of the roadway.

In Ketchikan, similar locations include the intersection of Deermount Street and Stedman Street; the corridor where Front Street becomes Mill Street and intersects with Stedman Street; around Ward Cove on N Tongass Highway, which has a major cruise port but no non-motorized infrastructure connecting to nearby locations; and near the Saxman Community Center along S Tongass Highway. The main identified corridor, Tongass Highway, represents a challenge for the City of Ketchikan. Because Tongass Highway is a state-owned road, Ketchikan may not implement safety improvements without approval from DOT&PF. Ketchikan representatives have also experienced challenges with DOT&PF regarding who is responsible for installing, owning, and maintaining traffic signals.

In Sitka, additional locations include the O'Connell Bridge on Harbor Drive, which is a particular risk for bicyclists; Halibut Point Road, which includes the cruise ship port near its northern end; and the Sawmill Creek Boulevard corridor. Halibut Point Road has experienced several bicyclist serious injuries and one fatality in the last several years. The *2023 Sitka Trail Plan,*[8] currently in development, recommends creating a separate pathway along the length of Halibut Point Road and a marked crossing facility

[8] https://sitkatrailworks.org/2023-trail-plan/

near the cruise terminal. Additionally, the Sitka Tribe of Alaska manages and operates the area's public transit, fixed-route system, which sees high volumes along Sawmill Creek Boulevard during tourist season. The *2023 Sitka Trail Plan* recommends a pedestrian underpass on Sawmill Creek Road at Fortress of the Bear.

Juneau's Tourism Best Management Practices (TBMP) program is a cooperative effort of tour operators, cruise lines, transportation providers, and the City and Borough of Juneau to minimize the impacts of tourism while enhancing visitors' experiences.[9] The program publishes guidelines for its members, including transportation and safety best practices. The City of Sitka Tourism Task Force and Ketchikan Visitors Bureau are currently in the process of establishing similar guidelines. Both the City of Ketchikan and the City and Borough of Juneau hire crossing guards in summer to help keep people in crosswalks along the downtown corridors.

Participants identified the growing challenge of electric bike ridership, especially e-bike rentals as a part of the tourism industry. E-bike riders require education about where and how to safely ride e-bikes and interact with pedestrians and vehicles. The 2023 Sitka Trail Plan recommends establishing an e-bike policy addressing speed, behavior, potential off-limit areas, and bike use on trails.

[9] https://www.traveljuneau.com/tbmp/

Source: Alaska DOT&PF.

BETHEL

The City of Bethel is the largest rural community in western Alaska, perched on top of tundra and permafrost. Bethel community members experience similar challenges as identified in other consultation meetings: in particular, inadequate winter weather maintenance and insufficient lighting during prolonged periods of darkness. The City of Bethel's *2020 Long Range Transportation Plan* identifies several high priority safety concerns affecting VRUs, including lack of streetlights and street signs, speeding, impaired driving, and distracted driving.[10]

Participants shared several more challenges that affect VRU safety:

- **Impaired driving** is a significant factor for crashes, including a pedestrian who was fatally struck by an impaired driver in August 2023. This includes both alcohol- and drug-impairment, which have increased since the allowance of alcohol sales in Bethel in 2012 and the statewide legalization of recreational cannabis use in 2015.
- **Staffing shortages and seasonal weather maintenance and damage** combine to create routine maintenance backlogs, such as painting bike lanes and crosswalks or filling in potholes. For example, the main bike lane through town has faded markings, and drivers often use the bike lane as a vehicle turning lane. There is possible danger to nearby VRUs when vehicle drivers swerve to avoid potholes.

Representatives concurred that Chief Eddie Hoffman Highway is a high-risk corridor for VRUs. Many pedestrians travel along Hoffman Highway to and from neighborhood subdivisions and common destinations. These areas do not have lighting, including around the U.S. Post Office, Salmonberry Street in the Blueberry Subdivision, and near the neighborhood along Raven Road, Our Own Road, and Hoffman Road.

Participants also identified Watson's Corner as a dangerous location. This intersection of Hoffman Highway, Third Avenue, and Ridgecrest Drive does not have a traffic signal, despite being the busiest intersection in town. There are marked crosswalks across Third Avenue and Ridgecrest Drive, but not across Hoffman Highway. Stakeholders suggested that some intersections and crossings would benefit from enhanced traffic control, such as stoplights, signalized crossing with high visibility crosswalks, and enhanced lighting.

Additionally, many residents rely on snowmachines as their main mode of transportation in winter, including members of low-income populations. There is one official snowmachine crossing of Hoffman Highway near Akiak Drive, close to Watson's Corner. There is also a second unofficial crossing near Hoffman Road by the trailer court. Residents also commonly travel by riverboats and all-terrain vehicles during summer months.

[10] https://tundra-ridge.com/documents/Bethel%20Long%20Range%20Transportation%20Plan%202020_sm.pdf

SECTION 4. COMMON THEMES

Common themes emerged across the network screening results and stakeholder consultation meetings. This section describes common themes and key takeaways, which informed the strategies in Section 5.

VRUs Cannot Safely Reach Their Everyday Destinations

Vulnerable road users cannot safely reach their everyday destinations. Everyday destinations are the places of interest that people routinely travel to and from: their homes, schools, community centers, places of employment, post offices, grocery stores and retail, medical care and hospitals, social services, recreation, places of worship, and more. This greatly affects members of disadvantaged and underserved communities, who are more often reliant on walking, biking, and taking transit to their destinations. Even in more secluded or rural areas, walking and biking may be some people's only options.

Many issues underlie the fact there may be no safe, connected, and protected routes for vulnerable road users. There may be inadequate infrastructure dedicated to the safe passage of pedestrians and bicyclists. Historically, roadways were designed for motor vehicle throughput – getting cars where they need to go as quickly as possible. Sidewalks may be in poor condition, narrow, not compliant with Americans with Disabilities Act (ADA) standards, or missing entirely. Routes may lack sufficient pedestrian-scale lighting. Crossing locations may be few and far between, poorly marked, or difficult for drivers to see. Limited public right-of-way may restrict plausible improvements. Drivers may choose to drive in dangerous ways, such as using their phone, speeding, or under the influence of drugs or alcohol. In winter, large volumes of snow or ice may force pedestrians to walk in the roadway.

Each high-risk location has a unique combination of factors heightening the risk of serious injury or death for a pedestrian or bicyclist. Safety risks should be addressed within the context and purpose of a specific route. Several of these factors are explored further in the following sections.

Road Design and Adjacent Land Use Create a Dangerous Combination

Stakeholders repeatedly noted that roads prioritize vehicles, not non-motorized road users. This is most prevalent on arterial and collector roads with frequent access points to retail, neighborhoods, workplaces, and other destinations. These "stroads" serve both as high-volume corridors for fast-moving vehicles and as connections to many places of interest. Sidewalks and bike lanes (if existing) may be frequently interrupted by vehicles entering or existing driveways or turning at intersections. Corridors may lack adequate sidewalks, protected bicycle lanes, pedestrian-scale lighting, and high visibility crossings. Drivers' sight distance may be blocked or restricted by turning or parked vehicles, fences, signs, vegetation, buildings, and more.

This mix creates dangerous conflict points for VRUs trying to access their everyday destinations. When combined with dangerous driving behaviors such as speeding or running a red light, the results may be deadly. Stakeholders felt there was inadequate enforcement for unsafe drivers.

Crossing Locations are Infrequent and Poorly Marked

People want to cross the road where it is convenient. However, convenient crossings may not be safe crossings, especially in areas with fast-moving vehicles, poor sight distances, low visibility or lighting, and long crossing distances. There may not be a marked crosswalk in a location where people desire to cross the street. In many cases, the nearest designated crossing may be a significant distance away – over a quarter mile or more. Many intersections do not have marked crosswalks or pedestrian crossing signals. Where crosswalks do exist, pavement markings or painting may be faded due to regular wear and tear or winter maintenance (for example, snowplows may degrade pavement markings over time). Infrequent and poorly marked crossings inhibit vulnerable road users from safely reaching their everyday destinations.

It's Dark Outside and There Are No Lights

Given Alaska's northern latitude, many communities experience extended hours of darkness in the winter. At the same time, most streets and roads do not have any roadway lighting, much-less pedestrian scale lighting. Pedestrian scale lighting is smaller-scale and more frequently spaced street lighting that emphasizes pedestrian movements. Lighting increases the night-time visibility of non-motorized road users and increases vehicle drivers' awareness of VRUs in and adjacent to the roadway.

It is not feasible or desirable to install lighting everywhere, throughout every community, on every single road. Lighting requires a power supply connection to existing electric utilities, which may be a challenge in rural or isolated communities. However, lighting may be installed along main roads and intersections where vulnerable road users frequently travel, including key routes connecting residential areas to everyday destinations.

Inadequate Winter Maintenance Forces People into the Roadway

The lack of timely, efficient, and widespread winter weather maintenance on non-motorized facilities was a unanimous challenge identified by stakeholders. All Alaskan communities experience winter weather including snow and ice. Non-motorized facilities often receive lower priority than roadway facilities for snow and ice clearance. Sidewalks, pathways, bike lanes, and bus stops may be impassable or have slippery conditions. This can be exacerbated by excessive snowfall or snowplows pushing tall snowbanks out of the roadway.

When sidewalks and other non-motorized facilities are blocked by snow and ice, pedestrians and bicyclists are forced to travel in the roadway. This places vulnerable road users in conflict with moving vehicles in potentially slippery or low-visibility road conditions. The safety risks to VRUs increase when other risk factors are present, such as lack of lighting or dangerous driving behaviors.

Dangerous Driving Behaviors Threaten VRUs

Motor vehicles represent the most significant threat to vulnerable road users. The human body can withstand only a limited amount of impact force from a vehicle before death or injury occurs. It is the shared responsibility of all vehicle drivers to drive in a safe, responsible, and respectful way.

Dangerous driving behaviors include speeding and driving under the influence of drugs or alcohol. It is dangerous to drive while distracted, drowsy, or inattentive, which includes texting or using a handheld device, eating, talking to passengers, or any action that takes the driver's eyes of the road, hands off the wheel, or mind off the task of driving. Driving in an aggressive manner toward another vehicle, motorcycle, bicyclist, pedestrian, or other road user puts everyone on the road at risk. Not obeying traffic laws (including running a stop sign or red light) is dangerous, especially to vulnerable road users.

Stakeholders expressed that enforcement does not adequately address dangerous driving behaviors in their communities. In a transportation system designed to prioritize vehicles, this is especially felt in areas where people frequently walk, bike, and roll to their everyday destinations.

Seasonal Tourism Volumes Increase VRU-Vehicle Conflicts

Many cities, such as communities along Alaska's Southeast Coast, have growing destination tourism, which increases congestion and wear and tear on roadways. The seasonal influx of visitors exacerbates other VRU safety risks described above. With higher volumes of pedestrians, there may be increases in crossings at non-designated locations. There may be increased conflicts between pedestrians and tourism buses and shuttles.

Additionally, some tourism hubs such as cruise ports may be secluded, lacking non-motorized infrastructure connections to nearby locations. In these situations, the only option is for cruise passengers to load onto buses or other vehicles – no opportunities exist to bike, walk, or roll to nearby destinations.

E-Bikes Are Speeding into The Future

Stakeholders emphasized the need to prepare for growing numbers of electric bikes and other electric-assist mobility devices on Alaska's roadways – both for personal use and as a part of the tourism industry. Certain classes of e-bikes may travel up to 28 miles per hour, which presents a safety risk to pedestrians and other vulnerable road users. Communities may consider regulating where and when e-bikes are allowed on non-motorized facilities. It is important to educate e-bike riders on safe riding practices, wearing helmets, interacting with pedestrians and bicyclists, and other rules of the road.

SECTION 5. VRU STRATEGIES

The primary outcome of the data-driven analyses and local consultations is a program of strategies to reduce the safety risks to vulnerable road users, both statewide and specifically in high-risk areas. This section describes both existing SHSP strategies that increase VRU safety and new strategies that address common themes affecting VRU safety risks and high-priority areas.

The program of strategies is built with the principles and elements of the **Safe System Approach** to make progress *Toward Zero Deaths* and serious injuries on Alaska's public roadways. The existing SHSP and new VRU strategies comprehensively and collaboratively build redundant protections for VRUs into the transportation system. The stakeholders who will implement these strategies demonstrate the shared responsibility to accommodate and minimize the impacts of people's mistakes, which will happen.

Strategies address all five elements of the **Safe System Approach** through the inherent organization of the SHSP: Safe Road Users, Safe Roads and Safe Speeds, Safe Vehicles, and Post-Crash Care. Through a combination of engineering, enforcement, and education, the strategies seek to **REMOVE SEVERE CONFLICTS** where possible; **MANAGE CONFLICTS BY SEPARATING DIFFERENT ROAD USERS IN TIME; REDUCE VEHICLE SPEEDS** in locations where VRUs are often present; and **INCREASE DRIVERS' ATTENTIVENESS AND AWARENESS** of nearby VRUs.

How Will These Strategies Be Implemented?

These planning-level strategies may be implemented systemically or in specific high priority corridors and intersections to reduce the risk of VRU fatalities and serious injuries. The program of strategies does not identify location-specific improvements; rather, regional and local jurisdictions may implement the strategies that best meet the needs of their communities. The high-priority locations identified in this assessment will require additional evaluation to develop and program context-sensitive VRU projects.

A wide range of Alaskan safety partners will collaborate to implement these strategies, including DOT&PF, AHSO, MPOs, city and Tribal governments and transportation departments, non-profit organizations, law enforcement, first responders, medical and public healthcare workers, and more.

Strategies will come to fruition by many avenues – through existing and new initiatives, state and local efforts, and a range of policies, plans, programs, and projects. This document is not the end of the VRU Safety Assessment; rather, this process represents the first step in a continual effort to increase VRU safety. DOT&PF, AHSO, and our partners will revise the program of strategies as needed. The SHSP Focus Area teams will incorporate the VRU Safety Assessment findings into the implementation of their own Action Plans, listed in Appendix B. The SHSP Tribal Advisory Committee, composed of members of Alaska's Tribes and Nations, will also guide the implementation of VRU strategies moving forward.

Summary of Strategies

The below table captures 14 VRU Safety Assessment strategies and 11 existing SHSP Focus Area strategies that will reduce the risk of VRU fatalities and serious injuries on Alaska's public roadways. The existing SHSP Focus Area strategies are labelled with the corresponding strategy number in their respective action plans. These strategies are explored further in the subsequent sections.

SOURCE	STRATEGY #	STRATEGY
New VRU Strategies		
VRU Safety Assessment	1	Conduct VRU Safety Audits and other types of safety studies in identified high-risk corridors and intersections.
VRU Safety Assessment	2	Deploy proven and innovative safety countermeasures to support the mobility of underserved communities.
VRU Safety Assessment	3	Install and maintain crossing infrastructure in locations where people commonly cross the road.
VRU Safety Assessment	4	Install pedestrian scale lighting along routes frequently traveled by VRUs.
VRU Safety Assessment	5	Separate VRUs in space from adjacent motor vehicle traffic.
VRU Safety Assessment	6	Deploy proven and innovative countermeasures on arterials with high volumes of high-speed vehicles, driveways, and VRUs.
VRU Safety Assessment	7	Continue to perform community engagement and education about VRU safety.
VRU Safety Assessment	8	Promote knowledge-sharing about transportation safety best practices for the tourism industry.
VRU Safety Assessment	9	Deploy crossing guard programs and increase crossing visibility in tourism destination areas.
VRU Safety Assessment	10	Continue to provide ADA-accessible facilities to support safe and equitable mobility for all pedestrians.
VRU Safety Assessment	11	Explore best practices for electric bike use on non-motorized facilities.
VRU Safety Assessment	12	Continue to collaborate with law enforcement about VRU safety.
VRU Safety Assessment	13	Develop a process to monitor progress of VRU safety in identified high-risk areas.
VRU Safety Assessment	14	Continue to research and incorporate new and emerging VRU and Safe System Approach strategies and countermeasures.

SOURCE	STRATEGY #	STRATEGY
Existing SHSP Strategies		
Pedestrians and Bicyclists Focus Area	1	Implement best practices and proven countermeasures and incorporate into state and local policies and manuals to support safe travel for pedestrians and bicyclists.
Pedestrians and Bicyclists Focus Area	2	Educate pedestrians, bicyclists, and other vulnerable road users about “rules of the road” and safety equipment.
Pedestrians and Bicyclists Focus Area	3	Develop and implement a statewide active transportation safety action plan and data collection plan.
Dangerous Driving Focus Area	1	Explore and implement best practices and policies to address dangerous driving behaviors.
Dangerous Driving Focus Area	2	Implement media campaigns and educational trainings to discourage dangerous driving behaviors.
Speed Management Focus Area	1	Conduct high-visibility enforcement and awareness campaigns to reduce speeding.
Speed Management Focus Area	2	Develop model policies and implement and innovative practices to reduce speeding.
Roadways Focus Area	2	Perform timely and adequate winter weather maintenance for all road users.
Young Drivers and Older Drivers Focus Area	1	Conduct outreach and education to encourage young drivers to practice safe driving behaviors amongst their peers.
Vehicle Safety Focus Area	2	Update and share safe driving best practices with tourism commercial vehicle operators and owners.
Emergency Response Focus Area	2	Protect first responders at crashes through tools, techniques, technology, and information-sharing practices.

Existing SHSP Strategies

The *2023-2027 Alaska Strategic Highway Safety Plan* includes many strategies that both directly and indirectly improve VRU safety. The SHSP is organized around the **Safe System Approach** by Emphasis Areas. Within each Emphasis Area, Focus Areas will implement action plans between now and 2027 to support a Safe System throughout Alaska. This section draws high-level connections to those existing strategies and actions. Refer to SHSP Appendix B to view all Focus Area action plans.

Note: The Focus Area action plans are living documents. This means over time, Focus Area teams will update, add, and improve the strategies and actions within. The action language below is up to date as of November 2023 and may differ slightly from Appendix B.

PEDESTRIANS AND BICYCLISTS FOCUS AREA

Foremost, the SHSP has a **PEDESTRIANS AND BICYCLISTS FOCUS AREA** within the Safe Road Users Emphasis Area. Collectively, this Focus Area's strategies and actions seek to expand available data about VRUs, create inclusive policies and guidance (including a statewide Complete Streets policy), provide public education, and build roadways designed inclusively for pedestrians and bicyclists.

The Pedestrians and Bicyclists Focus Area action plan has three strategies, each with actions directly relevant to the VRU Safety Assessment:

» **STRATEGY 1:** Implement best practices and proven countermeasures and incorporate into state and local policies and manuals to support safe travel for pedestrians and bicyclists.

- **Action 1.1:** Review existing state and municipality administrative codes, policies, and manuals to identify gaps and update them as needed to include pedestrians, bicyclists, and other active transportation users.
- **Action 1.2:** Leverage the federal revisions to the Safe Routes to School program to revitalize and expand Alaska's infrastructure and non-infrastructure projects offered under the program and coordinate with school districts.
- **Action 1.3:** Develop and implement a statewide Complete Streets construction, design, and maintenance policy that considers local-level Complete Streets policies.
- **Action 1.4:** Research and implement low-cost, quick-build engineering solutions and pedestrian-focused lighting pilot projects at roadway crossings for active transportation users.
- **Action 1.5:** Develop the Pedestrian Standards section of the Alaska Highway Preconstruction Manual.

» **STRATEGY 2:** Educate pedestrians, bicyclists, and other vulnerable road users about "rules of the road" and safety equipment.

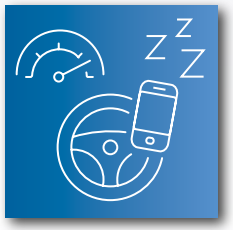
- **Action 2.1:** Develop model language and fact sheets for statewide "stop for pedestrians in crosswalks" and "no right turn on red" policies.
- **Action 2.2:** Develop and evaluate the effectiveness of comprehensive education campaigns targeting pedestrians, bicyclists, and other active transportation users in Alaskan communities on topics including "rules of the road" and using helmets, high-visibility gear, and other protective equipment.

» **STRATEGY 3:** Develop and implement a statewide active transportation safety action plan and data collection plan.

- **Action 3.1:** Develop a strategic data collection plan to obtain pedestrian and bicycle counts, including researching methods to crowdsource count data.
- **Action 3.2:** Develop a DOT statewide active transportation safety action plan in coordination with municipal and Metropolitan Planning Organization plans.

DANGEROUS DRIVING AND SPEED MANAGEMENT FOCUS AREAS

The SHSP has several Focus Areas that address unsafe driving behaviors and speeding vehicles, which both present risks to VRUs. These actions promote safer and slower driving through roadway design, education, and enforcement, thereby reducing the likelihood and severity of potential crashes with VRUs.



The **DANGEROUS DRIVING FOCUS AREA** (Safe Road Users Emphasis Area) focuses on unsafe driving behaviors such as aggressive, distracted, and drowsy driving. Similarly, the AHSO Impaired Driving Task Force seeks to reduce both alcohol-impaired and drug-impaired driving. Preventing these types of dangerous driving behaviors may both increase driver awareness and attentiveness on the roadway and lower risks to VRUs.

The Dangerous Driving Focus Area action plan contains Action 1.1 to develop criteria and a data-driven process for establishing urban traffic safety corridors. These types of safety corridors may have lower posted speed limits, require hands-free device use only, and enact higher fines. Similarly, Action 1.3 builds the foundation for future "hands-free devices only" policies in work zones, active school zones, and safety corridors. These actions support safer environments for students, children, and work zone workers, among others.

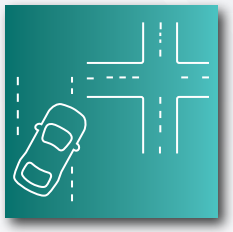
The Dangerous Driving Focus Area lists Action 1.4 to revise the *Alaska Driver Manual* and incorporate best practices about safe driving behaviors. This is an opportunity to emphasize pedestrian- and bicyclist-specific considerations and remind drivers of their shared responsibility within a Safe System.

The SHSP also has the **SPEED MANAGEMENT FOCUS AREA** (Safe Roads and Safe Speeds Emphasis Area). Similar to other dangerous driving behaviors, speeding is a significant risk to VRUs, particularly when combined with other factors such as poor lighting, lack of marked crossings, or winter weather conditions. This Focus Area encourages vehicle speeds that are appropriate for a given area and surrounding land uses, i.e., slower speeds in areas with higher volumes of people walking, biking, and rolling. This includes surrounding the places and services that people use most often, such as schools, grocery and retail, community centers, medical and hospital services, employment centers, and tourism destinations.

The Speed Management Focus Area has Action 2.1 to develop a model urban speed limit setting policy that is consistent across the state. The policy would promote selecting speed limits that reflect a road's purpose and explicitly consider all road users, including VRUs.

High visibility enforcement and corresponding media campaigns are actions for both the Dangerous Driving Focus Area (Action 2.3) and the Speed Management Focus Area (Actions 1.1 and 1.2). Enforcement is a key component in promoting safe driving behaviors and safe speeds.

ROADWAYS FOCUS AREA

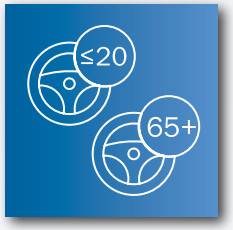


The **ROADWAYS FOCUS AREA** (Safe Roads and Safe Speeds Emphasis Area) has one strategy that directly addresses the safety concerns and risks VRUs experience with snow and winter weather maintenance. This strategy seeks to establish consistent, sustainable, and prioritized snow removal from non-motorized facilities. Clearing sidewalks and bike lanes of snow and ice in a timely fashion will eliminate the risks pedestrians and bicyclists face when ice and snow forces them into the roadway.

» **STRATEGY 2:** Perform timely and adequate winter weather maintenance for all road users.

- **Action 2.1:** Identify DOT&PF Maintenance and Operations Lead to coordinate winter weather maintenance needs and secure and prioritize sustainable funding for weather maintenance of service for all road users.
- **Action 2.2:** Coordinate with local agencies, jurisdictions, and community stakeholders to develop a priority system and plowing sequence on routes for winter maintenance on motorized and non-motorized facilities.

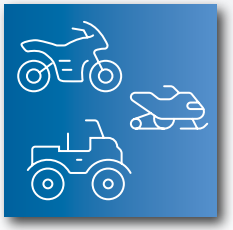
OTHER FOCUS AREAS



Other SHSP Focus Area action plans indirectly support VRU safety. For example, the **YOUNG DRIVERS AND OLDER DRIVERS FOCUS AREA** (Safe Road Users Emphasis Area) contains actions for peer-to-peer education programs to promote safe driving, walking, and riding to young people, which is a critical intervention point to increase driver awareness and attentiveness.

The **VEHICLE SAFETY FOCUS AREA** (Safe Vehicles Emphasis Area) has a strategy to update and share safe driving best practices with tourism commercial vehicle operators and owners in the City and Borough of Juneau (Action 2.1). This action is an opportunity to promote safer driving behaviors for tour bus and shuttle drivers, as well as information about safe walking around tourism destinations that drivers/operators may pass along to their passengers. In the next section, a new VRU strategy builds upon this action to promote knowledge-sharing amongst visitor and tourism bureaus, owners, and operators throughout Alaska.

The **EMERGENCY RESPONSE FOCUS AREA** (Post-Crash Care Emphasis Area) contains a strategy (Strategy 2) to protect first responders at crash sites through tools, techniques, technology, and information-sharing. When first responders or vehicle passengers step outside of their parked vehicle, they too become pedestrians. This strategy can help prevent secondary crashes from occurring when first responders and crash victims are roadside.



The **MOTORCYCLES, ALL-PURPOSE VEHICLES, AND SNOWMACHINES FOCUS AREA** (Safe Road Users Emphasis Area) examines and expands on policies, guidance, and education for all-terrain vehicle and snowmachine riders. Many Alaskans rely on snowmachines and all-terrain vehicles to reach their everyday destinations. Although snowmachine riders are not considered VRUs, these Focus Area actions address safety risks raised by local stakeholders during consultation.

New VRU Strategies

The VRU Safety Assessment identified VRU barriers and challenges, as well as contributing factors, road facility types, and other risks to VRU safety. This section describes new strategies to supplement the SHSP Focus Area action plans and address thematic issues both statewide and in high-priority areas. These strategies provide a planning framework for DOT&PF, AHSO, MPOs, local and Tribal governments, and other safety stakeholders to implement solutions that best fit within the context of their community. Across all strategies, DOT&PF encourages stakeholders to implement both proven safety countermeasures and innovative solutions.

STRATEGY 1: Conduct VRU Safety Audits and other types of safety studies in identified high-risk corridors and intersections.

Both this VRU Safety Assessment and other ongoing state and local initiatives have identified corridors and intersections with significant risks for VRUs. A safety study is the first step to developing improvement projects. Site-specific safety studies will identify key infrastructure barriers, behavioral challenges, VRU needs, and context-sensitive design alternatives. There are many types of safety studies, depending on the location and need: for example, road safety audits, walk audits, corridor studies, or sight distance reviews. Road safety audits may be eligible non-infrastructure projects for HSIP funding.

Performing a safety study provides community members and organizations with the opportunity to share their experiences, needs, and future vision for safer roads and places. Safety studies may also engage with a wide variety of safety partners, including local and Tribal governments, law enforcement, maintenance, public health, first responders, and the public.

STRATEGY 2: Deploy proven and innovative safety countermeasures to support the mobility of underserved communities.

Many people are dependent on walking, biking, and rolling to reach their everyday destinations. When performing safety studies or improvement projects, planners and engineers should take into account the demographics of surrounding communities and places of interest. Nearby populations of older individuals, children, individuals with disabilities, zero-vehicle households, or other underserved communities increase the need for VRU countermeasures to support the ability of VRUs to access essential goods and services.

Infrastructure and behavioral solutions should fit the roadway's context and purpose, including functional class, facility type, speed limit, vehicle and non-motorized traffic volumes, adjacent land uses, nearby transit routes, and surrounding demographics.

The Federal Highway Administration (FHWA) promotes Proven Safety Countermeasures[11] such as bicycle lanes, walkways, road

[11] https://highways.dot.gov/safety/proven-safety-countermeasures

diets, pedestrian signals, lighting, pedestrian refuge islands, and crosswalk visibility enhancements. The federal PEDSAFE and BIKESAFE Safety Guide and Countermeasure Selection Systems offer a wealth of enforcement, education, and engineering treatment options.[12,13] FHWA shares Roadway Safety Noteworthy Practices being implemented across the nation, including topics about equity, vulnerable road users, and Tribal, local, and rural road safety.[14] FHWA also encourages roadway owners to pilot innovative and emerging solutions, which may require coordination and approval from the FHWA Alaska Division Office.

STRATEGY 3: Install and maintain crossing infrastructure in locations where people commonly cross the road.

Safe roadway crossings should provide convenient, safe, accessible, and highly visible crosswalks for people to access their everyday destinations. In locations with far distances between designated crossings, planners and engineers may consider how and where additional crossing locations can both meet the needs of VRUs and fit within the roadway context. Ongoing, routine maintenance will ensure that crossing locations remain visible, accessible, and safe.

Pedestrian and bicyclist crossings may employ crosswalk visibility enhancements including high-visibility crosswalk markings, enhanced lighting, signing, and pavement markings (such as advance stop or yield lines). On wide roads with long crossing distances, crosswalks may use medians or pedestrian refuge islands to protect VRUs and shorten crossing distances. Curb extensions, removal of nearby parking, and other sight distance improvements can improve the visibility of VRUs to approaching motorists. Pedestrian signals at intersections may prioritize VRUs, such as countdown timers, Leading Pedestrian Intervals, or all-phase-stop pedestrian crossings. At unsignalized or mid-block crossings, beacons such as Pedestrian Hybrid Beacons and Rectangular Rapid Flashing Beacons draw drivers' attention towards VRUs in the roadway. All crossings should meet ADA accessibility standards, including curb ramps and audiovisual cues. See the previous strategy for a list of countermeasure resources.

STRATEGY 4: Install pedestrian scale lighting along routes frequently traveled by VRUs.

Pedestrian scale lighting is smaller-scale, frequently placed lighting to increase the visibility, safety, and security of vulnerable road users. This type of lighting illuminates pedestrians and bicyclists on and adjacent to the roadway, increasing drivers' awareness of nearby VRUs. Both roadway and pedestrian scale lighting are critical to VRU safety, particularly during Alaska's prolonged hours of darkness or when snow and ice force VRUs to travel in the roadway.

Lighting should be installed on key routes frequently traveled by pedestrians and bicyclists to their everyday destinations – connecting

[12] http://www.pedbikesafe.org/pedsafe/index.cfm

[13] http://www.pedbikesafe.org/bikesafe/index.cfm

[14] https://highways.dot.gov/safety/learn-safety/noteworthy-practices

residential neighborhoods to schools, food, employment, and other essential goods and services. Lighting is essential at intersections and other locations with designated pedestrian crossings. Lighting should complement other countermeasures to increase VRU visibility and priority.

STRATEGY 5: Separate VRUs in space from adjacent motor vehicle traffic.

Where possible, the best option is to remove conflicts by separating vulnerable road users in space from vehicle traffic. Planners and engineers may consider integrating VRU separation into routine maintenance, when rehabilitation or replacement occurs, and as road design and right-of-way allows. This may include installing and maintaining sidewalks, shared use paths, and/or separated bicycle lanes on corridors where pedestrians and bicyclists frequently travel. It may also mean widening shoulders to create a buffer zone. All sidewalks and shared use pathways should meet ADA accessibility standards.

STRATEGY 6: Deploy proven and innovative countermeasures on arterials with high volumes of high-speed vehicles, driveways, and VRUs.

Roads with high-speed vehicles and dense nearby land use represent a serious risk to vulnerable road users trying to reach their destinations, particularly in Anchorage. Driveways frequently intersect with sidewalks or bike lanes (if they exist), creating conflict points between pedestrians, bicyclists, and turning vehicles. These roads may have infrequent or low-visibility crossings.

Corridor studies may help identify context sensitive solutions that meet the roadway's purpose and the surrounding community's needs. Planners and engineers should also consider driveway and access management in the planning and zoning stages for new development or reconfigurations.

FHWA Proven Safety Countermeasures, PEDSAFE, and BIKESAFE promote countermeasures to increase the visibility, priority, and safety of VRUs along arterials while slowing vehicle speeds.[15,16,17] For example, road diets, narrowed travel lanes, and other design elements of self-enforcing/self-explaining roadways encourage motorists to drive at slower speeds.[18] This provides drivers with more time to perceive and react to nearby VRUs, while also

[15] https://highways.dot.gov/safety/proven-safety-countermeasures
[16] http://www.pedbikesafe.org/pedsafe/index.cfm
[17] http://www.pedbikesafe.org/bikesafe/index.cfm
[18] https://www.fhwa.dot.gov/publications/research/safety/17098/17098.pdf

reducing impact forces if a crash occurs. These solutions may also reclaim space in the right-of-way for dedicated VRU infrastructure like sidewalks, medians and refuge islands, and bike lanes. A community may install gateway treatments, which are physical landmarks that signal to drivers that they are entering a residential, commercial, or business district and should slow down.

For mid-block and intersection pedestrian crossings on arterials, use countermeasures such as high visibility crosswalks, lighting, curb extensions, and pedestrian beacons and signals. Rectangular Rapid Flashing Beacons can increase VRU visibility at mid-block crossings on roads with speed limits of 35 miles per hour or less; Pedestrian Hybrid Beacons promote safe VRU crossings mid-block on multi-lane roadways with speed limits of 40 miles per hour or greater. See Strategy 3 also.

STRATEGY 7: Continue to perform community engagement and education about VRU safety.

The AHSO, DOT&PF, and our partners perform community outreach and education as a part of the SHSP and Highway Safety Plan. Outreach and communication amplify the *Toward Zero Deaths* vision, SHSP mission and goals, and messages about the shared responsibility among all roadway users, owners, and operators to build a Safe System.

In alignment with Public Participation and Engagement in the AHSO Highway Safety Plan, DOT&PF will:

- Maintain and strengthen coordination with key safety partners statewide.
- Encourage a continuous feedback loop of input from State and local partners.
- Enhance convenient opportunities for all interested members of the public to provide input and feedback on current safety initiatives and potential new initiatives.
- Continually identify and engage members of communities most affected by crashes that may have been previously overlooked.
- Meet citizens where they are at by seeking to enhance collaborations with nonprofits, faith-based organizations, community, and civic associations.
- Provide early and continuous opportunities for public input and take their needs and preferences into account when developing and implementing safety countermeasures.

The AHSO welcomes local and Tribal agencies, community organizations, and interested parties to participate on the SHSP Focus Area teams, including the Pedestrian and Bicyclist Focus Area.

STRATEGY 8: Promote knowledge-sharing about transportation safety best practices for the tourism industry.

Alaskan cities with tourism destinations find unique and adaptive ways to enhance visitor experiences while mitigating congestion and other negative impacts. Each city's government, tourism/visitor's bureau, and tourism operators/owners collaborate to accommodate seasonal swells of visitors.

There are opportunities for knowledge sharing and networking between cities about transportation safety best practices. For example, the Juneau Tourism Best Management Practices program publishes guidelines; the SHSP Vehicle Safety Focus Area has an action to incorporate guidelines specifically addressing transportation safety topics. The City of Ketchikan and City and Borough of Juneau deploy seasonal crossing guard programs (described further in Strategy 9). Cities could share these tourism transportation safety best practices with each other in peer exchanges or other networking opportunities.

STRATEGY 9: Deploy crossing guard programs and increase crossing visibility in tourism destination areas.

In areas with high volumes of tourists, cities and boroughs may deploy crossing guard programs along busy corridors. Crossing guards may help keep people in marked crosswalks, manage the flow of traffic, and draw drivers' attention to VRUs. Locations may include near cruise ports, bus terminals, trailheads, retail and historic districts, and other key tourism destinations. Crossing locations should have high visibility crosswalks, crossing signals, lighting, and other visibility-enhancing features as outlined in Strategy 3.

STRATEGY 10: Continue to provide ADA-accessible facilities to support safe and equitable mobility for all pedestrians.

Alaska DOT&PF and local road owners will continue to alter existing facilities or construct new facilities as necessary to comply with Americans with Disabilities Act requirements. DOT&PF will continue to implement the *Alaska Americans with Disabilities Act Transition Plan*, which guide's DOT&PF's efforts to provide an accessible transportation system program.[19] This strategy interplays with many other strategies in the VRU Safety Assessment.

[19] https://dot.alaska.gov/cvlrts/pdfs/ADA_Transition_Plan.pdf

STRATEGY 11: Explore best practices for electric bike use on non-motorized facilities.

DOT&PF and local communities may explore national best practices for electric bike and other electric-assist mobility device use on non-motorized fatalities. Facility types include sidewalks, shared use paths, and bicycle lanes. Stakeholders may evaluate how other states and regions choose to regulate where, when, and how e-bikes may operate. Additional topics may include protective equipment requirements (such as helmets) and safe distance passing laws (for example, some states require a minimum passing width distance vehicles driving around bicycles). Stakeholders may also explore existing educational opportunities and messaging to educate e-bike riders on side riding practices and rules of the road.

STRATEGY 12: Continue to collaborate with law enforcement about VRU safety.

Law enforcement agencies are key partners in roadway safety. Law enforcement help reduce dangerous driving behaviors such as speeding, impaired driving, and distracted driving, which are significant safety risks to VRUs sharing the roadway. DOT&PF and local safety partners will continue to collaborate with state, regional, and local law enforcement to perform high visibility enforcement and corresponding media campaigns. Law enforcement will target vehicles and the offenses drivers may commit that make the road less safe for vulnerable road users.

Additional opportunities may include providing training to law enforcement on bicycle/pedestrian laws, educating law enforcement on accurately identifying non-motorized crash details on crash reports, and sharing crash analysis results with law enforcement to target enforcement efforts in high-risk areas.

STRATEGY 13: Develop a process to monitor progress of VRU safety in identified high-risk areas.

The VRU Safety Assessment identified high-risk corridors and intersections throughout Alaskan communities based on crash data between 2016 and 2021. DOT&PF may explore the development of a monitoring process for VRU safety in identified high-risk areas. Monitoring trends over time can draw connections between investments in safety improvements (both infrastructure and behavioral) and crash trends. This process may include identifying state- and local-programmed projects in or near identified locations.

STRATEGY 14: Continue to research and incorporate new and emerging VRU and Safe System Approach strategies and countermeasures.

Transportation safety is not static. New strategies, countermeasures, and devices are being explored and implemented every day. DOT&PF and AHSO will continue to research, pilot, and incorporate new technologies, tools, infrastructure design, Crash Modification Factors (CMFs), and other countermeasures into VRU projects. DOT&PF will draw on available research and resources as they become available, such as through FHWA publications, FHWA Noteworthy Practices, the national CMF Clearinghouse, or other states.

SECTION 6. HIGH-RISK CORRIDORS AND INTERSECTIONS

This section contains the lists and maps of the top 16 high-injury corridors and top 15 high-injury intersections throughout Alaska, identified through the network screening analysis during crash data between 2016 and 2021.

Note: The tables list locations in alphabetical order, not ranked order. The numbers on the maps do not indicate any sort of order, they are listed for visual identification of place names only.

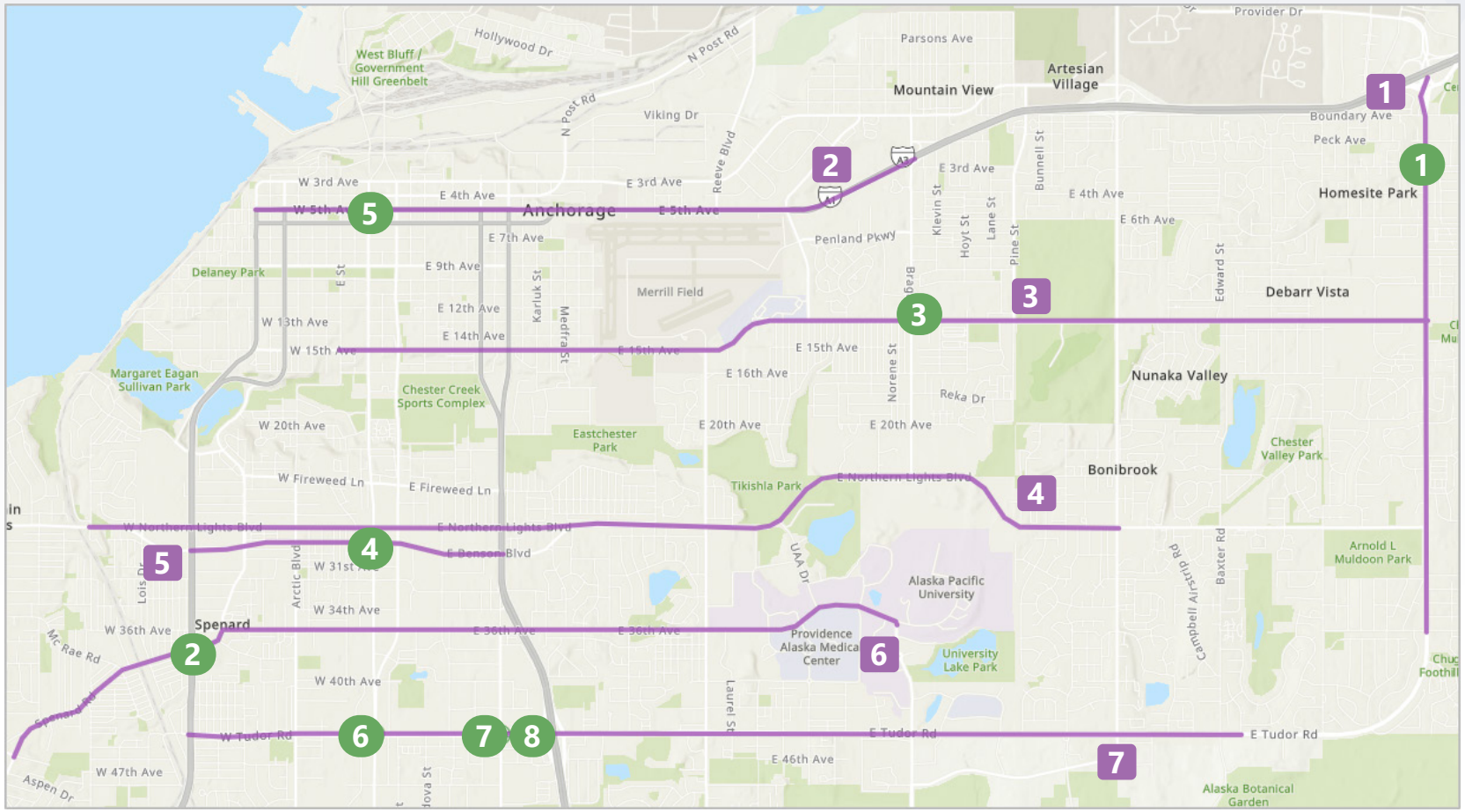
Table 3. Top 16 Identified High-Injury Corridors

MUNICIPALITY	CORRIDOR	CROSS STREET *(Westernmost, Southernmost)*	CROSS STREET *(Easternmost, Northernmost)*	CROSSES JUSTICE40 COMMUNITY?
Anchorage	5th Ave / Glenn Highway	L Street	Bragaw Street	Yes
Anchorage	Benson Boulevard	Minnesota Drive	Seward Highway	Yes
Anchorage	Debarr Road / 15th Street	E Street	Muldoon Road	Yes
Anchorage	Muldoon Road	36th Avenue	Glenn Highway	Yes
Anchorage	Northern Lights Boulevard	Forest Park Drive	Pine Street	Yes
Anchorage	Spenard / 36th Ave / Providence Drive	Wisconsin Street	Elmore Road	Yes
Anchorage	Tudor Road	Minnesota Drive	Kingston Drive	Yes
Bethel	Chief Eddie Hoffman Highway	Cranberry Street	3rd Ave	Yes
Fairbanks	College Road	University Ave	Harriet Ave	Yes
Fairbanks	Geist Road	Riverstone Way	Kyle Court	No
Juneau	Glacier Highway	Short Street	Alaway Ave	No
Ketchikan	Tongass Ave	Cambria Drive	Water Street	No
Palmer	Bogard Road / Arctic Ave	Anna Street	Gulkana Street	No
Palmer	East Palmer-Wasilla Highway	Felton Street	Valley Way	No
Sitka	Lincoln Street	Harbor Road	Kelly Ave	No
Wasilla	East Parks Highway	Crusey Street	Sun Mountain Ave	No

Table 4. Top 15 Identified High-Injury Intersections

MUNICIPALITY	INTERSECTION *(East/West and North/South)*	NUMBER OF APPROACHES	WITHIN JUSTICE40 COMMUNITY?
Anchorage	West Tudor Road and C Street	4	No
Anchorage	West 5th Avenue and C Street	4	Yes
Anchorage	East Tudor Road and Old Seward Highway	4	No
Anchorage	East Tudor Road and Homer Drive	4	No
Anchorage	Spenard Road and Minnesota Drive	4	No
Anchorage	West Benson Boulevard and C Street	4	No
Anchorage	Duben Avenue and Muldoon Road	4	No
Anchorage	Debarr Road and Bragaw Street	4	Yes
Bethel	Old Hospital Road and Chief Eddie Hoffman Highway	3	Yes
Fairbanks	College Road and Hess Avenue	4	No
Fairbanks	Geist Road and Parks Highway NB Off-Ramp	4	No
Ketchikan	Tongass Avenue and Heckman Street	3	No
Palmer	East Palmer Wasilla Highway and Glenn Highway	4	No
Palmer	West Bogard Road and Glenn Highway	4	No
Wasilla	East Parks Highway and Palmer-Wasilla Highway	4	No

ANCHORAGE: *HIGH-INJURY CORRIDORS AND INTERSECTIONS*



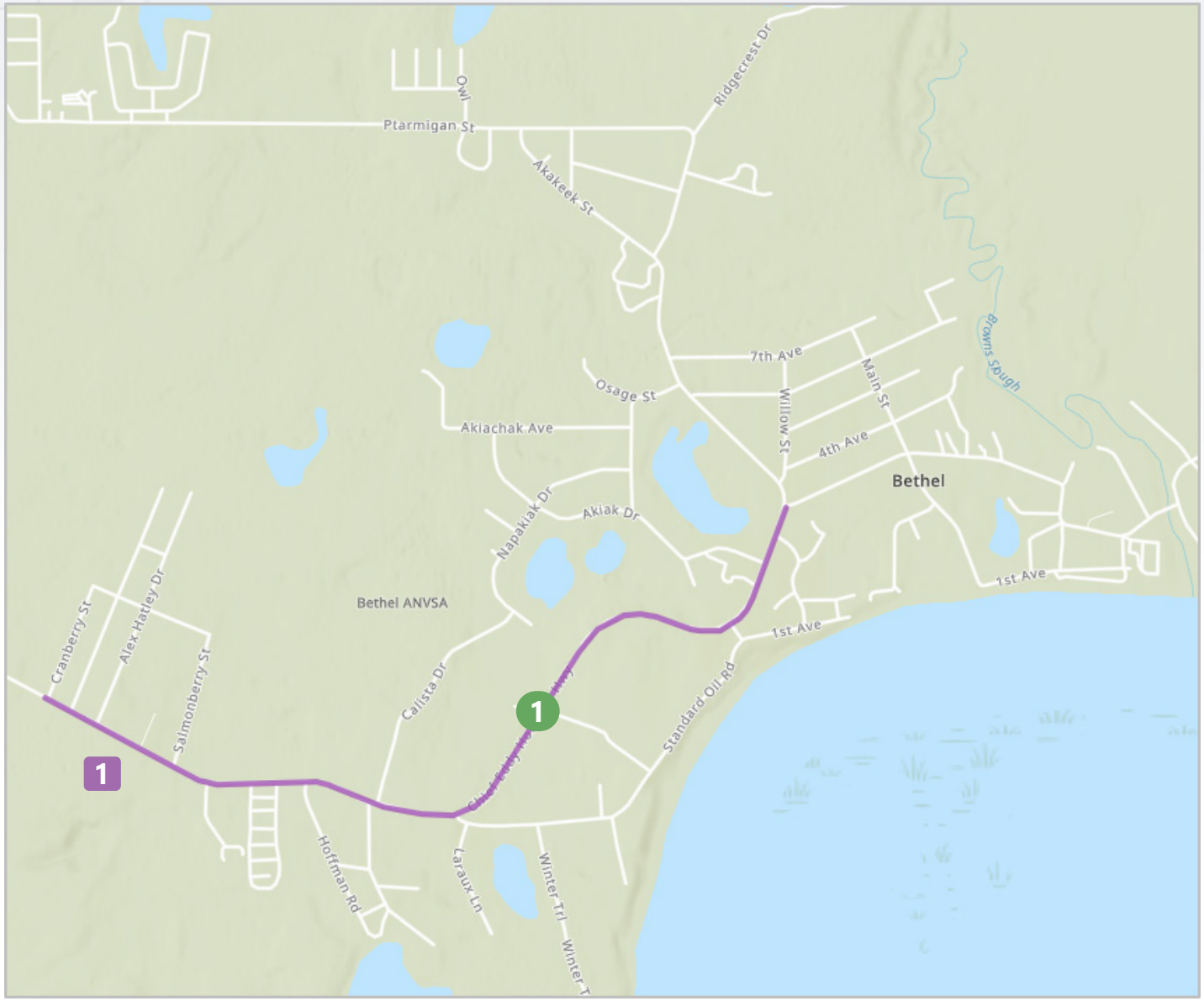
HIGH-INJURY CORRIDORS

1. Muldoon Road
2. West 5th Avenue / Glenn Highway
3. Debarr Road / 15th Avenue
4. Northern Lights Boulevard
5. Benson Boulevard
6. Spenard / 36th Ave / Providence
7. Tudor Road

HIGH-INJURY INTERSECTIONS

1. Duben Avenue and Muldoon Road
2. Spenard Road and Minnesota Drive
3. Debarr Road and Bragaw Street
4. Benson Boulevard and C Street
5. West 5th Aveneu and C Street
6. Tudor Road and C Street
7. Tudor Road and Old Seward Highwy
8. Tudor Road andHomer Drive

BETHEL: *HIGH-INJURY CORRIDORS AND INTERSECTIONS*



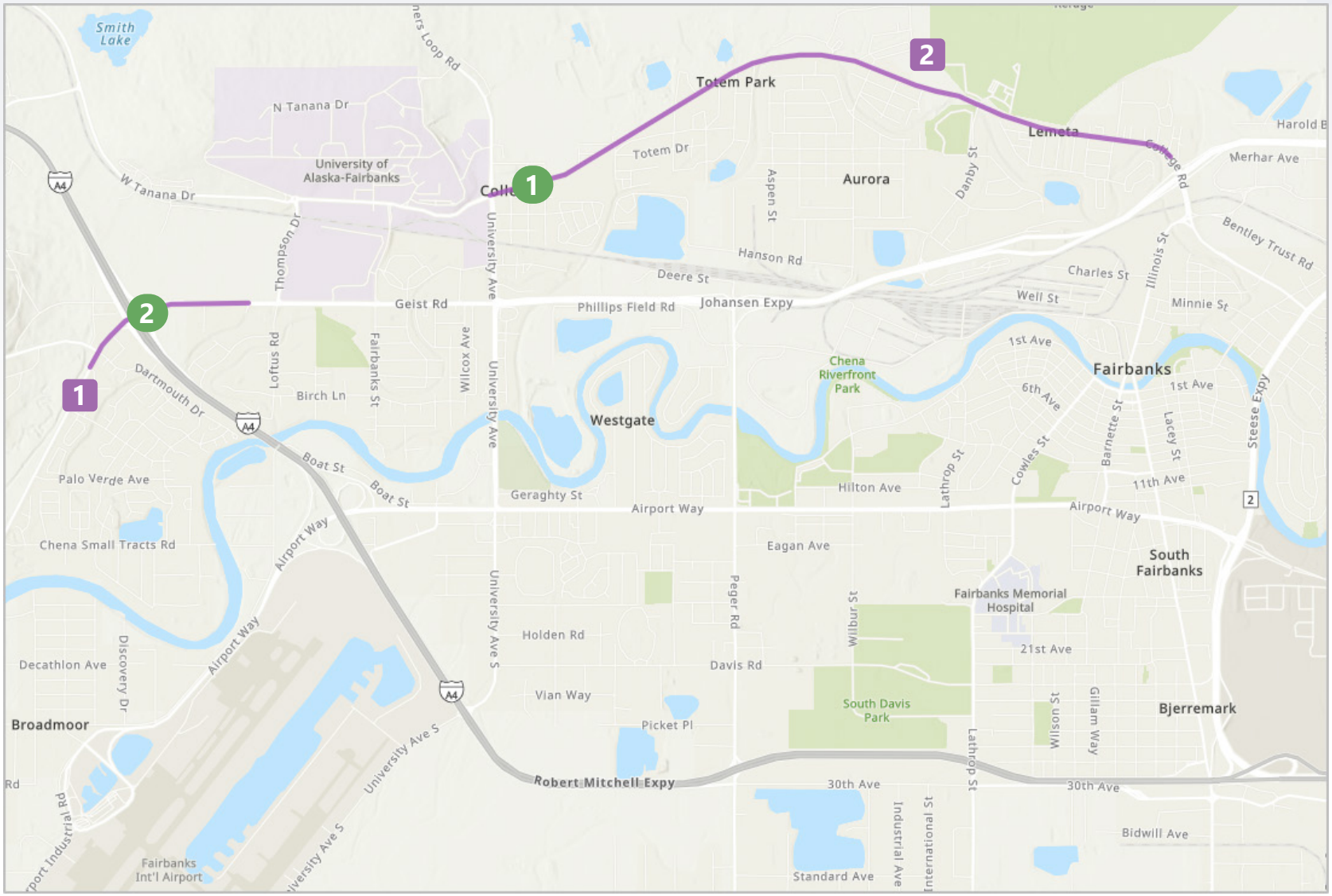
HIGH-INJURY CORRIDORS

1 Chief Eddie Hoffman Highway

HIGH-INJURY INTERSECTIONS

1 Old Hospital Road and Chief Eddie Hoffman Highway

FAIRBANKS: *HIGH-INJURY CORRIDORS AND INTERSECTIONS*



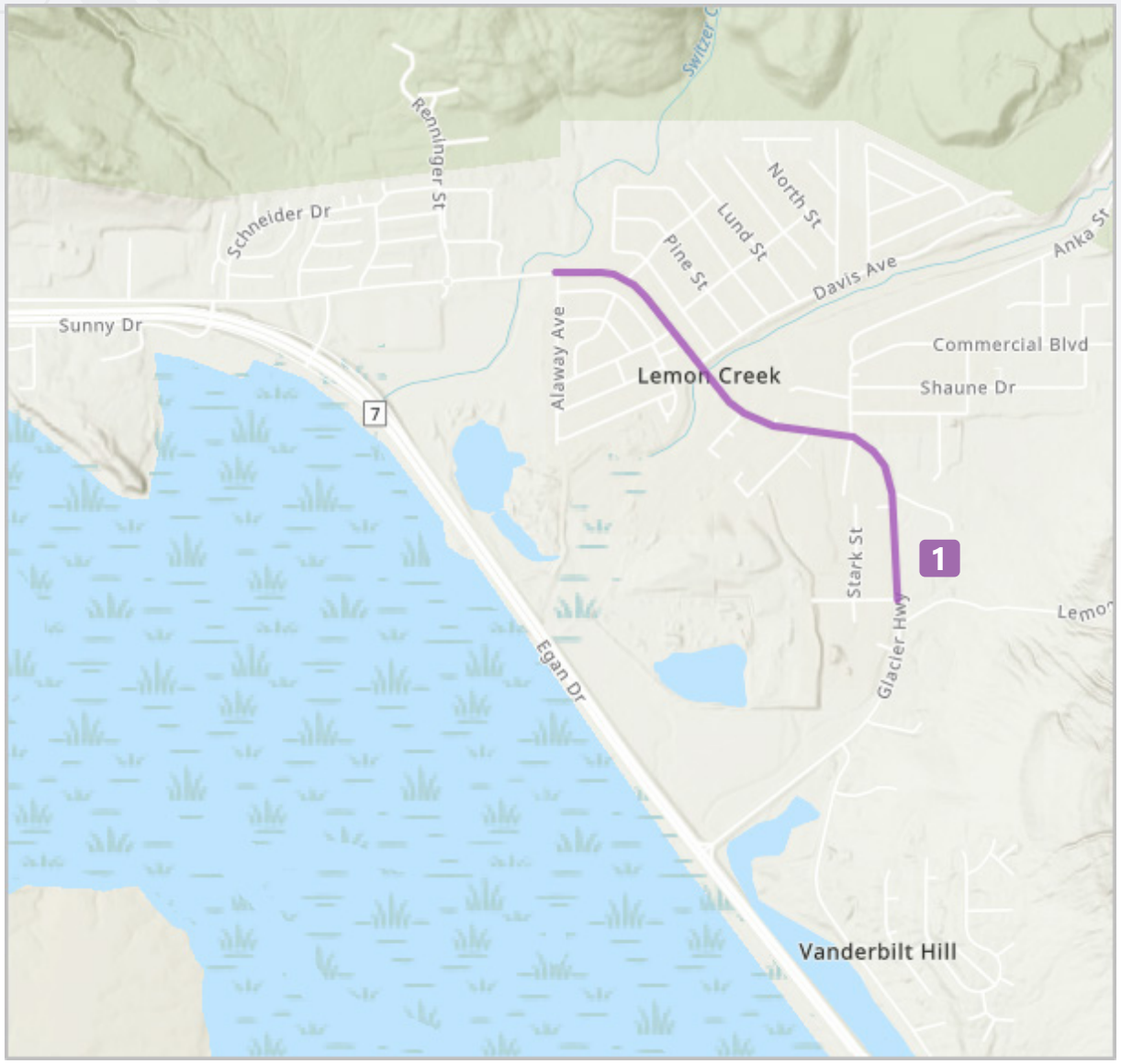
HIGH-INJURY CORRIDORS

1. Geist Road
2. College Road

HIGH-INJURY INTERSECTIONS

1. College Road and Hess Avenue
2. Geist Road and Parks Highway

JUNEAU: *HIGH-INJURY CORRIDORS AND INTERSECTIONS*



HIGH-INJURY CORRIDORS

1 Glacier Highway in Lemon Creek

KETCHIKAN: *HIGH-INJURY CORRIDORS AND INTERSECTIONS*

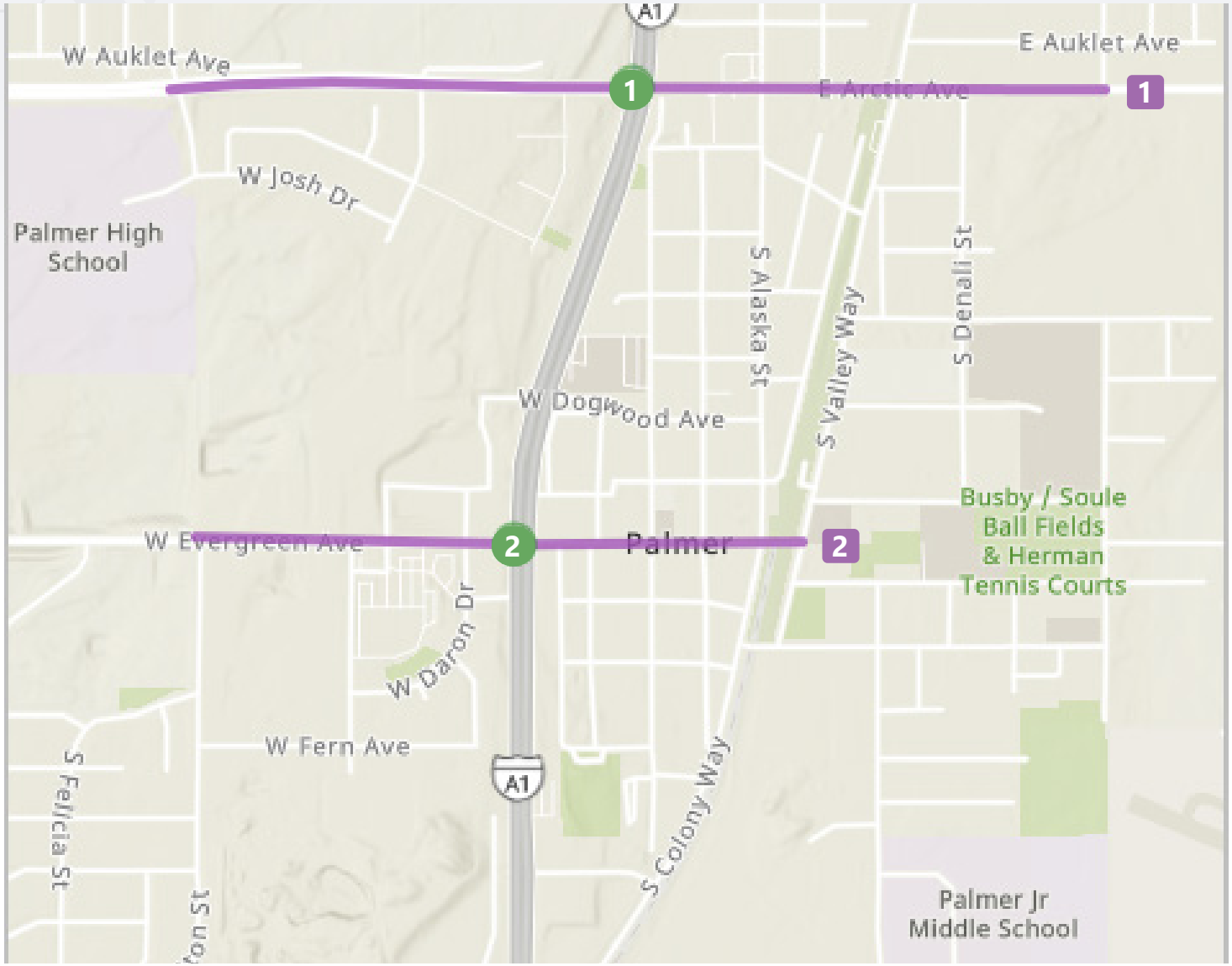
HIGH-INJURY CORRIDORS

1 Tongass Avenue

HIGH-INJURY INTERSECTIONS

1 Tongass Avenue and Heckman Street

PALMER: *HIGH-INJURY CORRIDORS AND INTERSECTIONS*



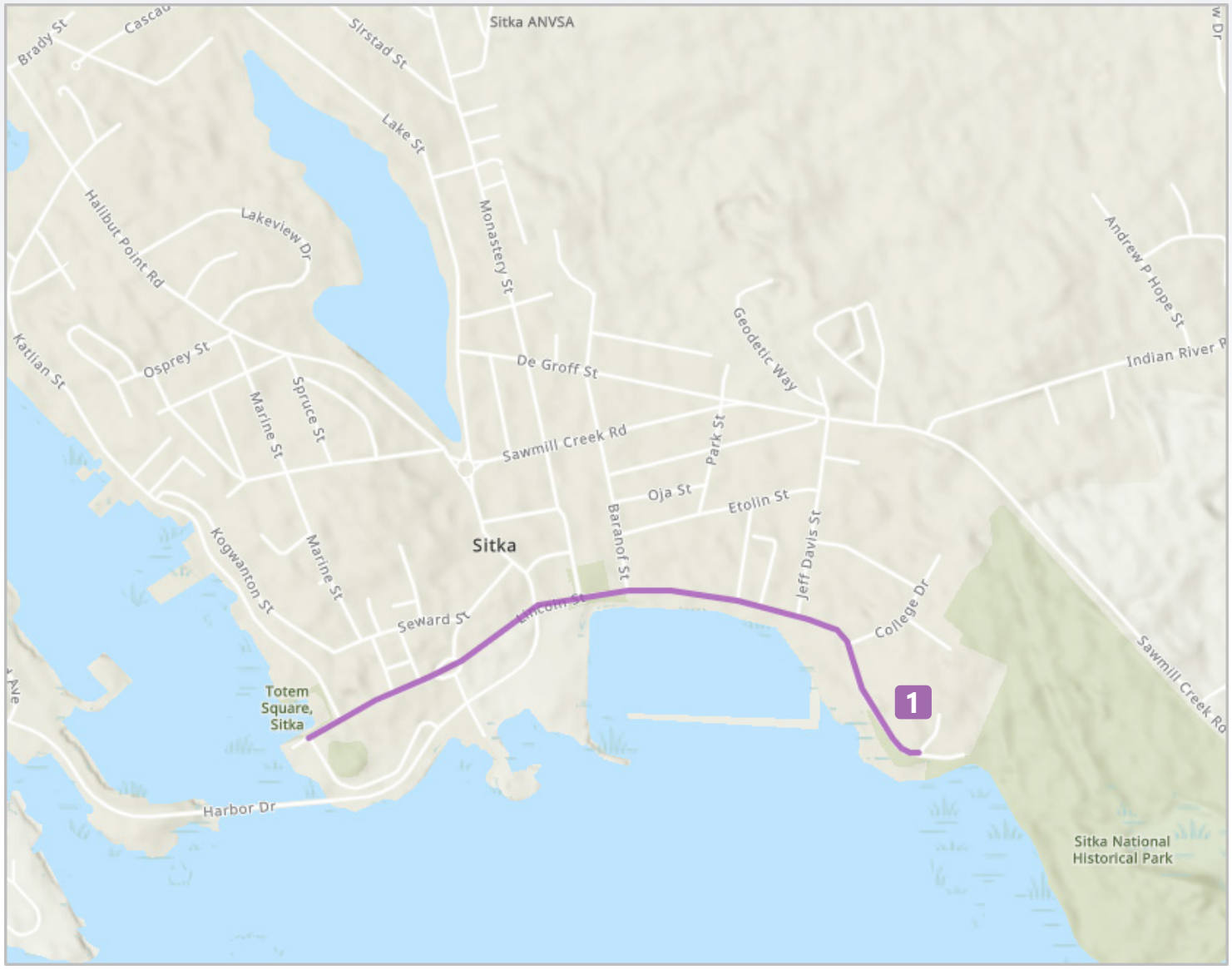
HIGH-INJURY CORRIDORS

1. Bogard Road
2. Evergreen Avenue

HIGH-INJURY INTERSECTIONS

1. Bogard Road and Glenn Highway
2. Evergreen Avenue and Glenn Highway

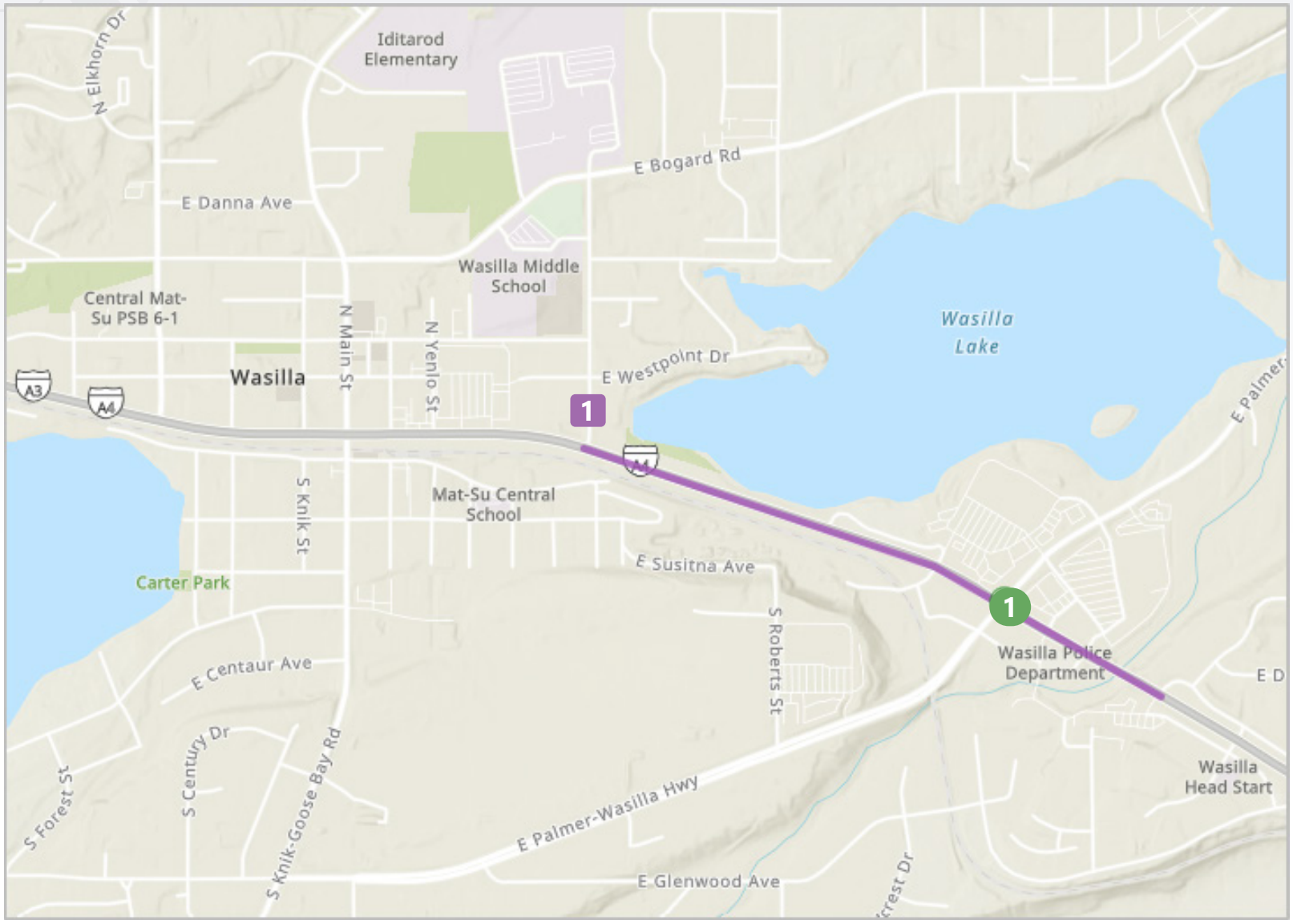
SITKA: *HIGH-INJURY CORRIDORS AND INTERSECTIONS*



HIGH-INJURY CORRIDORS

1 Lincoln Street

WASILLA: *HIGH-INJURY CORRIDORS AND INTERSECTIONS*



HIGH-INJURY INTERSECTIONS

1 Parks Highway and Palmer-Wasilla Highway

HIGH-INJURY CORRIDORS

1 Parks Highway

ALASKA

STRATEGIC HIGHWAY SAFETY PLAN

2023–2027